

County of Orange
and
Orange County Operational Area



Unified Emergency Operations Plan
November 2025

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I. Board of Supervisor Promulgation & Resolution (4 pages)

County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

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County of Orange and Orange County Operational Area
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II. Emergency Management Council Letter of Approval and Promulgation



Members:

Orange County Board of Supervisors
Chief Executive Officer
Health Care Agency
John Wayne Airport
OC Community Resources
OC Public Works
OC Waste and Recycling
Orange County Fire Authority
Probation Department
Sheriff-Coroner Department
Social Services Agency

County of Orange Emergency Management Council

November 12, 2025

Members of the Board of Supervisors
County of Orange Department Heads
California Office of Emergency Services

Subject: County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

Dear County of Orange Emergency Response and Recovery Officials:

Enclosed please find the County of Orange and Orange County Operational Area Unified Emergency Operations Plan (Unified EOP). The Emergency Management Council (EMC), approved this Plan on November 12, 2025. The Unified EOP is linked to jurisdictions, discipline specific and mutual aid plans, hazard specific annexes, and supporting processes and procedures. While revisions to this Unified EOP may be made on a bi-annual basis, supporting plans, annexes, processes and procedures may be revised as determined necessary.

This Plan continues to build upon previous efforts to enhance the County's response and recovery capabilities and includes: the Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS), the Incident Command System (ICS), Whole Community planning and response. It addresses the duties and responsibilities of the County in mitigation, prevention, preparedness, emergency response, and recovery.

This Plan is designed as a reference and guidance document. During a real-world incident, modifications to this Plan may be authorized through the Director of Emergency Services, the Emergency Operations Center Policy Group, the Board of Supervisors, or as needed by first responders to preserve life, property, and the environment.

All County departments are in agreement with this Plan and will execute their identified responsibilities. Such execution may include preparing and maintaining their own department-specific procedures and guidelines. The successful implementation of this Plan is dependent upon the skills and abilities of County personnel; County departments are directed to conduct or participate in trainings and exercises to ensure their personnel are aware of their responsibilities and capable to perform them. Implementation may also rely upon specialized services and equipment; County departments are directed to support the implementation and maintenance of such services and equipment.

Thank you for your support in the development and implementation of this Plan.

Sincerely,

Board of Supervisors
Chair, Emergency Management Council

Administrative Contact: Orange County Sheriff's Department Emergency Management Division
2644 Santiago Canyon Road, Silverado CA, 92676 Phone: (714) 628-7054 Fax: (714) 628-7154

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County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

III. Operational Area Executive Board Letter of Approval and Promulgation



Members:

Orange County Board of Supervisors
Chief Executive Officer
City Engineers & Public Works Directors
Association
City Manager's Association & League of Cities
Law Enforcement Mutual Aid Coordinator
Fire Chiefs Association
Fire and Rescue Mutual Aid
Health Care Agency Mutual Aid
Independent Special Districts
Orange County Social Services Agency
Orange County Superintendent of Schools
Orange County Community College Districts
Orange County Transportation Authority
Police Chiefs' and Sheriff Association
Public Works Mutual Aid
Water/Wastewater Mutual Aid Coordinator

Orange County Operational Area Executive Board

November 12, 2025

Members of the Operational Area
Members of the Board of Supervisors
American Red Cross of Orange County
California Office of Emergency Services

Subject: County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

Dear Operational Area Emergency Response and Recovery Officials:

Enclosed please find the County of Orange and Orange County Operational Area Unified Emergency Operations Plan (Unified EOP). The Orange County Operational Area Executive Board approved this Plan on November 12, 2025 and concur with this Plan on behalf of the Operational Area Members, respectively. This Plan is the foundation for the County's and Operational Area's response and recovery operations, and supersedes all previous versions of this Plan. The Unified EOP seeks to unify coordination among jurisdictional emergency plans, discipline-specific mutual aid plans, and standard operational procedures. The Unified EOP is the base to other emergency plans, procedures and hazard-specific and functional annexes and plans.

This Plan continues to build upon previous efforts to enhance the County's response and recovery capabilities and includes: the Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS), the Incident Command System (ICS), Whole Community planning and response. It addresses the duties and responsibilities of the County in mitigation, prevention, preparedness, emergency response, and recovery.

This Plan is designed as a reference and guidance document. During a real-world incident, modifications to this plan may be authorized through the Director of Emergency Services, the Emergency Operations Center Policy Group, the governing bodies of impacted jurisdictions, or as needed by first responders to preserve life, property, and the environment.

All jurisdictions within Orange County are encouraged to fully implement their identified responsibilities. Such execution may include preparing and maintaining their own jurisdiction-specific procedures and guidelines. The successful implementation of this Plan is dependent upon the skills and abilities of jurisdiction personnel; jurisdictions are encouraged to conduct or participate in trainings and exercises to ensure their personnel are aware of their responsibilities and capable to perform them. Implementation may also rely upon specialized services and equipment; jurisdictions are encouraged to support such services and equipment.

Thank you for your support in the development and implementation of this Plan.

Sincerely,

Orange County Fire Authority
Chair, Operational Area Executive Board

Administrative Contact: Orange County Sheriff's Department Emergency Management Division
2644 Santiago Canyon Road, Silverado CA, 92676 Phone: (714) 628-7054 Fax: (714) 628-7154

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IV. Record of Changes

Date of Revision	Revision Description	Section/Component	Revision Completed by
September 2025	Disclosure Exemptions update to California Government Code	Disclosure Exemptions	Emergency Management Division
March 2025	Inserted photo of County Board of Supervisor Districts	Section 1.2 Scope	Emergency Management Division
July 2025	Updated tables and statistical information	Section 2.2 Population and Demographics	Emergency Management Division
April 2025	Updated information-included recent disasters	Section 2.4 History of Disasters	Emergency Management Division
April 2025	Updated hazard profiles and included 3 new hazards-Air Quality, Electromagnetic Pulse Attack, and Geomagnetic Storm/Space Weather	2.5 Hazard Assessment	Emergency Management Division
April 2025	Updated Table 5 for Hazard Analysis Probability of Occurrence	Section 2.5 Hazard Assessment	Emergency Management Division
October 2025	Updated language in include wildfire initiated community conflagration	2.5.30 Wildland Fire/Urban Fire	Emergency Management Division
May 2025	Updated table EOC Support Pool Staffing Assignments by Agency per 24 Hour Period	Chapter 3, Figure 32	Emergency Management Division

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Date of Revision	Revision Description	Section/Component	Revision Completed by
May 2025	Updated Assignment of Responsibilities Matrix to follow the same layout of positions found in each EOC section	3.2 County and OA EOC Organization	Emergency Management Division
September 2025	Include the Care and Shelter Field Liaison position	Chapter 3 Concept of Operations	Emergency Management Division
May 2025	Updated SOP to SOG language and removed physical location of alternate equipment	4.6 Alternate Facilities	Emergency Management Division
May 2025	Included a section on transitioning to the recovery phase after an incident	4.8 Transition to Recovery	Emergency Management Division
May 2025	HCA provided feedback on the Medical Health Mutual Aid System	4.9.7 Medical Mutual Aid	Emergency Management Division
May 2025	SSA provided feedback on the Social Services Mutual Aid System	4.9.7 Social Services Mutual Aid	Emergency Management Division
May 2025	WEROC provided feedback on the Water/Wastewater Mutual Aid System	4.9.7 Water/Wastewater Mutual Aid	Emergency Management Division
May 2025	Language on the COAD and CMAP program areas updated	4.9.7 Collaborative Organizations Active in Disaster-Orange County	Emergency Management Division
May 2025	Alert and Warning updated language	4.12.1 Alert and Warning	Emergency Management Division
May 2025	Reviewed and updated-consistent language	4.12.4 Communications with the Public	Emergency Management Division

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Date of Revision	Revision Description	Section/Component	Revision Completed by
May 2025	Updated language for the Countywide Communication System	4.12.5 Communicating with County Departments and Operational Area jurisdictions	Emergency Management Division
July 2025	Authorities and References	Chapter 6-Federal & State	Emergency Management Division

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V. Plan Distribution

The Orange County Sheriff's Department Emergency Management Division (OCSD-EMD) is responsible for developing, maintaining and distributing the County of Orange and Orange County Operational Area Unified Emergency Operations Plan.

OCSD-EMD will make the County of Orange and Orange County Operational Area Unified Emergency Operations Plan available to all County departments, OA jurisdictions, California Office of Emergency Services (Cal OES) and other partner organizations as necessary and upon request. An electronic version is available in PrepareOC. Additionally, hard copies are available at the EOC and EMD staff have remote access to all plans and annexes.

ORANGE COUNTY DEPARTMENTS	
Assessor	John Wayne Airport
Auditor-Controller	OC Community Resources
Child Support Services	OC Public Works
Clerk of the Board of Supervisors	OC Waste and Recycling
County Clerk-Recorder	Probation Department
County Board of Supervisors	Public Administrator/Public Guardian
County Counsel	Public Defender
County Executive Office	Registrar of Voters
District Attorney	Sheriff-Coroner Department
Health Care Agency	Social Services Agency
Human Resources	Superior Courts
Internal Audit	Treasurer-Tax Collector
CITIES	
Aliso Viejo	Laguna Woods
Anaheim	Lake Forest
Brea	Los Alamitos
Buena Park	Mission Viejo
Costa Mesa	Newport Beach
Cypress	Orange
Dana Point	Placentia
Fountain Valley	Rancho Santa Margarita
Fullerton	San Clemente
Garden Grove	San Juan Capistrano
Huntington Beach	Santa Ana
Irvine	Seal Beach
La Habra	Stanton
La Palma	Tustin
Laguna Beach	Villa Park
Laguna Hills	Westminster
Laguna Niguel	Yorba Linda

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SCHOOL DISTRICTS	
Department of Education	Laguna Beach Unified School District
Anaheim City School District	Los Alamitos Unified School District
Anaheim Union High School District	Lowell Joint School District
Brea-Olinda Unified School District	Magnolia School District
Buena Park School District	Newport-Mesa Unified School District
Capistrano Unified School District	North Orange County Community College District
Centralia School District	North ROP
Coast Community College District	Ocean View School District
Cypress School District	Orange Unified School District
Fountain Valley School District	Placentia-Yorba Linda Unified School District
Fullerton Joint Union High School District	Rancho Santiago Community College District
Fullerton School District	Saddleback Valley Unified School District
Garden Grove Unified School District	Santa Ana Unified School District
Huntington Beach City School District	Savanna School District
Huntington Beach Union High School District	South Orange County Community College District
Irvine Unified School District	Tustin Unified School District
La Habra City School District	Westminster School District
SPECIAL DISTRICTS	
Buena Park Library District	Orange County Transportation Authority
Capistrano Bay Community Service District	Orange County Vector Control District
Costa Mesa Sanitary District	Orange County Water District
East Orange County Water District	Placentia Library District
El Toro Water District	Rossmoor Community Service District
Emerald Bay Community Services District	Santa Margarita Water District
Garden Grove Sanitary District	Serrano Water District
Irvine Ranch Water District	Silverado-Modjeska Parks & Recreation District
Laguna Beach County Water District	South Coast Water District
Mesa Water District	Sunset Beach Sanitary District
Midway City Sanitary District	Surfside Colony Community Service Taxation District
Moulton Niguel Water District	Surfside Colony Storm Water District
Municipal Water District of Orange County	Three Arch Bay Community Service District
Orange County Cemetery District	Trabuco Canyon Water District
Orange County Fire Authority	Water Emergency Response Organization of Orange County (WEROC)
Orange County Sanitation District	Yorba Linda Water District

County of Orange and Orange County Operational Area
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OTHER PARTNERS	
2-1-1 Orange County	Orange County Rescue Mission
American Red Cross of Orange County	Seal Beach Naval Weapons Station
California State University-Fullerton	University of California-Irvine Health & Safety
OneOC	

VI. Disclosure Exemptions

Portions of this document contain sensitive information pertaining to the deployment mobilization, and operations of the County, OA and OA jurisdictions in response to emergencies. The majority of this document is available for public review; however, portions that include Personal Identifiable Information (PII) or information with significant implications on city, regional, state, or national security are placed in attachments that are exempt from public disclosure under the provisions of the California Public Records Act, including but not limited to, exceptions found in Title 1, Division 10, Part 5 (e.g., §7929.200 through 7929.215) of the California Government Code.

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Chapter 1 INTRODUCTION

The EOP describes the fundamental systems, strategies, policies, assumptions, responsibilities, and operational priorities the County of Orange will use to guide and support emergency management efforts. Essential elements of this EOP include:

- A description of the emergency services provided by governmental agencies and how resources are mobilized;
- An outline of the methods for carrying out emergency operations and the process for rendering mutual aid;
- An overview of the system for providing public information.

These elements culminate with a comprehensive emergency management concept of operations that outlines the relationships and responsibilities of County government, its political subdivisions, and other participating organizations.

Functional Annexes: While the base plan, or EOP, provide broad information relevant to emergency response, functional annexes focus on specific responsibilities, tasks, and operational actions for a particular emergency function. The annexes build on the content of the base plan and may include implementing instructions in the form of standard operating procedures (SOPs), maps, charts, tables, forms, and checklists, which may be included as attachments or references.

Annexes and Appendices: Hazard-specific annexes are like functional annexes, building on the content of the base plan; however, these annexes focus on a particular natural or human-caused hazard. These annexes also build on the content of the base plan and may include implementing instructions in the form of SOPs, maps, charts, tables, forms, and checklists, which may be included as attachments or references.

1.1 Purpose

The County of Orange and Orange County Operational Area Unified Emergency Operations Plan (EOP) provides guidance and procedures for the County and the County as the OA to prepare for, respond to, and recover from natural, technological, conflict-related, and human-caused incidents creating situations requiring a coordinated response. It provides guidance for management concepts, identifies organizational structures and relationships, and describes responsibilities and functions of the emergency organization to protect life and property.

The EOP incorporates and complies with the principles and requirements found in state and federal laws, regulations, and guidelines in accordance with the Statewide Standardized Emergency Management System (SEMS) (Government Code Section 8607 (a)) and the National Incident Management Systems (NIMS) as defined by presidential executive orders for managing response to multi-agency and multi-jurisdictional emergencies. SEMS/NIMS incorporate the use of the Incident Command System (ICS), mutual aid, the operational area concept, multi-agency and inter-agency coordination. The Unified EOP incorporates the Federal Emergency Management Agency (FEMA) Comprehensive Preparedness Guide (CPG) 101 version 3.0, the State of California

Emergency Plan best practices, and the Emergency Management Standards set by the Emergency Management Accreditation Program (EMAP).

This plan is designed to be read, understood, and exercised prior to an emergency. The EOP describes the emergency organization and the process of preparing, responding to, and recovering from disasters. Use of the EOP will differ according to the needs of the reader. All response personnel need to be familiar with the EOP as a whole and those parts of the EOP specific to their needs, roles, and responsibilities. The EOP provides the basis for developing jurisdiction and/or department-specific, detailed standard operating procedures and checklists.

By using this EOP, the County, OA jurisdictions, and external representatives supporting the County/OA EOC should:

- Know each organization's responsibilities.
- Know how to perform their assigned functions.
- Avoid inefficiencies, duplications, and oversights in performing functions.
- Be able to coordinate response and recovery operations across organizations and jurisdictions.

1.2 Scope

This EOP is applicable to all agencies and individuals having responsibilities for emergency preparedness, prevention, response, recovery, and/or mitigation in Orange County. This includes but may not be limited to the County, cities, school districts, special districts, utilities, non-government organizations, and state and federal agencies. For the purposes of this EOP:

- The County of Orange refers to the unincorporated areas of the County and County agencies in their role as countywide service providers.
- The Orange County Operational Area consists of all political subdivisions within the geographic boundaries of Orange County, as documented in the Orange County Operational Area Agreement of the County of Orange and Political Subdivisions.

Figure 1: Orange County Supervisorial Districts



Each organization identified in this EOP is responsible for, and expected to develop, implement, and test policies, procedures, instructions, and standard operating guides (SOGs) or checklists that reflect cognizance of the emergency management concepts contained herein. Coordinated response and support roles must be defined by these organizations to facilitate the ability to respond to any given incident. The city governments within the County maintain their own emergency operations plans. The cities' plans should be consistent

with the policies and procedures established by this EOP. During multi-jurisdictional emergencies, each jurisdiction retains responsibility for managing operations within its boundaries and for coordinating with any jurisdictions that have overlapping boundaries.

This EOP is in effect at all times and applies to any extraordinary emergency situation associated with any hazard, natural or human-caused event, which may affect Orange County and that generates situations requiring planned, coordinated responses by multiple agencies or jurisdictions.

The intended audience for this EOP consists of County of Orange departments, elected officials, OA jurisdictions, and private organizations that are responsible for staffing positions within the County and OA Emergency Operations Center (EOC). This EOP is also a reference for managers from other jurisdictions, state and federal agencies, and interested members of the public. It is intended as an overview of emergency management in the County of Orange and the Orange County Operational Area, and is not a detailed tactical document.

1.3 Planning Assumptions

This EOP was developed with the following assumptions:

- The California Emergency Services Act requires the County Board of Supervisors to establish an OA that includes all political subdivisions (cities, school districts, and independent special districts, etc.). The OA is an intermediate level of the State emergency organization and provides coordination and communication between and with political subdivisions and the state. The California Emergency Services Act also assigns the County as the responsible OA lead agency.
- The County of Orange government is an OA jurisdiction and a separate entity from the OA. Although Orange County personnel operate the OA, the roles and responsibilities of those individuals may be different whether they are acting under the auspices of the OA or the County of Orange.
- For the sake of emergency planning and coordination at the OA level, OA jurisdictions shall consider the County/OA EOC one and the same.
- The County and OA use the precepts of the Incident Command System (ICS) as adopted by the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS) in emergency response operations.
- Emergencies may occur at any time with little or no warning and may exceed capabilities of local, state, federal, tribal governments, and the private sector in the affected areas.
- Emergency response is best coordinated at the lowest level of government involved in the emergency.
- The resources of Orange County will be made available to the OA and to all OA jurisdictions to help mitigate the effects of disasters and emergencies in the area.

- Individuals with access and functional needs may require resources or assets such as durable medical equipment or assistive technology that are limited in number and difficult to procure without planning.
- Emergencies may result in casualties, fatalities, and displace people from their homes.
- The greater the complexity, impact, and geographic scope of an emergency, the more multi-agency coordination will be required.
- Local authorities maintain operational control and responsibility for emergency management activities within their jurisdictions, unless otherwise superseded by statute or agreement.
- Mutual aid agreements and systems exist to support the emergency response agencies of the OA. These agreements are reviewed and updated on a regular basis.
- OA jurisdictions will commit their own resources, to a reasonable degree, before requesting mutual aid assistance from the OA.
- The OA will commit the resources from within the OA, to a reasonable degree before, requesting mutual aid assistance from the region or state levels.
- The OA may be called upon by the state to support emergency operations in other OAs. Activation of the appropriate sections of the OA emergency response organization will follow this EOP as it would for an emergency situation within the Orange County OA.
- The Unified EOP is not designed to address the recovery and subsequent resumption of the delivery of city and county department program services. Therefore, each County department and OA jurisdiction is expected to develop, publish, and maintain a department or jurisdiction continuity plan that addresses response, recovery, and resumption of department or jurisdiction functions.

1.4 Preparing and Responding with the Whole Community Strategy

The County of Orange strives to incorporate Whole Community perspectives in its disaster planning, response and recovery efforts and encourages Operational Area jurisdictions to do the same. The Whole Community¹ includes, but is not limited to:

- Individuals and families, including those with disabilities or other access and functional needs
- Businesses
- Faith-based, nonprofit, and other community organizations
- Immigrant populations and communities
- Schools and academia
- Media outlets

¹<https://www.fema.gov/about/glossary/w> , accessed 03/25/2025

- All levels of government, including state, local, tribal, territorial, and federal partners

By planning with and for the Whole Community, complexities in the diversity in Orange County are integrated into the County disaster planning and response and recovery operations. These considerations are described in the sections below: Disabilities and Access and Functional Needs, Equity and Inclusion, and Cultural Diversity.

Disabilities and Access and Functional Needs

Orange County's definition of disabilities and access and functional needs is as follows:

Populations whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to: maintaining independence and the ability to perform the activities of daily living, communication, transportation, and medical care. Individuals in need of additional response assistance may include those who have disabilities; who live in institutionalized settings; who are elderly; who are children; who are from diverse cultures; who have limited English proficiency or are non-English speaking; or who may require transportation assistance.

The County of Orange is committed to complying with the Americans with Disabilities Act during all phases of disaster response and recovery. To accomplish this, the County works with stakeholder groups that include people with disabilities and disability service organizations to develop more inclusive and better informed plans. The County of Orange adheres to and encourages Operational Area jurisdictions to follow the principles below:

- Affected individuals will not be excluded from or denied benefits of any sort based on a disability or other access or functional need.
- Work to accommodate people with disabilities or other access and functional needs in the most integrated setting possible.
- During all phases of disaster response, make reasonable modifications to policies, practices and procedures, if necessary, to ensure programmatic and architectural access to all.
- Provide shelter access to all affected community members, including those with disabilities or other access and functional needs in the most integrated setting possible in order to keep families, friends, and/or neighbors together.

Equity and Inclusion

Furthermore, the County of Orange is committed to the principle of equity - including the need for consistent and systematic fair, just, and impartial treatment of all individuals in its emergency planning efforts. This approach includes a focus on understanding the needs of the population served and the recognition that many disasters disproportionately impact populations and communities that are historically disadvantaged. Through a more complete understanding of

community needs, County officials and planners are better able to identify and overcome barriers to accessing services that could otherwise be overlooked.

Cultural Diversity

As part of its Whole Community Strategy, Orange County is committed to the integration of cultural competence into emergency mitigation and prevention, planning, response, and recovery efforts. In all phases of emergency management, this cultural competence may include:

- Drawing on community-based values and customs by incorporating into working groups and communication channels qualified representatives from diverse population groups in the community;
- The use of culturally appropriate resources and outreach techniques to educate and prepare community members for emergencies or disasters; and
- Providing opportunities for community engagement in geographically diverse locations in order to engage with culturally diverse communities within Orange County.

Where opportunities for engagement exist through established County working groups or committees, emergency management will strive to leverage these existing relationships. As outlined in California Government Code § 8593.3.5, the following definitions are incorporated into Orange County's Whole Community Strategy:

"Cultural competence" means the ability to understand, value, communicate with, and effectively interact with people across cultures in order to ensure that the needs of all community members are addressed, with priority given to "culturally diverse communities."

"Cultural competence" includes, but is not limited to, being respectful and responsive to the cultural and linguistic needs of diverse population groups.

"Culturally diverse communities" includes, but is not limited to, race and ethnicity including indigenous peoples, communities of color, and immigrant and refugee communities; gender, including women; age, including the elderly and youth; sexual and gender minorities; people with disabilities; occupation and income level including low-income individuals and the unhoused; education level; people with no or limited English language proficiency; as well as geographic location.

Having recognized the need to be inclusive in its emergency planning, the County of Orange, Emergency Management Council and the Orange County Operational Area Executive Board formed the Orange County Disabilities and Access and Functional Needs (DAFN) Working Group in 2011 to strengthen partnerships with the disability community and others with access and functional needs. This team includes representatives from County agencies, local jurisdictions, and nonprofit organizations serving people with disabilities and access and functional needs in Orange County. This group's instrumental efforts have turned the Operational Area towards more inclusive emergency planning for the Whole Community. This group reviewed the Emergency Operations Plan in July 2025 and provided valuable feedback.

Chapter 2 SITUATION OVERVIEW

2.1 Orange County Profile

The County of Orange was officially formed on August 1, 1889. It covers a total of 948 square miles: 789 square miles of land and 159 square miles of water.

Thirty-four incorporated cities in the County are responsible for emergency planning within their jurisdictions. The County of Orange is responsible for the emergency planning of 205 square miles of unincorporated area and all County owned facilities and properties.

Orange County is bordered on the west by the Pacific Ocean, on the north by Los Angeles County, on the south by San Diego County, on the northeast by both San Bernardino County and Riverside County. The northern part of the County lies on the coastal plain of the Los Angeles Basin and the southern half lies on the foothills of the Santa Ana Mountains. Most of Orange County's population resides in one of two shallow coastal valleys that lie in the basin: the Santa Ana Valley and the Saddleback Valley. The coastal plain gently rises into the Santa Ana Mountains, which lie within the boundaries of the County and of the Cleveland National Forest.

The Santa Ana River is the County's principal watercourse. The San Gabriel River also briefly crosses into Orange County and exits into the Pacific on the Los Angeles-Orange County line between Long Beach and Seal Beach. Laguna Beach is home to the County's only natural lake, Barbara's Lake, which are formed by water rising up against an underground fault.

Surface transportation in Orange County relies heavily on several major interstate highways:

Table 1: Major Orange County Interstates and Highways

Interstate 5 (Santa Ana Freeway)	State Route 73 (San Joaquin Hills Transportation Corridor)
Interstate 405 (San Diego Freeway)	State Route 74 (Ortega Highway)
Interstate 605 (San Gabriel River Freeway)	State Route 90 (Imperial Highway)
State Route 1 (Pacific Coast Highway)	State Route 91 (Riverside Freeway)
State Route 22 (Garden Grove Freeway)	State Route 133 (Laguna Freeway)
State Route 39 (Beach Blvd.)	State Route 142 (Carbon Canyon)
State Route 55 (Costa Mesa Freeway)	State Route 241 (Foothill Transportation Corridor)
State Route 57 (Orange Freeway)	State Route 261 (Foothill Transportation Corridor)

Orange County is a tourist destination. It is home to attractions such as the Disneyland Resort and Knott's Berry Farm, professional sports teams like the Los Angeles Angels and the Anaheim Ducks, as well as beaches for swimming and surfing, harbors for sailing and pleasure boating, and extensive areas devoted to parks and open space for all types of recreation activities. It is also at the center of Southern California's Tech Coast, with Irvine as the primary business hub. Orange County is home to two military bases: the Joint Forces Training Base-Los Alamitos, located in City of Los Alamitos, and the Naval Weapons Station Seal Beach, located in the City of Seal Beach.

2.2 Population and Demographics

As of January 2025, the California State Department of Finance estimates Orange County's population as 3,175,427.² Of those, about 133,033 live in the unincorporated areas of the County. Community diversity is shown in Table 2 below:

Table 2: Orange County Population by Race (July 1, 2024)

Percentage of Total Orange County Population	
White, alone	68.70%
White alone, Not Hispanic or Latino	37.4%
Hispanic or Latino	34.2%
Asian alone	23.7%
Black or African American alone	2.3%
American Indian and Alaskan Native alone	1.1%
Native Hawaiian and Other Pacific Islander alone	0.4%
Two or More Races	3.9%

Source: United States Census Bureau.³

This diversity of origin emphasizes the need for effective communication in languages other than English during disasters. Roughly 46.9% of Orange County residents (over age 5) speak a language other than English at home. Widely spoken languages other than English include Spanish, Vietnamese, Chinese (includes Mandarin, Cantonese) Korean, Tagalog, Persian, and Arabic.

The U.S. Census Bureau estimates 9.8% of the population in Orange County to be disabled. Types of disabilities include hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty.⁴

Types of disabilities and population groups are shown in Table 3 below:

² E-5 Current Population and Housing Estimates for Cities, Counties, and the State, January 1, 2024 and 2025 – State of California Department of Finance. <https://dof.ca.gov/forecasting/demographics/estimates-e1/> retrieved on July 17, 2025

³ U.S. Census Bureau. (2024-July). QuickFacts, Orange County, California. Retrieved April 2, 2025 from <https://www.census.gov/quickfacts/fact/table/orangecountycalifornia/PST045224> Reconciliation of the numbers is outside the purview of the Orange County Sheriff's Department-Emergency Management Division.

⁴ U.S. Census Bureau (Health) https://data.census.gov/profile/Orange_County,_California?g=050XX00US06059#health retrieved April 2, 2025

Table 3: Orange County Disability Characteristics

Age Range	0-4 years		5-17 years		18-64 years		65 + years	
Population	170197		504061		1981513		492945	
Disability	With a disability	Estimate Percent	With a disability	Estimate Percent	With a disability	Estimate Percent	With a disability	Estimate Percent
Hearing Difficulty	1143	0.7%	2244	0.4%	23569	1.2%	53405	10.8%
Vision Difficulty	451	0.3%	2941	0.6%	22651	1.1%	22252	4.5%
			Under 18 years		18-64 years		65 and over	
Cognitive Difficulty	-	-	16515	3.3%	56561	2.9%	39126	7.9%
Ambulatory Difficulty	-	-	2569	.5%	45085	2.3%	92049	18.7%
Self-Care Difficulty	-	-	5977	1.2%	20978	1.1%	42929	8.7%
Independent Living Difficulty	-	-	-	-	46385	2.3%	69063	14.0%

Source: U.S. Census Bureau, Disability Characteristics, 2023 American Community Survey 5-Year Estimates, Table S1810⁵

2.3 Employment and Industry

The largest employers in Orange County in 2024 were the Walt Disney Co., University of California, Irvine, Providence Southern California, County of Orange, and Kaiser Permanente.⁶ Small businesses employing less than 50 employees account for 96 percent of all Orange County businesses and employ approximately 44 percent of the County's workforce. Approximately 180 businesses in the region each employ more than 500 workers and 70 businesses each employ more than 1,000 workers.⁷ As of June 2024, the unemployment rate in Orange County was 4%.⁸

Millions of visitors visit Orange County annually. The number of people commuting from surrounding areas to industrial and business centers also adds to the dependency on roads, communications, accessibility, and emergency plans.

2.4 History of Disasters

Below is a table which lists the County of Orange proclaimed disaster and the Orange County Federal Declared Disasters.

⁵ US Census Bureau, S1810 Disability Characteristics, Retrieved April 2, 2025

<https://data.census.gov/table/ACSST5Y2023.S1810?q=S1810&g=050XX00US06059>

⁶ https://ocbc.org/wp-content/uploads/2024/10/KeyIndicators_Ltr24-25_digital.pdf retrieved April 2, 2025

⁷ 2024-25 Orange County Community-Indicators , 25th Anniversary Report, Report pg 18

⁸ 2024-25 Orange County Community-Indicators , 25th Anniversary Report, Report pg 6

Table 4 – County of Orange and State Proclaimed Disasters from 2015 thru 2025

Item Number	Agenda Date	Incident Type	Incident Title
S221	9/10/2024	Fire	Trabuco Canyon Airport Fire
1	11/13/2023	Fire	Navy Hangar Fire (Tustin)
1	11/2/2022	Public Health	Respiratory Syncytial Virus (RSV)
1	5/17/2022	Fire	2022 Coastal Fire
8	10/19/2021	Oil Spill	2021 P00547 Marine Oil Spill
S33H	11/3/2020	Fire	2020 Silverado
S33H	11/3/2020	Fire	Blue Ridge Fire
S66H	6/23/2020	Civil Unrest	2020 Civil Unrest
1	3/02/2020	Pandemic	COVID-19
S45D	2/26/2019	Flood	2019 Winter Storms
1	10/12/2017	Fire	Canyon 2 Fire
1	02/09/2017	Flood	2017 Winter Storm Events

Table 5 - Orange County Federally Declared Disasters

Disaster Number	Year	Incident Type	Incident Title
EM-3592	2023	Winter Storms	Winter Storms – March-July
EM-3591	2023	Winter Storms	Winters Storms – January
FM-5439	2022	Fire	Coastal Fire
FM-5383	2021	Fire	Bond Fire
FM-5381	2020	Fire	Blue Ridge Fire
FM-5380	2020	Fire	Silverado Fire
DR-4482	2020	Pandemic	California Covid-19 Pandemic
FM-5268	2018	Fire	Holy Fire
DR-4344	2017	Fire	Wildfires
DR-4305	2017	Flood	Severe winter storms, flooding, and debris and mud flows
DR-1952	2011	Flood	Severe winter storms, flooding, and debris and mud flows
FM-2792	2008	Fire	Freeway Fire Complex
DR-1810	2008	Fire	Wildfires
FM-2737	2007	Fire	Santiago Fire
FM-2683	2007	Fire	241 Fire
EM-3279	2007	Fire	Wildfires
DR-1731	2007	Fire	Wildfires, flooding, mud flows, and debris flows

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Disaster Number	Year	Incident Type	Incident Title
FM-2630	2006	Fire	Sierra Fire
DR-1585	2005	Severe Storm	Severe storms, flooding, landslides, and mud and debris flows
EM-3248	2005	Hurricane	Hurricane Katrina evacuation
DR-1577	2005	Severe Storm	Severe storms, flooding, debris flows, and mudslides
FS-2405	2002	Fire	Antonio Fire
DR-1203	1998	Severe Storm	Severe winter storms and flooding
EM-3120	1996	Fire	Severe firestorms
DR-1046	1995	Severe Storm	Severe winter storms, flooding landslides, mud flow
DR-1044	1995	Severe Storm	Severe winter storms, flooding, landslides, mud flows
DR-1008	1994	Earthquake	Northridge earthquake
DR-1005	1993	Fire	Fires, mud/landslides, flooding, soil erosion
DR-979	1993	Flood	Severe winter storm, mud & land slides, & flooding
DR-935	1992	Flood	Rain/snow/wind storms, flooding, mudslides
DR-812	1988	Flood	Severe storms, high tides & flooding
DR-799	1987	Earthquake	Earthquake & aftershocks
DR-677	1983	Coastal Storm	Coastal storms, floods, slides & tornadoes
DR-657	1982	Fire	Urban Fire
DR-635	1980	Fire	Brush & timber fires
DR-615	1980	Flood	Severe storms, mudslides & flooding
DR-547	1978	Flood	Coastal storms, mudslides & flooding
DR-566	1978	Flood	Landslides
DR-253	1969	Flood	Severe storms & flooding

2.5 Hazard Identification and Assessment

Hazard identification and assessment is a critical component of the County and Operational Area emergency planning process. For the purposes of the Orange County Operational Area, a hazard is any event that poses an uncommon threat to lives, property, or the environment in Orange County. A hazard event will stress Orange County's public safety organizations and, in most cases, will require a multi-agency, interdisciplinary response effort supported by the activation of the Orange County Operational Area Emergency Operations Center and/or coordination by the Orange County Sheriff's Department Emergency Management Division. The hazard assessment conducted in conjunction with the 2025 revision of the Unified Emergency Operations Plan update sought to build on previous local hazard assessments while also considering hazard lists available from the California Emergency Services Act, Federal Emergency Management Agency, and the National Fire Protection Association. From these lists, a primary hazard list was developed and hazard briefs were prepared to assess the probability and impact of each hazard. The hazard assessment matrix and hazard briefs below work in concert with hazard-specific all threat, hazard, and risk identification and analysis processes for the County and Operational Area including but not limited to the EMAP THIRA, FEMA THIRA, SPR, and IPP and the County General Plan Safety Element to fully describe the risks posed by various hazards to Orange County and its political subdivisions. See Attachment 1 for a discussion of the hazard identification process and Attachment 2 for the risk assessment process that is used consistently across all emergency management plans, including but not limited to the County General Plan Safety Element, Hazard Mitigation Plan, the EOP, Continuity of Operations Plans, Continuity of Government Plan, the Recovery Plan, and each of the annexes supporting those plans. The County and OA jurisdictions will review and update the hazard analysis regularly in conjunction with the review of this EOP.

In accordance with CPG 101 and Hazard Mitigation guidance, hazards are assessed based on relative probability and impact.

Probability

- Likely: There may or may not have been historic occurrences of the hazard in the community or region but experts feel that it is likely that the hazard will occur in the community. Between 10% and 100% annual probability.
- Possible: There may or may not have been a historic occurrence of the hazard in the community or region but experts feel that it is possible that the hazard could occur in the community. Community members may feel that there is a likelihood of occurrence. Less than 10% annual probability.
- Unlikely: There have been no historic occurrences of the hazard in the community or region and both experts agree it is highly unlikely that the hazard will occur in the community. Less than 1% annual probability.

Impact

- High: Catastrophic/Critical. Both experts and community members feel that the consequences will be significant in terms of building damage and loss of life.

- Moderate: Limited. Consequences are thought to be modest in terms of infrastructure and building damage and loss of life, limited either in geographic extent or magnitude.
- Low: Negligible. Little building damage and trivial impact to infrastructure and critical facilities.

Table 6 - Hazard Analysis Results

		<u>Probability of Occurrence</u>		
		Likely	Possible	Unlikely
<u>Impact and Extent</u>	High	• Earthquake • Flood • Wildland Fire and Urban Fire	• Terrorism • Tsunami	• Act of War • Dam/Levee/Reservoir Failure • Economic Collapse • Nuclear Incidents, including San Onofre Nuclear Generating Station (SONGS) • Pandemic/High Consequence Diseases
	Moderate	• Civil Unrest • Cyber Threat • Large Scale Event	• Aircraft Incident • Epidemic or Disease Outbreak (Large Scale) • Oil Spill	• Electromagnetic Pulse Attack • Geomagnetic Storm/Space Weather • Product Contamination • Rail Incident
	Low	• Air Quality • Drought • Excessive Temperature Heat/Cold • Hazardous Materials Release • High Winds • Landslide/Mudslide/Debris Flow • Misinformation and Disinformation • Utility Failure	• Sea Level Rise • Vector-Borne Diseases	• See Attachment 1 for a full listing of hazards including unlikely/low

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2.5.1 Act of War

Impact:	High
Probability:	Unlikely
Location:	Countywide
Extent:	An Act of War militarily would be far-reaching and affecting the whole United States with significant consequences to all aspects of County functions and ways of life.
Related Hazard(s):	Civil Unrest, Cyberattack, Electromagnetic Pulse Attack, Terrorism
Related Plans and Annexes:	None

Definition

The term “act of war” means any act occurring in the course of (A) declared war; (B) armed conflict, whether or not war has been declared, between two or more nations; or (C) armed conflict between military forces of any origin. The California Emergency Services Act defines a “State of war emergency” as the condition which exists immediately, with or without a proclamation thereof by the Governor, whenever this state or nation is attacked by an enemy of the United States, or upon receipt by the state of a warning from the federal government indicating that such an enemy attack is probable or imminent.

History & Probability, Including Range of Anticipated Intensities

While no direct attack is imminent, an “Act of War” impacting Orange County remains largely dependent on international geopolitical dynamics, regional military posturing, and California's strategic value to national defense. Recent global events have elevated concerns within U.S. homeland security and defense communities regarding the probability of direct or asymmetric attacks against key domestic targets—particularly those located along the West Coast.

In 2025, U.S. military and intelligence focus has decisively returned to the Indo-Pacific, where a strategic “arc of instability” extends from North Korea and the Taiwan Strait, across the South China Sea, and through the Middle East and North Africa (MENA) region. Longstanding threats from North Korea’s nuclear weapons program, Iranian proxy activity, and the increased global assertiveness of China, particularly following the 2024 naval standoff near Taiwan, have escalated the risk of regional conflict with global implications. Additionally, Russia's renewed military pressure in Eastern Europe, combined with an increase in cyber and information warfare, has further complicated the national threat landscape.

Though a direct kinetic attack on Orange County remains unlikely, homeland-focused asymmetric warfare is a growing concern. Threat vectors could include cyberattacks, EMP (electromagnetic pulse) events, or the use of chemical, biological, radiological, nuclear, or explosive (CBRNE) weapons against Critical Infrastructure and Key Resources (CI/KR). Analysts consider facilities supporting defense logistics, intelligence, and military readiness as potential targets for terrorism or sabotage—either by foreign actors or inspired domestic threats.

Orange County contains significant military assets and supporting infrastructure:

- Naval Weapons Station (NWS) Seal Beach remains the U.S. Navy’s primary West Coast ordnance depot, responsible for arming and unloading more than 100 naval vessels per year. Covering 5,256 acres with over 80 miles of roads for munitions transport, its strategic importance in the Pacific theater places it on lists of potential adversarial interest.
- Joint Forces Training Base (JFTB) Los Alamitos is a critical military hub that spans 1,319 acres. It houses:
 - The 40th Infantry Division and multiple subordinate brigades,
 - California National Guard aviation units,
 - A Defense Intelligence Agency (DIA) Joint Regional Intelligence Center, and
 - Specialized assets like the 9th Civil Support Team and Special Forces Company. JFTB also operates the only remaining military airfields in the greater Los Angeles/Orange County region and employs more than 300 personnel. The combination of aviation, cyber, and special operations units heightens its visibility in wartime scenario planning.
- Marine Corps Base Camp Pendleton, just south of Orange County, spans more than 125,000 acres and supports the largest West Coast expeditionary training operations. It serves over 70,000 personnel daily, including Marines, sailors, civilian staff, and their families. The base is home to:
 - School of Infantry – West
 - Field Medical Training Battalion – West
 - Assault Amphibian School, and
 - Several joint training operations with local, state, and federal agencies.

Camp Pendleton also supports strategic mobility and force deployment, making it a likely logistical target during global military escalation. Its population heavily relies on Orange County communities for goods and services, linking civilian infrastructure and commerce to base resilience.

In light of ongoing international struggles, hybrid warfare threats, and supply chain interdependence, Orange County should consider:

- Acts of sabotage or terrorism against transportation, energy, and digital infrastructure,
- The cyber vulnerability of public and private sector networks, and
- The potential strain on local emergency services in support of military mobilization or regional evacuation.

Vulnerability, Assets, and Impact

Dependent upon the size, scope, and location of Acts of War within the geographic area, immediate and long-term impacts can affect Orange County significantly.

Category	Vulnerability Factors	Assets at Risk
People	High risk of mass casualties, psychological trauma, displacement, and disruption to daily life.	Civilian population, visitors, vulnerable groups (children, elderly), workforce Vulnerable areas include but are not limited to: populated urban centers, public venues, and critical workforce
Property	Severe destruction or damage from bombings, cyberattacks, or sabotage	Buildings, commercial districts, transportation systems, utilities infrastructure Vulnerable areas include but are not limited to: high-density areas, soft targets (malls, schools), critical infrastructure zones
The Environment	Contamination from chemical, biological, radiological, or conventional weapon use	Wetlands, air and water systems, wildlife habitats, recreational areas Vulnerable areas include but are not limited to: coastal and urban ecosystems, water sources, air quality, protected habitats
Government Operations	Disruption of essential services, communication systems, emergency response, and leadership functions	City halls, EOCs, police/fire stations, data centers, public health infrastructure Vulnerable areas include but are not limited to: centralized government facilities, emergency operations centers, public safety agencies

Impact Area	Description of Impact
Public	High risk of mass casualties, injuries, psychological trauma, and mass displacement; heightened fear and anxiety in the community. Populations may need curfews, decontamination, mass evacuations, POD's and sheltering.
Responders	Significant danger due to active threats (e.g., explosives, chemical exposure); physical and emotional exhaustion; potential casualties. First responders would be vulnerable as potential targets, potential recruits into the military response, and from increased vigilance in operations. Assets needed to respond could be impacted by attacks,

Impact Area	Description of Impact
	and it may be difficult to replace damaged or aging response assets if there are supply shortages. Immediate impacts could include personnel and asset shortages, the creation of a complex response that would involve both local level first responders, mutual aid plans, and military personnel. Long-term impacts could include changing response protocols, adapting recruitment strategies, and adapting to military presence.
Continuity of Operations / Delivery of Services	Major disruption or shutdown of government services, utilities, and emergency operations; critical need for continuity planning.
Property, Facilities, Assets, & Critical Infrastructure	Severe damage or destruction to transportation systems, power grids, communication networks, government buildings, and public spaces. Damage to buildings, streets, and utilities could be widespread and long lasting. Reconstruction would be long term and slow based on resource limitations.
Supply Chain	Disruption of fuel, food, and goods delivery due to damaged transportation hubs or targeted attacks on infrastructure. There may be a need for large-scale points of distribution with impacts and shortages for food, water, fuel, and medicine. Commodity shortages may be affected by scope of the acts of war effect on U.S. supplies and economic impacts outside of the OC region
Environment	Health effects from weapons including HAZMAT and CBRNE will be long lasting and widespread. Potential contamination of air, water, and soil from chemical, radiological, or explosive materials; long-term ecological degradation. Lack of resources and utility impacts such as trash collection, water, sewer, and power will add to health emergencies.
Economic & Financial Conditions/ Community Activities	California has established a number of financial standing War Orders should an Act of War occur. There could be business closures, job losses, loss of investor confidence, interruption of tourism and recreation; long recovery timeframes. Global economic trends, inflation, and commodity insecurities could worsen. Local businesses and manufacturing could be greatly affected or face long term delays and closure.
Public Confidence in Local Government	Potential to generate social unrest and civil disobedience locally based on federal levels of action, response, and or lack of support from local authorities which degrade public trust. A high risk of unrest may revolve around basic needs and commodity shortages.

Resources

18 U.S. Code §2331

https://militarycouncil.ca.gov/s_californiamilitarybases/

State of California, California Emergency Plan

Cybersecurity and Infrastructure Security Agency (CISA): Focuses on protecting critical infrastructure and government systems from cyberattacks and physical threats, including war-related hazards. Includes vulnerability assessments and resilience resources.

Website: <https://www.cisa.gov>

RAND Corporation – National Security Research: Nonpartisan think tank offering research on defense strategy, homeland security, and risk modeling for acts of war and terrorism in the U.S.

Website: <https://www.rand.org/topics/national-security.htm>

2.5.2 Air Quality

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	Dependent upon the weather, location of source, and nature of incident causing hazardous air quality
Related Hazard(s):	Wildfire, Hazardous Materials
Related Plans and Annexes:	None

Definition

Air Quality is included as a hazard due to California Assembly Bill 619, although poor air quality is typically a consequence of another hazard (e.g., fires, hazardous materials release, etc.). The Air Quality Index (AQI) is a numerical index used to report the severity of air pollution levels to the public. It replaces the formerly used Pollutant Standards Index (PSI). AQI levels are defined as follows:

- Good (0-50)
- Moderate (51-100)
- Unhealthy for Sensitive Groups (101-150)
- Unhealthy (151-200)
- Very Unhealthy (201-300)
- Hazardous (301-500)

According to the South Coast Air Quality Management District (AQMD), the AQI is calculated using the Environmental Protection Agency's NowCast method, which emphasizes recent levels when conditions change rapidly. Values are determined using a technique developed by South Coast AQMD scientists that blends measurements from high-quality regulatory monitors, hundreds of quality-controlled and calibrated low-cost sensors, and an air quality model.

Harmful air ingredients may include:

- 1) Particulate matter: the principal pollutant of concern from wildfire smoke for the relatively short-term exposures (hours to weeks) typically experienced by the public. Particles from smoke tend to be very small (with diameters of 2.5 micrometers and smaller) and can be inhaled into the deepest recesses of the lung; and,
- 2) Carbon monoxide (CO), a colorless and odorless gas, is at its highest levels during a fire's smoldering stages, especially near the fire. CO is primarily a risk to people, such as firefighters, who work near smoldering areas.

History & Probability, Including Range of Anticipated Intensities

The probability of this health hazard is driven by the underlying hazard-wildfire and hazardous material. This probability calculation is also impacted by that of surrounding counties, as smoke from wildfires can travel long distances into areas many miles from the flames.

Researchers at the Scripps Institution of Oceanography at UC San Diego concluded that the fine particles in wildfire smoke can be several times more harmful to human respiratory health than particulate matter from other sources, such as car exhaust. This new research work, focused on Southern California, revealed the risks associated with tiny airborne particles with diameters of up to 2.5 microns, approximately one-twentieth the diameter of a human hair. These particles—termed PM_{2.5}—are the main component of wildfire smoke and can penetrate the human respiratory tract, enter the bloodstream, and impair vital organs.⁹ According to the Air Resources Board (ARB), one-quarter of our state, or more than 25 million acres, is now classified as being under a very high or extreme fire threat, and over 25% of the state's population resides in these high fire-risk areas where PM_{2.5} particles could be generated. In Orange County, these fires have included but are not limited to: Holy Fire (2018: 23,000 acres), Silverado, Blue Ridge, and Bond Fires (2020: over 32,000 acres), and Airport (2024, over 23,000 acres). During the January 2025 Southern California fires, the fires drove AQI values above 200, with some readings briefly peaking in the “most hazardous” (>500) range.

Urban Fires can also impact local and regional air quality. In November 2023, the Navy Hangar Fire (Tustin) led to hazardous air quality in the areas surrounding the fire structure. AQMD tested debris, and the presence of Asbestos in the debris at a level greater than 1% was confirmed, indicating it was likely to impact public health and safety.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Sensitive groups (children, elderly, people with asthma or heart/lung disease), outdoor workers, and unsheltered populations	Public health and safety, schoolchildren, residents in high-pollution areas, outdoor laborers
Property	Buildings with poor ventilation, areas exposed to smoke or corrosive pollutants	HVAC systems - Commercial properties with outdoor activities, equipment damaged by corrosive particulates
The Environment	Natural areas exposed to wildfire smoke, ozone, or chemical releases	Parks and open space, watersheds, sensitive habitats (e.g., wetlands, coastal zones)
Government Operations	First responders and field staff exposed during air emergencies. Continuity of operations impacted by facility closures or degraded air systems	Emergency services, health agencies, government buildings, public transportation systems

⁹ Aguilera, R., Corringham, T., Gershunov, A. *et al.* Wildfire smoke impacts respiratory health more than fine particles from other sources: observational evidence from Southern California. *Nat Commun* **12**, 1493 (2021). <https://doi.org/10.1038/s41467-021-21708-0>

Category	Impact of Air Quality Emergencies
Public	Increased respiratory and cardiovascular issues, especially among vulnerable populations (children, elderly, and those with asthma/COPD); school and outdoor activity cancellations. Health problems related to hazardous air quality exposure can be as mild as eye and respiratory tract irritation and as severe as worsening of heart and lung disease, including asthma, and even premature death, negatively impacting public health and degrading quality of life.
Responders	Reduced effectiveness and increased health risk for emergency personnel due to prolonged exposure; need for PPE (e.g., N95 masks); fatigue and deployment constraints. Responders may be required to work for extended periods in areas with hazardous air quality.
Continuity of Operations, Including Services	Potential disruption to in-person services; closures of schools, community centers, and nonessential offices; reliance on remote work; delayed field operations. Employees with pre-existing conditions may need to stay home, while emergency services may be delayed or strained.
Property, Facilities, Assets, and Critical Infrastructure	HVAC systems strained or contaminated; reduced visibility and corrosive airborne particles may impact infrastructure; need for air filtration upgrades or temporary shutdowns. Outdoor assets may suffer accelerated wear due to particulates, and critical infrastructure, such as power plants or water treatment facilities, could be affected by staffing shortages or reduced operational capabilities.
Supply Chain	Delays in transportation and logistics due to visibility issues and road/port closures; reduced workforce availability due to health impacts. Labor shortages resulting from illness or unsafe working conditions may delay shipments. Essential goods, such as PPE or air filters, may experience increased demand and reduced availability.
Environment	Harmful impacts on air, water, and soil quality; ecosystem disruption; prolonged atmospheric pollution affecting flora and fauna health. The increase of carbon emissions may contributing to climate change. Airborne pollutants can settle into water sources and soil, further harming local flora and fauna and impacting long-term environmental recovery.
Economic and Financial Conditions, Including Community Activities	Decline in tourism and recreation, hospitality, and outdoor industries; business interruptions and closures; increased healthcare costs; cancellations of events and reduced retail activity; infrastructure damage. Loss of productivity all place financial strain on individuals, businesses, and local governments. Cleanup or mitigation efforts require substantial funding.

Category	Impact of Air Quality Emergencies
Public Confidence in Local Government	Perceived or real delays in response, lack of communication, or inadequate health protection measures can lead to diminished trust in local authorities. Effective and transparent crisis management and crisis communication are essential to maintaining credibility and community morale. Increased demand for transparency and effective air quality communication and alert systems.

Resources

South Coast Air Quality Management District (SCAQMD) - Regional agency responsible for monitoring and regulating air pollution in Orange County and surrounding areas. Provides real-time air quality data, health advisories, and emergency response guidance.

Website: <https://www.aqmd.gov>

California Air Resources Board (CARB) - State agency that sets air quality standards, tracks pollution sources, and supports mitigation planning for air quality emergencies such as wildfires or industrial incidents.

Website: <https://ww2.arb.ca.gov>

U.S. Environmental Protection Agency (EPA) – AirNow: Provides real-time air quality index (AQI) data, wildfire smoke advisories, and educational resources on health impacts of air pollution.

Website: <https://www.airnow.gov>

2.5.3 Aircraft Incident

Impact:	Moderate
Probability:	Possible
Location:	Countywide
Extent:	Depending on the scale, type, location, and complexity, this can range from a single runway closure to various residential, commercial, and industrial buildings or infrastructure across multiple jurisdictions.
Related Hazard(s):	Fire, HAZMAT, Mass Fatality, Terrorism
Related Plans and Annexes:	Legislated Aircraft Annex

Definition

This hazard encompasses a few categories: On-airport accidents (such as runway overruns or undershoots); off-airport accidents (occurring in residential, commercial, industrial zones, or over water); in-air collisions with other aircraft; and incidents involving private, commercial, public agency, or military operators.

History & Probability, Including Range of Anticipated Intensities

Aircraft accidents present a significant risk to Orange County due to the high volume of commercial, military, and general aviation flights. As air traffic over the Los Angeles Basin, which includes Orange County, continues to increase, the likelihood of aircraft accidents persists. Regardless of the size or type of aircraft involved, local resources will be impacted.

Orange County's airports and military bases are situated within urban areas, which further heightens the risk. Statistics indicate that aircraft-related accidents are most likely to occur during the departure or approach phases of flights. A major accident in a densely populated area could result in substantial loss of life and extensive property damage.

The aftermath of a disabled aircraft can lead to multiple explosions, creating intense fires. No matter where the crash occurs, the resulting explosions and fires can cause injuries, fatalities, and property destruction both at the crash site and nearby.

Assessing the damage and coordinating disaster relief efforts following an aircraft accident will likely require collaboration between local governments, private organizations, and state and federal agencies. The airports/bases within and adjacent to Orange County that handle the greatest amount of air traffic are as follows:

- **Fullerton Airport (FUL):** This airport services only general aviation and is located adjacent to the 5 and 91 freeways. It has a parking capacity for 600 small general aviation aircraft and serves as a base for the Orange County Fire Authority (OCFA), as well as helicopters from Anaheim and the California Highway Patrol (CHP).
- **John Wayne International Airport (KSNA):** KSNA accommodates an average of over 11 million commercial passengers each year, with several hundred thousand total flight operations. To comply with noise pollution regulations, John Wayne Airport limits commercial flight operations to the hours of 7:00 AM to 10:00 PM.

- **Joint Forces Training Base Los Alamitos:** Located in the northwest part of Orange County, this active military base sees numerous flights arriving and departing daily.
- **Long Beach Airport (LGB):** LGB handles an average of 41 daily commercial flights and 25 commuter flights. Similar to John Wayne Airport, LGB restricts flight operations to the hours of 7:00 AM to 10:00 PM to mitigate noise pollution. The standard approach path for flights into LGB takes aircraft over several Orange County cities.
- **Los Angeles International Airport (LAX):** LAX is the fourth busiest passenger airport in the United States and ranks eleventh in air cargo tonnage handled. Its popularity continues to grow, with LAX averaging over 61 million passengers annually and operating multiple flights each day. The airport's air cargo system managed more than 2.1 million tons of goods. LAX handles 70% of the passengers, 75% of the air cargo, and 95% of the international passengers and cargo traffic in the five-county Southern California region.

Vulnerability, Assets, and Impact

Category	Vulnerability	Assets at Risk
People	Injury or fatality to passengers, crew, and residents in crash zones	Residents, airline passengers and staff, students, event attendees Vulnerable areas include but are not limited to: Populated neighborhoods near airports and flight paths; public gatherings; schools
Property	Severe damage to buildings, vehicles, infrastructure, and utilities due to impact or fire	Homes, businesses, vehicles, critical infrastructure (roads, bridges, utilities) Vulnerable areas include but are not limited to: Densely developed urban zones; older or non-reinforced structures
The Environment	Jet fuel spills, fires, air and water contamination, habitat loss	Wetlands, coastal ecosystems, air and water quality, urban green spaces Vulnerable areas include but are not limited to: Coastal zones, wetlands, protected parks and reserves near airports or flight paths
Government Operations	Disruption to emergency response, transit systems, communications, and public services	Emergency services, public facilities, transportation networks, communications systems Vulnerable areas include but are not limited to: Limited preparedness for large-scale aviation incidents; coordination challenges

Impact Area	Description of Impact
Public	Potential for death, injury, trauma, and displacement. May experience flight delays, re-routing, and traffic. May develop fear of air travel and reduced sense of safety, especially near airports.
Responders	High-stress response situations with potential exposure to fire, debris, hazardous materials, and mass casualties; risk of injury or burnout. An aircraft accident will likely require assistance from local governments, private organizations, and state and federal agencies. Depending on the aircraft and location, mutual aid resources may be utilized.
Continuity of Operations (incl. delivery of services)	Disruption of municipal services (e.g., emergency management, transit); temporary shutdown of local government functions or public facilities. There is a low risk of impact on the continuity of operations, as alternative locations and remote activities can help minimize the effects associated with this hazard.
Property, Facilities, Assets, and Critical Infrastructure	Significant damage to buildings, vehicles, roads, utilities, and airports; potential for fires, structural collapse, or access limitations. An aircraft incident can significantly impact property, facilities, assets, and critical infrastructure. Depending on the type of aircraft, the location of the incident, and the size of the debris field, the affected area may require a complete rebuild.
Supply Chain	Temporary closure or congestion at airports and roads can delay shipments, reduce goods availability, and disrupt local logistics networks.
Environment	Jet fuel spills, fire, and debris can pollute air, soil, and water; wildlife habitats may be destroyed, especially in coastal or wetland areas. The environmental impact of an aircraft incident can vary significantly based on several factors, including the type of aircraft, the location of the incident, and the size of the debris field. On the lower end of the spectrum, the situation may require only minor cleanup and decontamination, which could take just a few hours. On the higher end, however, significant cleanup efforts, extensive decontamination, and comprehensive environmental restoration activities may be necessary, and these can take a considerable amount of time.
Economic & Financial Conditions / Community Activities	Flight cancellations, tourism losses, insurance claims, and decreased business activity near affected areas; local events may be postponed.

Impact Area	Description of Impact
Public Confidence in Local Government	Could decline if response is delayed, disorganized, or poorly communicated; trust increases with transparent, efficient emergency management.

Resources

Federal Aviation Administration (FAA) - Provides data on aircraft incidents, airport operations (including John Wayne Airport), airspace safety, and risk mitigation standards.

Website: <https://www.faa.gov>

National Transportation Safety Board (NTSB) - Investigates aviation accidents and publishes detailed reports, data analysis tools, and safety recommendations.

Website: <https://www.nts.gov>

John Wayne Airport - Includes safety data, air traffic volume, noise studies, and emergency procedures.

Website: <https://www.ocair.com>

2.5.4 Civil Unrest

Impact:	Moderate
Probability:	Likely
Location:	Countywide
Extent:	The impact of an incident can vary greatly depending on its type, location, and complexity. It may be confined to a single jurisdiction with limited effects or extend across multiple jurisdictions, placing significant demands on the Operational Area's capacity to respond effectively to the situation.
Related Hazard(s):	Fire, Terrorism, Labor Disputes, Transportation Disruption, Utility Failure
Related Plans and Annexes:	None

Definition

Civil disorder, often referred to as civil disturbance or civil unrest, occurs when a large group of people engages in acts of civil disobedience, such as demonstrations, riots, or strikes, resulting in hostility toward authority. This situation makes it difficult for authorities to maintain public safety and order amidst the disorderly crowd. According to the California Emergency Services Act, the terms "State of Emergency" and "Local Emergency" encompass riots but specifically exclude situations that arise from labor disputes.

History & Probability, Including Range of Anticipated Intensities

In Orange County, civil disturbances may be triggered by a number of events:

- Spontaneous reactions to verdicts in high-profile trials (retaliation or celebration)
- Spontaneous reactions to organized sporting event outcomes
- Organized reactions or demonstrations
- Political rallies or demonstrations

Southern California has a history of civil unrest. This includes the Watts Riots in 1964. Notable events have included the Huntington Beach Surf Riots in August 1986 and July 2013, the 1992 verdict in the Rodney King case, the Westminster Little Saigon demonstration in February 1999, the Anaheim civil unrest during the summer of July 2012, the trial of Kelly Thomas in Fullerton in January 2014, a Trump rally in April 2016, nationwide protests in June 2020, and university protests related to the Gaza War that occurred across Southern California.

In 2020, Orange County, like many jurisdictions across the United States, experienced unprecedented levels of civil unrest following the death of a suspect in Minneapolis, Minnesota. This unrest was marked by widespread looting, arson, vehicular assaults, and civil disobedience that persisted for several weeks. Some metropolitan areas continued to face civil unrest for months after the initial events. As a response, local law enforcement, the National Guard, and federal law enforcement agencies were deployed to multiple locations to restore law and order, with hundreds of millions of dollars in property damage attributed to these incidents.

In 2024, universities across the nation faced varying levels of civil unrest related to the ongoing Gaza War. In 2025, communities across the nation experienced civil unrest in protest against immigration enforcement activities. Local jurisdictions activated their law enforcement Department Operations Center; they did not activate their Emergency Operations Centers, proclaim local emergencies, or implement curfews.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	High population density in urban centers (e.g., Santa Ana, Anaheim); presence of politically or socially polarized groups; public gatherings, protests, or demonstrations	Residents and visitors; protesters and bystanders; first responders and law enforcement personnel
Property	Concentration of commercial areas (e.g., shopping centers, business districts); inadequate security or building design against vandalism; past incidents near sensitive locations (courthouses, police stations)	Private businesses; government buildings; vehicles (public and private); critical infrastructure (e.g., utilities, transportation)
The Environment	Risk of fire from arson or use of incendiary devices during unrest; debris and pollutants from damaged property; Urban areas with limited green buffers	Air and water quality; urban parks and green spaces; waste management systems
Local Government Operations	Strain on public safety and emergency services; disruption to daily operations and public services; dependency on real-time communication and mobility	Law enforcement agencies; emergency management department; public transportation systems; administrative continuity (e.g., city halls, data systems)

Category	Potential Impacts of Civil Unrest
Public	Risk of injury or fatality to participants and bystanders; increased fear, anxiety, and tension in affected communities; disruption of daily life, including access to schools, businesses, and healthcare.
Responders	Physical danger to law enforcement, firefighters, EMS, and public health personnel; resource strain due to extended deployments and mutual aid needs; risk of public distrust or hostility toward responders depending on the nature of the event. Federal, state, regional, and local resources can be activated through mutual aid agreements to provide additional support. Responders may become targets, which can hinder their effectiveness.

Category	Potential Impacts of Civil Unrest
Continuity of Operations, Including Continued Delivery of Services	Government offices may shut down or reduce hours; interruptions in services like waste collection, permitting, or public transportation; potential delays in emergency response and essential administrative functions. Protesters may occupy government buildings, disrupting normal governmental functions. Additionally, targeted attacks on government facilities could delay operations.
Property, Facilities, Assets, and Critical Infrastructure	Vandalism, arson, or looting targeting businesses, government buildings, and vehicles; damage to transportation networks (roads, traffic systems) or utilities; increased security costs for protecting public assets. Private property, government facilities, and infrastructure often become targets during instances of civil unrest. Damages can reach millions of dollars, and recovery may take years. Damage incurred during these events, or an employee's inability to access a facility, can significantly reduce the facility's effective capacity or even lead to its complete closure.
Supply Chain	Disruption in movement of goods, especially in high-traffic corridors like I-5 and I-405; delays in deliveries of food, fuel, and medical supplies; closures of ports, warehouses, or logistics centers due to unrest or safety concerns. Fear of violence may prevent workers from going to work, resulting in production and distribution delays.
Environment	Pollution from fires, debris, or hazardous material releases; damage to urban green spaces and public parks; overburdened sanitation systems if cleanup is delayed. If hazardous material facilities were a target for vandalism or large-scale fires occurred, the impact on the environment could be significant.
Economic and Financial Conditions, Including Community Activities	Loss of business revenue due to closures or property damage; increased insurance claims and premiums; cancellation of public events, markets, and recreational activities; negative perception affecting tourism and investment. Large-scale events often result in absenteeism and the destruction of personal property.
Public Confidence in Local Government	Erosion of trust if unrest is perceived as mismanaged or caused by policy failures; community backlash or loss of credibility depending on response actions; pressure to improve communication, transparency, and reform efforts. When the response is perceived as insufficient, individuals may take matters into their own hands to protect their property, which could further worsen the situation.

Resources

None

2.5.5 Cyber Threat (Intrusion/Attack)

Impact:	Moderate
Probability:	Likely
Location:	Countywide
Extent:	The impact of an incident can vary greatly based on its type, location, and complexity. It may affect only a single jurisdiction with minimal consequences, or it could spread across multiple jurisdictions, imposing significant demands on local agencies, cities, counties, states, or the federal government.
Related Hazard(s):	Nuclear Incidents, Act of War, Civil Unrest, Terrorism
Related Plans and Annexes:	Terrorism Annex and Local Response Agency Standard Operating Procedures (SOPs).

Definition

The threat of malicious attempts to damage or disrupt computer networks and systems is a growing concern. All levels of government and the private sector rely on cyber networks and assets for national security, public safety, and economic prosperity. These operations depend on information systems that must be maintained and secured against exploitation and attacks.

The increasing frequency and sophistication of cyber-attacks and intrusions targeting Critical Infrastructure and Key Resources (CIKR) necessitate coordinated planning among local, state, and federal homeland security agencies. It is essential to develop strategies for preparing for and responding to cyber incidents.

Cyber-attacks and intrusions can range from isolated incidents to continuous, prolonged campaigns, all aimed at achieving specific objectives. These objectives may include stealing data from computers, utilizing the system's resources (such as storage and computation), or disrupting the system itself. Common examples of cyber-attacks include:

- Denial of Service (DoS)
- Social engineering
- Phishing
- Hacking/Intrusion
- Website compromise
- Zero-Day exploits
- Ransomware
- Exploitation of the Internet of Things (IoT)

History & Probability, Including Range of Anticipated Intensities

In recent years, various local government agencies, private businesses, and municipalities have faced cyber-attacks. These attacks can be widespread and might go undetected for an extended period.

While cyber intrusions and attacks are often linked to terrorism, they can frequently be attributed to individual criminals or foreign actors seeking personal gain rather than engaging in terrorist activities.

Robust cybersecurity programs provide essential protection against the threat of cyber intrusions and attacks. Cybersecurity refers to the ability to defend and protect cyberspace from such threats. It applies to both individuals and organizations, encompassing people, processes, technologies, and training. The primary goal of cybersecurity is to safeguard the confidentiality, integrity, and availability of information against unauthorized access, modification, or disruption.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	High reliance on internet and digital services (e.g., banking, healthcare); low cybersecurity awareness among some population groups; potential for panic or misinformation spread through compromised systems	Personal data (e.g., SSNs, medical records, financial information); safety (if critical infrastructure is affected); Trust in public systems
Property	Smart homes/devices connected to networks (IoT vulnerabilities); businesses reliant on digital operations	Intellectual property; business systems and data; connected home systems and devices
The Environment	Indirect vulnerability through compromised control systems (e.g., water treatment, waste management); limited cyber-physical resilience in some systems	Water systems (SCADA systems); hazardous material control systems; air/water quality monitoring systems; water supplies, treatment facilities
Local Government Operations	Dependence on digital services (e.g., emergency dispatch, public records, payroll); legacy systems with outdated security; limited cybersecurity staffing/resources	Emergency response systems (911); Public communication channels; critical infrastructure (power grid, water supply); financial and legal systems

Impact Area	Potential Impacts
Public	Loss of access to essential services (e.g., utilities, healthcare, communication); exposure of personal data; misinformation and public confusion; disruptions in services and limited communication with government employees; challenges in filing or accessing vital records. Additionally, personal information held by government agencies may be at risk, depending on the nature of the cyber incident.

Responders	Disruption of emergency dispatch systems (e.g., 911); delays in communication and coordination; inaccessibility of digital response tools and maps, especially with state and federal partners; delays or limits on law enforcement, court, and legal services operations access to databases and the ability to share confidential information
Continuity of Operations & Delivery of Services	Service outages (e.g., public health, law enforcement, transportation); Inability to access digital records or process payments; disruption to workflow; resources for system recovery and service restoration may be limited; conflicting priorities for restoring systems; access to agency infrastructure programs, such as purchasing, scheduling, timesheets, and payroll, may also be restricted.
Property, Facilities, Assets, and Critical Infrastructure	Damage to electronic equipment and control systems for telecommunications, electrical power, gas and oil storage facilities, transportation networks, water supply systems, wastewater management, and government and emergency services; failure of traffic lights, security systems, and surveillance; disruption of water treatment and power grids; inability to stably store, use, or produce hazardous materials (HazMat).
Supply Chain	Breakdown of logistics due to failure of communication and tracking systems; interruptions in fuel supply and distribution of goods; challenges in communication among vendors and disruptions in delivery and payment systems; shortages of just-in-time based supplies and equipment; in the delivery of critical items, such as medications, potentially resulting in illness or even death.
Environment	Indirect effects through failure of environmental monitoring and control systems; risk of uncontrolled releases if automated containment systems fail; potential release of pollutants if industrial control systems are compromised; inability to monitor or respond to environmental hazards in real-time; chemical releases into the environment due to cyber incidents could negatively impact ecosystems, depending on the materials released
Economic and Financial Conditions, including Community Activities	Financial losses from halted business operations or data ransom; reduced tourism and event cancellations; Impact on small businesses and local economy; disrupt individuals' ability to access funds and make purchases; hinder businesses from operating effectively, including accepting payments and paying vendors and employees; local governments may struggle to collect tax revenue, provide social safety net benefits to vulnerable populations, and compensate vendors and employees.
Public Confidence in Local Government	Loss of trust in government's ability to protect data and maintain essential services; heightened fear and uncertainty; political backlash or scrutiny

Resources

California Cybersecurity Integration Center (Cal-CSIC): State-level hub coordinating cyber threat detection, proactive assessments, incident response, digital forensics, and publishing alerts/advisories for government and private sectors.

Website: <https://www.caloes.ca.gov/office-of-the-director/operations/homeland-security/california-cybersecurity-integration-center/>

Cybersecurity & Infrastructure Security Agency (CISA): National-level agency offering workshops, information-sharing, and live demos of threat-mitigation tools—directly engaging Orange County stakeholders.

Website: <https://www.cisa.gov/>

United States Computer Emergency Readiness Team (US-CERT): Federal resource providing threat analysis, mitigation guidance, and actionable cybersecurity tips to help organizations identify and respond to emerging threats.

Website: US-CERT Threat Analysis & Info Sharing, <https://www.cisa.gov/>

Center for Internet Security (CIS) – MSP-ISAC & CIS Controls: Non-profit offering best practice frameworks, threat intelligence feeds (MS-ISAC), and benchmarking tools—including guides for cities/counties like Orange County.

Website: <https://www.cisecurity.org/>

Open Threat Exchange (OTX): A free, crowd-sourced, global threat-intelligence platform where users—including local government/CISOs—can access real-time indicators of compromise and threat trends.

Website: <https://otx.alienvault.com/>

2.5.6 Dam/Levee/Reservoir Failure

Impact:	High
Probability:	Unlikely
Location:	The location of the flooding is dependent on the location of the dam, levee, or reservoir. For Prado Dam, a large portion of the County would be flooded.
Extent:	The extent can range from localized nuisance flooding, or catastrophic flooding for a large portion of the County.
Related Hazard(s):	Earthquake, Flood/Storm, Terrorism, Power Outage
Related Plans and Annexes:	Flood, Dam and Reservoir Failure Annex

Definition

A dam is an artificial barrier that has the ability to store water, wastewater, or liquid-borne materials for many reasons (flood control, human water supply, irrigation, livestock water supply, energy generation, containment of mine tailings, recreation, or pollution control.) Man-made dams can be classified according to the type of construction material used, the methods used in construction, the slope or cross-section of the dam, the way the dam resists the forces of the water pressure behind it, the means used for controlling seepage, according to the purpose of the dam. The materials used for construction of dams include earth, rock, tailings from mining or milling, concrete, masonry, steel, timber, miscellaneous materials (plastic or rubber), and any combination of these materials (Association of State Dam Safety Officials 2013).

Dam failures typically occur when spillway capacity is inadequate and excess flow overtops the dam, or when internal erosion (piping) through the dam or foundation occurs. Complete failure occurs if internal erosion or overtopping results in a complete structural breach, releasing a high-velocity wall of debris-filled waters that rush downstream, damaging and/or destroying anything in its path (FEMA 1996).

Dam failures can result from one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam
- Deliberate acts of sabotage
- Structural failure of materials used in dam construction
- Movement and/or failure of the foundation supporting the dam
- Settlement and cracking of concrete or embankment dams
- Piping and internal erosion of soil in embankment dams
- Inadequate maintenance and upkeep (FEMA 2013a)

The potential for catastrophic flooding caused by dam failures led to the passage of the National Dam Safety Act (Public Law 92-367). The National Dam Safety Program (NDSP) has been used for 30 years to protect Americans from dam failure. Led by FEMA, the NDSP is a partnership of the states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. Additionally, the United States Army Corps of Engineers (USACE) is

responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act.

Levees are man-made structures, usually an earthen embankment designed and constructed with sound engineering practices to contain, control, or divert the flow of water in order to provide protection from temporary flooding. A levee is built parallel to a body of water, typically a river, to protect the lives and properties downstream from it. Currently, there are thousands of miles of levees across the United States. No levee provides full protection from flooding (FEMA 2013c).

Levees are typically barriers between floodwaters and a nearby municipality. They include a series of culverts, canals, ditches, storm sewers, or pump stations, called “interior drainage” systems. These systems channel water from the land side of a levee over to the water side. When floodwaters exceed the height of a levee, overtopping occurs. As the water passes over the top, it can erode the levee, worsening the flooding and potentially causing an opening or breach in the levee. A levee breach occurs when part of a levee gives way, creating an opening through which floodwaters may pass. A breach can occur gradually or suddenly. The most dangerous breaches happen quickly during periods of high water. The resulting torrent can quickly swamp a large area behind the failed levee with little to no warning (American Society of Civil Engineers 2010). USACE operates, maintains, and evaluates levees to determine if they meet accreditation requirements. Most levees are owned by local communities and flood control districts that must ensure proper operation and maintenance of the levee system as well (FEMA 2013c).

History & Probability, Including Range of Anticipated Intensities

Dam and reservoir failures can result from a number of natural or man-made causes such as earthquakes, erosion of the face or foundation, improper sitting, rapidly rising floodwaters, and structural/design flaws. Currently, there are 44 dams and reservoirs registered within or immediately adjacent to Orange County. They include reservoirs, which normally contain water from flood control facilities, which may be dry most of the time. Their capacity range from 18 acre-feet (Diemer No. 8) to 314,400 acre-feet (Prado Dam) holding capacity.

On December 14, 1963, the Baldwin Hills Reservoir, in the Los Angeles County City of Baldwin Hills, experienced a sudden failure and sent water flooding through the downstream communities. The event destroyed 277 homes and killed 5 people. For context, Prado Dam’s capacity is more than 300 times greater than that of the Baldwin Park Dam when it failed.

On September 21, 1998, at 5:47am, a 5-million-gallon precast concrete above ground water storage tank ruptured, sending a 6-foot-high wave of water through a nearby fire station and the Hefley Square Townhomes in the City of Westminster. Six people were injured and 30 were left temporarily homeless after water gushed from the 22-foot-high rupture in the tank. The fire station, 70 homes, 32 outbuildings, 2 businesses and 25 vehicles sustained damages or were destroyed. Gas, electric and telephone services were disrupted.

On January 13, 2005, the U.S. Army Corps of Engineers discovered minor seepage on the cofferdam of Prado Dam. The seepage was located in an area that was under construction to build

new outlet works as part of the overall flood control improvement to Prado Dam. As a precautionary measure, Corona city officials evacuated over 800 homes below the dam and Orange County officials relocated campers in the Canyon RV Park because of their proximity to the adjacent floodplain.

Given the nature of the hazard, there is no reliable way to predict the probability of future occurrence. However, it can be said that incidence of failure is correlated with heavy storm and flooding activity as well as a possible correlation with occurrence of earthquakes.

Vulnerability, Assets, and Impact

Please refer to each dam plan for a descriptive analysis of the property found within its inundation zone.

While the failure of any of the 44 dams in Orange County would have some impact on infrastructure, by far the greatest threat is from Prado Dam. With more than ten times the capacity of the next largest dam on the list, it is the primary concern when it comes to dam and reservoir failure planning in Orange County.

Figure 2: Potential Inundation from a Breach of the Prado Dam



Shown above, the area that could be inundated during a Prado Dam failure constitutes much of central and western Orange County. Such an event could be truly devastating to assets and populations in the affected area.

Category	Vulnerability Factors	Assets at Risk
People	Populations living downstream of major dams/reservoirs; high population density in urban areas	Human life and safety; displacement of communities; public health due to contaminated water

Category	Vulnerability Factors	Assets at Risk
	near floodplains; Limited evacuation time and planning	
Property	Dense residential and commercial development in flood-prone zones; aging infrastructure with limited flood resistance	Homes and businesses; vehicles and personal belongings; agricultural land
The Environment	Proximity of natural habitats and ecosystems to reservoirs or levees; Potential for massive soil erosion and ecosystem disruption	Wetlands, rivers, and habitats; wildlife populations; water quality and soil stability
Local Government Operations	Reliance on infrastructure at risk (roads, bridges, utility lines); strain on emergency response and recovery capabilities	Emergency services and public safety systems; government buildings and records; transportation infrastructure

Impact Area	Potential Impacts
Public	Loss of life and injury due to sudden flooding; mass evacuations and displacement; disrupted access to utilities (water, power); increased risk of waterborne diseases and contaminated drinking water; unhoused populations might need temporary and long-term shelters, and assistance in restoring vital records.
Responders	Emergency personnel may face dangerous, rapidly changing conditions; flooded or damaged roads and bridges slow response times; communication systems (radio towers, dispatch) may be compromised or overwhelmed; increased calls for service in the inundation zone.
Continuity of Operations & Delivery of Services	Closure of schools, hospitals, and municipal offices due to flood damage; interruption of healthcare services, education, and social assistance; difficulty in tracking and restoring digital records and public records
Property, Facilities, Assets, & Critical Infrastructure	Severe damage or total loss of homes, businesses, industrial sites near floodplain; flooded facilities (e.g., wastewater treatment plants); damage to roads, bridges, utility lines, and levees themselves; properties and facilities may experience an interruption in gas, electricity and water.
Supply Chain	Disruption of transportation networks impeding delivery of goods (from ports, warehouses, and retail outlets); interruption of raw material supply chains for local factories and farms
Environment	Massive erosion and sediment deposition downstream; Contamination of rivers, groundwater, and wetlands; mortality or displacement of wildlife and fish populations; disruption of riparian and wetland ecosystem balance.

Impact Area	Potential Impacts
Economic & Financial Conditions, Including Community Activities	High cleanup and rebuilding costs for both public and private sectors; closure of businesses, layoffs, and loss of tourism revenue; community event cancellations, damage to parks, recreational areas
Public Confidence in Local Government	Decline in trust for local officials over risk management and infrastructure oversight; political pressure over emergency preparedness and response efforts; Frustration over evacuation orders, delays, or perceived failures

Resources

Orange County Infrastructure Programs – Flood Programs: Offers comprehensive floodplain management, dam inundation studies, hydrology reports, levee certification, and coordination with FEMA and CA Division of Safety of Dams (DSOD).

Website link: <https://ocip.ocpublicworks.com/page/flood-programs>

Orange County Infrastructure Programs – Local Flood Hazard: Highlights local flood threats (Santa Ana River, storm channels, debris flow risks in canyon areas) with historic event summaries and community awareness materials.

Website link: <https://ocip.ocpublicworks.com/service-areas/oc-infrastructure-programs/flood-protection/flood-protection-information/local-flood>

2.5.7 Drought

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	Countywide
Related Hazard(s):	Wildfire, Subsidence, Erosion, Expansive Soils
Related Plans and Annexes:	OC Domestic Well Drought Contingency Plan

Definition

Unlike most natural hazards, drought is not a sudden, catastrophic occurrence. Because drought can occur over several years, it is difficult to define when a drought begins and ends. A drought is characterized by a prolonged period of abnormally low levels of precipitation that has adverse impacts on people, vegetation, and animals. A drought is a temporary phenomenon and as such, it is distinct from aridity, which is a climatic feature of a particular region. Droughts occur periodically in every climatic zone, although some areas are more drought-prone than others.

There are four categories of drought:

- Meteorological – When there is a measurable departure of precipitation from normal, adjusted for regional climate differences.
- Agricultural – When the amount of moisture in the soil no longer meets the needs of crops.
- Hydrological – When surface and subsurface water supplies are below normal.
- Annual Indicators – In California, when the Department of Water Resources assesses water conditions based upon annual averages of snowpack, precipitation, and reservoir storage.

History & Probability, Including Range of Anticipated Intensities

Droughts are a recurring feature of California's climate, but climate change is projected to increase the frequency, intensity, and duration of droughts. Current information on drought conditions in California, visit: <https://water.ca.gov/Current-Conditions>

Historically, California has experienced severe drought conditions. In the last century, the most significant statewide droughts occurred from 1929 to 1934, from 1975 to 1977, from 1987 to 1992, from 2012 to 2017, and in 2021 to 2024. The 2012-2017 drought was one of extreme proportions, with record-high temperatures and record-low levels of snowpack and precipitation. During this period, some areas of the state experienced an increase in groundwater wells going 'dry' (groundwater pumping from the well ceasing because of declining groundwater elevations); as a result, the state began collecting data on 'dry' domestic (household) groundwater wells. The approved 2023 State Hazard Mitigation Plan (SHMP) includes comprehensive statewide statistics on these droughts and related emergency proclamations. Orange County has been included in three emergency proclamations: 2002, 2012-2017, and 2021-2024.

Assessments of drought probability should also take into account droughts occurring in other regions which may impact water conditions in Orange County. For example, the great drought of the 1930s, coined the "Dust Bowl," was geographically centered in the Great Plains yet ultimately

caused water shortages in California. The drought conditions in the Plains resulted in a large influx of people to the West Coast. Approximately 350,000 people from Arkansas and Oklahoma immigrated mainly to the Great Valley of California. As more people moved into California, increases in intensive agriculture led to overuse of Santa Ana River watershed and groundwater, resulting in regional water shortages.

There are a number of indices which measure the severity of drought with varying degrees of accuracy due to local variability. The most common index used to monitor drought is the Palmer Drought Severity Index (PDSI) which includes indicators like: levels of precipitation, soil conditions (moisture), and temperature. Weekly maps of PDSI for the United States are available at: <http://www.cpc.ncep.noaa.gov> particular interest in California, is the impact of evapotranspiration (ET) whose exacerbation of drought conditions is experimentally monitored through Evaporative Stress Index (ESI) and Evaporative Demand Drought Index (EDDI)¹⁰.

Vulnerability, Assets, and Impact

Drought's impacts result from the interplay between the natural event (less precipitation than expected) and the demand people place on water supply; human activities can exacerbate the impacts of drought. Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. This complexity exists because water is integral to the ability to produce goods and provide services. The magnitude of the drought's impact will be directly related to the severity and length of the drought.

Category	Vulnerability Factors	Assets at Risk
People	High dependence on imported water; vulnerable populations (low-income, elderly); heat stress	Households, schools, healthcare facilities, unhoused individuals
Property	Indirect exposure through water-dependent landscaping and agriculture; increased wildfire risk	Agricultural lands, landscaped properties, water-dependent industries
Environment	Sensitive ecosystems; limited precipitation; degraded watersheds	Wetlands, riparian habitats, native species, coastal estuaries
Operations	Public services rely on stable water supply; aging water infrastructure	Water treatment plants, firefighting resources, parks and recreation facilities

Impact Area	Description of Impact
Public	Water use restrictions; rising water costs; health issues (especially for vulnerable populations), public frustration; switch to bottled water; dig deeper wells; truck in water to refill holding tanks.

¹⁰ <https://psl.noaa.gov/eddi/>

Impact Area	Description of Impact
Responders	Strain on fire response due to dry conditions and water availability; increased wildfire preparedness burden
Continuity of Operations	Limited water availability for government services (parks, sanitation, cooling centers); operational restrictions
Property, Facilities, Assets & Critical Infrastructure	Damage to landscaping, pressure on water-intensive facilities, increased maintenance costs for water systems; reduction or loss of hydroelectricity causing increasing electricity prices as electricity production shifts to the more expensive fossil fuel (e.g., natural gas). Reduced cooling water availability for thermoelectric plants; reduced efficiency of thermal power plants and of transmission and distribution lines.
Supply Chain	Impact on agriculture-based suppliers, increased demand and reduced availability of water-dependent goods and services
Environment	Degraded air and water quality (concentrating salts and other contaminants; saltwater intrusion; reducing dissolved oxygen levels, and increasing water temperatures); groundwater overdraft may lead to land subsidence; degradation of landscape quality; and soil erosion Increase diversions of water away from ecosystems; wetland and habitat loss; stress on flora and fauna; loss of biodiversity and localized extinctions; increased problems with insects; increased wildfire vulnerability.
Economic and Financial Conditions, including Community Activities	Increased costs for water importation and treatment; reduced tourism and outdoor recreation economy; higher cost of utilities to providers and consumers; instability of water producer revenue and fiscal health; losses in agricultural and landscaping sectors; job impacts; businesses, like hotels, may add a surcharges to accommodate increased water costs; businesses that are reliant on water, including some medical facilities, maybe unable to provide services due to inability to access water or high water prices. Revenue from the sale of water also declines and may not be sufficient to recover the fixed costs. In response, water utilities may enact drought surcharges or draw from reserves. Reduction in water allocations from state and federal irrigation projects; temporary water transfers from other users; increased groundwater pumping; farm lands fallow or crops rotated; reduced yields in both crop and livestock production; increased insect infestations, plant disease, and wind erosion.
Public Confidence in Local Government	Potential erosion of trust and negative reactions to mitigation actions and water use restrictions. For example, the public may not support restrictions on water use, zoning to prevent pools and fountains,

Impact Area	Description of Impact
	water audits, restrictions on vehicle washing, or non-residential use restrictions. The public may respond positively to proactive programs like DIY kits, showerhead swaps, rainwater tank collection rebate programs, and appliance swaps

Resources

California Department of Water Resources (DWR): Provides statewide drought monitoring, risk assessments, water conservation programs, and drought planning resources.

Website: <https://water.ca.gov>

U.S. Drought Monitor (National Drought Mitigation Center – NDMC): Offers weekly updated maps and data on drought severity across the U.S., including specific detail for Orange County and California regions.

Website: <https://droughtmonitor.unl.edu>

Orange County Water District (OCWD): Manages groundwater resources for northern and central Orange County; provides local drought response plans, water use efficiency programs, and supply impact reports.

Website: <https://www.ocwd.com>

Municipal Water District of Orange County (MWDOC): Offers regional water reliability studies, drought preparedness guides, conservation programs, and risk communication materials.

Website: <https://www.mwdoc.com>

National Integrated Drought Information System (NIDIS): Federal portal for drought forecasts, data tools, impact assessments, and regional outlooks for drought across the western U.S., including California.

Website: <https://www.drought.gov>

U.S. Geological Survey (USGS) – Water Resources of California: Offers hydrologic data, groundwater monitoring, and drought-related research on streamflow, water levels, and aquifers.

Website: <https://ca.water.usgs.gov>

State Water Resources Control Board (SWRCB): Regulates water usage and tracks drought-related restrictions, emergency conservation orders, and water rights enforcement in California.

Website: <https://www.waterboards.ca.gov>

NOAA Climate Prediction Center: Provides seasonal drought outlooks, precipitation forecasts, and drought impact projections relevant to Southern California.

Website: <https://www.cpc.ncep.noaa.gov>

UC Cooperative Extension – California Institute for Water Resources: Offers research, tools, and community education programs on water use efficiency, drought resilience, and agricultural impacts.

Website: <https://ciwr.ucanr.edu>

Special Notes on Regulatory Environment

Federal

In October 2020, a Presidential Executive Order created the Interagency Water Subcabinet (a.k.a. Water Policy Committee), co-chaired by the Secretary of the Interior and the Administrator of the Environmental Protection Agency (EPA), and including the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Energy, the Secretary of the Army; it was codified in 2023 under the FLOODS Act. Two of the Water Cabinet goals are to implement:

- The “Priority Actions Supporting Long-Term Drought Resilience” document issued on July 31, 2019, by the National Drought Resilience Partnership; and
- Actions identified in the “Federal Action Plan for Improving Forecasts of Water Availability” issued on October 18, 2019, by the Department of the Interior and the Department of Commerce pursuant to section 3 of the Presidential Memorandum of October 19, 2018 (Promoting the Reliable Supply and Delivery of Water in the West).

These activities include coordinating drought activities through the National Integrated Drought Information System (drought.gov). Within this framework the U.S. Department of Commerce, the National Oceanic and Atmospheric Administration (NOAA) leads monitoring. Agencies such as the U.S. Geological Survey and National Aeronautics and Space Administration (NASA) contribute data. The U.S. Department of Agriculture leads drought response efforts, and the EPA regulates water quality.

California

California has established the Drought Resilience Interagency & Partners (DRIP) Collaborative, led by the California Department of Water Resources (DWR). They are in the process of updating drought related guidances, including monitoring data, with a projected date of December 2026 to finalize their recommendations and documents. To assist local communities in complying with Senate Bill 552, DRIP issued guidance entitled “Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning and Risk Assessment.” Additional sources of California-specific information include the 2018 California Water Plan, 2018 Safeguarding California Plan: California’s Climate Adaptation Strategy, 2014-2018 California Water Action Plan Implementation Report, and 2020 California’s Most Significant Droughts: Comparing Historical And Recent Conditions.

The 2015 California Drought Contingency Plan was prepared in conjunction with the California Water Plan and both documents are updated every five years. The purpose of the plan is to minimize drought impacts by improving agency coordination, enhancing monitoring and early warning capabilities, conducting water shortage impact assessments, and implementing preparedness, response, and recovery programs. The California Water Plan presents strategic plan elements including a vision, mission, goals, guiding principles, and recommendations for current

water conditions, challenges, and activities. The plan includes future uncertainties and climate change impacts, scenarios for 2050, and a roadmap for improving data and analytical tools.

Orange County

Localized regulations for drought are mentioned in local municipal codes. The County of Orange, Code of Ordinances Section 3 provides the definition of a drought emergency. Section 7 defines use of water and landscaping during conservation times under the state model, and Article 1 outlines water conservation and the governance over well water use in Orange County. All retail water utilities have drought ordinances that specify use of drinking water during the various phases of drought.

Orange County is served by 11 independent special districts and 16 city water departments along with 1 private which is Golden West Water supplies in Orange County include groundwater, imported water from the Metropolitan Water District of Southern California, and local water supplies. North Orange County is primarily located within the Orange County Groundwater Basin (Basin) managed by the Orange County Water District (OCWD). In the Basin, groundwater supplies approximately 80 percent of the water supply. There are limited groundwater supplies in south Orange County, which relies primarily metropolitan 70% is imported water 25% recycled and other water shortages. North/Central Orange County and south Orange County also utilize imported, ground or recycled water.

2.5.8 Earthquake

Impact:	High
Probability:	Likely
Location:	Countywide
Extent:	A large earthquake in Orange County could cause widespread damage, potentially leading to injuries, deaths, and significant economic losses, with the extent depending on the magnitude and location of the earthquake's epicenter.
Related Hazard(s):	Mass Casualty / Fatality, Fire, Hazardous Materials Release, Evacuations, Tsunami, Oil Spill, Debris Management, Utility Failure, Business / Economic Failure, Flood.
Related Plans and Annexes:	None

Definition

An earthquake is the sudden and violent shaking or movement of the Earth's surface caused by the release of stress accumulated within or along the edge of the earth's tectonic plates, a volcanic eruption, or by a man-made explosion. Most earthquakes occur at the boundaries where the Earth's tectonic plates meet (faults); less than 10% of earthquakes occur within plate interiors. This includes surface faulting, ground shaking, landslides, liquefaction, tectonic deformation, tsunamis, and seiches.

Figure 3: Orange County Fault Zones

History & Probability, Including Range of Anticipated Intensities

Orange County lies in an area that is seismically active with multiple documented fault lines (see Figure 3). The largest and most impactful fault that runs near this area is the San Andreas fault that is approximately 40 to 60 miles east of Orange County. This fault can produce an estimated magnitude 8.1 earthquake that has the potential to deliver significant impacts to Orange County and the entire region.

There are five known fault zones that run through Orange County, and they could pose hazards to the County. The largest of these faults is the Newport-Inglewood fault that runs roughly 47 miles from Downtown Los Angeles to North San Diego. This fault zone has the potential of producing an estimated magnitude 7.3 earthquake or greater. The most recent significant earthquake on this fault was the Long Beach quake in 1933. This quake of 6.3 magnitude caused significant loss of life and property damage.



While earthquakes remain unpredictable, the USGS has repeatedly stated that the San Andreas Fault is “long overdue” for a major quake. A new California earthquake study by the USGS, California Geological Survey, and the Southern California Earthquake Center estimates for the likelihood that California will experience a magnitude 8 or larger earthquake in the next 30 years has increased from about 4.7% to about 7%.

The “Richter Scale” is the most widely known and excepted scale for measuring the magnitude of earthquakes. It has no upper limit and is not used to express damage. The magnitude of an earthquake is used to determine the size and scale of an earthquake.

Vulnerability, Assets, and Impact

A significant earthquake (5.0 or greater) in the Orange County area or the region can strike without warning and may create cascading impacts, including but not limited to:

Category	Vulnerability Factors	Assets at Risk
People	High population density in urban areas; elderly, disabled, or non-English-speaking individuals may face greater risk during evacuation or recovery; limited preparedness in some communities	Human life and safety; Injury risk from collapsing structures or debris; displacement and trauma
Property	Many older buildings not retrofitted to modern seismic codes; dense development along known fault zones (e.g., Newport–Inglewood Fault); vulnerable utilities and infrastructure	Homes, apartments, and commercial buildings; Vehicles; utility lines (gas, water, electricity)
The Environment	Landslide-prone hillsides in eastern and southern Orange County; potential for ruptured pipelines to contaminate land and water; fires triggered by gas leaks or power failure	Natural habitats and wildlife; coastal ecosystems and parks; water bodies and soil integrity
Local Government Operations	Heavy reliance on digital systems for records and communication; risk to government buildings and first responder facilities; limited redundancy in infrastructure systems	Emergency services (fire, police, EMS); city halls, courthouses, public libraries; communication and IT systems

Impact Area	Potential Impacts
Public	Risk of injury or death from collapsing structures and debris; public and tourist population could become separated from loved ones; displacement due to unsafe housing; mental health effects such as trauma or anxiety; limited access to food, water, healthcare, and basic human necessities.

Impact Area	Potential Impacts
Responders	Injuries or fatalities among emergency personnel; delayed response due to damaged roads and communication systems; overwhelmed resources during mass casualty or rescue operations; complex multi-discipline and multi-agency response; triaging calls and allocation of available resources; drawdown of responder personnel levels due to personal impacts; extensive state and federal assistance will likely be required to assist responders for several weeks if not months.
Continuity of Operations & Delivery of Services	Disruption of essential public services (e.g., police, fire, water, sanitation); shutdown of schools and public institutions; inaccessible or damaged digital records; key personnel and facilities impacted.
Property, Facilities, Assets, & Critical Infrastructure	Structural damage or collapse of homes, schools, businesses, and public buildings; utility failures (electricity, water, gas); damaged roads, bridges, hospitals, and communication systems; prioritization of inspection and repair services may be necessary
Supply Chain	Delays or halts in the delivery of goods and services due to infrastructure damage; closure of ports, distribution centers, or key commercial routes; fuel and food shortages; re-routing supply chains through alternative transportation modes or methods may be necessary; re-prioritization of resources to address critical response and recovery efforts may also strain the supply chain.
Environment	Natural changes (e.g., topography, liquefaction, landslides, disruption to wildlife habitats); human-related impacts (e.g., fires at industrial locations, release of hazardous materials, pipeline ruptures; contaminating soil or water).
Economic & Financial Conditions, Including Community Activities	Major repair and reconstruction costs; loss of property value and tax revenue; long-term housing challenges; business closures, loss of jobs and personal income, and economic slowdown; event cancellations and reduced tourism; insurance claim surges and economic stress.
Public Confidence in Local Government	Scrutiny over preparedness and response efforts; loss of trust if emergency communication or aid is delayed; increased public pressure for infrastructure improvements and disaster readiness

Resources

U.S. Geological Survey (USGS): Offers real-time earthquake data, scenario planning (e.g., ShakeOut), and hazard assessments for Southern California including Orange County.

- Website: <https://earthquake.usgs.gov>
- Scenario maps and impact modeling: earthquake.usgs.gov/data/shakemap/
- Earthquake Liquefaction Mapping: usgs.gov/programs/earthquake-hazards/science/liquefaction-hazard-maps

California Geological Survey (CGS): Offers official seismic hazard zone maps covering Orange County (liquefaction, landslides, ground shaking) and downloadable county-specific reports.

Website: conservation.ca.gov/cgs/earthquakes

2.5.9 Economic Collapse

Impact:	High
Probability:	Unlikely
Location:	Countywide
Extent:	Wide-ranging effects from local, state, and federal levels based on economic conditions such as local disasters, bankruptcy, and high unemployment rates
Related Hazard(s):	Civil Unrest
Related Plans and Annexes:	None

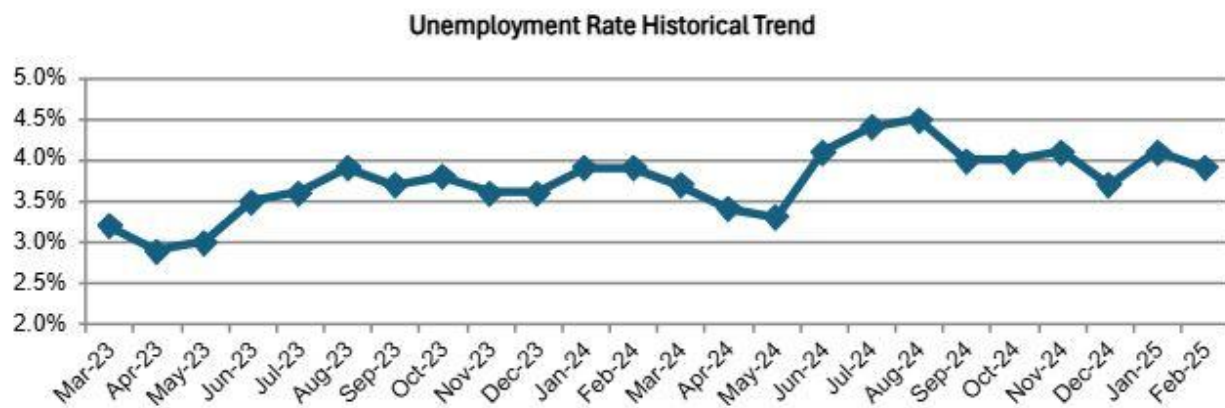
Definition

An economic collapse is an extraordinary event that can occur in any point of a standard economic cycle where an economy is in complete distress for months, years, or possibly decades. A total economic collapse is characterized by social chaos, social unrest, bankruptcies, reduced trade volumes, currency volatility, and breakdown of law and order. Due to the magnitude of the economic distress, government interventions for economic recovery can be slowed, causing greater disorganization of the economy. This profile discusses the probability and impacts of Economic Collapse as an independent, human-caused hazard; other hazard profiles discuss economic impacts that result from individual hazards.

History & Probability, Including Range of Anticipated Intensities

Given the size and interdependencies of the Orange County economy and historical cyclical economic fluctuations, the probability of economic instability is likely, although total collapse is unlikely.

Figure 4: Unemployment Rate Historical Trend



Orange County's 2023 Estimated Gross County Product (equivalent to Gross Domestic Product) was \$333 billion. As of February 2025, its employed population is estimated to be 1,551,100 and correlates to a 3.9% unemployment rate. Economic disaster as an independent hazard has affected Orange County to varying degrees. The most infamous is perhaps the Orange County bankruptcy. Orange County also has been subject to the cyclical economic crisis: 1929-30s Great

Depression, 1970s OPEC embargo, 1980s recession, 1987 Black Monday, 2001 Dot-com crash, and the 2008 Great Recession, and the 2020 Covid-19 Pandemic. The pandemic hit Orange County especially hard given the significance of tourism. The Walt Disney Company remains the largest employer in the region, and the Anaheim resort district is a critical driver to entertainment and retail markets across Orange County. The parks' reopening was a crucial component of recovery and will continue to be significant for employment and growth due to the multiplier-effects of the tourism and entertainment industry. Tourism is a meaningful driver of brick-and-mortar retail, which provides a significant part of Orange County's tax revenue.

As a County, the total budget is \$9.5 billion (2024):

- \$4.7 billion Dedicated Revenue
Dedicated to the County's enterprise, internal service, and special district budgets.
- \$3.7 billion Other General Fund
Non-discretionary revenue for community services departments for administration of state and federal government programs and services
- \$1.1 billion
Discretionary funding to meet mandated requirements not fulfilled by state and federal governments (taxes, fees, interest earnings)

Vulnerability, Assets, and Impact

An economic collapse triggered either independently or as a consequence of a disaster could have significant long-term impacts on Orange County. Economic collapse impacts are comprised of direct losses (e.g., destruction of capital-producing resources like people and stores) and indirect losses (e.g., loss of jobs results in reduced spending).

Category	Vulnerability Factors	Assets at Risk
People	High cost of living and housing burdens; dependence on service-sector and tourism-based jobs; financial insecurity in low-income and middle-income households	Employment and income stability; access to healthcare, education, and housing; mental health and well-being
Property	Risk of foreclosures and evictions during downturns; decline in real estate values; underinvestment in maintenance and repair	Residential and commercial properties; construction and development assets; real estate equity
The Environment	Reduced funding for environmental protection and sustainability initiatives; increased reliance on cheaper, less eco-friendly practices	Public parks, conservation programs; water and air quality; habitat restoration and climate resilience projects
Local Government Operations	Heavy reliance on tax revenues from property, tourism, and business activity; budget shortfalls leading to service cuts and layoffs	Public services and programs; Infrastructure maintenance and capital projects; government workforce and stability

Impact Area	Potential Impacts
Public	Widespread unemployment and income loss; increased homelessness and food insecurity; reduced access to healthcare and increased health-related issues as people are unable to afford medical care and pharmaceuticals; lowered school attendance and school drop-out rates; elevated stress and mental health issues; increased crime.
Responders	Budget cuts affecting staffing, training, and equipment; increased demand for public safety services (e.g., crime, civil unrest); burnout due to understaffing and rising needs; risks of budget cuts and staffing levels will decrease response time, lack of training and equipment, and efficiency.
Continuity of Operations & Delivery of Services	Reduced funding for essential services (e.g., sanitation, public health, transportation); inability to provide services to citizens, pay government employees, vendors, or meet debt obligations; delays in public projects and program cancellations; layoffs and hiring freezes. Debt will continue to accumulate further straining growth and recovery prospects while simultaneous increased costs for essential services rise.
Property, Facilities, Assets, & Critical Infrastructure	Deferred maintenance of public infrastructure; decreased investment in capital projects; increased foreclosures and property abandonment; high risk of decline in property values, businesses, and tax revenue from private and public sectors. Long-term impacts affecting utility needs and repair may go unmet.
Supply Chain	Disruptions due to bankruptcies or downsizing of suppliers; shortages of critical goods and services, especially in healthcare, food, and fuel sectors.
Environment	Cuts to environmental protection and conservation programs; increased pollution from reduced regulation enforcement; de-prioritization of climate and sustainability initiatives; wide ranging effects may lead to reduced means and monitoring of pollution, greenhouse gasses, water and food quality/safety.
Economic & Financial Conditions, Including Community Activities	Business closures, reduced tourism, and loss of tax revenue; event and program cancellations; long-term economic stagnation and “brain drain”; loss of revenue to secure and fund community services, infrastructure, public safety, and debt assurances; mass restructuring of services to stave off further losses and increased taxes.
Public Confidence in Local Government	Erosion of trust due to visible service cuts and response delays; public frustration over perceived mismanagement or inequity; increased political and civic tension; reduced spending continues if fears and realities of recession, resulting in further lack of investments, and waning government trust; civil unrest due to frustration.

Resources

Center for Demographic Research, Cal State University Fullerton

Website link: <https://www.fullerton.edu/cdr/ocff.pdf>

Southern California Association of Governments (SCAG): Regional demographic and economic forecasts, including county-level trend analysis, job-quality indices, growth projections, and vulnerability assessments critical for economic collapse modeling.

Website link: <https://scag.ca.gov/economic-insights-data-resources>

U.S. Congressional Research Service (CRS): Research publications analyzing causes, impacts, and governmental responses to economic collapse or recession (e.g., 2008, COVID-19)—relevant for EOP hazard description and recovery strategies.

Website link: <https://crsreports.congress.gov>

Federal Reserve Bank – Economic Conditions and Risk Reports: Provides data and analysis on macroeconomic indicators, systemic financial risk, and regional economic vulnerabilities.

Website link: <https://www.federalreserve.gov>

U.S. Bureau of Economic Analysis (BEA): National and regional economic performance data (GDP, personal income, consumer spending) that can help quantify local economic risks or stress.

Website link: <https://www.bea.gov>

U.S. Government Accountability Office (GAO) – Reports on Economic Risk & Disaster Impacts: Independent evaluations of government preparedness and economic vulnerabilities, including response to financial shocks, supply chain disruption, and economic downturns.

Website link: <https://www.gao.gov>

2.5.10 Electromagnetic Pulse Attack

Impact:	Moderate
Probability:	Unlikely
Location:	Countywide
Extent:	Extreme electromagnetic events can severely damage the County's critical infrastructure. This damage may result from a deliberate electromagnetic pulse (EMP) attack or a naturally occurring geomagnetic disturbance (GMD) triggered by severe space weather. The critical infrastructure at risk includes the electrical grid, communication systems, water and wastewater facilities, and transportation networks. The impacts of such events are likely to be widespread and interconnected. Initially, one or more sectors of critical infrastructure may be compromised, leading to a cascading effect that impacts additional sectors. This chain reaction could extend beyond the initial geographic areas, ultimately affecting a significant number of households and businesses.
Related Hazard(s):	Nuclear Incidents, Act of War, Terrorism, Geomagnetic Storm/Space Weather
Related Plans and Annexes:	Terrorism Annex

Definition

Electromagnetic pulses (EMPs) can result from intentional attacks, such as high-altitude nuclear detonations, specialized conventional munitions, or non-nuclear directed energy devices. The effects of these attacks can vary significantly, ranging from highly localized impacts to regional or even continental damage, depending on the weapon's specific characteristics and the method of attack. High-altitude electromagnetic pulse (HEMP) attacks using nuclear weapons are particularly concerning because they have the potential to permanently damage or disable large sections of the national electric grid and other critical infrastructure control systems.

Similarly, extreme geomagnetic disturbance (GMD) events caused by solar coronal mass ejections—which occur when plasma from the sun, along with its embedded magnetic field, reaches Earth—can lead to widespread and long-lasting damage to electric power systems, satellites, electronic navigation systems, and undersea cables. Essentially, any electronic system that lacks protection against extreme EMP or GMD events may suffer from the direct impact of the blast itself or from the resulting damage inflicted on the systems and controls upon which they rely.

History & Probability, Including Range of Anticipated Intensities

Extreme Electromagnetic Pulse (EMP) and Geomagnetic Disturbance (GMD) incidents are scenarios that have a low probability but high consequences. A significant electromagnetic event, whether caused by EMP or GMD, would present immediate and simultaneous challenges for national and local decision-makers, private-sector critical infrastructure operators, and emergency managers across all levels of government.

An EMP attack with basic nuclear weapons and missile capabilities could disrupt regional stability. Conversely, advanced nuclear capabilities might inflict widespread damage on U.S. infrastructure through complex EMP attacks.

The scientific community has a good understanding of space weather phenomena, but the infrequency of extreme GMD events limits the availability of predictive analysis data. The solar storm of 1989, which led to significant power outages in Quebec lasting nearly nine hours, serves as a striking example of the disruptive potential of GMD events and their cascading effects on critical infrastructure and surrounding areas.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	High dependence on electronic devices and digital infrastructure; limited public knowledge about EMP effects; potential for panic and lack of communication	Personal electronics and communication devices; medical equipment (e.g., pacemakers, oxygen machines); safety if transportation systems fail
Property	Homes and businesses with extensive electrical systems; non-hardened structures lacking EMP protection; dependency on digital systems for operations	Appliances, HVAC systems, home security; commercial IT systems and POS (point-of-sale) infrastructure
The Environment	Minimal direct environmental impact, but indirect risks from failure of monitoring systems and infrastructure; risk of secondary hazards (e.g., chemical spills)	Environmental monitoring systems; containment systems for hazardous materials; water supplies, treatment facilities, and locations for hazardous material storage.
Local Government Operations	Heavy reliance on digital communications, records, and control systems; lack of EMP shielding for critical infrastructure; coordination difficulties in response	Emergency dispatch systems (911); SCADA systems for water/power; government servers, records, and networks; targeting could focus on police and fire departments, hospitals, municipal offices, community centers, educational institutions, religious organizations, banks, power stations, transmission lines, telephone relay stations, drinking water supplies, and water treatment facilities.

Impact Area	Potential Impacts
Public	Loss of access to communication (phones, internet); failure of medical devices and home electronics; increased anxiety and confusion due to lack of information; difficulties in filing or accessing vital records.
Responders	Disabled communication and dispatch systems; inability to use electronic tools for coordination; delays in emergency response and rescue operations; disconnected from state and federal systems that are crucial for assisting community members.
Continuity of Operations & Delivery of Services	Shutdown of critical government IT systems; interruptions to utility management (water, electricity); disruption of public services like healthcare and transit; conflicting restoration priorities among agencies; access to essential agency infrastructure programs, such as communications, purchasing, scheduling, timesheets, and payroll, may be restricted.
Property, Facilities, Assets, & Critical Infrastructure	Damage to electronic equipment and control systems for telecommunications, electrical power, gas and oil storage facilities, transportation networks, water supply systems, wastewater management, and government and emergency services; failure of traffic lights, security systems, and surveillance; disruption of water treatment and power grids; inability to stably store, use, or produce hazardous materials (HazMat).
Supply Chain	Breakdown of logistics due to failure of communication and tracking systems; interruptions in fuel supply and distribution of goods; challenges in communication among vendors and disruptions in delivery and payment systems; shortages of just-in-time based supplies and equipment; in the delivery of critical items, such as medications, potentially resulting in illness or even death.
Environment	Indirect effects through failure of environmental monitoring and control systems; risk of uncontrolled releases if automated containment systems fail.
Economic & Financial Conditions, Including Community Activities	Financial losses due to damaged electronics and halted business operations; event cancellations; reduced productivity and economic slowdown; disrupt individuals' access to funds and their ability to make purchases; businesses payments, accounts payable, and payroll delayed; local governments delays in collecting tax revenue, providing social safety net benefits to vulnerable populations, and paying vendors and employees.
Public Confidence in Local Government	Loss of trust in government's ability to protect infrastructure; frustration over communication breakdowns; increased calls for improved disaster preparedness.

Resources

U.S. Department of Homeland Security (DHS) – Electromagnetic Pulse (EMP) Program

Description: Provides national EMP resilience strategy documents, technical planning guidance, and response frameworks to mitigate the impact of high-altitude nuclear EMP (HEMP) and naturally occurring geomagnetic disturbances (GMD).

Website link: <https://www.dhs.gov/science-and-technology/electromagnetic-pulse-empgeomagnetic-disturbance>

Cybersecurity and Infrastructure Security Agency (CISA): Offers technical reports, preparedness guides, and impact modeling tools for protecting critical infrastructure from EMP events, both human-caused and solar-induced.

Website link: <https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience>

U.S. Congressional EMP Commission: Historic reports analyzing the national vulnerability to EMP, consequences for power, water, communications, and emergency services.

Website link: <https://www.empcommission.org>

Electric Power Research Institute (EPRI): Offers in-depth technical studies, modeling data, and resilience strategies for grid operators and emergency planners responding to EMP threats.

Website link: <https://www.epri.com/research/programs/066093>

2.5.11 Epidemic or Disease Outbreak (Large Scale)

Impact:	Moderate
Probability:	Possible
Location:	Countywide
Extent:	Endemic disease and disease outbreaks occur regularly within all human populations
Related Hazard(s):	Pandemic / High-Consequence Disease
Related Plans and Annexes:	Disease Outbreak Response Annex

Definition

A disease outbreak occurs when the incidence of disease within a defined community or geographical area during a specified period (e.g., influenza season) exceeds what would typically be expected. An outbreak may occur with a single case of a disease long absent from a population (e.g. smallpox), an agent (e.g. bacterium or virus) not previously recognized in that community or geographical area, a previously endemic disease for which immunity has decreased due to lack of wild-type circulation and decreased immunization rates, or the emergence of a previously unknown disease within a community. The outbreak may occur in a restricted or specific geographical area, extend over several countries and continents, occur naturally or be introduced intentionally (e.g., bioterrorism), and last for a few days, weeks, or several years.

History & Probability, Including Range of Anticipated Intensities

Vaccines, antibiotics, and improved living conditions have dramatically reduced communicable diseases in the latter part of the 20th Century. However, infectious diseases have become an increasing threat to all persons in Orange County over the past decades due to a variety of factors such as: population growth (crowding, aging, migration), methods of food production (large scale, wide distribution, importation), environmental changes (drought, encroachment of humans on wild areas, global warming), microbial adaptation (resistance to antibiotics, re-assortment of genetic material), changes in health care (drugs causing immunosuppression, widespread use of antibiotics), and human behavior (travel, diet, sexual behavior, compromised immune systems, immunization rates).

The transmission of communicable diseases occurs daily in every community. Most instances are not of the severity or magnitude to be considered a county-wide hazard. However, an outbreak or epidemic could pose a significant threat to the community's health. An outbreak is an increase, usually sudden, in the occurrences of a particular disease above the baseline occurrence for a specific period and location. An epidemic is an outbreak that spreads rapidly and extensively through a particular community or area over a relatively short period.

Orange County has programs within the Health Care Agency (HCA) that monitor the occurrence of communicable diseases and work to prevent them. Under California law, certain communicable diseases must be reported to local health departments. An on-call system utilizing Orange County Public Health Nurses allows urgent reports to be received 24 hours a day, 7 days a week. HCA staff investigate individual cases of reported communicable diseases and outbreaks, analyze trends in disease occurrence, and make recommendations to prevent their spread. More information is

available at <https://ochealthinfo.com/about-hca/public-health-services/communicable-disease-control-division>.

Current epidemic threats include:

- Foodborne illness, including norovirus
- Influenza, including seasonal or novel strains
- Childhood vaccine-preventable diseases, such as measles and pertussis
- Vector-borne diseases, including mosquito-borne and flea-borne diseases
- Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2)//COVID-19
- Hepatitis A

Foodborne Illness, including Norovirus

The Centers for Disease Control and Prevention (CDC) estimates that every year, approximately one (1) in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases in the United States. Extrapolating to the Orange County population, this would suggest that approximately 500,000 people contract foodborne illnesses yearly. Examples of reportable infections that may potentially be foodborne include bacteria such as Salmonella, Campylobacter, and Shiga-toxin-producing Escherichia coli (STEC). During a non-COVID pandemic year in Orange County, approximately 400 cases of Salmonella, 500 cases of Campylobacter, and 70 cases of STEC are reported each year. Not all foodborne illnesses are reportable; even the diseases are often underreported and underdiagnosed. We do not have exact numbers of how many people are affected. Foodborne illnesses generally cause symptoms such as diarrhea, vomiting, and/or abdominal cramps. Some people may also have a fever. Complications of foodborne illnesses include dehydration and the spread of the infection to the bloodstream or other parts of the body, especially when bacteria are involved.

Influenza

Influenza is a respiratory viral infection that can cause mild to severe illness, with hospitalizations and deaths, especially in young children, older people, and people with certain health conditions. Seasonal influenza epidemics occur every year. Factors that may affect the severity of the season include the predominant influenza virus strains circulating, the population's immunity to those strains, the match and effectiveness of the vaccine against the circulating strains, and vaccine uptake. In 2018-2019, the Centers for Disease Control and Prevention (CDC) estimated that there were 35.5 million people sick with influenza, 16.5 million medical visits, 490,561 hospitalizations, and 34,157 deaths from influenza in the U.S. This was a decrease from the 2017-2018 season. The CDC recommends that everyone 6 months of age and older be vaccinated against influenza annually and that people with influenza stay home for at least 24 hours after their fever has gone without using fever-reducing medicine.

Childhood Vaccine-Preventable Diseases, such as Measles and Pertussis

Before the middle of the last century, life-threatening diseases such as Haemophilus influenzae, diphtheria, polio, measles, and rubella affected hundreds of thousands of infants, children, and adults in the United States, with thousands dying every year. Since the advent and widespread use

of vaccines, these diseases have declined dramatically, and nationally, vaccine-preventable diseases are at or near record lows. Vaccinations for chickenpox, diphtheria, Haemophilus influenzae type B, hepatitis A, hepatitis B, influenza, measles, mumps, pertussis, polio, pneumococcus, rotavirus, and rubella are now routinely available for infants and children.

However, this is not the case worldwide, and outbreaks of diseases such as polio and measles still occur regularly. Even though most children in the U.S. have received the recommended vaccines by age 2 years, many under-immunized children remain, leaving the community vulnerable to outbreaks of these diseases.

- Measles: Measles is one of the most contagious infectious diseases, with over 90% of exposed people developing an infection if they are not immune, either through previous infection or immunization. In the pre-vaccination era, there were, on average, over 500,000 cases in the U.S. and almost 500 deaths reported annually. Cases dropped dramatically after vaccination against measles was introduced in 1960, and a second dose of vaccine was routinely recommended in 1989. In 2000, measles was declared eliminated in the U.S., meaning there was no ongoing transmission. However, cases and outbreaks continue to occur from visitors or returning travelers from countries where measles is still common, introducing the virus into unvaccinated or under-vaccinated communities. Outbreaks can occur when measles is imported into a community in the U.S. where groups of people are unvaccinated. Between 0 and 3 cases of measles are typically reported annually among Orange County residents. However, there were 35 cases in 2015 and 23 cases in 2014 associated with the outbreaks below:
 - 2015: The United States experienced a large, multi-state measles outbreak linked to an amusement park in Orange County, California. The outbreak likely originated from a traveler who became infected with measles overseas and visited the amusement park while infectious; however, no source was identified. Analysis by CDC scientists showed that the measles virus type in this outbreak (B3) was identical to the type that caused the large measles outbreak in the Philippines in 2014.
 - The estimated public health cost in California for the 2015 outbreak is \$1.56- \$3.91 million. This does not include costs to healthcare facilities participating in contact investigations, lost work or school for cases and quarantined persons, and their caregivers. Total hospitalization costs are estimated at \$500,000 for the 21 hospitalized patients.
- Pertussis: Pertussis, also known as whooping cough, is a highly contagious respiratory infection caused by Bordetella pertussis. Although symptoms may be mild and resemble an ordinary "cold" in some people, the infection may become more serious, particularly in infants, and cause hospitalizations and even death. Infections in the U.S. decreased dramatically with the advent of the whole-cell DTP (diphtheria, tetanus, pertussis) vaccine in the 1940's, but have increased over the past 20-30 years, partially because of increased awareness, improved testing, better reporting, and waning immunity from the acellular pertussis vaccine (DTaP) used since the 1990's. California has experienced massive outbreaks since 2010, with numbers comparable to those in the 1940s. Over 9,000

pertussis cases and 10 infant deaths were reported with disease onset in 2010, and over 11,000 cases and three infant deaths were reported with disease onset in 2014. In Orange County, 467 pertussis cases were reported in 2010 and 397 in 2014.

Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2) / COVID-19

Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2), also known as Coronavirus (COVID-19), is a new disease first identified in Wuhan, China, in 2019. It is caused by a novel coronavirus not previously identified in humans. The virus mainly spreads from person to person in close contact (within 6 feet for at least 15 minutes within 24 hours during the infectious stage). Although most people who have COVID-19 have mild symptoms, COVID-19 can also cause severe illness and even death. Some groups, including older adults and people who have certain underlying medical conditions, are at increased risk of severe disease. The severity of the illness may require hospitalization, including intensive care, and may result in death. The CDC recommends COVID-19 for everyone 6 months and older as Immunization against COVID-19 continues to offer protection against more serious illness, hospitalization, and death.

The global COVID-19 pandemic has spread to 223 countries, areas, or territories, with over 100 million cases and millions of deaths reported worldwide. The United States has over 30 million cases and over 500,000 COVID-19-associated deaths. As of April 2023, 717,154 cases and 8,090 deaths have been reported in Orange County. A total of 322,881 cases were reported in 2022.

Hepatitis A

Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus, which is spread primarily person-to-person through the fecal-oral route or the consumption of contaminated food or water. Although young children often have no or mild symptoms, most adults have signs and symptoms of illness, which include low appetite, tiredness, stomach pain, nausea, and jaundice (yellow skin). Symptoms resolve on their own, generally within 2 months of infection. Vaccination against hepatitis A is the most effective way to prevent the disease and is part of the routine childhood immunization schedule. The first dose is administered at 1 year, and the second dose is given 6 months after. Catch-up vaccination of adolescents is recommended at any time. Adults at increased risk of hepatitis A infection are also advised to get vaccinated; this include persons traveling or working in countries where hepatitis A is common; family and caregivers of adoptees from countries where hepatitis A is common; men who have sexual encounters with other men; users of recreational drugs, whether injected or not; people with chronic or long-term liver disease, including hepatitis B or hepatitis C; people with clotting-factor disorders; people with direct contact with others who have hepatitis A; people who are homeless; and any person wishing to obtain immunity (protection). Hepatitis A vaccine can also prevent infection after exposure if given within 2 weeks. Immune globulin is also available for post-exposure prophylaxis in infants or persons with immune compromise or chronic liver disease.

Hepatitis A outbreaks associated with foodborne sources have occurred several times over the past decade. In 2013, a large multistate outbreak of hepatitis A linked to pomegranate seeds from Turkey infected 165 people, including 79 in California. Orange County had also received the contaminated product in a frozen berry blend sold at chain warehouse stores, and several exposed

individuals needed post-exposure prophylaxis. In 2016, another multistate outbreak was linked to frozen strawberries from Egypt, affecting 143 persons in 9 states.

Since March 2017, outbreaks of hepatitis A have been reported in several states, including California, that have primarily affected persons who use injection and non-injection drugs and/or persons who are homeless and their close direct contacts. Although Orange County did not experience its related hepatitis A outbreak and had only two cases associated with the San Diego outbreak in 2017-2018, numerous outreach and prevention activities were conducted in our County. The outbreak in San Diego continued from November 2016 to October 2018 and resulted in 592 cases and 20 deaths. A local health emergency was declared on September 1, 2017, and remained in effect until January 23, 2018. Between March 2017 and October 3, 2018, 203,850 hepatitis A vaccines were given in San Diego in response to the outbreak. In addition to vaccination, the response included street washing, the installation of portable toilets and hand-washing stations, and erecting temporary shelters for people experiencing homelessness. The estimated cost of San Diego County's response as of April 2018 was approximately \$12.5 million.

Vulnerability, Assets, and Impact

The impact of a significant disease outbreak is highly variable. It depends on several factors, including the severity of the disease, the type of care needed, the number of cases, the number of individuals exposed, and the type of investigation or follow-up measures required. Aside from healthcare costs, morbidity, and loss of work or school days associated with illness, public health may also require patients and their contacts to stay home during prescribed periods (isolation or quarantine, respectively) to decrease the risk of transmission. Healthcare facilities may experience a surge in patients. Still, even with just one or a few cases, they may be adversely affected due to exposures at the facility, necessitating patient and/or staff follow-up, testing, and/or furlough. Businesses, schools, or organizations may also be affected if cases occur in their facilities and exposures must be followed up. In addition to large numbers of cases and/or contacts requiring interview, evaluation, testing, and follow-up, as well as the institution of additional surveillance mechanisms, large groups may also need the administration of some form of treatment or vaccination (medical countermeasures) that will be coordinated through public health. The dissemination of health information and the education of medical providers will also be essential to any outbreak response. Additional considerations are discussed in more detail in the Pandemic/High-Consequence Disease Section.

Category	Vulnerability Factors	Assets at Risk
People	High-density populations; elderly and immunocompromised individuals; underserved communities; schools and daycare centers; people with limited healthcare access	Residents in nursing homes; homeless populations; students and staff in schools; agricultural and service industry workers
Property	Healthcare facilities under strain; public gathering places with limited sanitation; workplaces with close	Hospitals and clinics; schools; office buildings; transit buses and trains; shelters and community centers

Category	Vulnerability Factors	Assets at Risk
	contact; public transportation vehicles	
The Environment	Public spaces prone to contamination; waste disposal systems; water and sanitation infrastructure	Parks and recreational areas; water treatment plants; sewage systems; public restrooms
Local Government Operations	Public health departments' capacity; availability of testing and vaccination centers; emergency communication systems; healthcare coordination	Public health agencies; emergency response teams; hospitals and medical providers; information technology systems

Impact Area	Description of Impact
Public	Disease outbreaks can affect large portions of the community, causing widespread illness, missed school/work days, and fear or confusion. Vulnerable populations (children, older adults, immunocompromised, unhoused individuals) are more susceptible to severe outcomes. Isolation and quarantine requirements may disrupt family life, employment, and caregiving responsibilities. Targeted public health messaging is critical for ensuring protective measures and vaccination adherence.
Responders	Public health and healthcare personnel may experience increased workloads due to case investigations, outbreak control, surveillance, and medical countermeasure distribution. First responders (EMS, fire, law enforcement) may be at risk of exposure and illness, requiring PPE and immunization depending on the disease. Absenteeism due to illness, exposure, or family caregiving responsibilities may affect response capacity.
Continuity of Operations / Delivery of Services	Disease outbreaks can result in widespread absenteeism, impacting county departments and partner agencies. Remote work capabilities may need to be activated. Public health resources may be diverted from routine services to outbreak response, affecting the continuity of other essential health programs. Planning for succession, backup staffing, and alternate service delivery models is critical.
Property, Facilities, Assets, & Critical Infrastructure	Healthcare facilities may experience surges in patient volume. Infection prevention protocols may necessitate temporary closures or limited operations at affected sites. Schools, shelters, congregate care, and correctional facilities may require additional outbreak control measures. Facility-based transmission can impact operations and trigger public concern.

Impact Area	Description of Impact
Supply Chain	Depending on the outbreak agent, medical supplies (e.g., masks, antivirals, vaccines, testing kits), cleaning products, and PPE may be in high demand or face shortages. Specific disease outbreaks (e.g., hepatitis A, food-borne illnesses) may result in recalls, closures, or disruption of food supply chains. Community access to essential goods may be strained during more significant outbreaks.
Environment	Increases in medical waste (e.g., used PPE, syringes), chemical disinfectants, and improper disposal of contaminated items may create secondary environmental impacts.
Economic & Financial Conditions/Community Activities	Local businesses may experience workforce reductions, temporary closures, or reduced consumer traffic. Outbreak response and recovery costs (e.g., vaccines, outreach, overtime) may strain public agencies financially.
Public Confidence in Local Government	Trust in public health guidance and government coordination is critical. Misinformation, lack of transparency, or perceived inequities in outbreak response may erode public confidence. Proactive and culturally competent communication, precise coordination with schools, businesses, and healthcare providers, and visible containment efforts support trust and compliance.

Resources

US Department of Health and Human Services Pandemic Influenza Plan 2017 Update

California Emergency Support Function 8 Public Health and Medical Annex 2013

Orange County Health Care Agency – Communicable Disease Control Division: Provides surveillance data, outbreak investigations, and response strategies for various communicable diseases, including vaccine-preventable diseases, enteric diseases, healthcare-acquired infections, vector-borne diseases, and emerging diseases like monkeypox. Offers access to summary surveillance reports and a list of reportable diseases.

Website: <https://www.ochealthinfo.com/about-hca/public-health-services/cdcd>

Orange County Health Care Agency – Disease Prevention: Offers educational resources and guidelines to prevent illness and disease, including hand hygiene practices and information on collecting family medical histories. Aims to reduce the risk of disease outbreaks through community education.

Website: <https://www.ocgov.com/residents/health/disease-prevention>

California Department of Public Health – Communicable Disease Control: Provides statewide surveillance data, outbreak investigations, and response strategies for communicable diseases.

Collaborates with local health departments, including Orange County, to monitor and control disease outbreaks.

Website: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Communicable-Disease-Control.aspx>

Centers for Disease Control and Prevention – Infectious Disease Outbreaks: Offers national data, guidelines, and resources on various infectious disease outbreaks. Provides information on surveillance, prevention, and control measures applicable to both pandemics and localized outbreaks.

Website: <https://www.cdc.gov/outbreaks/index.html>

World Health Organization – Disease Outbreak News: Publishes updates on global disease outbreaks, including information on emerging diseases and public health risks. While not specific to Orange County, it provides context for understanding global trends that may impact local communities.

Website: <https://www.who.int/csr/don/en/>

2.5.12 Excessive Temperature (Heat/Cold)

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	Due to the different climate zones in Orange County, excessive temperatures (heat and cold) are more probable for the inland and mountain zones. The coastal zones are less likely but not exempt from excessive temperature events.
Related Hazard(s):	Climate Change, Drought, Flood / Storm, High Winds, Fire, Power Outage
Related Plans and Annexes:	Excessive Temperature Annex

Definition

Orange County combines both extreme heat and extreme cold in this hazard type. What constitutes as excessive heat or cold can vary across different areas of the United States, based on what the population is accustomed to. These excessive temperatures can have significant impact to human health, pets, commercial/agricultural businesses, and primary and secondary effects on infrastructure (e.g., burst pipes and power failures).

History & Probability, Including Range of Anticipated Intensities

Both excessive heat and cold events have impacted the Southern California region in recent history. According to the Centers for Disease Control and Prevention (CDC) Heat and Health Tracker, there are an average of 67,512 emergency room visits, 9,235 hospitalizations and 702 deaths that occur each year due to heat. Conversely, in 2023, a total of 1,024 deaths were attributed to excessive cold or hypothermia.

Climate change is increasing the frequency and intensity of heat and cold events in Orange County. Between the years of 2019 and 2024, Orange County reached excessive temperatures requiring implementation of the Excessive Temperature Annex 4 times for heat events and 4 times for cold events.

Excessive temperatures can be dangerous to segments of the population unable to take adequate measures to protect themselves. Excessive temperatures increase the number of heat-related illness and injuries, and can cause death. The July 2006 excessive heat event in California was responsible for the death of 140 people over a 13-day period. While this emergency did not include major damage to infrastructure like the 1989 Loma Prieta and the 1994 Northridge earthquakes, approximately twice the number of human deaths were credited to the excessive heat event.

Excessive cold events, when coupled with heavy rain and wind, can pose significant health risks including cold-related illness and injuries, and can cause death. Cold weather poses an additional challenge in that people can be affected by cold more quickly based on other underlying factors, including but not limited to age, health, and other items.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Elderly and very young populations; people with pre-existing medical conditions; outdoor workers; low-income households lacking HVAC; homeless populations; socially isolated individuals	Residents in heat/cold-sensitive areas; schoolchildren; construction and agricultural workers; unsheltered individuals; vulnerable patients
Property	Overreliance on air conditioning or heating; strain on electrical systems; risk of frozen/burst pipes in extreme cold; increased wear on HVAC units; potential for fire hazards from heat	Residential and commercial buildings; HVAC systems; power lines and transformers; plumbing systems; agriculture infrastructure
The Environment	Urban heat island effects; heat stress on plants and animals; drought exacerbation; freeze damage to crops and landscaping; water quality decline from warm temperatures	Urban trees and landscaping; native wildlife and ecosystems; agricultural lands; surface water bodies; wetlands
Local Government Operations	Increased demand for emergency medical services; operation of cooling/heating centers; strain on energy and water utilities; public communication needs; transportation impacts from extreme weather	Emergency services (EMS, fire, police); public utility systems; city-run shelters and facilities; public transit systems; health departments

Cold

Impact Area	Description of Impact
Public	Exposure to cold temperatures can lead to serious or life-threatening health problems such as hypothermia, cold stress, and frostbite or freezing of the exposed extremities such as fingers, toes, nose, and ear lobes. In extreme cases the possibility of death. While hypothermia is most likely at very cold temperatures, it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water. During excessive cold, vulnerable populations, including infants, the elderly, those with chronic illnesses, people experiencing

Impact Area	Description of Impact
	homelessness, and outdoor workers, are at higher risk of cold-related illnesses like hypothermia and frostbite. (3)
Responders	Field-based first responders may be impacted like the public on a personal, physical basis. There may be a need to open warming centers and an increase in calls for services related to cold-related health issues.
Continuity of Operations / Delivery of Services	No impact is expected from a continuity of operations perspective.
Property, Facilities, Assets, & Critical Infrastructure	Extremely cold temperatures can accompany a winter storm, which can cause power failures and icy roads. Some homes may be too cold—either due to a power failure or because the heating system is not adequate for the weather. The use of space heaters and fireplaces to keep warm can increase the risk of household fires and carbon monoxide poisoning (CDC 2025). Some Orange County critical infrastructure/key resources are located in areas subject to the lowest temperatures in Orange County. Special care should be taken to ensure impacts of freezing minimized. There may be a need to open warming centers and overnight shelters for vulnerable populations.
Supply Chain	No impacts to the supply chain are anticipated based on historical incidents.
Environment	Extremely cold temperatures can impact animals and plants, although historically these impacts have been minor and of short duration.
Economic & Financial Conditions/ Community Activities	Economic impacts have historically been limited to damages to agricultural crops.
Public Confidence in Local Government	Care of vulnerable populations (e.g., homeless, outdoor workers) has been a concern voiced by the public; jurisdictions failure to meet these needs could result in a loss of public support.

Heat

Impact Area	Description of Impact
Public	Excessive heat emergencies develop slowly and may take a number of days of oppressive heat to have a significant or quantifiable impact. Heat waves do not injure people immediately; the cumulative effect slowly degrades the body's ability to adapt, leading to hyperthermia and possibly death. Certain population groups are at greater risk of heat-related health impacts, including unhoused people, those working

Impact Area	Description of Impact
	outdoors or in unconditioned indoor environments, older adults, infants and children, those with chronic health conditions, people with disabilities, pregnant people, and those with low income. Multiple days of extreme high temperatures will make students and athletes more vulnerable to heat illness. (CDC 2025)
Responders	First responders, due to their physically demanding jobs and exposure to the elements, are particularly vulnerable to heat-related illnesses during excessive heat events. They are at risk for heat exhaustion and heat stroke. There may be an increase in calls for services related to heat-related health issues.
Continuity of Operations / Delivery of Services	Some maintenance work or services may be postponed if the work poses a fire risk. No major impacts are expected from a continuity of operations perspective.
Property, Facilities, Assets, & Critical Infrastructure	City and County facilities may serve as cooling centers. Planned power outages may be scheduled to prevent fires.
Supply Chain	No impact is expected from a supply chain perspective.
Environment	Extreme heat negatively impacts the environment by exacerbating droughts, increasing wildfire risk, damaging crops and livestock, and disrupting ecosystems, ultimately leading to food insecurity and other challenges.
Economic & Financial Conditions/ Community Activities	No significant economic and financial impacts.
Public Confidence in Local Government	Care of vulnerable populations (e.g., homeless, outdoor workers) has been a concern voiced by the public; jurisdictions failure to meet these needs could result in a loss of public support.

Resources

National Weather Service (NWS) – San Diego Office: Provides heat advisories, excessive heat warnings, wind chill advisories, and climate data specific to Southern California, including Orange County. Includes resources for planning and health precautions.

Website: <https://www.weather.gov/sgx/>

Orange County Health Care Agency – Climate & Health: Provides information on local extreme heat response, including cooling center locations, community outreach, and public health advisories related to temperature extremes.

Website: <https://ochealthinfo.com>

California Department of Public Health (CDPH) – Climate Change & Health Profile: Contains localized health vulnerability assessments and projected impacts of extreme heat and cold, including data for Orange County.

Website: <https://www.cdph.ca.gov>

FEMA – National Risk Index (NRI): An interactive tool that provides hazard risk ratings, including for extreme heat and cold, down to the county level. Includes vulnerability and expected annual loss data.

Website: <https://hazards.fema.gov/nri/>

California Heat Assessment Tool (CHAT) – Cal-Adapt: Visualizes projected extreme heat days and nighttime temperatures at the community level. Helps planners assess heat exposure risks through climate modeling.

Website: <https://cal-heat.org>

Centers for Disease Control and Prevention (CDC) – Heat & Cold Emergency Preparedness: Offers health and preparedness guidance for extreme heat and cold events, including fact sheets, case studies, and public health strategies.

Website: <https://www.cdc.gov/disasters/extremeheat/index.html>

Cold Weather Site: <https://www.cdc.gov/disasters/winter/index.html>

2.5.13 Flood

Impact:	High
Probability:	Likely
Location:	Countywide
Extent:	The extent may range from mild flooding to severe flooding.
Related Hazard(s):	Climate Change, Dam/Levee/Reservoir Failure, Debris Flow, Tsunami
Related Plans and Annexes:	Flood, Dam, and Reservoir Failure Annex

Definition

Flood hazard includes riverine (inland) flooding, coastal flooding, and storm-water flooding. Flooding caused by dam and levee failure, or tsunamis is discussed under those separate hazard profiles. Although there is a countywide system of flood control facilities, the majority of these are inadequate for conveying runoff from major storms. The County's rapid growth and transformation from an agricultural-based community to an urban community has changed flood control of large flows from mountains and hills to include control of additional runoff produced by development of the plains.

History & Probability, Including Range of Anticipated Intensities

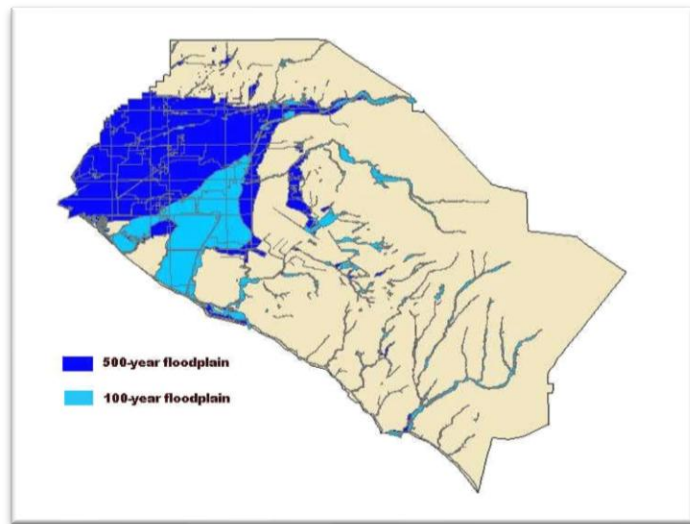
Orange County's 948 square miles are comprised of mountain terrain and floodplain. The infrequency of very large floods further obscures the County's flood hazard. Major floods in Orange County have occurred in 1810, 1815, 1825, 1884, 1891, 1916, 1927, 1938, 1969, 1983, 1993, 1995, 1998, 2005, 2011, 2017, 2019 and 2023. The greatest flood in terms of water flow was in 1862 with an estimated flow rate of 317,000 cubic feet per second.

A notable Orange County flood occurred in 1938, wiping out roads, bridges, and railroads near the river when an 8-foot wall of water swept out of the Santa Ana Canyon. Anaheim, Santa Ana, and Garden Grove were hardest hit and 34 lives were lost because of the flood. This flood event led to the construction of Prado Dam. Government officials estimated that today without the protection of Prado Dam, a flood of this magnitude would cause as many as 3,000 deaths and top \$25 billion in damages. More than 110,000 acres would be flooded with 3 feet of water and 255,000 structures damaged.

Other areas subject to flooding during severe storms include areas adjacent to Bolsa Chica Channel, Anaheim-Barber, Stanton Storm Channel, Santa Ana-Santa Fe, Cañada, Paularino, Westminster, Trabuco, Borrego, Serrano, Laguna Canyon, Atwood Channel, Brea Creek Channel, Fullerton Creek Channel, Carbon Creek Channel, San Juan Creek Channel, and East Garden Grove-Wintersburg Channel. Areas adjacent to Santiago Creek and Collins Channel in the central portion of the County and large portions of the San Diego Creek watershed in the City of Irvine and unincorporated areas of the County are also subject to inundation. In the southern portion of the county, canyon areas are subject to flooding. However, with increased development in these areas the flood hazard becomes even greater.

Flood damages within the Westminster-East Garden Grove Watershed, along the East Garden Grove-Wintersburg Channel and Westminster Channel affect residential, commercial, and industrial development within the cities of Westminster, Garden Grove, Santa Ana, Huntington Beach, Seal Beach, and Fountain Valley. The hundreds of homes in the downstream segment of the channel system would be subjected to an estimated 8-foot depth of flooding if a 100-year storm event occurred today. The winter storms of 2005 in this area severely eroded the maintenance roads and levee banks.

Figure 5: Provides an overview of the possible floodplain for 500 and 100 years



Flood damages within the Westminster-East Garden Grove Watershed, along the East Garden Grove-Wintersburg Channel and Westminster Channel affect residential, commercial, and industrial development within the cities of Westminster, Garden Grove, Santa Ana, Huntington Beach, Seal Beach, and Fountain Valley. The hundreds of homes in the downstream segment of the channel system would be subjected to an estimated 8-foot depth of flooding if a 100-year storm event occurred today. The winter storms of 2005 in this area severely eroded the maintenance roads and levee banks.

Vulnerability, Assets, and Impact

One of the county's flood risks is the Santa Ana River, flowing through the heart of Orange County to the Pacific Ocean. The Prado Dam also poses a significant flood risk capable of damage to personal and public property and loss of life. Large storms can overwhelm the capacity of dams, levees, reservoirs and the Santa Ana River.

Category	Vulnerability Factors	Assets at Risk
People	Residents in floodplains or near rivers; mobile home and low-income housing residents; individuals lacking flood insurance; elderly and disabled persons; non-English speakers	Residents in Santa Ana River basin; homeless populations near creeks; students in flood-prone school zones
Property	Structures in FEMA flood zones; outdated stormwater systems; poor drainage infrastructure; paved-over natural flood buffers	Homes and businesses near Santiago Creek, San Diego Creek, and Bolsa Chica wetlands; underground parking; vehicles; critical utilities
The Environment	Altered or channelized waterways; loss of wetlands and natural	Coastal wetlands; riparian ecosystems; beaches and dunes;

Category	Vulnerability Factors	Assets at Risk
	retention areas; urban runoff; post-wildfire slopes	protected natural areas (e.g., Upper Newport Bay); native habitats
Local Government Operations	Disruption to roads and public transit; overwhelmed stormwater systems; need for emergency sheltering; damage to public infrastructure	Public works facilities; emergency operations centers; roads and bridges; fire and police stations; flood control channels

Impact Area	Description of Impact
Public	Impacts could include evacuations of those in the inundation zone. Unhoused populations might need temporary and long-term shelters, and assistance in restoring vital records.
Responders	Impacts could include increased calls for service in the inundation zone. Critical response routes may be destroyed or damaged in and around the inundation zone.
Continuity of Operations / Delivery of Services	No impact is expected from a COOP perspective.
Property, Facilities, Assets, & Critical Infrastructure	Impacts could include damage to water infrastructure and adjacent properties. Co-located utility towers could be impacted by large volumes of fast-moving water.
Supply Chain	Road closures may cause delays in the supply chain. Emergency supplies in stores may be low or unavailable.
Environment	Floods could cause widespread damage by altering the land, injuring or killing plants and animals, and changing the water composition along ocean-rover interfaces. Large volumes of water may also rinse urban contaminants and debris into waterways. Coastal flooding can have many of the same impacts as riverine flooding but also pose problems like beach erosion, loss or submergence of wetlands, loss of coastal recreation areas and beaches, and damage to or loss of coastal structures like piers or sea walls. In extreme cases landslides are possible.
Economic & Financial Conditions/ Community Activities	Homes and businesses within the inundation zones may not have insurance to cover damages. Without assistance, it may be difficult to rebuild homes and re-establish businesses.
Public Confidence in Local Government	Depending upon the incident cause and the speed with which services are restored, impacts may include the public questioning the leadership about response priorities and investment in public infrastructure.

Resources

Orange County Public Works – Flood Protection & Floodplain Management: Provides floodplain maps (FIRMs), annual progress reports, capital improvement plans, and flood safety guidance specific to Orange County communities.

Website: <https://ocip.ocpublicworks.com/service-areas/oc-infrastructure-programs/flood-protection>

FEMA – HAZUS-MH (Flood Module): GIS-based modeling software to estimate flood exposure, intensities, and potential losses; useful for conducting county-level risk and consequence assessments.

Website: <https://www.fema.gov/hazus>

FEMA Flood Map Service Center: National database for accessing FEMA Flood Insurance Rate Maps (FIRMs) and flood zone determinations by address—used for individual property risk analysis.

Website: <https://msc.fema.gov>

California Department of Water Resources (DWR) – Flood Risk Notification & Maps: Annual flood risk notification program with levee flood maps and interactive tools to explore floodplain data (100-, 200-, 500-year floodplains) across California—including Orange County.

Website: <https://water.ca.gov/Programs/Flood-Management/Community-Resources/Flood-Risk>

2.5.14 Geomagnetic Storm/Space Weather

Impact:	Moderate
Probability:	Unlikely
Location:	Countywide
Extent:	Countywide
Related Hazard(s):	Utility Failure/Power Outage
Related Plans and Annexes:	Power Outage Annex

Definition

Per the National Oceanic and Atmospheric Administration (NOAA) Space Weather Prediction Center, a geomagnetic storm is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth. These storms result from variations in the solar wind that produces major changes in the currents, plasmas, and fields in Earth's magnetosphere. The solar wind conditions that are effective for creating geomagnetic storms are sustained (for several to many hours) periods of high-speed solar wind, and a southward directed solar wind magnetic field (opposite the direction of Earth's field) at the dayside of the magnetosphere.

History & Probability, Including Range of Anticipated Intensities

The frequency of geomagnetic storms follows the sunspot cycle, increasing during solar maxima when most storms are driven by coronal mass ejections (CMEs). Notable events include the March 1989 storm that caused power outages in Canada and GPS disruptions globally, the October 2003 "Halloween Storms," and the July 2012 storm, all of which affected communications and satellite operations. The current Solar Cycle 25 (2020–2030) is expected to peak around 2025–2026, raising the risk of severe storms.

Geomagnetic storms result primarily from CMEs—huge bursts of solar plasma with embedded magnetic fields that interact with Earth's magnetosphere. High-speed solar wind streams (HSS) can also cause geomagnetic disturbances by creating co-rotating interaction regions (CIRs), which often produce longer-lasting but less intense storms. These storms generate intense currents in Earth's magnetosphere and ionosphere, causing magnetic disturbances measurable by indices such as the disturbance storm time (Dst) index and the Kp index.

The Dst index, based on magnetometer measurements near the magnetic equator, quantifies the average change in Earth's horizontal magnetic field during storms. It is reported hourly, with quiet conditions ranging between +20 and –20 nano-Tesla (nT). A geomagnetic storm has three phases—initial (storm sudden commencement), main (Dst drops below –50 nT), and recovery (return to quiet levels). The main phase typically lasts 2–8 hours, with recovery lasting from hours to several days.

The Kp index measures planetary magnetic disturbances and forms the basis of NOAA's Geomagnetic Storm Scale (G-Scale), which rates storms from G1 (minor) to G5 (extreme),

correlating with increasing Kp values from 5 to 9. These scales help characterize storm severity and predict potential impacts on technology and infrastructure.

During storms, currents in the ionosphere and energetic particles heat the upper atmosphere, increasing satellite drag and disrupting GPS signals. These effects can impair navigation, communications, and power grids, underscoring the importance of monitoring and preparing for geomagnetic storms, especially during periods of heightened solar activity.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Dependence on GPS-based navigation and communication; reliance on electric-powered medical devices; public unawareness of impacts	Air travelers; patients using life-support equipment; telecommunications users; emergency service callers
Property	High dependence on electrical infrastructure; unshielded electronics; aging grid systems; satellite-reliant systems	Power grids; transformers; satellites and receivers; home electronics; industrial automation equipment
The Environment	Potential disruption to weather-monitoring systems; indirect impact on animal navigation (e.g., birds, marine life)	Space-based environmental monitoring tools; wildlife that relies on geomagnetic fields for navigation
Local Government Operations	Disruption to communications; degraded GPS and satellite signals; potential electrical grid damage; emergency response coordination challenges	911 systems; public safety radio; GIS and dispatch tools; utility monitoring systems; emergency operations centers (EOCs)

Impact Area	Description of Impact
Public	Loss of access to GPS-dependent services (navigation, rideshare, mobile apps); disruption of telecommunications and internet; possible failure of home medical equipment; public confusion due to information blackouts.
Responders	Disruption of radio and satellite-based communication systems; difficulty coordinating during response efforts due to degraded GPS; increased response time for emergencies due to tech failure.
Continuity of Operations (Including Continued Delivery of Services)	Interruptions in electric power supply affecting government buildings and public services; degradation of IT systems and data

Impact Area	Description of Impact
	access; delay or failure in service delivery due to communications and infrastructure outages.
Property, Facilities, Assets, and Critical Infrastructure	Potential damage to electrical grid components (e.g., transformers); malfunction or burnout of unprotected electronics; disruption of aviation systems; increased risk of fires or outages at substations and utility infrastructure.
Supply Chain	GPS and satellite disruption affecting logistics and delivery tracking; delays in transportation of goods due to communication and navigation issues; potential spoilage of time-sensitive goods due to refrigeration loss.
Environment	Minimal direct environmental impact; indirect effects could include disruption to space-based environmental monitoring (e.g., weather satellites) and animal migration/navigation.
Economic and Financial Conditions Including Community Activities	Temporary shutdown of financial services relying on satellite time signals and networks; disruption of commercial activity due to point-of-sale system failures and internet outages; cancellations of events and public gatherings.
Public Confidence in Local Government	Potential erosion of trust if communications fail or response is perceived as inadequate; need for clear risk communication and pre-established contingency plans to maintain credibility during and after the event.

Resources

NOAA Space Weather Prediction Center (SWPC): Official source for real-time monitoring and forecasting of solar activity—including coronal mass ejections (CMEs), geomagnetic storms, and alerts for impacts on power grids, GPS, radio, and satellites.

Website: <https://www.swpc.noaa.gov>

U.S. Geological Survey (USGS) – Geomagnetism Program: Provides ground-based geomagnetic monitoring, studies geoelectric field impacts on infrastructure, and supports mapping of geomagnetically induced current (GIC) risks.

Website: <https://www.usgs.gov/programs/geomagnetism>

National Weather Service – Space Weather Hazards Page: Offers concise, user-friendly information, infographics, and safety guidance on space weather’s impacts to the general public, including power grids, GPS, and communications.

Website: <https://www.weather.gov/safety/space-weather-hazards>

CISA (Cybersecurity and Infrastructure Security Agency) – ICS Advisory on Solar Storms: Focuses on the impacts of geomagnetic storms on critical infrastructure control systems—including power, water, transportation—and shares mitigation best practices.

Website: <https://www.cisa.gov/ics-advisories/icsa-11-084-01>

Allianz Commercial – Risk Insights on Geomagnetic Storms: Offers insurance-sector analysis of space weather risks to power infrastructure, highlighting vulnerability during current solar maximum and cost-impact scenarios.

Website: <https://commercial.allianz.com/news-and-insights/expert-risk-articles/geomagnetic-storms.html>

2.5.15 Hazardous Materials Release

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	Based on scale, type, location and complexity. This can range from a vehicle intersection to several residential, commercial and industrial buildings and infrastructure in multiple jurisdictions.
Related Hazard(s):	Aircraft/Rail/Traffic Accident, Debris Flow, Flood, Earthquake, Tsunami, Oil / Sewage Spill, Wildland/Urban Fire, Air Pollution, High Winds, Nuclear Incidents, Terrorism, Utility Failure
Related Plans and Annexes:	OCFA Hazardous Materials Area Plans; San Onofre Nuclear Generating Station (SONGS) Emergency Operations Plan; and Local Response Agency Standard Operating Procedures (SOPs) – Hazardous Material Response

Definition

A hazardous material release is any spill, leak, emission, release, discharge, injection, escape, leaching, dumping, or disposal of hazardous materials into the soil, air, surface water, groundwater, or environment.

History & Probability, Including Range of Anticipated Intensities

Orange County faces the potential for hazardous material releases from stationary hazardous material users, transportation accidents, pipeline ruptures, and illegal dumping. The significance of the effects on the environment, property, or human health is dependent on the type, location, and the quantity of the hazardous material released. The County's level of exposure to hazardous materials can be understood by examining the County's business types, commercial traffic routes, storm sewers, sanitary sewers, underground pipelines, watershed, and highways.

- In 1985, over 7500 people were evacuated in the City of Anaheim due to a commercial fire in a business that contained various chemicals, and fertilizers. The fire smoldered for several days.
- In 2021, an oil spill occurred off the coast of Huntington Beach due to a broken underwater pipe causing beach closures and special event evacuations. The spill response and recovery lasted several weeks and required significant cleanup along the coast and required the assistance of multiple federal, state and local agencies.
- In 2022, an underground natural gas pipe ruptured in the City of Laguna Niguel causing the asphalt to bubble and required evacuation of surrounding residences and businesses. The situation lasted a few hours.
- In 2023, a fire broke out in the North (or Hangar 1) blimp hanger, part of the former Marine Corps Air Station Tustin. The structure, built in 1942, included aged materials and building components typical of that era. Hazardous materials identified during the fire included: asbestos; lead, arsenic, and other heavy metals; airborne particulate matter and smoke

plume toxins; debris, ash, and soil/surface. The City, Orange County Fire Authority, County, state and federal agencies worked cooperatively to address this fire and hazardous materials incident over the course of two years and at a cost exceeding \$100 million.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Residents near industrial facilities; workers in chemical plants and transport; schools near highways or railroads; sensitive populations (children, elderly, immunocompromised); first responders	Residents in proximity to manufacturing zones; students and staff at schools near transport routes; outdoor event attendees
Property	Industrial facilities with chemical storage; transportation corridors for hazardous materials (highways, rail lines); warehouses; residential areas near chemical sites; aging infrastructure	Chemical storage tanks; warehouses; commercial and residential buildings; vehicles transporting hazardous substances
The Environment	Proximity to waterways and wetlands; soil and groundwater contamination potential; sensitive habitats; air quality affected by airborne chemicals	Coastal wetlands; rivers and creeks (e.g., Santa Ana River); protected wildlife areas; groundwater aquifers
Local Government Operations	Emergency response capacity; availability of hazardous materials teams; communication and public alert systems; cleanup and remediation resources	Fire and hazmat response units; hospitals and medical facilities; emergency operations centers; public health agencies

Impact Area	Description of Impact
Public	The public and transient population are at high risk from this hazard dependent on type, location, quantity and scale of the release.
Responders	Untrained responders have an elevated risk from this hazard dependent on type, location, quantity and scale of the release. The OCFA, OCHCA, and multiple local agencies have specialized teams that regularly train to deal specifically with Hazardous materials.

Impact Area	Description of Impact
Continuity of Operations / Delivery of Services	There is a low risk of impact to continuity of operations as alternate locations and remote activity may minimize the impacts related to this hazard
Property, Facilities, Assets, & Critical Infrastructure	A release can have lasting impacts on property, facilities, assets, and critical infrastructure that may require significant cleanup. Based on the type, location, quantity, and scale of the material released.
Supply Chain	There is a low risk of supply chain interruption as multiple alternate routes and transportation delivery points are available. Rail lines are the most likely point for supply chain interruption should an area be closed, blocked, or contaminated for an extended period.
Environment	Environmental impact can range from minor to extensive based on type, location, quantity, and scale of the material released. Low end would equate to minor clean-up, and decontamination taking hours. High end would be significant clean-up, extensive decontamination and environmental restoration activities that can range from a month to years with the slight potential of an area being uninhabitable for several decades.
Economic & Financial Conditions/ Community Activities	Economic and financial impacts can range from nothing through significant loss of personal and countywide income, requiring multiple grants and financial assistance to residents, business owners, and local government. Virtually all sectors of the County's economy are users of hazardous materials that, if improperly handled, stored, transported, or disposed of, can pose health and environmental problems. Local fire departments maintain listings of businesses that store or use hazardous materials.
Public Confidence in Local Government	Any inability to communicate with residents regarding the situation can result in a loss of confidence in government and response organizations. The total impact in this category can be gauged by the type, location, quantity and scale of the material released. The federal, state, County, and local governments maintain multiple public awareness programs specific to hazardous materials increasing public confidence.

Resources

Orange County Fire Authority (OCFA) – Hazardous Materials Program: Provides local hazardous materials emergency response plans, training programs, and community safety information related to hazardous materials releases in Orange County.

Website: <https://www.ocfa.org/hazmat>

California Environmental Protection Agency (CalEPA) – Hazardous Materials and Waste Management: State-level oversight of hazardous materials use, storage, and emergency response, including databases on chemical facilities and release incidents.

Website: <https://calepa.ca.gov/hazardous-materials/>

U.S. Environmental Protection Agency (EPA) – Emergency Response Program: Provides tools and resources on hazardous chemical releases, Superfund sites, risk assessments, and community right-to-know laws relevant to Orange County.

Website: <https://www.epa.gov/emergency-response>

California Office of Emergency Services (Cal OES) – Hazardous Materials Emergency Preparedness: Supports hazardous materials emergency planning, response coordination, and risk assessments at the local and regional levels across California, including Orange County.

Website: <https://www.caloes.ca.gov/cal-oes-divisions/hazardous-materials>

National Oceanic and Atmospheric Administration (NOAA) – Office of Response and Restoration: Offers data and modeling tools for chemical spill impacts in coastal and marine environments, which can be relevant for hazardous materials releases near Orange County's coastline.

Website: <https://response.restoration.noaa.gov/>

Hazardous Materials Incident Report System (HAZMAT): A national database that tracks hazardous materials incidents, useful for historical risk analysis and trend monitoring.

Website: <https://www.phmsa.dot.gov/hazmat>

2.5.16 High Winds

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	High wind events can last days. The longest recorded Santa Ana wind event was 14 days.
Related Hazard(s):	Wildland and Urban Fire, Tornado, Hurricane
Related Plans and Annexes:	None

Definition

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore). These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles basin.

Santa Ana winds often blow with exceptional speed in the Santa Ana Canyon (the canyon from which it derives its name). Local forecasters at the National Weather Service (NWS) use the term "Santa Ana Winds" for these high wind occurrences.

Figure 6: Provides a graphic of how the winds flow from the Santa Ana Mountains to the ocean



The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana events. Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah). Clockwise circulation around the center of this high-pressure area forces air downslope from the high plateau. The air warms as it descends toward the California coast at the rate of 5 degrees Fahrenheit per 1000 feet due to compressional heating. Thus, compressional heating provides the primary source of warming. The air is dry since it originated in the desert, and it dries out even more as it is heated.

History & Probability, Including Range of Anticipated Intensities

The Santa Ana winds occur annually in Orange County. Santa Ana winds commonly occur between October and February with December having the highest frequency of events. Summer events are rare. Wind speeds are typically north to east at 35 MPH through and below passes and canyons with gusts to 50 MPH. Stronger Santa Ana winds can have gusts greater than 60 MPH over widespread areas and gusts greater than 100 MPH in favored areas. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of a sea breeze. The sea breeze, which typically blows onshore daily, can moderate the Santa Ana winds during the late morning and afternoon hours. Santa Ana winds are an important forecast challenge because of the high risk of fire associated with them. Also, unusually high surf conditions on the northeast side of the Channel Islands normally accompany a Santa Ana event.

Santa Ana wind conditions can result in two general disaster conditions.

- The most common is fire fanned by the high winds. Recent examples include the 2007 Santiago Fire, the 2008 Freeway Complex Fire, and the 2020 Silverado-Blue Ridge-Bond Fires. Excessive winds contributed to these fires unpredictable behavior and rapid progression. Hot, dry winds continued to fan the fire for several days, forcing large evacuations of the population. The majority of catastrophic wildfires in Orange County of the past 20 years have occurred during strong Santa Ana Wind events. On average, the National Weather Service (NWS) reports that Santa Ana wind events occur about 10 to 25 times per year in Southern California.
- The second form of wind-related disaster would be direct infrastructure, utility, or building damage as a result of the high winds. This can include downed trees and power lines, turbulence and low-level wind shear for aircraft, and high wind dangers for boaters. Normal routines and operations for individuals, businesses, and government agencies may be impacted by such wind events.

Vulnerability, Assets and Impact

Category	Vulnerability Factors	Assets at Risk
People	Risk of injury from flying debris; exposure to falling trees or power lines; respiratory issues from dust and wildfire smoke; mobility challenges for elderly and disabled persons	Residents; outdoor workers; children and elderly populations; individuals with respiratory conditions; tourists and beachgoers
Property	Roof damage; broken windows; overturned vehicles or outdoor structures; downed power lines; fire ignition due to power infrastructure failure; reduced access to emergency services	Homes; commercial buildings; vehicles; utility poles and lines; fences; signage; outdoor furniture and equipment
The Environment	Soil erosion; spread of invasive plant species; damage to trees and habitats; increased wildfire risk due to dry conditions and fuel spread; air quality degradation from dust	Urban green spaces; coastal areas; nature preserves; trees and vegetation; sensitive habitats; wildlife populations
Local Government Operations	Emergency response delays due to road blockages or power outages; increased demand on fire, police, and utility crews; need for public warnings and evacuations; infrastructure repair costs	Emergency services (police, fire, EMS); public works departments; traffic control systems; communication networks; local emergency alert systems; municipal budgets

Impact Area	Description of Impact
Public	Individuals across the County may be impacted by high winds that down trees and power outages. Fires can significantly impact the public; residents may be temporarily or permanently unhoused.
Responders	Responders may be placed on heightened alert during wind events, in order to quickly deploy to downed trees, downed lines, or wildfires. Aerial firefighting efforts may be grounded due to high winds. Roads may be impacted, delaying or prohibiting response to certain areas.
Continuity of Operations / Delivery of Services	No large-scale impact is expected from a COOP perspective.
Property, Facilities, Assets, & Critical Infrastructure	Impacts may include pre-emptive power line de-energization, although critical infrastructure may be buffered from these actions. During large fires, water may be limited.
Supply Chain	No large-scale impact is expected from a supply chain perspective. However, high winds may impact delivery times for resources transported by semi-trailer. High-winds add the risk of traffic accidents caused by toppled trailers.
Environment	This is a natural occurrence, so no unusual levels of environmental impact are anticipated for isolated high-wind events. Events paired with additional hazards such as fires or semi-trailer accidents that spill hazardous waste into the environment may cause impacts.
Economic & Financial Conditions/ Community Activities	No large-scale impact is expected from an economic perspective for high winds only, but if coupled with additional hazards such as a fire, the economic impact may be astronomical.
Public Confidence in Local Government	No large-scale impact is expected from a public confidence perspective.

Resources

National Weather Service (NWS) – San Diego Office: Provides high wind warnings, forecasts, and historical data specific to Southern California, including Orange County. Includes educational materials on wind hazards like Santa Ana winds.

Website: <https://www.weather.gov/sgx/>

U.S. Forest Service – Santa Ana Wildfire Threat Index (SAWTI): Provides a regional tool used to predict wildfire danger based on forecasted high winds and fuel conditions in Southern California, including Orange County foothills.

Website: <https://sawti.fs.fed.us>

California Public Utilities Commission (CPUC) – Fire-Threat Map and Wind Risk: Offers maps and data related to wind-driven wildfire threats from power infrastructure, useful for understanding utility-related high wind hazards in Orange County.

Website: <https://www.cpuc.ca.gov/firethreatmaps>

2.5.17 Landslide/Mudslide/Debris Flow

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	The impact from a landslide/mudslide/debris flow is generally localized with impacts of various degrees, from mild to severe. Demands on first responders will vary based on the size of the incident.
Related Hazard(s):	Wildland Fire, Flood / Storm, Earthquake
Related Plans and Annexes:	Airport Fire Post-Fire Debris Flow Plan

Definition

A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Landslides are a type of "mass wasting," which denotes any down-slope movement of soil and rock under the direct influence of gravity. The term "landslide" encompasses five modes of slope movement: falls, topples, slides, spreads, and flows. These are further subdivided by the type of geologic material (bedrock, debris, or earth). Debris flows (commonly referred to as mudflows or mudslides) and rock falls are examples of common landslide types.¹¹

Table 7: Historical data for Orange County
Landslides and Debris Flows

Year	Area	Event
2025	Laguna Beach	Geological Landslide
2024	Dana Point	Geological Landslide
2023	San Clemente	Geological Landslide
2023	Newport Beach	Geological Landslide
2021	Silverado Canyon	Post-fire Debris Flow
2018	Trabuco Canyon	Post-fire Debris Flow
2014	91 Freeway	Post-fire Debris Flow
2011	San Clemente	Geological Landslide
2010	Santiago/Modjeska Canyon	Post-fire Debris Flow
2008	Modjeska Canyon	Post-fire Debris Flow
2007	Modjeska Canyon	Post-fire Debris Flow
2005	Anaheim Hills	Geological Landslide
2005	Mission Viejo	Geological Landslide
2005	Laguna Beach	Geological Landslide
1998	Laguna Beach	Post-fire Debris Flow
1998	Laguna Niguel	Geological Landslide
1993	Anaheim Hills	Geological Landslide

History & Probability, Including Range of Anticipated Intensities

There are numerous areas within Orange County that are susceptible to landslides and debris flows. Recent cases of landslides occurred in Anaheim Hills and Mission Viejo following the rainstorms of 2005 and the Bluebird Landslides in Laguna Beach that same year. Most, but not all, landslides in Southern California begin to move when the soils have become saturated during heavy rains. In 1993 in Anaheim Hills, several homes located at the crest of the hill began to slide and had to be evacuated. These structures were deemed unsafe for continued habitation.

Information related to mapped landslide areas is available at the California Department of Conservation web page: <http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=landslides>. By selecting any mapped landslide area, one can download historical reports.

¹¹ Retrieved from https://www.usgs.gov/faqs/what-a-landslide-and-what-causes-one?qt-news_science_products=0#qt-news_science_products on April 3, 2025

Past landslide events which have caused major property damage and significantly impacted county residents include:

2023 Newport Beach and San Clemente Landslides

In early March of 2023, two significant landslides began to occur on Galaxy Drive in Newport Beach and on Buena Vista Street in San Clemente which impacted several residential structures. No earthquake activity occurred during or immediately before the landslide movement. This movement is most likely related to the extremely heavy winter rains that occurred from December through February. Movement of these slides continued in 2024 following multiple strong storms received during the winter and early spring.

Figure 7: 2023 Buena Vista landslide, San Clemente



Figure 8: 2005 Blue Bird Canyon landslide, Laguna Beach



Wildfires can also generate the potential for debris flows from the area burned into adjacent communities. Assessing potential post-fire debris flows is unique to each fire and information about the process can be found at https://landslides.usgs.gov/hazards/postfire_debrisflow/. Typically a Burned Area Emergency Response (BAER) Report produced by United States Forest Service (USFS) or a Water Emergency Response Team (WERT) Report produced by Cal Fire are generated to identify specific areas as high risk for landslides and debris movement within burn scar areas. Most recently, following the 2024 Trabuco Canyon Airport Fire, a post-fire debris flow plan was developed and activated several times in early 2025. Similar post-fire debris flow plans were developed following the 2020 Bond Fire, 2018 Holy Fire, 2017 Canyon 2 Fire, 2014 Silverado Canyon Fire, and 2007 Santiago Fire. These plans were activated multiple times during the subsequent winter storms.

2021 Silverado Canyon Debris Flow

In March and December 2021, strong winter storms hit Orange County including areas of the Bond Fire burn scar. Multiple debris flows occurred in the area of Silverado Canyon, damaging several residential structures, property, and infrastructure.

2018 Trabuco Creek Debris Flow

A strong winter storm hit Orange County on December 6, 2018, including areas within the Holy Fire burn scar. A large debris flow occurred within the Trabuco Canyon area, damaging a bridge, roadway, and nearby O'Neill Regional Park.

Figure 9: 2018 Debris Flow, Trabuco Canyon



Figure 10: 2021 Debris Flow, Silverado Canyon

*2010 Modjeska Canyon Debris Flow*

On December 21, 2010, a strong winter storm hit Orange County, including areas within unincorporated canyon communities that were surrounded by 2007 Santiago Fire burn scar. Multiple debris flows damaged several homes in Modjeska Canyon.

2005 Bluebird Canyon Landslide

In the early morning of June 1, 2005, a landslide began moving in the Bluebird Canyon area of Laguna Beach, California in same location as previous landslide in 1978. No rainfall or earthquake activity occurred during or immediately before the landslide movement. This movement is most likely related the extremely heavy winter rains that occurred from December 2004 through February 2005.

1998 Laguna Niguel, Orange County Landslide

During the 1997/1998 El Niño season, heavy rainfall increased movement on the site of an ancient landslide in Laguna Niguel. The storms in December 1997 accelerated its movement and in early 1998, a crumbling hillside forced the evacuation of 10 hilltop homes and more than 10 condominium units resting below. Ultimately, four of the hilltop homes collapsed, falling down the hillside into the void created by the slide. The condominium complex has since been demolished and the site sits as open space.

Vulnerability, Assets, and Impact

With continued development in the urban interface of Orange County, the threat will only worsen in the coming years, particularly in the areas of south and northeast Orange County. The impact of fire-related debris flows may vary depending upon the scope of the impacted area and what communities and infrastructure are adjacent to it. The impact of these debris flows must be assessed immediately following a fire so that appropriate mitigation measures can be developed and implemented and community members can prepare themselves, their loved ones, and their property.

Category	Vulnerability Factors	Assets at Risk
People	Residents living near hillsides or canyon areas; individuals in post-wildfire burn scar zones; limited evacuation access; lack of early warning systems	Homeowners in steep terrain; elderly or disabled individuals; residents in mobile homes or unpermitted structures

Property	Structures built on unstable slopes; homes with inadequate drainage or erosion control; aging retaining walls; roads near hillsides	Residential homes; roadways; utilities (water, gas, electric lines); culverts and drainage infrastructure; bridges
The Environment	Wildfire burn scars; deforestation; saturated soils from recent storms; steep terrain; poorly maintained slopes	Hillside vegetation; wildlife habitats; watersheds; coastal bluffs; parks and open space areas
Local Government Operations	Road closures due to slope failure; blocked stormwater systems; emergency response access challenges; increased calls for public safety services	Emergency operations centers; public works crews and equipment; transportation infrastructure; municipal facilities and roadways

Impact Area	Description of Impact
Public	Individuals and their animals may be evacuated from their homes or businesses and be unable to return until areas are stabilized.
Responders	Responders may have to find alternative routes or use specialized equipment to respond to impacted areas. Continued instability of the impacted area may pose an ongoing risk to responders.
Continuity of Operations / Delivery of Services	No large-scale impact is expected from a COOP perspective.
Property, Facilities, Assets, & Critical Infrastructure	Homes, businesses, and public facilities that lie in the impacted area may be destroyed or severely damaged. Concerns may arise as to whether rebuilding is possible. Roads, bridges, power poles, and other infrastructure may be destroyed as a result of this hazard.
Supply Chain	No large-scale impact is expected from a COOP perspective, although there may be short-term disruptions to roads and railways.
Environment	Water quality may be impacted as debris makes its way into waterways and potentially into coastal waters. Sensitive habitats and animals may be impacted by the destruction of land and plants.
Economic & Financial Conditions/Community Activities	If landslides impact major traffic routes or other infrastructure, it could negatively impact the economy.
Public Confidence in Local Government	The public may be concerned if the jurisdiction is unable to prevent or detect these events before they occur. For fire-related incidents, the public may question the adequacy or over-reach of recommended protective actions.

Resources

California Geological Survey (CGS): Offers detailed landslide inventory, susceptibility, risk, and zoning maps for Orange County; includes downloadable quadrangle-specific maps and technical reports instrumental for hazard assessment and planning.

Website: <https://www.conservation.ca.gov/cgs/landslides>

California Governor’s Office of Emergency Services (Cal OES): Offers statewide public alerts, informational bulletins, and technical guidance on mudslides and debris flows—particularly in post-fire and storm conditions. Includes coordination protocols for local jurisdictions.

Website: <https://news.caloes.ca.gov/be-aware-of-mudslides-and-debris-flows-in-california/>

U.S. Geological Survey (USGS) – Landslide Hazards Program: Provides science-based landslide susceptibility maps for Southern California, research data on rainfall-triggered debris flows, and historic event overviews relevant to OC’s geohazards.

Website: <https://www.usgs.gov/programs/landslide-hazards/science/rainfall-and-landslides-southern-california>

OC Sheriff’s Department – Airport Fire Debris Flow Info: Offers area-specific resources and maps for debris-flow risk following the 2024 Airport Fire, including evacuation zones, preparedness plans, and links to watershed response reports.

Website: <https://ocsheriff.gov/commands-divisions/investigations-special-operations-command/emergency-management/resources-after-0>

FEMA – HAZUS-MH (Landslide Module): FEMA’s GIS-based modeling software can estimate potential losses, exposure analysis, and anticipated impacts from landslides, mudslides, and debris flows at county and community levels.

Website: <https://www.fema.gov/hazus>

2.5.18 Large Scale Event

Impact:	Moderate
Probability:	Likely
Location:	Countywide
Extent:	The impact of an event can vary greatly depending on its type, location, and complexity. It may be confined to a single venue with limited effects, or it could extend across multiple large venues, placing substantial demands on an agency, city, county, or state's capacity to respond effectively to the situation.
Related Hazard(s):	Terrorism, Civil Unrest, Disease Outbreak, Mass Fatality
Related Plans and Annexes:	None

Definition

A non-routine activity within a community that gathers a large number of people can significantly impact the community's ability to respond to a large-scale emergency or disaster. The focus is not solely on the number of attendees but rather on the exceptional demands that the event places on emergency response services. Special community events require additional planning, preparedness, and mitigation efforts from local emergency response and public safety agencies.

History & Probability, Including Range of Anticipated Intensities

Throughout Orange County, there are concerts, sporting events, festivals, fairs, and many other gatherings that can draw large crowds, regardless of the time of year. Under normal circumstances, these events typically take place with few or no issues. However, when a problem arises due to a natural disaster or a manmade threat, local emergency management becomes involved. These mass gatherings can also be potential targets for terrorism, as incidents resulting in multiple injuries and fatalities at public events have occurred consistently across various countries and types of events. Highly competitive sports events, particularly baseball games, concerts, and festivals, tend to lead to spectator-related incidents, while air shows and auto races often see more participant-generated occurrences.

Not every planned special event runs smoothly. Large events can cause short duration issues like, traffic and transportation delays, and may have a significant impact on community resources. This affects the ability of local services to respond effectively to the unique demands presented by the event. The high number of attendees, extensive media coverage, and the public nature of these gatherings amplified the potential concern for these types of events. When a large-scale event is hosted, it can attract unaffiliated and unwanted cascading hazards, such as mass shootings, civil unrest or terrorism.

To ensure the safety of the community and its visitors, first responders are responsible for protecting and minimizing the impacts of emergencies at planned special events. Effective emergency management requires careful planning, evaluation, and a prompt response to mitigate these risks.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	High crowd density; limited emergency access; language barriers; presence of elderly, children, and disabled individuals; risk of violence or stampedes; exposure to heat or poor air quality; potential for substance abuse or medical emergencies	Attendees; staff and vendors; local residents near event sites; tourists; emergency responders; socially vulnerable populations
Property	Overcrowding stress on infrastructure; risk of vandalism or theft; fire hazards; accidental or intentional damage to equipment or nearby structures; traffic-related incidents	Stages; sound and lighting equipment; fences and barriers; vendor booths; nearby businesses and residences; vehicles; roadways and signage
The Environment	Litter and waste accumulation; noise pollution; air pollution from vehicles and generators; trampling of vegetation; disruption to wildlife; potential contamination of water sources	Parks and open spaces; beaches; wetlands and sensitive habitats; local air and water quality; wildlife and nesting areas
Local Government Operations	Demand on law enforcement, EMS, and fire services; strain on traffic management and sanitation services; need for emergency coordination and public communication; liability concerns; cost of event oversight and cleanup	Police, fire, and EMS units; public health and sanitation departments; transportation and public works departments; city emergency management and communication systems

Impact Area	Description of Impact
Public	Possible impacts include the necessity for mass evacuations and adequate sheltering. Consequences may involve overcrowding, missing persons, unaccompanied minors, and separated families.
Responders	First responders may encounter large numbers of injured or deceased individuals. There may be confusion regarding the cause of the incident, making it challenging to neutralize the hazard or threat. Additionally, there could be unidentified individuals and unaccompanied minors who require reunification services. It may also be necessary to have multilingual translators available on short notice.

Impact Area	Description of Impact
Continuity of Operations / Delivery of Services	There is a low risk of impact on the continuity of operations, as alternative locations and remote activities can help minimize the effects associated with this hazard.
Property, Facilities, Assets, & Critical Infrastructure	Impacts may include the closure of the impacted venue and the cancellation of future events.
Supply Chain	The risk of supply chain interruption is low due to the availability of multiple alternative routes and delivery points.
Environment	No large-scale impact is expected from an environmental perspective
Economic & Financial Conditions/ Community Activities	The economic and financial impacts of incidents can range from minor losses to substantial ones. An isolated incident usually has little to no economic effect. However, a major incident affecting multiple large venues across the country for an extended period can lead to significant financial losses and have indirect effects on related businesses.
Public Confidence in Local Government	Failing to communicate effectively with residents about a significant incident can erode trust in government agencies and emergency response organizations. The overall impact of the situation depends on several factors, including the type of incident, the location of the incident, and the scale of the event. Federal, state, county, and local governments have implemented various public awareness programs that play a vital role in maintaining public confidence during such emergencies.

Resources

Department of Homeland Security (DHS) – SAFETY Act and Hometown Security: Offers resources to protect high-risk venues from terrorism during mass gatherings. Includes the SAFETY Act (for liability protection) and Hometown Security tools for event organizers.

Website: <https://www.dhs.gov/science-and-technology/safety-act>

National Center for Spectator Sports Safety and Security (NCS⁴): Research and training center focused on security for sports and entertainment venues. Offers event risk assessments, training courses, and publications tailored to large crowd environments.

Website: <https://www.ncs4.usm.edu>

Centers for Disease Control and Prevention (CDC) – Mass Gatherings and Public Health: Provides public health planning resources for mass gatherings, including guidance on crowd safety, sanitation, heat illness prevention, and infectious disease control.

Website: <https://www.cdc.gov>

International Association of Venue Managers (IAVM): Offers best practices, planning templates, and security-focused training for those managing large event venues like stadiums, arenas, and convention centers.

Website: <https://www.iavm.org>

2.5.19 Misinformation and Disinformation

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	Based on scale, type, location, and scope. This hazard can range from impacting a single resident or business, to impacting large scale services to the entire county.
Related Hazard(s):	Act of War, Civil Unrest, Cyber Threats, Terrorism
Related Plans and Annexes:	Terrorism Annex

Definition

Misinformation is incorrect or misleading information that is shared, often without the intention to deceive, and typically spread by people who believe the information is true.

Disinformation is information that is deliberately false or misleading, and intentionally shared with the purpose of manipulation, or to influence decisions.

History & Probability, Including Range of Anticipated Intensities

While misinformation and disinformation have existed throughout history, the acceleration and amplification effects of digital and social media have significantly increased the frequency, reach, and consequences of these phenomena. The proliferation of social platforms—particularly those with minimal content moderation or algorithmic transparency—has enabled false narratives to spread across geographic and demographic boundaries at unprecedented speed.

Recent studies continue to show that while the public is increasingly aware of information threats, the tools to identify and respond to them are still unevenly distributed:

- A 2024 Pew Research Center survey found that 62% of U.S. adults believe misinformation is a major problem, with younger Americans more likely to question traditional sources and rely on user-generated content.
- Over 80% of Americans now receive at least some of their news via social media, including platforms such as TikTok, Instagram, X (formerly Twitter), and YouTube.
- A 2025 study from the Stanford Internet Observatory reported that over 50% of viral false claims in the past year were linked to foreign or anonymous accounts, suggesting coordinated disinformation campaigns remain a persistent risk.
- Most users who fact-check do so using search engines (Google, Bing), but fewer confirm source credibility or origin.

Artificial Intelligence & Deepfakes

The rise of generative artificial intelligence (AI) has escalated the threat landscape significantly:

- AI-generated “deepfakes”—hyper-realistic videos, images, or audio recordings—have become increasingly difficult to detect, enabling bad actors to manipulate public perception, impersonate public officials, or fabricate crises.

- The 2024 U.S. election cycle saw the use of deepfakes to impersonate political candidates, create false endorsements, and spread misleading narratives with real-world consequences, including public confusion and voter suppression.
- In California, disinformation has been used to sow distrust around wildfire evacuation orders, vaccine campaigns, and public health emergencies.

Given the continued expansion of social platforms, increasing reliance on digital media, and low barriers to entry for AI tools, the probability of localized or wide-scale misinformation/disinformation events remains high and growing. These events may:

- Range in intensity from isolated rumors to county-wide false alerts or election interference.
- Cause moderate-to-severe operational disruption for public agencies, especially during active emergencies (e.g., wildfires, school lockdowns, civil unrest).
- Contribute to erosion of trust in official sources, undermining future messaging

The intersection of AI, social media virality, and geopolitically motivated information warfare presents a growing hazard for Orange County and other jurisdictions across the U.S.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Low digital/media literacy; reliance on social media for news; language barriers; politically or socially polarized groups; vulnerable populations targeted by false narratives	Residents; elderly and youth; immigrant communities; marginalized groups; individuals with limited access to verified information
Property	Misinformation triggering panic buying or vandalism; threats to business reputation from false claims; disruptions to commerce due to hoaxes	Retail businesses; healthcare facilities; schools; religious institutions; critical infrastructure
The Environment	Spread of false claims about environmental hazards or regulations; resistance to science-based policy (e.g., water conservation, wildfire mitigation)	Coastal and wildfire-prone areas; nature preserves; public parks; environmental protection efforts
Local Government Operations	Undermined public trust in emergency messaging; interference with elections or public health campaigns; increased workload for public information officers; threats to digital infrastructure	Public health and emergency management agencies; election offices; local media partnerships; official communication platforms; IT systems

Impact Area	Description of Impact
Public	Misinformation can lead to confusion, anxiety, and mistrust among individuals, particularly when it comes to issues related to health, safety, and security. Additionally, this can lead to harm when false information related to treatments or cures for disease cause individuals to forgo necessary medical care.
Responders	Misinformation can cause unwarranted pauses in response to incidents as responders may deem it appropriate to allocate resources to investigate false reports or misinformation associated with an incident. "Swatting" is a common example of disinformation associated with responders. Public Information Officers will see effects of false information that will require time for correcting the false information and rumor control.
Continuity of Operations / Delivery of Services	This hazard may impact decision making regarding continuity of operations. Misinformation could impact resource allocation when not properly verified through credible sources.
Property, Facilities, Assets, & Critical Infrastructure	Impacts may be seen in all areas through the spread of misinformation or disinformation. On a small scale, a simple negative post about a property or facility could lead to small scale changes to public opinion. On a large scale, attacks on critical infrastructure or negative information related to a service provided could initiate a negative response from the public leading to additional susceptibility or testing of security measures. Targeting IT systems at critical facilities that provide essential services are a viable threat with widespread impacts.
Supply Chain	Susceptibility exists at the initial point of goods and commodities that are critical to the public. Like property impacts, there lies the probability that small-scale posts on social media could elicit a negative response from individual consumers toward a specific product. On a large scale, the same negative post targeted at a specific consumer product could elicit widespread boycott or additional negative propaganda associated with the product leading to destruction, protests, or criminal activity.
Environment	Misinformation and disinformation have the potential to impact the environment through the promotion of false narratives or conspiracy theories about environmental issues, leading to a lack of action or ineffective policies. Additionally, false information about historical significance sites or events can lead to the erosion of cultural heritage.

Impact Area	Description of Impact
Economic & Financial Conditions/Community Activities	Revenue loss to businesses and local government can occur through the dissemination of false information. Additionally, while the public may not notice this on a small scale, larger false-information campaigns can have an impact on the livelihood of the public through the interruption of general services resulting in higher costs as providers pivot resources to combat misinformation regarding their company or product. Furthermore, disaster relief provides a significant opportunity to exploit a situation for nefarious activities with a direct impact on individuals that need resources.
Public Confidence in Local Government	Confidence in local government is extremely susceptible to false information on several fronts. Impact from the erosion of public confidence has the potential to be felt for months and years following an incident. Especially under conditions where disaster response and recovery operations are underway. A lone individual has the potential to negatively impact public confidence in local government with a single piece of disinformation.

Resources

Cybersecurity and Infrastructure Security Agency (CISA): Provides extensive resources on combating misinformation and disinformation, particularly in emergency communications, elections, and public safety messaging. Includes the “Rumor Control” toolkit and resilience-building resources.

Website: <https://www.cisa.gov>

2.5.20 Nuclear Incidents, Including San Onofre Nuclear Generating Station (SONGS)

Impact:	High
Probability:	Unlikely
Location:	Irvine and just south of the County border
Extent:	The impact of a nuclear event, although unlikely, could be quite large. Demands on first responders will vary based on the size of the incident.
Related Hazard(s):	Terrorism, Civil Unrest, Cyberattack, Act of War
Related Plans and Annexes:	County of Orange Nuclear Power Plant Emergency Plan for SONGS, Terrorism Annex

Definition

There is one nuclear facility located in Orange County: the University of California, Irvine. This reactor is used for research purposes only. The other nuclear facility near Orange County is the decommissioning nuclear power plant, San Onofre. This plant is located just south of the Orange County border in San Diego County. While this plant is no longer an active nuclear generation facility, possible impacts from spent fuel still remains. Due to the close proximity to Orange County residents, the County of Orange maintains response procedures.

The San Onofre Nuclear Generating Station (SONGS) is currently in the decommissioning process; all fuel has been removed from the reactor core and spent fuel pools and placed in dry storage. This facility is onsite and is known as the Independent Spent Fuel Storage Installation or ISFSI. SONGS stores uranium fuel and other highly radioactive contaminated materials onsite using sealed stainless-steel canisters that are housed in reinforced concrete structures, known as dry cask storage. The spent fuel storage will remain on site for the foreseeable future until a suitable permanent offsite nuclear storage facility can be determined out of state.

The UCI Nuclear Reactor Facility is part of the Chemistry Department for use in radiochemical applications that pertain to spent nuclear fuel, delayed neutron classifications of uranium and plutonium, medical isotopes, and classification of branching decay ratio for specific isotopes. The reactor is a Mark 1 TRIGA (Training, Research, Isotopes, General Atomics) that runs at a steady state power level of 250 kilowatts. This reactor also has the capability to pulse up to 1000 megawatts due to the inherently safe nature of the fuel used in TRIGA reactors.

History & Probability, Including Range of Anticipated Intensities

Southern California Edison (SCE) states the risk of an incident at a permanently shut-down and defueled reactor is much less than the risk from an operating reactor. In addition, since reactor operation is no longer authorized at SONGS, there are no events that would require the stabilization of reactor conditions after an accident. SCE provided a detailed analysis of hypothetical beyond-design basis accidents that could result in a radiological release at SONGS in its March 31, 2014, submittal to the NRC.

The UCI reactor is comprised of up to 20% enriched uranium that is mixed with zirconium-hydride, which allows for safe operation of the reactor. As the temperature increases from the fission process, the fuel elements heat up and become less efficient at creating more fission events effectively reducing the reactivity.

There are two large gamma ray sterilization facilities within Orange County. Almost six million curies of radioactive cobalt-60 are stored in pools of water behind eight-foot-thick concrete walls. The general public and industrial operations would be threatened if the concrete containment cracked and the pools lost their water supply. There could be up to a six-mile evacuation as a result of the opening of the containment. No contamination from the water would result.

Additionally, there are over 200 specific licensees within Orange County who use sealed and unsealed sources of radiation. The hazards range from a small spill inside a facility to a radioactive plume of smoke from a major fire. Exposure to the smoke would cause both internal and external exposure hazards.

The increasing volume and variety of radioactive materials that are generated, stored, or transported in Orange County has created potential nuclear incident threats. Radioactive material is any material that emits radiation spontaneously. It may significantly contribute to or cause an increase in mortality and an increase in serious illness.

Among the possible causes of a nuclear incident are earthquakes, dam failures, transportation accidents, hostile actions including terrorism, and problems within a nuclear facility. A nuclear incident may trigger one or more secondary events, including blasts, explosions, radioactive fallout, fires, power failures, transportation disruptions, building collapse, food and water supply contamination, or disruption of distribution systems.

The County of Orange SONGS Emergency Operations Plan and its associated procedures have been developed to reflect the policies and concepts under which the County of Orange will operate during an emergency involving the spent nuclear fuel.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Populations within the Emergency Planning Zone (EPZ); tourists and beachgoers in coastal areas; limited evacuation routes (I-5 corridor); individuals with health vulnerabilities; language barriers	Residents in San Clemente, Dana Point, and surrounding areas; first responders; school children; hospital patients
Property	Buildings near the coast and transportation corridors; infrastructure not designed for	Homes and businesses in southern coastal Orange County; public

Category	Vulnerability Factors	Assets at Risk
	radiological exposure; contamination of private assets	shelters; transportation assets (roads, rail, buses)
The Environment	Proximity to sensitive coastal ecosystems; risk of air, soil, and water contamination; long-term ecological degradation from radioactive material	Pacific Ocean; coastal wetlands; marine life; beaches; groundwater sources
Local Government Operations	Evacuation and shelter-in-place requirements; coordination with federal and state agencies; strain on public communication and emergency systems; radiation monitoring capability	Emergency operations centers; local health departments; fire and law enforcement agencies; emergency alert infrastructure

Impact Area	Description of Impact
Public	Short- and long-term health issues, and an increase in anxiety about the safety of nuclear materials within Orange County.
Responders	A draw-down on specially trained personnel and equipment. State and federal resources would likely be called in to assist. Responder health would likely be monitored on an ongoing basis to assess for any related health concerns.
Continuity of Operations / Delivery of Services	Nearby government locations may have to identify alternative locations to operate.
Property, Facilities, Assets, & Critical Infrastructure	Nearby facilities and infrastructure may be closed until radiation monitoring can be performed and areas cleaned.
Supply Chain	No large-scale, lasting impacts are anticipated from a supply chain perspective.
Environment	Radioactive releases could harm plant and animal life.
Economic & Financial Conditions/ Community Activities	Nearby business could be closed for lengthy periods, resulting in a loss of jobs and business revenues. Local government could incur large costs in responding to this type of incident.
Public Confidence in Local Government	The public may question the regulation and oversight of those possessing radioactive material. Policies regarding what materials are allowed to be stored and used within local communities may be questioned.

Resources

U.S. Nuclear Regulatory Commission (NRC) – San Onofre Nuclear Generating Station: Regulatory and technical information about the decommissioned SONGS facility, including risk assessments, spent fuel management, emergency planning, and licensing.

Website: <https://www.nrc.gov/info-finder/decommissioning/power-reactor/san-onofre-units-2-3.html>

Federal Emergency Management Agency (FEMA) – Radiological Emergency Preparedness (REP) Program: Provides guidance on federal coordination with state and local agencies for nuclear incident preparedness, including evacuation planning, plume modeling, and exercises.

Website: <https://www.fema.gov/emergency-managers/radiological-emergency-preparedness>

Environmental Protection Agency (EPA) – Radiological Emergency Response: Offers radiological response frameworks, protective action guides, and long-term monitoring tools in the event of a nuclear or radiological release.

Website: <https://www.epa.gov/radiation/radiological-emergency-response>

2.5.21 Oil Spill

Impact:	Moderate
Probability:	Possible
Location:	Coastal Cities
Extent:	The extent of impact from an oil spill will depend on the scale, type, and location of the spill. Impacts can range from a small section of coastline to the coast of the entire county. Demands on first responders will vary based on the size of the incident.
Related Hazard(s):	Hazardous Materials Release
Related Plans and Annexes:	Oil Spill Annex

See 2024 Los Angeles-Long Beach Area Contingency Plan for additional details¹².

Definition

An oil spill is a release of liquid petroleum hydrocarbon into the environment due to human activity or technological error that results in pollution of land, water, and air. Oil releases also occur naturally through oil seeps either on land or under water. Marine oil spills can result from the release of crude oil from offshore oil platforms, drilling rigs, wells, underwater pipelines, tank trucks, and marine tank vessels (tankers), and even supply pipelines on land. Refined petroleum products such as gasoline, diesel, and heavier fuels such as bunker fuel used by cargo ships are also sources of potential oil spill releases.

History & Probability, Including Range of Anticipated Intensities

The complex array of petroleum-related industries and distribution networks throughout the State of California makes the majority of the state vulnerable to oil spills. As of May 2024, there are 23 oil platforms and multiple pipelines located off the coast of California.¹³ Additionally, there are nearly 100 marine terminals¹⁴ in state waters, as well as numerous land-based oil production, transportation, and storage facilities. The California Resources Agency maintains data sets on the number, location, owner/operator, lease, and other characteristics of oil and gas wells. Currently the data catalog has information on nearly 200,000 oil and gas wells in California.

Figure 11: Orange County Map oil pipelines



¹² Retrieved from <https://homeport.uscg.mil/Lists/Content/Attachments/48868/2024%20LA-LB%20ACP.pdf> on April 3, 2025

¹³ Retrieved from <https://www.boem.gov/sites/default/files/oil-and-gas-energy-program/Leasing/Regional-Leasing/Pacific-Region/Leasing/San-Pedro-Bay-Map-%282-11-19%29.pdf> on April 3, 2025

¹⁴ Retrieved from <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-terminal-facilities-on-March-20>, 2025

Platforms in federal waters are regulated by the Bureau of Safety and Environmental Enforcement (BSEE). The facilities located in state waters less than three nautical miles from shore are regulated by the California State Lands Commission and the California Department of Oil, Gas, and Geothermal Resources.

Under the Lempert Keen Oil Spill Prevention and Response Act, the State Lands Commission exercises oversight for the prevention of oil spills from offshore oil platforms; and onshore and offshore marine oil terminals. At these marine facilities, large oceangoing tank vessels and smaller barges transfer oil between shore and the tank vessel. Due to numerous interfaces and interactions, there is great propensity for human-caused oil spills, fire and/or explosion.

Major spills that have impacted state and federal laws and response protocols include but are not limited to: Exxon Valdez, Guadalupe Dunes, Cosco Busan, and Deepwater Horizon. Orange County has experienced spills from both ships and pipelines.

February 1990 American Trader

On February 7, 1990, off Huntington Beach, California, the oil tanker American Trader ran over its anchor, puncturing its hull and spilling an estimated 416,598 gallons of crude oil. An estimated 3,400 birds were killed as well as an unknown number of fish, and recreational beach use was seriously disrupted. The biological component of the resulting litigation was settled out of court for \$3.45 million for bird and fish-related injuries, plus an additional \$360,000 for water monitoring projects, while the recreational component was eventually settled, following a jury trial, for \$11.6 million.¹⁵

October 2021 Pipeline P00547 Incident

In October 2021, the County of Orange EOC was activated to coordinate with the local jurisdictions impacted by the Pipeline P00547 Incident. A Unified Command, consisting of representatives from the United States Coast Guard (USCG), California Department of Fish and Wildlife's Office of Spill Prevention and Response (CDFW-OSPR), and BETA Offshore (the responsible party [RP]), and Orange and San Diego counties was established to mitigate a reported oil spill due to a breach in a pipeline off the Orange County Coast.

The Cities of Huntington Beach, Laguna Beach, Newport Beach, the County of Orange, and the State of California issued emergency proclamations. The final day of a large annual airshow hosted by the City of Huntington Beach was cancelled, affecting thousands of Southern California residents who had made plans to attend the event.

Several city, County, state beaches and harbors were closed due to the spill until efforts to clean the affected areas could be performed.

¹⁵ Retrieved from <https://wildlife.ca.gov/OSPR/NRDA/American-Trader> on April 3, 2025

A Health Advisory by the Orange County Health Care Agency was issued for residents exposed to oil contaminants, and onshore fishing was closed for a period with offshore fishing being closed until the determination that byproducts of the oil spill were no longer affecting seafood caught in the area. In addition, commercial and recreational fishing was suspended until the source seafood could be cleared of possible contamination.

Following the prevailing currents and weather patterns, the oil moved in a southeasterly direction, eventually reaching the shores of San Diego County as well as the country of Mexico. Shoreline Cleanup Assessment Teams conducted clean-up activities on Orange and San Diego counties' beaches. This process of shoreline cleanup, inspection, sign-off, and monitoring continued into 2022.

December 2021 Pipeline P000919 Incident

In December 2021, during the response to the P000547 Incident, multiple on-water sheens were noted. A source was eventually identified and a Unified Command, consisting of representatives from the United States Coast Guard (USCG), California Department of Fish and Wildlife's Office of Spill Prevention and Response (CDFW-OSPR), and DCor, the responsible party (RP), and the County of Orange was established. The County EOC was not activated; there were no beaches, marinas, or fisheries closed. This response continued into 2022.

March 2024 Incident

On March 8, 2024, the County EOC was activated to Level 3 to support Unified Command during an oil slick incident off the Huntington Beach coastline. The County EOC was operational for one day on March 8, 2024. The slick, which was medium-sized and measured approximately 2.5 miles by 0.5 miles, was located about three miles offshore. Unified Command consisted of representatives from the United States Coast Guard, the California Department of Fish and Game, and the Office of Spill Prevention and Response. Responders quickly contained the situation and the impacts were minimal.

Table 8: Summary of California and Other Significant Oil Spills

Spill	Date	Area Affected	Estimated Amount	Wildlife Impacts (estimated deaths)	Estimated Costs
Lakeville Gusher - Kern County	5/14/1910 – 9/1911	Not available	378,000,000 gallons (9,000,000 barrels)	Unknown	Unknown
Santa Barbara	1/28/69 – 2/8/69	35 mainland coastline, 800 square mile slick	3,000,000 gallons (102,620 barrels)	3,600 birds, seals, dolphins, fish, intertidal invertebrates	\$17 million in lawsuit settlements for property damage

County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

Chapter 2

Spill	Date	Area Affected	Estimated Amount	Wildlife Impacts (estimated deaths)	Estimated Costs
Exxon Valdez - Point William Sound, Alaska	3/24/89	1,300 miles of shoreline	11,000,000 gallons (257,000 barrels)	250,000 seabirds, 2,800 sea otters, 300 harbor seals, 250 bald eagles, 33 killer whales, billions of salmon and herring eggs	\$2.1 billion for clean-up by Exxon
American Trader - Huntington Beach, CA	2/7/90	About 13 miles of coastline plus offshore area	416,598 gallons	3,400 birds, fish	\$3.45 million settlement for bird and fish related injuries; \$360,000 for water monitoring projects; \$11.6 million for recreational damage
Guadalupe Oil Field – San Luis Obispo	1950s – 1994	2700 acres	9,000,000-12,000,000 gallons (212,570 barrels)	Soil and water contamination, dune habitat, wetlands, groundwater and intertidal habitat	\$44 million in penalties to Unocal, \$9 million for restoration
Cosco Busan – San Francisco Bay	11/7/07	200 miles of coastline	58,000 gallons (1,375 barrels)	2,225 birds, seals, herring eggs	\$2.1 million for ship damage \$1.5 million for bridge damage \$70 million for cleanup
Deepwater Horizon – Gulf of Mexico	4/20/10 – 7/15/10	2,500 square mile slick	180,000,000 gallons (4,900,000 barrels)	4,642 birds, 540 sea turtles, 75 mammals (as of 8/22/10)	\$20 billion response fund established
Santa Barbara County – Refugio	5/19/2015	8 miles of coastline	142,800 gallons (3,400 barrels)	202 dead birds; 99 dead animals	\$96 million in company cleanup costs; estimated \$74 million lost revenue to County and residents
Marine Oil Spill Pipeline P00547	10/01/2021	Seal Beach, Huntington Beach, Newport Beach Dana Point	120,000 – 150,000 gallons	12 cetaceans	

Vulnerability, Assets, and Impact

Factors affecting the impact of an oil spill include:

- Weather and season (for example bird migration, nesting, or fish spawning);
- Type of bank or shoreline such as sand beach, tidal flat, or vegetated riparian;
- Exposure to wave, tidal energy, and river flow or turbulence;
- Types, abundance, and sensitivity of living resources;
- Human activities conducted along the shoreline or in the area.

Depending on the origin, size, and duration of the release, cleanup and recovery is time- and cost-consuming, and dependent on weather conditions, such as wind and rain.

Assessing these impacts is done somewhat differently than assessing impacts of other disasters because the “responsible party” is required to pay for restoration projects to return the environment and wildlife to pre-spill conditions. A team of environmental scientists, wildlife biologists, lawyers, and others from the state and federal government, as well as representatives for the responsible party, work together in this process. California Department of Fish and Wildlife (CDFW) biologists will respond to evaluate the threat, assist with response operations, and document the injury in a process known as a Natural Resources Damage Assessment (NRDA). The goal of an NRDA is to examine the natural resource injuries from oil spills, toxic waste sites, and other pollution events to quantify the damages, seek compensation from the responsible parties, and both restore the injured resources and compensate the public for the lost interim ecological benefits and uses of these resources.

Category	Vulnerability Factors	Assets at Risk
People	Exposure to toxic oil vapors and direct contact during beach access. Restricted recreational and subsistence activities (swimming, fishing, surfing). Health risks (skin irritation, respiratory effects)	Local residents and tourists; recreational users: surfers, swimmers, fishers; seafood consumers (public health concerns, fishing bans)
Property	Oil fouling boats, docks, beach gear; loss of revenue for waterfront businesses, clean-up and decontamination costs; liability claims and damages	Private boats and marinas; hotels, restaurants, surf shops, tour operators; local events (e.g., Pacific Airshow cancellation)
Environment	Heavy crude rapidly washes ashore; infiltration into wetlands, estuaries, marshes; high toxicity to wildlife (birds, fish, mammals); long-term habitat contamination (decades)	Coastal wetlands (Talbert Marsh, Bolsa Chica Reserve); marine wildlife: seabirds (snowy plover, terns), marine mammals (sea lions, dolphins), fish,

Category	Vulnerability Factors	Assets at Risk
		invertebrates; ecosystem services (bird nesting, nursery habitats)
Local Government Operations	Response coordination between Coast Guard, state, county, cities; beach and fisheries closures strain monitoring/enforcement teams; public communication and volunteer management; emergency funding and cleanup logistics	Emergency services (Unified Command); environmental agencies (CDFW, Coast Guard); local public health departments; budgetary impacts (SBA disaster loans, legal proceedings)

Impact Area	Description of Impact
Public	Individuals may be restricted from enjoying ocean-based activities, resulting in both reduced enjoyment by locals and reduced tourism. Fish and shellfish from the local area may be unsafe for humans to eat.
Responders	The complex interdependencies of oil spill response require federal, state, and local government response agencies work in close collaboration. There may be some confusion at incident onset if these relationships do not already exist.
Continuity of Operations / Delivery of Services	No large-scale impact is expected from a COOP perspective.
Property, Facilities, Assets, And Critical Infrastructure	Boats and marine-adjacent properties may be damaged or restricted from using impacted waterways. Individuals and businesses that own land, buildings, and bridges along the impacted area may temporarily lose access to those properties and need to undertake decontamination efforts as part of recovery.
Supply Chain	No large-scale impact is expected from a supply chain perspective.
Environment	An oil spill can have serious impacts on air and water quality, public health, plant and animal habitat, and biological resources. The largest impacts may be to the environment, especially animals and plant life. Impacts to the environment can include toxic chemicals like benzene and other particulates being released into the air. Oil also destroys the insulating ability of fur-bearing mammals, such as sea otters, and the water repellency of a bird's feathers, thus exposing these creatures to the harsh elements. Without the ability to repel water and insulate from the cold water, birds and mammals will die from hypothermia. Areas of high potential impact are captured through an assessment process conducted by the California Department of Fish and Wildlife's Office of Spill Prevention and Response (OSPR), which

Impact Area	Description of Impact
	maintains maps of Environmentally Sensitive Sites on an ongoing basis, available at: https://www.wildlife.ca.gov/OSPR/Contingency .
Economic & Financial Conditions/Community Activities	A marine oil spill could have a deep impact on the Orange County coastal communities' economy. Impacts could include loss of tourism revenue for coastal businesses and loss of revenues from fishing activities (both commercial and tourism).
Public Confidence in the Local Government	The impact can include a loss of confidence in the jurisdiction's ability to regulate or monitor the industry.

Resources

California Coastal Commission – Oil Spill Program: Oversees statewide oil spill prevention, preparedness, and response planning under the California Coastal Act and Lempert–Keene–Seastrand Act. Guidance on risk assessment, contingency planning, and incident coordination.

Website: <https://www.coastal.ca.gov/oilspill/>

California Department of Fish and Wildlife – Office of Spill Prevention and Response (OSPR): Leads state-level oil spill contingency planning and response, including Area & Geographic Response Plans, dispersant use guidelines, and regional coordination frameworks like Regional Response Team IX.

Website: <https://wildlife.ca.gov/OSPR/Contingency/Dispersant-Documents>

NOAA Office of Response & Restoration (OR&R): Provides mapping tools (ERMA®, Environmental Sensitivity Index), scientific modeling (e.g., ADIOS2), and conducts Natural Resource Damage Assessments (NRDA) for spills such as Huntington Beach's 2021 incident.

Website: <https://response.restoration.noaa.gov/>

U.S. National Contingency Plan (NCP) / EPA & U.S. Coast Guard: Establishes the federal framework and coordination protocols for oil and hazardous substance spill response, including roles of regional teams and implementation of response strategies.

Website:

https://en.wikipedia.org/wiki/National_Oil_and_Hazardous_Substances_Pollution_Contingency_Plan

NOAA Environmental Sensitivity Index (ESI) – Southern California: GIS-based spatial data showing sensitive coastal habitats, shoreline classifications, and human-use features to prioritize protection during spill consequence analysis and response planning.

Website: <https://response.restoration.noaa.gov/esi>

2.5.22 Pandemic/High Consequence Diseases

Impact:	High
Probability:	Unlikely
Location:	Countywide
Extent:	Due to the nature of disease spread, likely that a pandemic impacting Orange County will also affect neighboring counties, the State of California, and/or the entire United States
Related Hazard(s):	Epidemic or Disease Outbreak
Related Plans and Annexes:	Disease Outbreak Response Annex

Definition

A pandemic is a disease occurring over a wide geographic area and affecting a high proportion of the population. A pandemic may cause sudden, pervasive illness in all age groups locally or globally. A pandemic is likely to stress the resources of the local, state, and federal government, as well as the resources of the private healthcare system. Outbreaks are expected to co-occur throughout much of the County and the state, which may limit the availability of mutual aid assistance and resources from other areas.

Communicable disease outbreaks of varying magnitudes occur regularly and often only affect a small segment of the population, certain diseases may cause pervasive illness, may be highly lethal, and/or may be of unknown origin, and may cause significant stress to the resources of the health care system, public health, and/or government. Diseases included in the Pandemic / High Consequence Diseases category include, but are not limited to:

- Novel and/or pandemic influenza strains
- Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2)//COVID-19
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV) and viral hemorrhagic fevers such as Ebola
- Centers for Disease Control and Prevention (CDC) Bioterrorism Agents

History & Probability, Including Range of Anticipated Intensities

Historical patterns and recent experience—such as the COVID-19 pandemic (2019–present), the Mpox outbreak (2022–2023), and global alerts for Marburg and Ebola viruses—demonstrate that large-scale outbreaks occur several times per century, with smaller-scale but impactful epidemics emerging more frequently. Given Orange County’s proximity to major international travel hubs and its dense population, the likelihood of encountering another pandemic or high-consequence disease event within the next 10 to 30 years is considered possible, with localized disease outbreaks occurring more frequently.

Vulnerability, Assets, and Impact

Influenza and COVID-19 pandemics are likely to affect everyone in Orange County at some point and can significantly impact “business as usual” in any sector of society or government. Severe influenza seasons increase diversion hours at local emergency rooms, increase hospital admissions in persons with underlying health conditions, and cause death to occur amongst individuals under

the age of 65. A pandemic will greatly strain existing health care resources and may exceed available resources. Personnel, supplies, equipment, and pharmaceutical responses (e.g., vaccination and antivirals) may be in short supply and/or unavailable, and non-pharmaceutical responses (e.g., strict adherence to respiratory hygiene, hand washing, self-isolation, and social distancing) will be the most effective strategies to limit transmission.

During a pandemic wave in a community, between 25% and 30% of persons will become ill during a six to eight-week outbreak. Among working-aged adults, illness attack rates will be lower than in the community. A CDC model suggests that at the peak of a pandemic, about 10% of the workforce will be absent because of illness or caring for an ill family member. Outbreaks are expected to co-occur throughout much of the County and the State, which may limit the availability of mutual aid assistance and resources from other areas. Impacts will likely vary between communities and work sites and may be greater if significant absenteeism occurs because persons stay home for fear of becoming infected. Food and other essentials may also be unavailable if transportation is compromised in the region or country. Active surveillance allows public health officials to make timely recommendations to intervene in the widespread influenza transmission.

Emerging Pathogens such as Middle East Respiratory Syndrome Coronavirus (Mers-CoV) and Ebola

With advances in travel, diseases can quickly spread throughout the world. Orange County, with its diverse population and large tourism industry, is particularly at risk for importing diseases that may previously have been localized to other countries or continents. These diseases pose a significant hazard if they are highly transmissible from person to person and if they have significant morbidity or mortality. Although these diseases may have different modes of transmission, symptoms, and natural history, the approach to handling the threat of an emerging or novel communicable disease is similar.

Middle East Respiratory Syndrome (MERS-CoV)

Middle East Respiratory Syndrome (MERS) is an illness caused by a virus (more specifically, a coronavirus) called Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Most MERS patients developed severe respiratory illness with symptoms of fever, cough, and shortness of breath. About 3 or 4 out of every 10 patients reported with MERS have died.

Health officials first reported the disease in Saudi Arabia in September 2012. Through retrospective investigations, they later identified that the first known cases of MERS occurred in Jordan in April 2012. So far, all cases of MERS have been linked to travel to or residence in countries in and near the Arabian Peninsula. The largest known outbreak of MERS outside the Arabian Peninsula occurred in the Republic of Korea in 2015. The outbreak was associated with a traveler returning from the Arabian Peninsula.

MERS-CoV has spread from ill people to others through close contact, such as caring for or living with an infected person, and MERS can affect anyone. MERS patients have ranged in age from younger than 1 to 99 years old.

The CDC continues to monitor the MERS situation globally. They are working with partners to understand better the risks of this virus, including the source, how it spreads, and how to prevent infections. The CDC recognizes the potential for MERS-CoV to spread further and cause more cases globally and in the U.S.

Ebola Virus Disease (EVD)

Ebola was first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa. Between 2014 and 2016, the largest Ebola epidemic in history occurred in West Africa, specifically Guinea, Liberia, and Sierra Leone. It was caused by the Zaire ebolavirus and resulted in 28,610 reported cases and 11,308 (39%) deaths. The World Health Organization declared the situation a Public Health Emergency of International Concern. Since then, smaller outbreaks have occurred in the Democratic Republic of Congo, including in 2018, and in Uganda in September 2022 and January 2025.

Ebola is a rare and deadly disease caused by infection with one of the Ebola virus species. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

Ebola is caused by infection with a virus of the family Filoviridae, genus Ebolavirus. There are six identified Ebola virus species, of which the first four listed below are known to cause disease in humans:

- Ebola virus (Zaire ebolavirus);
- Sudan virus (Sudan ebolavirus);
- Taï Forest virus (Taï Forest ebolavirus, formerly Côte d'Ivoire ebolavirus);
- Bundibugyo virus (Bundibugyo ebolavirus);
- Reston virus (Reston ebolavirus) [has caused disease in nonhuman primates but not in humans];
- Bombali virus (Bombali ebolavirus) [recently identified in bats; unknown if it causes disease].

The natural reservoir host of the Ebola virus remains unknown. However, based on current evidence, researchers believe that the virus is animal-borne and that bats are the most likely reservoir. Humans can get infected through direct contact with the blood, body fluids, and tissues of infected fruit bats or primates.

Ebola spreads from person-to-person by direct contact with an infected person's blood or body fluids (such as saliva, vomit, urine, feces, semen, breast milk, or sweat) with broken skin or mucous membranes (i.e., in eyes, nose, or mouth). Ebola can also be spread by infected objects, like needles, that have been contaminated with body fluids. Ebola can also spread after death from contact with body fluids when preparing the patient's body for burial. Ebola can't spread through the air, in food (except contaminated bushmeat), or water. Symptoms may develop an average of 8–10 days after infection (range, 2–21 days) and include fever, headache, muscle pain, weakness, diarrhea, vomiting, stomach pain, and unexplained bleeding or bruising. Patients can spread the virus while they have a fever or other symptoms. People who haven't had symptoms yet can't spread Ebola.

Bioterrorism Disease Agents

Bioterrorism is a significant concern throughout the country. The intentional release of anthrax, smallpox, or other highly communicable and/or virulent diseases would tax all available medical resources within the County. Such an incident could significantly impact the life, safety, and economy of Orange County.

The Centers for Disease Control and Prevention (CDC) has categorized various biological agents, including some pathogens rarely seen in the U.S., that the public health system and primary healthcare providers must be prepared to address and respond to promptly if encountered. The categories and agents are classified as:

Category A – High-priority agents include organisms that pose a risk to national security because they:

- Can be easily disseminated or transmitted from person to person;
- Result in high mortality rates and have the potential for significant public health impact;
- Might cause public panic and social disruption; and
- Special action is required for public health preparedness.

Category A Agents include:

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum* toxin)
- Plague (*Yersinia pestis*)
- Smallpox (*variola major*)
- Tularemia (*Francisella tularensis*)
- Viral hemorrhagic fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])

Category B – Second-highest priority agents include those that:

- Are moderately easy to disseminate;
- Result in moderate morbidity rates and low mortality rates; and
- Specifically, it requires enhancements to the CDC's diagnostic capacity and enhanced disease surveillance.

Category B Agents include:

- Brucellosis (*Brucella* species)
- Epsilon toxin of *Clostridium perfringens*
- Food safety threats (e.g., *Salmonella* species, *Escherichia coli* O157:H17, *Shigella*)
- Glanders (*Burkholderia mallei*)
- Melioidosis (*Burkholderia pseudomallei*)
- Psittacosis (*Chlamydia psittaci*)
- Q fever (*Coxiella burnetii*)
- Ricin toxin from *Ricinus communis* (castor beans)
- Staphylococcal enterotoxin B
- Typhus fever (*Rickettsia prowazekii*)

- Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])
- Water safety threats (e.g., *Vibrio cholerae*, *Cryptosporidium parvum*)

Category C – Third-highest priority agents include emerging pathogens that could be engineered for mass dissemination in the future because of their:

- Availability
- Ease of production and dissemination
- Potential for high morbidity and mortality rates and significant health impact

Category C Agents include emerging infectious diseases such as Nipah virus and hantavirus.

The CDC does not prioritize these agents in any order of importance or likelihood of use. Whether used as potential bioterrorism agents or occurring naturally, these agents are often suspected only upon recognition of unusual disease clusters or symptoms. Rapid response to a bioterrorism-related disease outbreak requires prompt agent identification and potential treatment options. Due to the rapid onset of disease illness, it may not be practical to await diagnostic laboratory confirmation. Instead, it will be necessary to initiate a response based on the recognition of high-risk syndromes.

Category	Vulnerability Factors	Assets at Risk
People	High population density; aging population; immunocompromised individuals; essential workers with public exposure; lack of access to healthcare; language and income barriers	Residents in skilled nursing facilities; homeless populations; students; healthcare workers; transit users
Property	Facilities requiring in-person operations; limited ability to disinfect shared spaces; inadequate HVAC or ventilation; overcrowded housing	Schools; offices; long-term care homes; retail spaces; public transportation facilities
The Environment	Increased medical waste and improper disposal; overuse of disinfectants; reduced maintenance of natural areas during lockdowns	Landfills and water systems; parks and recreation areas; wastewater treatment facilities
Local Government Operations	Strained healthcare and emergency systems; disrupted public services; limited staffing due to illness or quarantine; increased communication demands	Public health departments; emergency operations centers; IT and public communications infrastructure; law enforcement

Impact Area	Description of Impact
Public	Significant morbidity and mortality; potential fear and panic; public may face challenges accessing healthcare, medications, food, and other essential goods. Vulnerable populations (elderly, immunocompromised, homeless, etc.) face disproportionate impacts. Large-scale school and workplace absenteeism expected.
Responders	Increased risk of exposure and illness; responder absenteeism; need for PPE and specialized training; potential mental health impacts and burnout due to prolonged crisis response.
Continuity of Operations / Delivery of Services	Critical services may be disrupted due to illness-related absenteeism; operations must shift to remote/hybrid models; COOP and succession planning essential; disruptions to normal governance and departmental functioning may occur.
Property, Facilities, Assets, & Critical Infrastructure	Healthcare facilities may be overwhelmed, and alternative care sites may be needed. There is a high demand for utilities (water, power) for healthcare and sanitation, a need for decontamination of high-risk sites, and an increased strain on IT infrastructure due to remote work/schooling.
Supply Chain	Disruptions in global and domestic supply chains; shortages of PPE, pharmaceuticals, cleaning supplies, and other essential goods; potential delays in food, fuel, and medical supplies; and reliance on just-in-time inventory systems exacerbate shortages.
Environment	Increased use of disinfectants and medical waste disposal; potential environmental impacts from improper disposal of PPE and biohazardous waste; less direct environmental degradation than other hazards, but long-term waste management is a concern.
Economic & Financial Conditions/ Community Activities	Business closures and reduced economic activity; job losses, particularly in service, travel, and entertainment sectors; increased public sector costs for response and recovery; possible long-term financial strain on local government.
Public Confidence in Local Government	A perceived lack of preparedness or inequitable response may strain public trust. Clear, consistent, and transparent communication is critical, and response quality and community engagement efforts heavily influence confidence and compliance.

Resources

Public Health Service Act, 42 U.S.C. §§ 201-291, as amended by the U.S. Department of Health and Human Services, Pandemic and All-Hazards Reauthorization Act (PAHPRA) of 2013

U.S. Department of Health and Human Services, Pandemic and All-Hazards Preparedness Act (PAHPA) of 2006, as amended

US Department of Health and Human Services Pandemic Influenza Plan 2017 Update

California Emergency Support Function 8 Public Health and Medical Annex 2013

Orange County Health Care Agency – Communicable Disease Control Division: Provides surveillance data, outbreak investigations, and response strategies for various communicable diseases, including vaccine-preventable diseases, enteric diseases, healthcare-acquired infections, vector-borne diseases, and emerging diseases like monkeypox. Offers access to summary surveillance reports and a list of reportable diseases.

Website: <https://www.ochealthinfo.com/about-hca/public-health-services/cdcd>

Orange County Health Care Agency – Disease Prevention: Offers educational resources and guidelines to prevent illness and disease, including hand hygiene practices and information on collecting family medical histories. Aims to reduce the risk of disease outbreaks through community education.

Website: <https://www.ocgov.com/residents/health/disease-prevention>

California Department of Public Health – Communicable Disease Control: Provides statewide surveillance data, outbreak investigations, and response strategies for communicable diseases. Collaborates with local health departments, including Orange County, to monitor and control disease outbreaks.

Website: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Communicable-Disease-Control.aspx>

Centers for Disease Control and Prevention – Infectious Disease Outbreaks: Offers national data, guidelines, and resources on various infectious disease outbreaks. Provides information on surveillance, prevention, and control measures applicable to both pandemics and localized outbreaks.

Website: <https://www.cdc.gov/outbreaks/index.html>

World Health Organization – Disease Outbreak News: Publishes updates on global disease outbreaks, including information on emerging diseases and public health risks. While not specific to Orange County, it provides context for understanding global trends that may impact local communities.

Website: <https://www.who.int/csr/don/en/>

2.5.23 Product Contamination

Impact:	Moderate
Probability:	Unlikely
Location:	Countywide
Extent:	While we have a robust food safety system, instances of bacterial contamination, chemical contamination, and issues related to improper handling and storage can lead to illness outbreaks and fatalities, placing strain on the healthcare system.
Related Hazard(s):	Disease Outbreak, Economic Failure, Terrorism, Mass Fatality, Utility Outage
Related Plans and Annexes:	None

Definition

Product contamination, also known as intentional adulteration, is the purposeful introduction of potentially harmful biological, chemical agents, or radio-nuclear substances into items either purchased by or distributed to others for the purpose of causing injury or death to civilian populations and/or disrupting social, economic, or political stability.¹⁶

History & Probability, Including Range of Anticipated Intensities

The Food Protection and Defense Institute, a Department of Homeland Security Center of Excellence, continually assesses the probability of food product contamination. In collaboration with private sector partners, they have identified that industrial control systems potentially create cybersecurity vulnerabilities, which can be exploited. To successfully tamper with a food or consumer product, the aggressor must have access to it for sufficient time, be technically capable of introducing a suitable contaminant, and be able to commit the crime without discovery. In addition, the aggressor must have the behavioral resolve (desire) to contaminate food and the technical feasibility (appropriate materials) to succeed.¹⁷ In March 2020, U.S.-based violent extremists encouraged followers online to contaminate US food supplies including food retailers such as grocery stores with COVID-19 by coughing on food. In March 2020, ISIS supporters distributed an online magazine encouraging attacks, including poisoning food and water.¹⁸

Incidents of product contamination occurring in the U.S. have included:

- From July–November 2024, Boar’s Head Deli Meat suffered a listeria outbreak. At least 10 deaths and 60 hospitalizations occurred nationwide, and the product recall included over 7 million pounds of deli meat products. USDA inspections revealed numerous violations, including mold, insects, and unsanitary conditions at the plant.

¹⁶ Retrieved from <https://www.fao.org/4/j3110e/j3110e.pdf>

¹⁷ Retrieved from <https://www.fda.gov/downloads/Training/ForStateLocalTribalRegulators/UCM218900.pdf>

¹⁸ Retrieved from https://www.dni.gov/files/NCTC/documents/jcat/firstresponderstoolbox/First_Responders_Toolbox_Food_Attacks.pdf

- From September–October 2024, McDonald’s suffered an E. coli outbreak that impacted 104 confirmed cases across 14 states, 34 hospitalizations, and 1 death. The FDA and CDC traced the outbreak to onions, not beef patties.
- In 2022–2023, artificial tears manufactured by EzriCare and Delsam Pharma, were contaminated with *Pseudomonas aeruginosa*. There were 81 cases across 18 states, 4 deaths, and 14 cases of vision loss. The outbreak led to a nationwide recall of the affected eye drops.
- In 2020, during the COVID-19 pandemic, the Food and Drug Administration (FDA) developed a warning list of over 400 companies whose hand sanitizers included toxic ingredients like methanol and 1-propanol.
- In 2020, during the COVID-19 pandemic, there was concern about how long the virus could live on different surfaces, including those of supplies and meals being shipped to hospitals, first responders, seniors, children, and those with disabilities, access, and functional needs.
- In 2007, the FDA placed an import ban on toothpaste from China when it was discovered that multiple brands had been laced with DEG (diethylene glycol).¹⁹
- In 2003, a Michigan supermarket employee was indicted for intentionally contaminating 200 pounds of ground beef with nicotine. The Centers for Disease Control and Prevention released the information that 92 individuals became ill after purchasing and consuming ground beef.²⁰

To reduce the likelihood of intentional adulteration, the FDA implemented the Final Rule for Mitigation Strategies to Protect Food against Intentional Adulteration, which requires FDA-registered food facilities to identify specific vulnerabilities in their facilities that could allow someone with bad intentions to deliberately introduce an adulterant. Food companies must also create a food defense plan to prevent or mitigate those vulnerabilities at the actionable process steps.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Exposure to toxins or pathogens; vulnerable populations including children, elderly, immunocompromised; public health impact due to illness outbreaks	Consumers; workers in food processing and retail; healthcare facilities; schools and childcare centers
Property	Contaminated inventory and products leading to financial losses; damage to brand reputation; recall	Food processing plants; retail stores; restaurants; warehouses; distribution centers; transportation vehicles

¹⁹ Retrieved from [FDA advises consumers to avoid toothpaste containing harmful chemical > Whiteman Air Force Base > News](#)

²⁰ Retrieved from <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5218a3.htm>

Category	Vulnerability Factors	Assets at Risk
	and disposal costs; supply chain disruption	
The Environment	Improper disposal of contaminated products leading to soil and water pollution; chemical or biological contamination of waste streams	Landfills and waste management sites; nearby water bodies; soil quality in affected areas
Local Government Operations	Public health investigation and response; regulatory enforcement and inspections; communication and public warnings; management of recalls and disposal; strain on healthcare and emergency services	Health departments; environmental agencies; emergency management; regulatory bodies (FDA, CDPH); public communication systems

Impact Area	Description of Impact
Public	Depending on the scope and scale of product contamination effects to the public can vary from a few ill individuals to widespread fatalities. On a large scale, multiple product contaminations could result in public panic and chaos resulting in additional cascading impacts to quality of life, overall safety and outright fear.
Responders	Depending upon the contaminant, some first responders may be exposed to the contaminated product and be unable to respond. When responding, workers may also have to employ specific protective actions to avoid exposure to the contaminants.
Continuity of Operations / Delivery of Services	Organizations may need to increase their scrutiny of incoming products to ensure contamination does not impact operations.
Property, Facilities, Assets, & Critical Infrastructure	Food processing facilities, distribution centers, and local stores could be impacted.
Supply Chain	The logistics supply chain for critical supplies may need to be altered to avoid contamination and re-establish distribution routes.
Environment	There may be environmental impacts if contaminated products are not disposed of properly.
Economic & Financial Conditions/ Community Activities	There may be direct economic losses attributable to the costs of responding to the act. There may also be indirect multiplier effects from compensation paid to affected producers and the losses suffered by affiliated industries, such as suppliers, transporters, distributors, and restaurant chains. There may also be a loss of consumer confidence in supply chain safety.
Public Confidence in Local Government	There may be a loss of trust in the ability of government to safeguard the public. The public may mobilize in support of passing regulatory changes to intervene in the product contamination. There may be an increased need to provide public information on government recommendations and actions related to the product contamination

Resources

Orange County Health Care Agency – Industrial Cleanup Program: Oversees local-level contamination response: site assessments, exposure-pathway modeling, remediation planning, and health-protective cleanup criteria specific to Orange County

Website: <https://ochealthinfo.com/services-programs/environment-food-safety/site-mitigation/>

U.S. Food and Drug Administration (FDA): Leads federal risk assessments and modeling for food and beverage contamination, including tools like FDA-iRisk, risk-ranking models, HACCP, and Food Defense Plan Builder to analyze and mitigate contamination risks

Website: <https://www.fda.gov/food/risk-and-safety-assessments-food>

USDA National Agricultural Library (NAL) – Food Safety Risk Assessment: Offers foundational research on quantitative risk models (e.g., Salmonella pathway analyses), including decision-tree frameworks, behavior factors, and economic impact assessments for product contamination

Website: <https://www.nal.usda.gov/research-tools/food-safety-risk-assessment>

International Society for Pharmaceutical Engineering (ISPE): While focused on pharma, provides industry-standard FMEA and quality risk management frameworks applicable to contamination control in manufacturing/product contexts

Website: <https://ispe.org/pharmaceutical-engineering/january-february-2021/quality-risk-management-address-product-impurities>

2.5.24 Rail Incident

Impact:	Moderate
Probability:	Unlikely
Location:	Countywide
Extent:	The impact of an incident can vary greatly depending on its type, location, and complexity. It might affect only a single jurisdiction with minimal consequences, or it could extend across multiple jurisdictions, significantly challenging the ability of local authorities to respond effectively to the situation.
Related Hazard(s):	Fire, HAZMAT, Mass Fatality, Terrorism, Evacuations
Related Plans and Annexes:	Rail Emergency Response Annex.

Definition

This hazard profile examines passenger and freight trains operating in or through Orange County. It focuses specifically on complex derailments and collisions and excludes single-vehicle accidents. A major train derailment occurring in a densely populated area can lead to significant loss of life and property damage. Once a train leaves its track, there is no control over the direction it may take. Potential hazards include overturned rail cars, direct impacts with buildings, or entering normal street traffic. Each of these scenarios presents multiple threats, such as hazardous material incidents, fires, extensive damage to nearby buildings or vehicles, and loss of life among those on the train, in adjacent buildings, in vehicles, or among pedestrians.

History & Probability, Including Range of Anticipated Intensities

Orange County's rail lines accommodate multiple passenger and freight trains on a daily basis. Potential accidents can vary in severity, ranging from isolated fatalities to derailments or collisions that may involve mass casualties. Any rail-related incident has the potential to create cascading impacts that can quickly overwhelm local resources.

For example, in April 2002, an eastbound Burlington Northern/Santa Fe Railway freight train collided head-on with a stationary westbound Southern California Regional Rail Authority passenger train at Control Point Atwood in Placentia, California. Emergency response agencies reported that 162 individuals were transported to local hospitals, and there were two fatalities. The estimated damage from this incident was \$4.6 million.

A similar incident took place in 1990 in neighboring Corona, where two freight trains collided. In that collision, the entire crew of ATSF 818 was killed, and four locomotives along with three rail cars were derailed. The engineer and conductor of train 891 sustained serious injuries, and the brakeman was also killed. The total damage from this incident was estimated to be \$4.4 million.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Proximity of residential and commercial areas to rail lines; presence of passengers and rail workers; risk of injury or fatality; potential for hazardous material exposure; evacuation challenges	Train passengers and crew; nearby residents and workers; pedestrians near tracks; emergency responders
Property	Damage to rail infrastructure and equipment; destruction of nearby buildings and vehicles; disruption to transportation services; risk of fires or explosions from hazardous cargo	Rail tracks and signaling systems; freight and passenger trains; nearby homes, businesses, and vehicles; transportation hubs
The Environment	Spills of hazardous materials (chemicals, fuels); soil and water contamination; damage to local ecosystems and wildlife; air pollution from fires or explosions	Soil and groundwater; nearby rivers or wetlands; parks and natural habitats; air quality in surrounding communities
Local Government Operations	Emergency response coordination; hazardous materials containment and cleanup; traffic and evacuation management; public communication; infrastructure repair and recovery efforts	Fire, police, and EMS departments; environmental protection agencies; public works and transportation departments; communication systems

Impact Area	Description of Impact
Public	There may be a significant number of injured or deceased individuals, requiring either reunification or identification. There may also be unaccompanied minors who need to be reunited with their families. Additionally, train cancellations may impact workers and tourists.
Responders	Responders without specialized training face increased risks when handling hazardous situations. This risk can vary depending on the type and location of the incident, as well as the size of the debris field, particularly when hazardous materials are involved. Gaining access to derailed cars may also create unsafe conditions.
Continuity of Operations / Delivery of Services	There is a low risk of impact on the continuity of operations, as alternative locations and remote activities can help minimize the effects associated with this hazard.
Property, Facilities, Assets, & Critical Infrastructure	A rail incident can greatly affect property, facilities, assets, and critical infrastructure. Depending on the type of rail car, the

Impact Area	Description of Impact
	location of the incident, and the size of the debris field, the affected area may require complete reconstruction.
Supply Chain	The risk of supply chain interruption is minimal due to various alternative routes and delivery points available.
Environment	The environmental impact of a rail incident can vary greatly depending on several factors, such as the type of rail car involved, the location of the incident, and the extent of the debris field. In less severe cases, the cleanup and decontamination may only require a few hours. However, in more serious situations, significant cleanup efforts, extensive decontamination, and thorough environmental restoration may be necessary, and these processes can take a considerable amount of time.
Economic & Financial Conditions/ Community Activities	Prolonged closure of local rail lines could negatively affect both national and local economies due to dependence on rail traffic for transporting people and goods.
Public Confidence in Local Government	Effective communication with residents regarding a rail incident is crucial, as failure to do so can greatly undermine trust in government agencies and emergency response organizations. The overall impact of the incident depends on several factors, including the type of rail car involved, the location of the event, and its scale. To maintain public confidence during such emergencies, federal, state, county, and local governments have implemented various public awareness programs that play a vital role.

Resources

California Public Utilities Commission – Railroad Operations & Safety Branch: Oversees rail safety inspections and enforces regulations; publishes risk-based assessments, annual safety reports, and derailment data relevant to California rail corridors including Orange County.

Website: <https://www.cpuc.ca.gov/rosb>

Operation Lifesaver: National public education program focused on preventing rail-related accidents and emergencies; offers training and awareness strategies that can be integrated into local risk planning.

Website: <https://oli.org/>

Federal Railroad Administration (FRA): Federal agency providing comprehensive guidance on rail emergency preparedness, risk assessments, hazardous materials transportation, safety protocols, and consequence modeling.

Website: <https://railroads.dot.gov/>

U.S. Department of Transportation / Pipeline and Hazardous Materials Safety Administration (PHMSA): Provides regulatory frameworks and response best practices for derailments involving hazardous materials, with relevant modeling and analysis tools.

Website: <https://phmsa.dot.gov/>

2.5.25 Sea Level Rise

Impact:	Low
Probability:	Possible
Location:	Low-Lying Coastal Areas, Coastline, and Harbors
Extent:	The long-term impacts of sea level rise will be its effect on coastal flooding, erosion, tsunami inundation, and damaging storm events. Major impacts will be seen on coastal and low-lying areas with as little as one-half foot of sea level rise significantly changing the landscape of the Orange County coastline.
Related Hazard(s):	Flood, Tsunami, Storm Events, Climate Change
Related Plans and Annexes:	Flood Annex, Tsunami Annex

Definition

Sea Level Rise (SLR) is the gradual increase in the level of the ocean's surface driven by a combination of processes. These processes operate on different spatial scales from global to local. Global Sea Level Rise is primarily the result of freshwater input from the melting of ice sheets and glaciers on land, and thermal expansion from ocean warming. Regional Relative Sea Level Rise is driven by three primary local and regional processes. Sterodynamic sea level change describes the combined effect of steric (temperature and salinity) changes and dynamic (winds, currents) changes. Gravitational, Rotational, and Deformational (GRD) is described as the gravitational pull on surrounding ocean as ice-mass is lost. Vertical Land Motion (VLR) is the result of a combination of processes acting together on different temporal and spatial scales. VLR is highly impactful locally due to tectonics, sediment compaction, and groundwater and hydrocarbon withdrawal. The California Ocean Protection Council estimates sea level rise in the Los Angeles area could be as high as half of one foot in 2030 and as much as six and a quarter feet by 2100. Storm surges, exceptionally high "King Tides," or "El Niño" events could produce notably higher water levels than Sea Level Rise (SLR) alone.

History & Probability, Including Range of Anticipated Intensities

Although variable at different points along the coast of Orange County due to local factors, sea levels are rising globally due to climate warming, including expansion of ocean water and melting of land ice²¹. The closest sea level gauge is the Los Angeles observation point (Los Angeles County), which has recorded a relative sea level trend as 1.05 mm/year with a 95% confidence interval of +/- 0.21 mm/year based on monthly mean sea level data from 1923 to 2024 which is equivalent to a change of 0.34 feet in 100 years. Orange County relative sea level trends would likely fall somewhere near those of Los Angeles due to Orange County's geographical location, landscape, and similar real-time climate conditions.

²¹ <https://tidesandcurrents.noaa.gov/sltrends/>

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Coastal population density; low-income and vulnerable communities in flood-prone areas; limited evacuation routes; health risks from flooding and saltwater intrusion	Residents in coastal cities (Newport Beach, Huntington Beach); tourists; workers in coastal businesses; socially vulnerable groups
Property	Flooding and erosion damaging homes, businesses, and infrastructure; saltwater intrusion degrading foundations and utilities; decreased property values	Residential neighborhoods; commercial districts; ports and marinas; transportation infrastructure (roads, bridges, rail lines)
The Environment	Loss of coastal wetlands and habitats; saltwater intrusion into freshwater ecosystems; beach erosion; impacts on marine and bird species; increased pollution runoff	Coastal wetlands and estuaries; marine ecosystems; beaches; endangered species habitats
Local Government Operations	Increased costs for flood defense and adaptation infrastructure; emergency response and evacuation planning; regulatory and land-use challenges; coordination with state and federal agencies	Public works and planning departments; emergency management agencies; environmental and natural resource departments; budget resources

Impact Area	Description of Impact
Public	Sea level rise poses a short-term threat to the safety and well-being of the public and visitors in low-lying areas in the form of coastal flooding and storm surges. Long-term impacts can result in low-lying areas becoming uninhabitable and affect activities that are important to the local community, such as recreation.
Responders	No short-term impacts to response. Long-term adjustments may be required as sea levels increase.
Continuity of Operations / Delivery of Services	No short- or long-term impacts as this is an emerging threat that does not affect continuity.
Property, Facilities, Assets, & Critical Infrastructure	No short-term impacts identified. Long-term impacts from sea level rise are a decrease in available properties, and relocation or shuttering of facilities in low-lying areas. Relocation of assets and critical infrastructure that include storage facilities, power plants, natural resource recovery and storage.

Impact Area	Description of Impact
Supply Chain	Impacts in the short-term are minimal. Long-term impacts would require rerouting of common supply lines.
Environment	Sea level rise will likely exacerbate coastal hazards such as flooding, coastal erosion, and groundwater intrusion. These hazards maintain the potential to disrupt coastal ecosystems such as wetlands, estuaries, and coral reefs due to inundation that leads to the loss of critical habitats and ecosystems. Additionally, historic structures and sites located in low-lying areas may be impacted by compromising their integrity and cultural value. Storm events will become more damaging and dangerous as sea level rise continues.
Economic & Financial Conditions/ Community Activities	Loss of revenue to local businesses from rising seas is highly likely in the long-term. Many coastal cities count on tourism as a consistent stream of tax revenue. Coastal residential tax revenue could also see impacts as low-lying areas lose value and become uninhabitable. Relocation costs associated with critical infrastructure and assets could be cumbersome to federal, state and local governments.
Public Confidence in Local Government	The public may perceive government inaction or delayed response as a failure to protect vulnerable communities and critical infrastructure. In particular, residents in low-lying coastal areas may question land use decisions, zoning policies, or infrastructure investments that place homes, roads, utilities, and emergency services at sustained risks.

Resources

NOAA Office for Coastal Management: Includes the interactive Sea Level Rise Viewer, enabling users to visualize projected inundation scenarios—essential for consequence modeling in coastal areas like Orange County.

Website: <https://cpo.noaa.gov/divisions-programs/climate-and-societal-interactions/the-adaptation-sciences-program/coastal-resilience/>

California Ocean Protection Council (OPC) Science Advisory Team: Offers comprehensive reports such as “Rising Seas in California”, with data-driven projections, maps, and recommendations tailored to California’s coast.

Website: <https://www.opc.ca.gov/science%E2%80%91advisory%E2%80%91team>

U.S. Geological Survey (USGS) – California Coastal Hazards: Provides research on coastal processes—including storm surge and erosion—in combination with sea level rise to assess consequences beyond simple inundation

Website: <https://www.usgs.gov/science/science-explorer/climate/coasts-storms-and-sea-level-rise>

California Coastal Commission: Publishes guidance, vulnerability assessments, and policy frameworks for shoreline planning, emphasizing local adaptation strategies for sea level rise.

Website: www.coastal.ca.gov/climate/slr

2.5.26 Terrorism

Impact:	High
Probability:	Possible
Location:	Countywide
Extent:	The impact of an incident can vary based on its type, location, and complexity. It may be limited to a single jurisdiction with minimal effects, or it could span multiple jurisdictions, imposing significant demands on local agencies, cities, counties, states, or even the federal government.
Related Hazard(s):	Cyber-Incident, Mass Fatality, Civil Unrest, Act of War, Nuclear Incidents
Related Plans and Annexes:	Terrorism Annex

Definition

According to 6 USC 101, "terrorism" is defined as any activity that involves acts dangerous to human life or potentially destructive to critical infrastructure or key resources. Such acts violate the criminal laws of the United States or any of its states or subdivisions and are intended to intimidate or coerce a civilian population. This may include efforts to influence government policy through intimidation or coercion or to affect government conduct through mass destruction, assassination, or kidnapping.

Terrorism is characterized by the unlawful use of force or violence against individuals or property to intimidate or coerce a government or the civilian population, or any segment thereof, in pursuit of political or social objectives. The impact of terrorism is profound, leading to fear, physical injuries, economic losses, psychological trauma, and a loss of faith in government. Importantly, terrorism is not an ideology; rather, it is a strategy employed by individuals or groups to achieve specific political goals.

- Domestic terrorism refers to acts committed by U.S. citizens to advance ideological aims rooted in domestic influences, such as political, religious, social, racial, or environmental factors.
- International terrorism involves acts carried out by groups inspired by or associated with designated foreign terrorist organizations or nations, including state-sponsored terrorism.

The U.S. Department of Homeland Security defines critical infrastructure as the physical and cyber systems and assets essential to the United States. The incapacity or destruction of these infrastructures would severely impact our physical or economic security, public health, or safety. This definition includes incidents previously categorized as "weapons of mass destruction" and "CBRNE" (chemical, biological, radiological, nuclear, and explosives), as well as cyber-attacks or intrusions. Under California's SB 468 (Dodd) and CGC § 8570.6, this definition also encompasses electromagnetic pulse attacks, which could significantly affect the region.

History & Probability, Including Range of Anticipated Intensities

The threat posed by both domestic and international terrorist groups continues to evolve each year. Orange County is considered a potential target due to its economic resources, tourism industry, and high population density. The Orange County Intelligence Assessment Center (OCIAC) conducts ongoing assessments of terrorism-related threats, focusing on potential targets within the county as well as possible perpetrators operating in the area.

OCIAC designates Terrorism Liaison Officers (TLOs) who are trained to review and evaluate local reports. They also engage with other public safety organizations, critical infrastructure operators, and community groups. TLOs act as the primary point of contact for all terrorism-related alerts, requests for information, warnings, and notifications from regional, state, or federal homeland security agencies.

Vulnerability, Assets, and Impact

The threat of a terrorist attack, or an actual attack, can lead to significant disruptions in social structures and result in material losses, economic burdens, psychological impacts, and loss of life. These negative effects can be amplified by typical multiplier effects, cascading failures in infrastructure systems, and behavioral responses driven by fear.

Category	Vulnerability Factors	Assets at Risk
People	Presence of high-profile targets; large public gatherings; tourism and event attendance; lack of awareness or training; soft targets with limited security; proximity to critical infrastructure	Residents; tourists; event attendees; transportation system users; government employees; first responders; socially vulnerable populations
Property	Concentration of commercial and government buildings; symbolic or political sites; unprotected public spaces; high-density venues; reliance on centralized utilities and data systems	Government buildings; malls and shopping centers; stadiums and event venues; schools and universities; transit hubs; utility facilities; communication infrastructure
The Environment	Potential for hazardous materials release; risk of fires or contamination from explosive devices or cyberattacks; disruption to air and water systems	Water treatment plants; natural gas lines; stormwater systems; coastal ecosystems; public parks; air and water quality
Local Government Operations	Targeting of government operations or data systems; cyberterrorism threats; increased demand for emergency services; disruption to communications and public trust; need for interagency coordination	Emergency management systems; law enforcement and fire departments; public health and hospitals; IT networks; city leadership and continuity of operations plans (COOP)

Impact Area	Description of Impact
Public	Individuals could be physically injured or killed. They may also develop a fear of conducting normal activities. Additionally, homes and businesses could be damaged or destroyed.
Responders	Several levels of government will be responsible for coordinating the response. In complex incident scenarios involving multiple layers of government responders, information may be limited to those with specific roles and clearances. Initially, responders may be unaware of the nature of the incident or who caused it.
Continuity of Operations / Delivery of Services	Government systems and personnel could potentially be targeted, which may lead to delays in the provision of services and benefits to the public. However, if these systems are not targeted, the risk to the continuity of operations remains low. Alternative locations and remote activities can effectively minimize the impact associated with this hazard.
Property, Facilities, Assets, & Critical Infrastructure	Critical infrastructure and key resources can be severely affected by various threats, especially in the areas of telecommunications, electrical power systems, gas and oil storage facilities, transportation, water supply systems, wastewater systems, and government and emergency services. Facilities that store, use, or produce hazardous materials (HazMat) are vital to the economy, and these HazMat substances can potentially be exploited as weapons. The Orange County Intelligence Assessment Center has a Critical Infrastructure Protection Unit that assesses the potential impacts on critical infrastructure and key resources that might be targets for terrorism. At the municipal level, potential terrorist targets may include police stations, fire stations, hospitals, municipal offices, community centers, theaters, sports arenas, educational institutions, religious organizations, banks, shopping centers, power stations, transmission lines, telephone relay facilities, drinking water supplies, water treatment plants, restaurants, and grocery stores.
Supply Chain	In the event of a coordinated attack on multiple locations, the production and transportation of goods may be delayed. Targeting regional transportation hubs can significantly impact local supply chains. However, if an attack is isolated, the risk of supply chain disruption is low, as there are multiple alternative routes and delivery points available.

Impact Area	Description of Impact
Environment	CBRNE incidents can contaminate the environment, endangering plants and wildlife.
Economic & Financial Conditions/ Community Activities	Nearby businesses may experience job and revenue losses if the facility is damaged, contaminated, or destroyed. In extreme cases, entire communities could suffer financially due to damage to large businesses or critical industries.
Public Confidence in Local Government	Effective communication with residents during an incident is crucial; failing to do so can greatly undermine trust in government agencies and emergency response organizations. The overall impact of an incident varies based on several factors, including the type of incident, its location, and the scale of the event. To maintain public confidence during emergencies, federal, state, county, and local governments have implemented various public awareness programs that play a vital role.

Resources

U.S. Department of Justice (DOJ) – National Institute of Justice (NIJ): Research and analytic tools on terrorism consequence modeling, focused on critical infrastructure and public safety impacts.

Website: <https://nij.ojp.gov/>

National Counterterrorism Center (NCTC): Central source for threat assessments and analytic insights on terrorism trends at the national level, useful for comparative risk evaluation at the local level.

Website: <https://www.dni.gov/nctc>

2.5.27 Tsunami

Impact:	High
Probability:	Possible
Location:	Forty-three miles of Orange County coastline
Extent:	In a worst-case scenario, a tsunami could flood Orange County's 42-mile coastline, potentially causing significant property damage and loss of life, with a high wall of water impacting densely populated beach communities.
Related Hazard(s):	Earthquake, Flood, Debris Management, Evacuations, Hazardous Materials, Oil Spill, Utility Failure, Mass Casualty / Fatality
Related Plans and Annexes:	Tsunami Annex

Definition

A tsunami is a series of long waves commonly caused by an earthquake beneath the sea floor, undersea volcanic activity, or by a large undersea landslide. In the open ocean, tsunami waves travel at high speeds with wave height rarely observed. As the waves enter shallow water, they slow down and may rise to several feet or, in rare cases, tens of feet.

Tsunamis can cause damage in three ways: Water inundation debris including boats and motor vehicles. Wave impact on structures and vehicles. Rapid erosion that impacts soil and foundation, often causing the collapse of bridges, structures, and sea walls. There are two general types of Tsunamis that can have varying scales and scope of impact to Orange County.

Near-Shore Tsunami: A seismic event or landslide that occurs at, on, or near the coastline. This type of event will arrive with little to no warning with tsunami waves reaching coastal areas within minutes of the activity. Moderate risk exists for areas along the coast of Orange County.

Distant-Source Tsunami: A significant seismic event occurring nearly anywhere on the Pacific Rim. This type of event may see waves arriving several hours after the triggering event, allowing time for Tsunami Warning Centers to alert local officials and the public.

History & Probability, Including Range of Anticipated Intensities

Tsunamis can cause great loss of life and property damage where they come ashore. The first wave is almost never the largest; successive waves may be spaced tens of minutes or longer apart and continue arriving for several hours. Field surveys and modeling (1992-1996) by the University of Southern California have projected that a 13-foot-high tsunami could cause extensive damage and flooding along flat coastlines. Communities established between the ocean and other bodies of water such as wetlands, river inlets, or "Salinas" are at very high risk due to the possible overland flow and simultaneous tsunami attacks from multiple directions.

There is concern that an event originating in the Cascadia subduction zone may have significant impact on Southern California, like those experienced in Crescent City, California after the 1964 Alaskan earthquake, since the distance between Cascadia and Southern California is about the

same as the distance from Alaska to Crescent City, California. Several poorly documented local tsunamis caused some damage to southern California communities in the 1800s.

In addition, the Working Group on California Earthquake Probabilities of the Southern California Earthquake Center (SCEC) had identified the Palos Verdes, Santa Cruz Island and Santa Rosa Island faults as active and potentially tsunamigenic.

Vulnerability, Assets, and Impact

Vulnerability to the County of Orange and Operational Area can vary greatly dependent on the type and scale of a tsunami event impacting the coastline.

Category	Vulnerability Factors	Assets at Risk
People	Coastal population density; tourists unfamiliar with evacuation procedures; limited vertical escape options	Residents, tourists, businesses
Property	Concentration of high-value assets in low-lying coastal areas; insufficient floodproofing	Roads, bridges, utility infrastructure, homes, piers, parks and pathways, railroad
Environment	Coastal wetlands, beaches, and estuaries are directly exposed	Coastal erosion, habitat destruction, water contamination
Operations	Emergency services, government buildings, and transportation hubs near coastlines	Service disruption, damage to public safety facilities, impaired response

Impact Area	Description of Impact
Public	Injury, drowning, mass evacuations, loss of life; casualties; injuries; displacement; emotional trauma; and disruption of daily life. These areas are densely populated with full-time residents and business owners coupled with a high volume of tourists and unhoused individuals. The probability of special events along the coastline is frequently high, causing additional challenges for large scale evacuations.
Responders	Physical danger during rescue operations, resource strain, communication and coordination challenges; mutual aid likely needed
Continuity of Operations	Disruption to emergency response, public safety services, utilities (including communications), and government continuity functions
Property, Facilities, Assets & Critical Infrastructure	Destruction of homes, public buildings, roads, ports, bridges, power stations and utility lines, and water treatment plants; blocked roads and bridges; damaged traffic signals, streetlights, and parks; damage to public water and sewer systems, transportation networks, and flood channels would greatly impact daily life for residents; nearby areas subject to inundation and ground subsidence

Impact Area	Description of Impact
Supply Chain	Disruption of port operations; impassable road and limited rail access; delayed delivery of critical goods and services; business operations delayed by damaged buildings, shuttered businesses, and loss of utilities
Environment	Coastal ecosystem damage; beach erosion; contamination of freshwater sources; loss of marine and bird habitats; toxic pollutants due to the failure of marine oil-transfer facilities and terminals
Economic and Financial Conditions	Severe economic losses from property damage; marine or harbor business closures due to damage or utility outages; tourism and sales tax impact; rebuilding costs; service disruptions
Public Confidence in Local Government	Potential decline if early warning, evacuation, or response is perceived as delayed, disorganized, or ineffective; loss of traditional communication modes and basic utilities for extended periods of time may create low confidence in government operations post-incident.

Resources

California Governor's Office of Emergency Services (Cal OES): Provides tsunami hazard area maps, evacuation planning guidance, and tsunami preparedness resources for California coastal counties, including Orange County.

Website: <https://www.caloes.ca.gov>

California Geological Survey (CGS): Offers detailed tsunami inundation maps and scientific reports evaluating tsunami risk along California's coast.

Website: <https://www.conservation.ca.gov/cgs/tsunami>

National Oceanic and Atmospheric Administration (NOAA) – Tsunami Program: Central hub for tsunami warning systems, hazard assessments, and mitigation strategies nationwide.

Website: <https://www.tsunami.gov>

National Tsunami Hazard Mitigation Program (NTHMP): Multi-agency partnership led by NOAA; provides tsunami hazard assessments, evacuation planning, and risk reduction best practices.

Website: <https://nws.weather.gov/nthmp/>

U.S. Geological Survey (USGS) – Tsunami Research: Offers scientific data, scenario modeling, and risk studies related to tsunamis in California and other coastal regions.

Website: <https://www.usgs.gov/centers/pcm/science/tsunami-and-earthquake-research>

California Coastal Commission – Tsunami Resilience: Resources and reports focused on land use planning and coastal development policy to reduce tsunami vulnerability.

Website: <https://www.coastal.ca.gov>

TsunamiZone.org (Earthquake Country Alliance): Public awareness site with tsunami safety guides, community drills, evacuation zone maps, and education resources tailored to California.

Website: <https://www.tsunamizone.org>

2.5.28 Utility Failure

Impact:	Low
Probability:	Likely
Location:	Countywide
Extent:	A Utility Failure may be localized or region-wide depending upon the service area organized and the cause of the disruption. Utility Failures may persist from a few hours to weeks depending upon the service restoration complexity and available resources.
Related Hazard(s):	Act of War, Civil Unrest, Cyber Threat, Dam/Levee/Reservoir Failure, Earthquake, Electromagnetic Pulse, Excessive Temperature, Flood/Storm, Geomagnetic Storm/Space Weather, High Winds, Landslide/Mudslide/Debris Flow, Product Contamination, Rail Accident, Terrorism, Wildland and Urban Fire
Related Plans and Annexes:	Power Outage Annex

Definition

A utility failure, encompassing the disruption or loss of essential services such as electricity, water, natural gas, telecommunications and internet services, threatens the safe and proper operation of buildings and communities. By disrupting communication, emergency coordination, and business continuity.

History & Probability, Including Range of Anticipated Intensities

Power: The electrical grid in California has been constructed to minimize cascading outages or transmission emergencies, however, with the shutdown and decommissioning of the San Onofre Nuclear Generating Station and the increase of vehicles dependent on electricity, residents and businesses seem to face continued uncertainty of electricity certainty especially during extreme weather. Power shortages occur when the demand for electricity approaches the capacity to produce power. To reduce the potential for a sudden demand surge exceeding production capabilities, the State of California has instituted a series of alerts to warn consumers as demand begins to rise. This condition is most likely to occur during the hotter months between late morning and early evenings.

When California Independent Systems Operator (CAISO) forecasts an energy shortage, affected areas may encounter rotating outages. These are short periods of time when the power to a geographic area is either cut off or limited to reduce the overall demand on the grid. The public is notified in advance of the rotating outages so measures can be taken to minimize the impact. During these periods, critical and essential facilities may have to operate on emergency generators.

Extreme weather may also increase the chances for the utility companies like Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) to use the Public Safety Power Shutoff or PSPS program and de-energize electrical lines to assist in the reduction of possible wildfire ignitions.

Widespread power outages can occur at any time, unannounced and without warning. In 2011, Southern California was impacted by a widespread power outage affecting most of southern Orange County. In August of 2020, during an unusually extended heat wave impacting most of the State, CAISO implemented rotating outages to assist the electrical grid ease the increase in demand during peak usage. Power outages happen frequently, being prepared and knowing the resources available to public safety agencies will assist in a quick response.

Water: Water utilities have planned and built their infrastructure to minimize the effects of hazards; however water outages are possible and have occurred more frequently due to the increase in disasters. Power outages have the most frequent impacts to water utilities. Power outages usually occur during wildland fires or high wind impact power utilities' infrastructure, but they can also occur when power utilities experience unplanned power outages. Overall, water agencies have prepared for all hazards, but impacts may vary depending on where in Orange County the incident is occurring, coupled with the size of the water utility. The loss in power can impact a water utility's to monitor systems and continue pumping water to its customers and for firefighting purposes. Different scenarios of impacts may include low flow, backflow, and low pressure. Plans are in place to support agencies during power interruptions.

SCE and SDG&E's PSPS program can affect various water utilities in urban-wildland interface areas. The program can provide water utilities with very little notification of the plan being activated and does not guarantee notification prior to the power being shut off. This could result in losing power at critical water and wastewater facilities. During fire and wind seasons and with the impacts of climate change, this program has the ability to impact water and wastewater utilities more frequently.

Earthquakes will have the highest impact on water and wastewater infrastructure. The aging water infrastructure can experience significant disruptions due to fault ruptures and ground shaking. The impact of an earthquake causing the loss of pressure on the entire system is not likely. Orange County water agencies have worked to increase their ability to continue to provide water services with planning efforts such as: Urban Area Water Use plans, Emergency Water Distribution Plans, emergency Water Intertie Plans, and Water Wheeling and the ability to water wheel and intertie water distribution lines. Secondary impacts, such as wildfire and power outages, may intensify the disruption by lowering water pressure and taking out power supplies to critical infrastructures. Certain events occurring on the system may trigger a "boil water" or "do not use" notice depending on the severity, water agencies are legally required to issue and coordinate with the County Health Officer following the issuance of any water-use orders.

Natural Gas: Natural gas infrastructure may be vulnerable to seismic activity, landslides, and construction-related damage. Earthquakes pose a major risk, potentially causing widespread pipeline ruptures, explosions, or fires. Gas delivery may be suspended as a precautionary measure, affecting heating, cooking, and industrial processes. In high-risk fire areas, utilities may implement proactive gas shutoffs. Restoration may require site-by-site safety checks.

Telecommunications (Telephone & Data Transmission): Telephone and data transmission networks are increasingly vital for emergency communications, public alerts, remote work, and general connectivity. These systems are vulnerable to power outages, fiber cuts, tower damage (e.g., from wind, wildfire, or flooding), and network congestion during emergencies.

Wireless services may be disrupted when cell towers lose backup power or are damaged, while hardwired phone and data services can fail if underground cables are compromised. Internet-based phone systems (VoIP) also fail without power or data connectivity. During the 2019 PSPS events in California, many cell towers and internet services failed after 24-72 hours of power loss, revealing significant vulnerability in communication infrastructure.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Dependence on electricity, water, gas, telecommunications and internet; health impacts from loss of medical devices or refrigeration; increased risk for elderly, disabled, and low-income populations; disruption to daily life and safety systems	Residents; patients relying on medical equipment; elderly and disabled individuals; businesses' employees and customers
Property	Damage from power surges or outages; spoilage of perishable goods; failure of security systems; water damage from sewer or plumbing failures; disruption of heating/cooling systems; loss of phone/data access	Homes; commercial buildings; hospitals and care facilities; data centers; refrigerated storage facilities; critical infrastructure
The Environment	Contamination from sewage or chemical spills; impacts on water treatment and waste management; fire risks from failed gas systems or electrical arcs; loss of telemetry for monitoring environmental hazards	Water bodies and groundwater; parks and green spaces; waste treatment plants; ecosystems sensitive to pollution or fire
Local Government Operations	Increased demand on emergency response and public works; strain on communication networks; coordination challenges during outages; costs of repair and recovery; need for public information and resource management	Emergency services (fire, police, EMS); public utilities departments; communication systems; hospitals; public shelters and services

Impact Area	Description of Impact
Public	Individuals with disabilities, access and functional needs may be particularly susceptible to secondary impacts of utility failures; for example, medical device power back-ups may fail; and emergency alerts may not be received without phone/internet.
Responders	EOC's will need to develop a policy for maximum public safety response prioritization. Restoration of utility services is dependent on the utility's ability to restore services to that section of the distribution system. Communication failures can delay dispatch and coordination.
Continuity of Operations / Delivery of Services	Local government facilities may have to use backup power sources. Operations relying on the internet, data systems, or cloud storage may be disrupted. Critical functions will need to be sustained while suspending other, less-critical functions.
Property, Facilities, Assets, & Critical Infrastructure	Loss of power, water, or wastewater could render facilities, including critical infrastructure, unusable. Data centers, communication hubs, and hospitals are particularly at risk if redundancies fail. Critical operations may have to move to other locations outside of the area of impact.
Supply Chain	There may be delays in production, distribution, and retail sales of goods and services. Businesses may not be able to operate if they are unable to track inventory, charge for goods and services, or provide basic sanitation at their facilities.
Environment	Where infrastructure relies on water and power to support the environment (e.g., water oxygenators, containment sumps, monitoring devices, etc.), there may be detrimental impacts to the plants and animals those remediation devices support.
Economic & Financial Conditions/ Community Activities	Utility failures can cripple businesses ability to generate revenue. Remote work and digital transactions may be impossible. Individuals may be laid off.
Public Confidence in Local Government	The public may question the regulation and oversight of utility companies. Policies regarding how utilities are organized and operate may be questioned.

Resources

California Public Utilities Commission (CPUC): Regulates investor-owned utilities in California and publishes reports and data on utility reliability, outage statistics, and contingency planning.

Website: <https://www.cpuc.ca.gov>

American Society of Civil Engineers (ASCE) — Infrastructure Report Card: Provides civil-infrastructure-focused risk assessments, including for water and power systems in California and nationally.

Website: <https://infrastructurereportcard.org>

2.5.29 Vector-Borne Diseases

Impact:	Low
Probability:	Possible
Location:	Countywide
Extent:	Endemic Countywide
Related Hazard(s):	Disease Outbreak
Related Plans and Annexes:	Disease Outbreak Response Plan

Definition

A vector-borne disease is an illness caused by pathogens and parasites that are transmitted to humans through vectors—living organisms that can transmit infectious diseases between humans or from animals to humans. Common vectors include mosquitoes, ticks, and fleas. These vectors often carry viruses, bacteria, or parasites that cause diseases such as malaria, dengue, Lyme disease, and Zika virus infection.

According to the World Health Organization (WHO), "*Vector-borne diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by vectors. Every year there are more than 700,000 deaths from diseases such as malaria, dengue, schistosomiasis, human African trypanosomiasis, leishmaniasis, Chagas disease, yellow fever, Japanese encephalitis and onchocerciasis.*"²²

History & Probability, Including Range of Anticipated Intensities

Vector-borne diseases are among the most complex infectious diseases to prevent and control due to the unpredictable behavior and ecology of vectors such as mosquitoes, fleas, and ticks. These vectors are capable of transmitting viruses, bacteria, or other pathogens that can infect both animals and humans.

The Orange County Mosquito and Vector Control District (OCMVCD) is an independent special district tasked with safeguarding the health of Orange County residents from vectors and vector-borne diseases, as authorized under the California Health and Safety Code (Cal. HSC § 2000–2910). OCMVCD operates year-round, serving all 34 cities within Orange County, as well as unincorporated areas and federal and state lands.

To manage and reduce the impact of vectors, OCMVCD implements a comprehensive Integrated Vector Management (IVM) Program. This science-based approach targets the control of mosquitoes, filth flies, black flies, red imported fire ants (RIFA), and rats through surveillance, public education, habitat reduction, biological control, and judicious use of pesticides.

Globally, vector-borne diseases are estimated to cause between 700,000 and 1,000,000 deaths each year. According to the World Health Organization, they account for over 17% of all infectious

²² World Health Organization. (2020). Vector-borne diseases. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>

disease cases, leading to more than 700,000 deaths annually (WHO 2020). Mosquito-borne illnesses alone are responsible for upwards of 725,000 deaths per year, including approximately 600,000 deaths from malaria. In the United States in 2023, the CDC reported 2,406 cases of West Nile virus, including 1,599 neuroinvasive cases, which typically carry a 5–10% mortality rate.²³ Given that about 72% of West Nile cases are neuroinvasive as of 2024, and considering the fatality rate, this translates to roughly 120–160 deaths annually.

Information for this assessment was obtained from the Orange County Mosquito and Vector Control District. The District has identified the following vector-borne diseases as a possible threats to residents of Orange County. Natural disasters such as earthquakes, fires, and floods may increase local mosquito populations or other vectors and the overall risk of these diseases being transmitted to residents of Orange County.

Mosquito-borne Disease

The District's surveillance and mosquito control efforts are focused on the following mosquito-borne diseases; 1) West Nile virus (WNV), 2) Saint Louis encephalitis (SLE), 3) invasive *Aedes* diseases (chikungunya, dengue, Zika, yellow fever), and 4) malaria. Since their initial detection in 2015, *Aedes aegypti* ("yellow fever mosquito") and *Aedes albopictus* ("Asian tiger mosquito") have established a growing presence in the county. In 2025, OCMVCD has observed a continuing expansion of these invasive *Aedes* species in both abundance and geographic distribution, with public-facing campaigns and surveillance intensified during both California and National Mosquito Awareness Week, April and June respectively. As of December 2024, invasive *Aedes* mosquitoes have been detected in all 34 cities and 4 unincorporated areas in Orange County (Figure 12).

The behavior and habitat preferences of *Aedes aegypti* and *Aedes albopictus* differ substantially from the indigenous *Culex* mosquito species that are the primary targets of control programs in California's urban areas.

Figure 12: *Aedes* Infestation Countywide Infestation



²³ U.S. Department of Health and Human Services. (n.d.). Vector & Pathogen Ecology. Climate & Health Outlook. Retrieved July 1, 2025, from <https://www.hhs.gov/climate-change-health-equity-environmental-justice/climate-change-health-equity/climate-health-outlook/vector-pathogen-ecology/index.html>

Adult *Aedes aegypti* and *Aedes albopictus* are active during the day, have short flight ranges, and females are aggressive and persistent biters of mammals, especially humans. What is most distinctive is their preference for small, artificial water-holding containers for laying eggs and larval development; hence, they are known as “container-breeding” mosquitoes. Their close association with and dependence on humans to provide larval habitat, particularly within residential properties, results in a widespread but often patchy distribution, making effective surveillance and control a challenge. Detection and control are further complicated by eggs that resist desiccation and can remain viable for months on dry surfaces of containers.

A major recent advancement is the district’s Sterile Insect Technique (SIT) pilot program, which began releasing thousands of X-ray-sterilized male *Aedes aegypti* in Mission Viejo starting May 2025. This innovative biological control strategy aims to reduce breeding success and suppress the local mosquito population without chemicals. It is anticipated that invasive *Aedes* will continue expanding county-wide unless sustained interventions—like SIT, larviciding, habitat reduction, and public engagement—are fully deployed and embraced by the community.

West Nile Virus (WNV)

West Nile virus (WNV) has been present in Orange County since 2003. West Nile virus, which is primarily a disease of birds, can be transmitted to humans and other animals by the bite of an infected mosquito and has been responsible for infecting 755 people, including 33 deaths, in Orange County since its introduction. In response to intense back-to-back epidemics of WNV in 2014 (280 infections, 9 deaths) and 2015 (97 infections, 8 deaths), the District expanded the adult mosquito control program in urban areas to include the use of backpacks, trucks, and airplanes to control infected, adult mosquitoes in Orange County. 2023 had 7 reported cases of West Nile Virus in Orange County. As of December 2024, there was 1 reported human case, 52 positive mosquito samples, and 1 positive dead bird.²⁴

Saint Louis encephalitis (SLE)

Saint Louis encephalitis (SLE) was the first (1933) recognized neuroinvasive arbovirus in the United States. Sporadic human cases have been diagnosed in Southern California, and the virus and antibodies have been recovered from wild birds during surveillance studies. The most recent, large-scale outbreaks of SLE occurred in Southern California in 1983-1984 (26 cases, five in Orange County) and the San Joaquin Valley in 1989 (29 cases), with sporadic cases reported in the Los Angeles Basin from 1990-1997. St. Louis encephalitis virus re-emerged in California in 2015, with the detection of positive mosquito and sentinel chicken samples near the Salton Sea in Riverside County. This was the first detection of SLE, virus activity in California since 2003. Since 2015, there have been 8 human cases of SLE including 1 death in California. SLE virus activity was detected in mosquitoes in Orange County most recently in 2019.

²⁴ Orange County Mosquito and Vector Control District. (n.d.). West Nile virus activity in the county. Retrieved July 1, 2025, from <https://www.ocvector.org/west-nile-virus-activity-in-the-county>

Dengue, Chikungunya, Yellow Fever, and Zika

The detections of *Aedes albopictus*, in 2011 in Los Angeles County, and discoveries of *Aedes aegypti* in 2013 in urban areas of Fresno, Madera, and San Mateo counties, demonstrated that California is vulnerable to colonization by these highly invasive mosquitoes. By the end of 2017, detections of one or both species had been made in 22 counties, including Orange County. Both species are vectors of exotic arthropod-borne viruses (arboviruses) including dengue, chikungunya, Zika, and yellow fever. Travel-associated human cases of dengue, chikungunya, and Zika have been reported in California, but none of these viruses are known to be transmitted locally by mosquitoes at present. Established invasive *Aedes* mosquito populations increase the potential for local transmission to occur.

Dengue is a viral disease characterized by fever, headache, and joint and muscle pain, which can progress to bleeding and shock in some people. Dengue transmission is common in much of the tropics, and outbreaks have occurred in areas of the United States where *Aedes aegypti* and *Aedes albopictus* are established, including Florida, Texas, and Hawaii. Presumably, infected visitors or returned travelers to these areas imported dengue virus and served as sources for these outbreaks. In 2024, the the Orange County Health Care Agency recorded 25 dengue cases - the highest annual total in over a decade—all from travelers; no local transmission occurred.

Chikungunya is another viral disease with fever and severe joint pain, and outbreaks have been identified in countries in Africa, Asia, Europe, and the Indian and Pacific Oceans. In late 2013, the first local transmission of chikungunya virus in the Americas was identified in the Caribbean Islands, and the disease has since spread rapidly to other countries in South and Central America and continues to spread globally. In the time period from 2015 to 2022, Orange County has had 30 cases of travel-acquired chikungunya. Locally acquired chikungunya cases have not been reported from U.S. states or territories since 2019.

Zika is another viral disease with fever, rash, and joint pain. Before 2015, outbreaks had occurred in areas of Africa, Southeast Asia, and the Pacific Islands. In May 2015, human cases were detected for the first time in Brazil, and Zika spread rapidly to other countries in Latin America and the Caribbean Islands. In 2016, the CDC designated Miami-Dade County, Florida and Brownsville, Cameron County, Texas as a Zika cautionary areas, due to reported mosquito-borne spread of the Zika virus. Orange County has had 45 travel-associated cases of Zika during the period of 2015 through 2022, with zero locally transmitted infections.

Zika was initially considered a mild disease, but there is a now an association between Zika infection during pregnancy and the development of birth defects such as microcephaly, the development of abnormally small head and brain. In adults, Zika infection has been associated with Guillain-Barré syndrome, an autoimmune neurological disease. Zika virus can be sexually transmitted or acquired via blood transfusion; thus, all blood products in California are screened for Zika virus.

Flea-borne Diseases

Flea-borne typhus is caused by *Rickettsia felis* and/or *R. typhi*, two closely-related gram-negative bacteria. The cat flea, *Ctenocephalides felis*, commonly found on cats, dogs, opossums, and outdoor wildlife, is considered the primary vector of the flea-borne typhus bacteria in Southern California. Testing of small mammals and the fleas they carry by the District has demonstrated a high prevalence of flea-borne typhus bacteria in fleas (> 40%) collected from areas with human cases. From 2016-2024, over 171 human cases of flea-borne typhus were reported in Orange County, and 1,537 cases statewide. The District maintains a surveillance and education program for flea-borne typhus, but does not routinely conduct flea abatement or animal removal.

Plague is a naturally occurring bacterial disease associated with wild rodents and fleas. The causative organism, *Yersinia pestis*, can be transmitted to humans through the bite of an infected flea, causing swelling (“buboes”; i.e., bubonic plague), but also infection of the bloodstream and even lungs. Plague has a very high fatality rate in humans if cases are not diagnosed and treated with antibiotics in a timely manner. Plague remains endemic in ground squirrel populations in many areas of California. Outbreaks of bubonic plague have been linked to rodent die-offs in California. If multiple dead ground squirrels, rabbits, or rats are detected in Orange County, they should be reported to the District immediately for testing. The California Department of Public Health, Vector-Borne Disease Section lists the Santa Ana Mountains as a plague endemic area. Plague has been detected in Orange County sporadically. In the early 1980s, ground squirrels in Tonner Canyon and Anaheim Hills tested positive for plague, and in 1998 a roof rat in the city of Orange tested plague positive. Plague in Southern California is typically associated with ground squirrels and wood rats are only rarely associated with roof rats. The District routinely traps and tests ground squirrels and fleas, as well as roof rats, from residential areas near historically positive plague detection sites. Rats, squirrels, and other small mammals from Orange County tested by the District laboratory have all tested negative since 1998.

Hantavirus Pulmonary Syndrome (HPS) is a human disease caused by a viral pathogen found in rodent urine and excrement that affects humans by attacking the lungs and producing a fatal pneumonia in nearly 40% of cases. Humans become infected with the virus when they inhale aerosol particles contaminated from deer mouse fecal pellets (droppings) and urine. The two strains of hantaviruses encountered locally are the Sin Nombre Virus (SNV) and El Morro Canyon Virus. Although these strains have been found in local deer mice, no residents have been diagnosed with hantavirus in Orange County. The deer mouse is widely distributed in neighborhoods of Orange County that border natural areas. To prevent infection with hantavirus, the California Department of Public Health recommends spraying deer mouse droppings and urine with a 10% bleach and water disinfection solution prior to cleanup.

Other Vector-Borne Diseases

Although less prevalent than West Nile virus and flea-borne typhus, other vector-borne diseases have the potential to re-emerge or emerge in Orange County should environmental conditions change or new competent vector species successfully become established. These diseases are not considered a major health hazard in Orange County at this time, but include tick-borne diseases such as Lyme disease, Pacific Coast tick fever, and tularemia, and rodent-borne diseases such as

hantavirus. OCMVCD is constantly monitoring local vector populations in order to detect the presence of these diseases and mitigate the potential for these hazards.

Vulnerability, Assets, and Impact

Category	Vulnerability Factors	Assets at Risk
People	Elderly populations; young children; individuals with chronic illnesses or weakened immune systems; outdoor workers; unsheltered individuals	Public health; quality of life; workforce productivity; healthcare system capacity
Property	Residential areas near standing water; aging infrastructure; poorly maintained drainage systems	Homes; apartment complexes; schools; commercial buildings with landscaping or irrigation systems
The Environment	Urban runoff; artificial containers holding water; over-irrigation; invasive plant species creating mosquito habitat	Wetlands; urban parks; rivers and stormwater channels; biodiversity and native species
Local Government Operations	Limited vector control funding; reliance on interagency coordination; seasonal staffing constraints	Public health services; mosquito and vector control programs (OCMVCD); emergency response planning; community outreach

Category	Impact of Vector-Borne Disease
Public	Increased illness and hospitalizations; long-term health effects from diseases like West Nile virus; anxiety and fear during outbreaks; reduced outdoor activity and quality of life
Responders	Increased workload for public health and vector control personnel; potential exposure risk; strain on local healthcare providers and emergency services
Continuity of Operations / Services	Disruptions in regular municipal operations due to resource diversion; delays in public health service delivery; reduced workforce availability during outbreaks
Property, Facilities, Assets, & Infrastructure	Increased need for maintenance of stormwater systems and drainage; higher pest control costs for public facilities; potential need for upgrades to public infrastructure
Supply Chain	Disruption in supply and distribution of mosquito control products (e.g., larvicides, traps); delays in procurement of PPE or medical supplies during simultaneous outbreaks
Environment	Increased pesticide use may impact non-target species and ecosystems; changes in vector habitat due to urban development or climate change

Category	Impact of Vector-Borne Disease
Economic & Financial Conditions / Community Activities	Loss of productivity due to illness; economic strain on healthcare and public health systems; reduced tourism and attendance at outdoor events; increased public health spending
Public Confidence in Local Government	Public frustration or fear if outbreaks are not effectively managed; increased scrutiny of public health messaging; potential erosion of trust in response efforts

Resources

Orange County Mosquito and Vector Control District (OCMVCD): Primary agency for mosquito and vector surveillance and control in Orange County. Their site offers interactive maps, annual reports, surveillance data, educational materials, and emergency response strategies for vector-borne diseases.

Website: <https://www.ocvector.org>

Orange County Health Care Agency (OCHCA): Tracks local public health threats including vector-borne disease outbreaks. Offers health alerts, case counts, and coordination guidance for vector-borne illness response within Orange County.

Website: <https://www.ochealthinfo.com>

California Department of Public Health (CDPH) – Vector-Borne Disease Section: Provides statewide surveillance data, vector risk assessments, outbreak reports, and guidance for local health jurisdictions. Includes vector maps, disease case data, and mitigation strategies.

Website: <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Vector-Borne-Diseases.aspx>

Centers for Disease Control and Prevention (CDC) – Division of Vector-Borne Diseases: Offers national surveillance data via ArboNET, risk modeling tools, guidance documents, and resources for local vector-borne disease preparedness. Also includes emergency planning and response strategies.

Website: <https://www.cdc.gov/ncezid/dvbd/>

2.5.30 Wildland Fire/Urban Fire

Impact:	High
Probability:	Likely
Location:	Countywide
Extent:	The extent may range from small wildfires in wilderness areas to large wildfires within Wildland Urban Interface.
Related Hazard(s):	High Winds, Drought, Excessive Temperature
Related Plans and Annexes:	None

Definition

A wildland fire is an uncontrolled fire that burns within natural vegetation like brush, grass, or bushes and may be naturally or human caused. Wildland fires typically occur in wilderness areas like open spaces, parks, and national forest areas. Urban fires are fires involving multiple buildings or structures within local cities or urban areas. Wildland Urban Interface fires are wildfires that occur in wilderness areas and then burn into urban communities as urban conflagration.

History & Probability, Including Range of Anticipated Intensities

Table 9: Largest Orange County Wildfires since 1914

Wildfires are a significant threat to Orange County, where a regular pattern of warm, dry conditions in the summer are followed by periods of high-speed winds with even lower humidity in the fall, creating prime conditions for wildfires to grow quickly and exhibit extreme fire behavior. In most recent years, the 2024 Airport Fire burned 23,000 acres and destroyed 160 structures. The 2022 Coastal Fire burned 200 acres and damaged/destroyed 31 structures. In 2020, the Bond Fire burned 6,585 acres destroying 51 structures damaged/destroyed. The 2017 Canyon 2 Fire burned 9,217 acre with over 50 structures damaged or destroyed. In 2008, the Freeway Complex Fire burned over 30,000 acres, damaging or destroying over 300 structures and in 2007, the Santiago Fire burned for 31 days, charring over 28,000 acres and destroying homes. In 1993, the Laguna Beach Fire burned 14,337 acres and 441 structures. In all the majority of cases above, the fire burning in Orange County was one of several major wind-driven fires burning in Southern California. Looking back further, Orange County has had a history of even larger fires that pre-date much of the development that occurred in the last part of the 20th century. The 1958 Steward Fire burned nearly 70,000 acres in Southeastern Orange County and the Cleveland National Forest, its footprint covering much of what is now the community of Coto de Caza. The

Largest Orange County Wildfires since 1914		
Year	Fire Name	Acreage
1958	Steward Fire	68,100
1948	Green River Fire	53,080
1967	Paseo Grande Fire	51,070
2008	Freeway Complex Fire	30,305
1980	Indian Fire	28,940
2007	Santiago Fire	28,476
2024	Airport Fire	23,526
1993	Ortega Fire	21,384
2018	Holy Fire	21,136
1982	Gypsum Fire	20,142
1914	Unnamed (Near Irvine Lake)	18,755
1980	Owl Fire	18,332
Source: Cal Fire FRAP Fire Perimeters		

1948 Green River Fire burned over 50,000 acres in Northeastern Orange County, its footprint covering most of what is now Anaheim Hills.

Fires Although communities without Wildland Urban Interface are much less likely to experience a catastrophic fire, urban fires, potentially as a cascading impact of high winds or major earthquake, are a real, if more unlikely threat. The 1989 Loma Prieta Earthquake, the 1991 Oakland Hills Fire, and Japan's recent Hokkaido Nansei-oki Earthquake all demonstrate the possibility of a large fire developing into a conflagration. In Orange County, the April 1982 apartment fires in the City of Anaheim illustrated the capability for urban conflagration in Orange County. The fire broke out shortly before dawn and, fueled by Santa Ana winds, quickly swept through a four-block area near Cerritos Avenue and Euclid Street, ultimately destroying several hundred apartment units as well as other homes and businesses.

A wildland-initiated community conflagration is when a fire starts in the wildland and burns out of control and spreads quickly into densely populated areas. In Orange County there are large areas of wildland urban interface where this type of scenario can occur.

Fire intensities may be described by the metrics below. The full range of intensities is possible within Orange County.

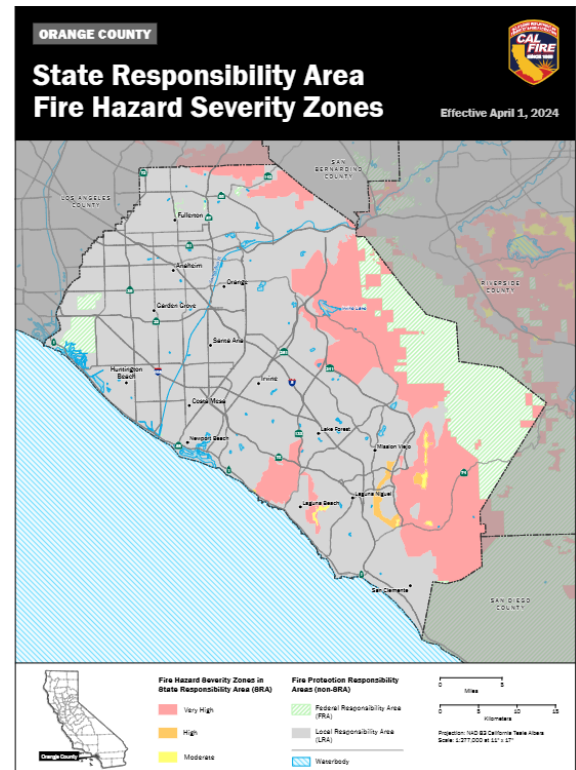
Fire Type	Intensity Rating System	Key Metrics
Wildland Fire	Byram's fireline intensity, Fire Behavior Fuel Models	Flame length, kW/m, fuel model, spread rate
Urban Fire	Fire load, HRR, NFPA hazard class	BTU/sq ft, HRR (kW), time to flashover

Vulnerability, Assets, and Impact

Continued development in the Wildland Urban Interface means the wildland fire threat will increase in the coming years.

Category	Vulnerability Factors	Assets at Risk
People	Population density near wildland interface; vulnerable groups (elderly, disabled); limited evacuation routes	Residential communities; schools; hospitals; vulnerable populations (elderly, disabled, low-income groups)

Figure 13: State Responsibility Area Fire Hazard Severity Zones



Category	Vulnerability Factors	Assets at Risk
Property	Combustible building materials; inadequate defensible space; aging infrastructure	Residential homes; commercial buildings; public facilities; utilities infrastructure (power lines, water systems); transportation networks
Environment	Drought conditions; accumulation of dry vegetation; invasive species	Forests; shrublands; wildlife habitats; watersheds; air and water quality
Operations	Limited firefighting resources; communication breakdowns; access challenges	Fire stations and equipment; emergency communication systems; transportation routes; supply chain logistics; emergency response personnel

Impact Area	Description of Impact
Public	Displacement due to evacuations, health risks (smoke inhalation), psychological trauma, disruption of community life. Unhoused populations might need temporary and long-term shelters, and assistance in restoring vital records.
Responders	Increased risk of injury/death, fatigue, resource shortages, challenging operational environments, increased drawn-down on public safety resources within the county.
Continuity of Operations	Interruptions to emergency response, utilities, healthcare, and other essential public services
Property, Facilities, Assets, and Critical Infrastructure	Damage or destruction of public/private buildings, roads, utilities, communication networks, and other vital infrastructure and adjacent properties. Damage to infrastructure is also a primary concern with urban and wildland fire, with utility assets throughout the county, clustered in the Wildland Urban Interface and networks often extending into the wildland itself. Furthermore, major urban and wildland fires have the potential to cause road closures. Although it is still being investigated, it is now believed that when there is a loss of properties and water system pressure losses due to wildland fires, the probability of benzene contamination within drinking water systems is high.
Supply Chain	Disruption of transportation routes and delivery of goods and services, leading to shortages and delays. Emergency supplies in stores may be low or unavailable.

Impact Area	Description of Impact
Environment	Loss of ecosystems, including animals and plants, increased air pollution, soil degradation, risk of secondary hazards such as flooding and erosion.
Economic and Financial Conditions, Including Community Activities	Direct losses from damage, costs of firefighting and recovery including operating hours depreciating fire equipment, decreased property values, reduced tourism and business activity. Initial loss of structures and the subsequent loss of revenue from destroyed business and decrease in tourism. Direct and indirect costs to local businesses that excuse employees from work to evacuate their homes, check on their families and pets, and recover from any losses. Homes and businesses within the impacted fires zones may not have insurance to cover damages. Without assistance, it may be difficult to rebuild homes and re-establish businesses.
Public Confidence in Local Government	Potential loss of trust if response and preparedness are inadequate, dissatisfaction with recovery and communication efforts. The public may begin questioning the leadership about response priorities and investment in public infrastructure.

Resources

Orange County Fire Authority: local wildfire preparedness, risk assessments, evacuation plans, and public safety information.

Website: www.ocfa.org

CAL FIRE (California Department of Forestry and Fire Protection): Statewide wildfire risk maps, incident reports, hazard assessments, and fire prevention programs.

Website: www.fire.ca.gov

U.S. Forest Service Fire and Aviation Management: Research, data, and resources on wildfire risk, fire ecology, and management strategies.

Website: www.fs.usda.gov/managing-land/fire

California Fire Science Consortium (CFSC): offers reports, webinars, and data on wildfire risk and impacts.

Website: www.cafiresci.org

Wildfire Risk to Communities Map (Cal Fire & US Forest Service): Interactive maps showing wildfire risk, exposure, and vulnerability down to the community level.

Website: www.wildfirerisk.org

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Chapter 3 CONCEPT OF OPERATIONS

The EOP addresses a spectrum of contingencies, ranging from relatively minor incidents to large-scale disasters. Some emergencies are preceded by a buildup or warning period, providing time to warn the public and implement measures designed to reduce loss of life, property damage, and effects on the environment. Other emergencies occur with little or no advanced warning, requiring immediate implementation of the EOP and the mobilization and deployment of resources. All departments of the County and OA jurisdictions must be prepared to respond to any foreseeable emergency, taking all appropriate actions, including requesting and providing mutual aid.

The phases of emergency management are:

Mitigation	Mitigation occurs before and after emergencies or disasters. Pre-disaster mitigation improves community resiliency before a disaster causes loss of life, damage to property and adversely effects on the environment. Post-disaster mitigation is part of the recovery process. This includes eliminating or reducing the impact of hazards that exist within a jurisdiction.
Preparedness	The preparedness phase involves activities taken in advance of an emergency or disaster. These activities develop County and OA capabilities for response to disasters. Disaster plans are developed and revised to guide response efforts and manage resources. Planning activities include developing hazard analyses, training and exercising response personnel, purchasing equipment, and improving public information and communications systems.
Prevention	The prevention phase includes activities, tasks, programs, and systems intended to avoid or intervene in order to stop an incident from occurring. Prevention applies to human-caused incidents (such as terrorism, vandalism, sabotage, or human error) as well as to naturally occurring incidents.
Response	The response phase is the period during and immediately after a disaster or emergency in which actions are taken to protect life, property, and the environment.
Recovery	Recovery activities involve the restoration of services to the public and returning the affected area(s) to close to pre-emergency conditions as possible. Recovery activities may be short-term and long-term, ranging from restoration of essential utilities such as water and power, to mitigation measures designed to prevent or minimize future occurrences of a given threat.

3.1 Sequence of Events During Disaster and Emergencies

The Unified EOP Concept of Operations Section focuses on the three mission areas associated with an impending or active disaster: prevention, response, and transitioning to recovery.

Prevention: Before the Event

Routine monitoring for alerts, advisories, watches and warnings

Local emergency management and response officials monitor events and the environment to identify threats that may affect their jurisdiction and increase the awareness level of the emergency organization and the community when a threat is approaching or imminent.

Increased readiness

Sufficient warning allows response organizations to increase readiness and their ability to effectively respond as the emergency occurs, actions include:

- Briefing local officials
- Reviewing plans and procedures
- Preparing and disseminating information to the community
- Testing systems such as communication and warning systems
- Updating resource lists
- Precautionary activation of the Emergency Operations Center(s) and Department Operations Centers

When an event is deemed as highly likely, warning systems are activated, resources are mobilized, and evacuations may be initiated.

Response: During the Event

Alert and Notification

Response agencies are alerted about an incident by the public through the 9-1-1 system, or by the California State Warning Center, the National Weather Service, or another agency or method.

Resource Mobilization

Response agencies activate personnel and mobilize to support the incident response. As the event escalates and expands, additional resources are activated and mobilized as a continuous process throughout the event. This includes resources from within the affected jurisdiction, or when resources are exhausted, from unaffected jurisdictions.

Incident Response

Immediate response to an incident is the responsibility of the affected local jurisdiction(s). First responders arrive at the incident and function according to field-level plans and procedures. Responding agencies manage all incidents in accordance with ICS doctrine and procedures.

Establishing Incident Command

First responders and affected jurisdictions establish Incident Command to direct, order and control resources. Initial actions are coordinated through the on scene Incident Commander (IC).

The IC develops an initial Incident Action Plan (IAP), which sets priorities for the incident, assigns resources, and includes a common communications plan. If multiple jurisdictions or agencies are involved, the first responders may establish a Unified Command (UC) to facilitate multi-jurisdictional and multi-agency operational decision-making within existing agency policies and legal authorities. The IC may implement an Area Command model to oversee multiple incidents that are managed by separate ICS organizations or to oversee the management of large or evolving incidents.

One element of establishing Incident Command is for impacted jurisdictions to identify the Agency Administrator. An Agency Administrator is the official responsible for administering policy for an agency or jurisdiction. Unless otherwise designated by the BOS, the CEO signs as the County's Agency Administrator.

Local EOC

Local jurisdictions activate their EOC based on the magnitude or need for more coordinated management of the emergency. When activated, local EOCs form a common operating picture of the incident by collecting, analyzing, and disseminating emergency information. The local EOC can also improve the effectiveness of the response by reducing the amount of external coordination of resources by the IC by providing a single point of contact to support multi-agency coordination. When activated, the local EOC notifies the OA EOC.

Department Operations Center (DOC)

Individual agencies may activate their Department Operations Center (DOC) as their central point of communication and coordination. A DOC is responsible for both assessing the status of their agency and its core functions and establishing their agency's ability to provide resources to the response to the incident itself, usually through coordination with the County/OA EOC.

Operational Area EOC

As described more fully in section 4.9, the County EOC acting as either the County, OA, or OA and County EOC activates for incidents involving unincorporated County area or more complex and sustained incidents. Once activated, the OA EOC coordinates information and resource requests from the affected jurisdictions. If resources are not available within the OA, the OA EOC forwards the resource requests to the Cal OES Southern Region and to mutual aid coordinators.

Cal OES Southern Region

Whenever an OA EOC is activated, the Cal OES Regional Administrator activates the Cal OES Southern Region and notifies Cal OES Headquarters. The Cal OES Southern Region coordinates information and resource requests from the affected OA(s). If resources are not available within the affected region, the Cal OES Southern Region forwards resource requests to the State Operations Center (SOC) for coordination.

The State Operations Center (SOC)

The SOC is activated when the Cal OES Southern Region activates in order to:

- Process resource requests between the affected regions, unaffected regions, and state agencies.
- Coordinate interstate resource requests as part of the Emergency Management Assistance Compact (EMAC).
- Process requests for federal assistance and coordinate with Federal Incident Management Assistance Teams when established.

FEMA Regional Response Coordination Center (RRCC)

The FEMA RRCC activates to provide federal support for activities in response to federally declared disasters. This will be completed by the FEMA Region IX RRCC.

Sustained Operations

As the incident continues, further emergency assistance is provided to victims of the disaster and efforts are made to reduce the likelihood of secondary damage.

Recovery: Transition

As the initial and sustained operational priorities are met, emergency management officials consider the recovery phase needs. Short-term recovery activities include returning critical infrastructure and key resources to minimum operating status. Long-term recovery activities are designed to return to normal operations. During the recovery phase, damage is assessed, local assistance centers, and disaster recovery centers may be opened; and hazard mitigation surveys are performed. Recovery planning includes strategies to avert or mitigate future effects of hazards and threats. Additional information is found in the County of Orange and Orange County Operational Area Recovery Plan.

3.2 County and OA EOC Organization and Assignment of Responsibilities

This section describes the organization of the County and OA EOC, outlining each position's roles and responsibilities and identifying those organizations and individuals responsible for staffing each position or serving as successors or alternates.

The requirement to use SEMS, NIMS, and ICS includes fulfilling the management and coordination role of local government, and providing for the five essential functions: Management, Operations, Planning and Intelligence, Logistics, and Finance and Administration (California Code of Regulations 19.2403).

It is important to note that the organizational structure described in this section describes the County and Operational Area's ultimate capability and full staffing of all potential EOC positions. Figure 14 depicts the anticipated organizational structure within the County/OA EOC. The Incident Command System is flexible, modular by nature; it will be rare that every position and organizational element identified in this section will be active simultaneously. Additionally, branches or positions can be created as needed. The incident will dictate which elements require staffing. In addition, it may be determined by the DES, in consultation with the Section Chiefs, that one element of the organization can manage the responsibilities of those elements under it. For example, the Finance and Administration Section Chief may be able to handle the responsibilities

of the Claims and Compensation and Time and Cost Units. In that case, the supporting Units will not be staffed, but the Finance and Administration Section Chief will have responsibility for performing the functions of those Units, as necessary. If the organization is not fully expanded, then supervisory positions are responsible for performing the functions of the un-staffed Units, Groups, Branches, or Sections (as applicable) they oversee.

Figure 15 identifies which agencies or departments have primary and secondary responsibility for each position.

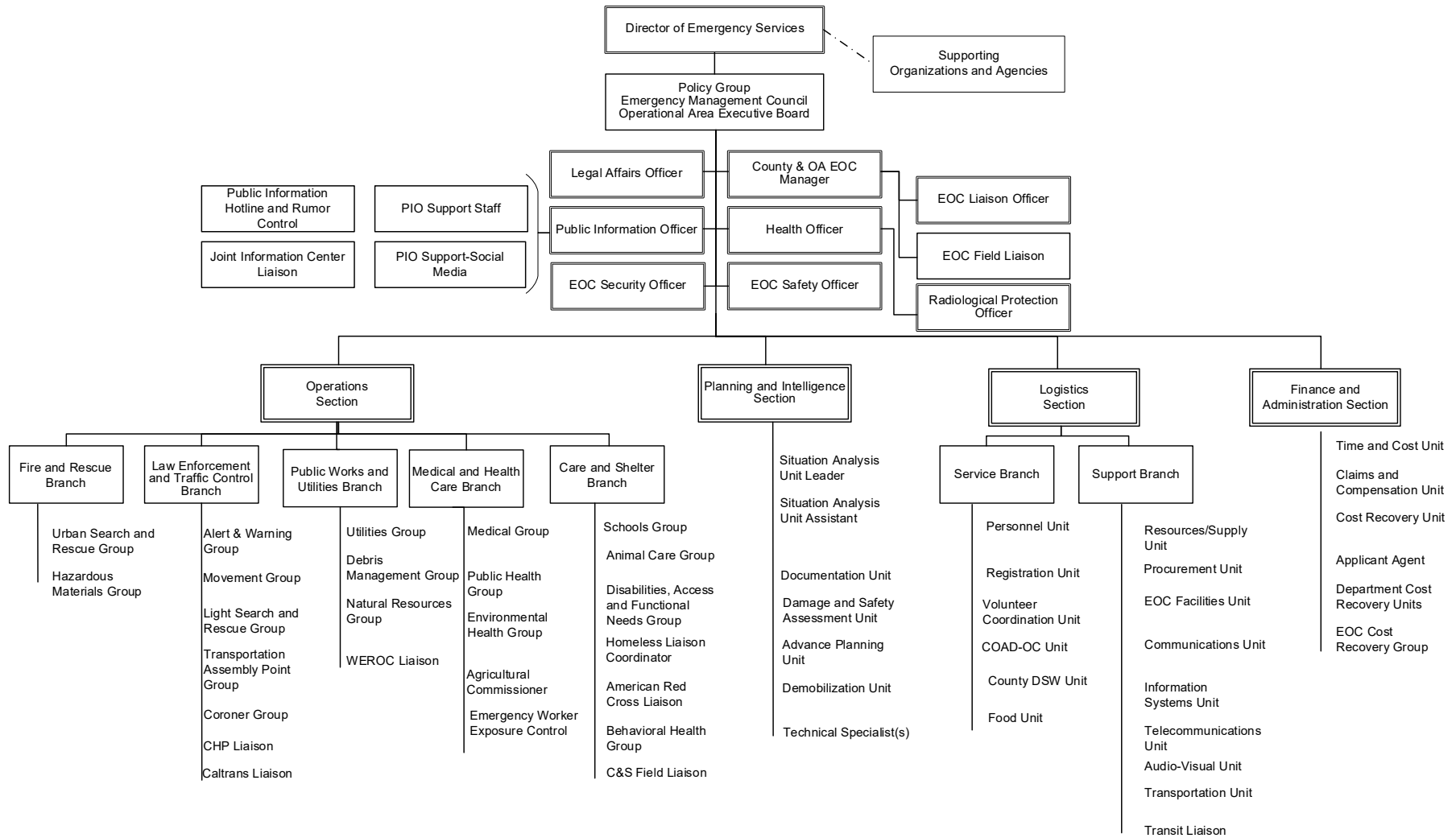
Figure 16 provides additional detail on the anticipated number of Support Pool staff members each agency or department is anticipated to provide to support the EOC within a 24-hour activation period. This number is in addition to any positions identified for specific positions.

Note: In reading the Assignment of Primary Responsibility and Position Successors in each Position Description, it should be noted that the assignments represent the individual position titles provided to each person by their department. Position titles (e.g., supervisor, leader, director, etc.) in those sections have no relation to ICS and no implications on the EOC organizational structure.

County of Orange and Orange County Operational Area
Unified Emergency Operations Plan

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Figure 14: County and Operational Area EOC Organization Chart



County of Orange and Orange County Operational Area
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Figure 15: Operational Area EOC Assignment of Responsibilities Matrix

C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Management Section								
	DES	Policy Group	County/OA EOC Manager	EOC Liaison Officer	EOC Field Liaison	Legal Affairs Officer	Public Information Officer	PIO Support Staff	PIO Support-Social Media
Assessor								S	
Auditor-Controller								S	
Board of Supervisors		P						S	
CEO	C	P					C	S	S
Child Support Services								S	
Clerk of the Board								S	
Clerk/Recorder								S	
County Counsel						P		S	
District Attorney								S	
Health Care Agency		P					C	S	S
John Wayne Airport		P						S	
OC Community Resources		P						S	
OC Public Works		P					C	S	S
OC Waste & Recycling		P						S	
Probation		P						S	
Public Defender								S	
Registrar of Voters								S	
Sheriff/Emergency Management Division			P	P	P			S	P
Sheriff-Coroner	C	P					C	S	S
Social Services Agency		P						S	
Treasurer/Tax-Collector								S	
American Red Cross								S	S
Department of Education								S	
OC Fire Authority	C	P					C	S	S
OC Transportation Authority		P						S	
Superior Court of California, Orange County								S	
WEROC								S	
COAD-OC								S	
211								S	

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C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Management Section						
	Public Information Hotline and Rumor Control Supervisor	Public Information Hotline & Rumor Control Support	Health Officer	Radiological Protection Officer	EOC Safety Officer	EOC Security Officer	Joint Information Center Liaison
Assessor		S					
Auditor-Controller		S					
Board of Supervisors		S					
CEO		S			P		C
Child Support Services		S					
Clerk of the Board		S					
Clerk/Recorder		S					
County Counsel		S					
District Attorney		S					
Health Care Agency		S	P	P			
John Wayne Airport		S					
OC Community Resources		S					
OC Public Works		S					
OC Waste & Recycling		S					
Probation		S					
Public Defender		S					
Registrar of Voters		S					
Sheriff/Emergency Management Division	P	S					
Sheriff-Coroner		S				P	C
Social Services Agency		S					
Treasurer/Tax-Collector		S					
American Red Cross		S					
Department of Education		S					
OC Fire Authority		S					C
OC Transportation Authority		S					
Superior Court of California, Orange County		S					
WEROC		S					
COAD-OC		S					
211		S					

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C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Planning and Intelligence Section													
	Planning and Intelligence Section Chief	Situation Analysis Unit Leader	Situation Analysis Unit Assistant	Situation Analysis Support Staff (SASS) Supervisor	Situation Analysis Support Staff (SASS)	SASS-Resource Status & Tracking	GIS Specialist	Messenger Supervisor	Messengers	Documentation Unit Leader	Documentation Support Staff	Damage and Safety Assessment Unit	Advanced Planning Unit Leader	Demobilization Unit Leader
Assessor					S	S			S	S		S		
Auditor-Controller					S	S			S	S		S		
Board of Supervisors														
CEO										S		S		
Child Support Services					S	S			S	S		S		
Clerk of the Board					S	S			S	S		S		
Clerk/Recorder					S	S			S	S		S		
County Counsel										S		S		
District Attorney					S	S			S	S		S		
Health Care Agency	C	C			S	S			S	S		S	C	C
John Wayne Airport										S		S		
OC Community Resources					S	S			S	S		S		
OC Public Works	C	C			S	S	S		S	S		P	C	C
OC Waste & Recycling					S	S			S	S		S		
Probation					S	S			S	S		S		
Public Defender					S	S			S	S		S		
Registrar of Voters					S	S			S	S		S		
Sheriff/Emergency Management Division					S	S			S	S		S		
Sheriff-Coroner	C	C			S	S	S		S	S		S	C	C
Social Services Agency					S	S			S	S		S		
Treasurer/Tax-Collector					S	S			S	S		S		
American Red Cross		S								S		S		
Department of Education										S		S		
OC Fire Authority	C	C								S		S	C	C
OC Transportation Authority										S		S		
Superior Court of California, Orange County					S	S			S	S		S		
WEROC		S								S		S		
COAD-OC		S								S		S		
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C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Operations Section																
	Operations Section Chief	Fire and Rescue Branch	Urban Search and Rescue Group	Hazardous Materials Group	Law Enforcement and Traffic Control Branch	Alert & Warning Group	Movement Group	Light Search and Rescue Group	Transportation Assembly Point Group	Coroner Group	CHP Liaison	Caltrans Liaison	Public Works and Utilities Branch	Utilities Group	Debris Management Group	Natural Resources Group	WEROC Liaison
Assessor																	
Auditor-Controller																	
Board of Supervisors																	
CEO																	
Child Support Services																	
Clerk of the Board																	
Clerk/Recorder																	
County Counsel																	
District Attorney																	
Health Care Agency	C																
John Wayne Airport																	
OC Community Resources																P	
OC Public Works	C												P	P	P	S	
OC Waste & Recycling															S		
Probation																	
Public Defender																	
Registrar of Voters																	
Sheriff/Emergency Management Division																	
Sheriff-Coroner	C				P	P	P	P	P	P							
Social Services Agency																	
Superior Court of California, Orange County																	
Treasurer/Tax-Collector																	
American Red Cross																	
Department of Education																	
OC Fire Authority	C	P	P	P													
OC Transportation Authority																	
WEROC																	P
COAD-OC																	
Caltrans												P					
California Highway Patrol											P						
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C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Operations Section														
	Medical & Health Care Branch	Medical Group	Public Health Group	Environmental Health Group	Agricultural Commissioner	Emergency Worker Exposure Control	Care & Shelter Branch	Schools Group	Animal Care Group	Disabilities, Access & Functional Needs Group	Homeless Liaison Coordinator	American Red Cross Liaison	Access and Functional Needs Group Supervisor	Behavioral Health Group	Care and Shelter Field Liaison
Assessor															
Auditor-Controller															
Board of Supervisors															
CEO										P	P		P		
Child Support Services															
Clerk of the Board															
Clerk/Recorder															
County Counsel															
District Attorney															
Health Care Agency	P	P	P	P		P								P	
John Wayne Airport															
OC Community Resources									P						
OC Public Works					P										
OC Waste & Recycling															
Probation															
Public Defender															
Registrar of Voters															
Sheriff/Emergency Management Division															
Sheriff-Coroner															
Social Services Agency							P								P
Superior Court of California, Orange County															
Treasurer/Tax-Collector															
American Red Cross												S			
Department of Education								P							
OC Fire Authority															
OC Transportation Authority															
WEROC															
COAD-OC												S			
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	Logistics Section															
	Logistics Chief	Service Branch	Personnel Unit	Registration Unit	Volunteer Unit	COAD-OC Unit	County DWS Unit	Food Unit	Support Branch	Resources and Support Unit	Procurement Unit	EOC Facilities Unit	Communications	Information Systems Unit	Telecommunications Unit	Audio-Visual Unit
C=Contingent Upon the Hazard S=Support Responsibility P=Primary Responsibility																
Assessor								S								
Auditor-Controller								S								
Board of Supervisors								S								
CEO	P	P	P		P		P	S	P	P	P	S		S	P	
Child Support Services								S								
Clerk of the Board								S								
Clerk/Recorder								S								
County Counsel								S								
District Attorney								S								
Health Care Agency								S								
John Wayne Airport								S								
OC Community Resources								S								
OC Human Resources								S								
OC Public Works								S								P
OC Waste & Recycling								S								
Probation								S								
Public Defender								S								
Registrar of Voters								S								
Sheriff/Emergency Management Division				P				P				S		S	S	S
Sheriff-Coroner								S				P	P	P	S	P
Social Services Agency								S								
Superior Court of California, Orange County																
Treasurer/Tax-Collector								S								
American Red Cross																
Department of Education																
OC Fire Authority																
OC Transportation Authority																P
WEROC																
COAD-OC					S	P	y									
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C=Contingent Upon the Hazard P=Primary Responsibility S=Support Responsibility	Finance & Administration Section						
	Finance and Administration	Time and Cost Unit	Claims and Compensation Unit	Cost Recovery Unit	Applicant Agent	Department Cost Recovery (offsite)	EOC Cost Recovery Group
Assessor			S			P	
Auditor-Controller		P	S	P		P	
Board of Supervisors							
CEO	P		P			P	
Child Support Services			S			P	
Clerk of the Board			S			P	
Clerk/Recorder			S			P	
County Counsel			S			P	
District Attorney			S			P	
Health Care Agency			S			P	
John Wayne Airport			S			P	
OC Community Resources			S			P	
OC Public Works			S		P	P	
OC Waste & Recycling			S			P	
Probation			S			P	
Public Defender			S			P	
Registrar of Voters			S			P	
Sheriff/Emergency Management Division			S			P	P
Sheriff-Coroner			S			P	
Social Services Agency			S			P	
Treasurer/Tax-Collector			S			P	
American Red Cross			S			S	
Department of Education			S			P	
OC Fire Authority			S			P	
OC Transportation Authority			S			P	
Superior Court of California, Orange County			S			P	
WEROC			S			S	
COAD-OC			S			S	
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Figure 16: EOC Support Pool Staffing Assignments by Agency per 24 Hour Period

	Total Agency/Departme nt Employees (OCHR 5/2025)	Pool Distribution for a 24 hour period (formula used is 1 support staff for every 100 agency employees)	Primary EOC Positions (Low/High Staffing)	Level Three EOC Activation	Level Two EOC Activation	Level One EOC Activation
Assessor	249	3	0	0	1	3
Auditor-Controller	398	4	2	0	1	2
Board of Supervisors (all districts)	46	1	1	0	0	1
County Executive Office	563	6	2	1	0	1
Child Support Services	311	3	0	0	1	4
Clerk of the Board	23	1	0	0	1	1
Clerk Recorder	107	1	0	0	1	1
Community Resources*	995	10	2	0	2	4
County Counsel	96	1	1	0	0	0
District Attorney	842	8	0	0	1	7
Health Care Agency*	2540	25	6	0	4	14
John Wayne Airport	180	2	1	0	0	0
Probation	886	9	1	0	5	10
Public Defender	438	4	0	0	1	3
Public Works*	739	7	4	0	1	1
Registrar of Voters	71	1	0	0	1	1
Sheriff Department*	3722	37	7 but as much as 18**	0	9	18
Social Services Agency*	4359	43	2	0	7	30
Superior Court	1579	15	0	0	4	14
Treasurer-Tax Collector	66	1	0	0	1	1
Waste & Recycling	281	3	1	0	1	1
Total	18,491	185	30/41**	0	4 2	117
*Denotes Agencies/Departments that may have field response activities based upon the emergency/incident.						
** Denotes Departments/Agencies staffing levels based upon the emergency/incident and designated lead department/agency						

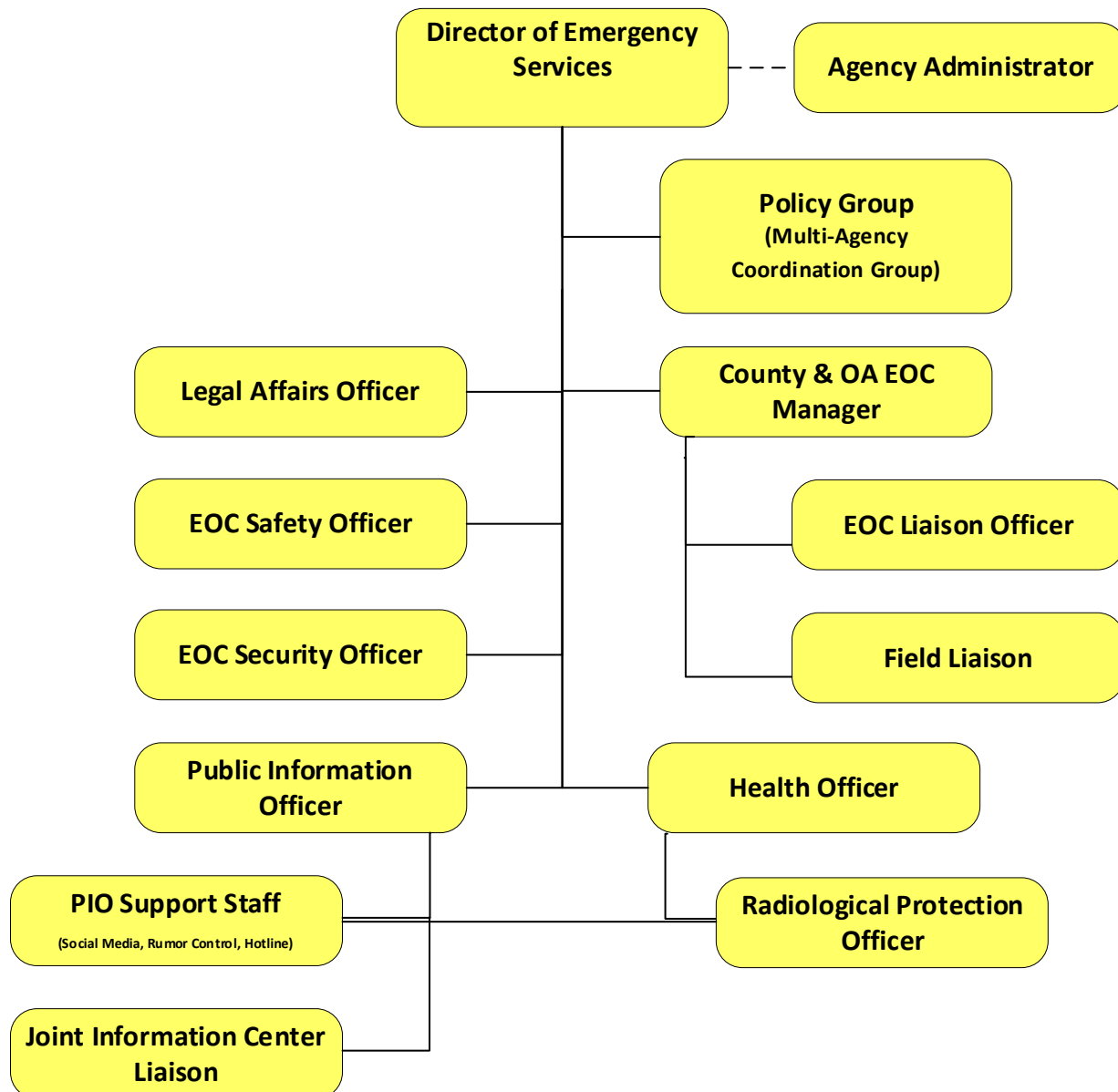
3.2.1 Management Section

Figure 17: Org chart for the Management Section

In Orange County, the Management Section can be broken into two components both overseen by the Director of Emergency Services (DES): the Policy Group and the Management Support. The Management Section positions pre-identified for the County/OA EOC are:

- Director of Emergency Services
- Legal Affairs Officer
- EOC Safety Officer
- EOC Security Officer

-
- Public Information Officer
 - PIO Support staff
 - Joint Information Center Liaison
 - County & OA EOC Manager
 - EOC Liaison Officer
 - Field Liaison
 - Health Officer
 - Radiological Protection Officer
 - Policy Group Members

3.2.1.1 Director of Emergency Services (DES)

Assignment of Primary Responsibilities

If a disaster occurs in the unincorporated areas of the County or if use of County resources are required or impacted, the Director of Emergency Services will direct and coordinate the County's response efforts, in conformance with its Emergency Services Ordinance.

If a disaster occurs in more than one jurisdiction, the DES will act as the Operational Area Coordinator (OAC) and serve as the key decision-maker in the County/OA EOC by providing the direction and coordination necessary to accomplish the objectives specified in the OA Agreement and the responsibilities will be assigned to the OA Lead as specified in the California Code of Regulations, Title 19, Section 2409 (or §2409).

The Director of Emergency Services (DES) is designated by the County of Orange and will direct the County emergency organization during times of emergency. By agreement with the Operational Area jurisdictions, the County of Orange DES will also serve as the Orange County Operational Area Coordinator (OAC), the primary point for coordination of mutual aid assistance, and information sharing between jurisdictions. The DES will normally operate from and be supported by the County and Operational Area Emergency Operations Center. Per Resolution 22-001, the DES will direct the emergency organization during times of emergency. The designated DES will direct the County's emergency organization during an emergency that impacts the unincorporated areas of the county.

Based on the type of disaster described below, the DES will be the incumbent of the position see below:

Director of Emergency Services Designation

EMERGENCY	DES	EMERGENCY	DES
Act of War	Sheriff-Coroner	Flood	County Executive Officer
Air Quality	County Executive Officer	Hazardous Materials Release	OCFA Fire Chief
Aircraft Accident	OCFA Fire Chief	Marine Oil Spill	County Executive Officer
Civil Disturbance	Sheriff-Coroner	Rail Accident Incident	OCFA Fire Chief
Dam and Reservoir Failure	County Executive Officer	Nuclear Power Plant or Storage Facility Emergency	Sheriff-Coroner
Debris Flow/Landslide	County Executive Officer	Severe Weather (Storms/High Winds/Excessive Temperatures)	County Executive Officer
Disaster Recovery	County Executive Officer	Terrorism (Targeted Violence, Cyber)	Sheriff-Coroner
Drought	County Executive Officer	Threat of an Epidemic or a Declared Epidemic	County Executive Officer
Earthquake	Sheriff-Coroner	Threat to Animals and/or Livestock	County Executive Officer
Energy Crisis and Power Outages	Sheriff-Coroner	Tsunami	Sheriff-Coroner
Fire (Urban and Wildland)	OCFA Fire Chief	Out of County Mutual Aid	Sheriff-Coroner

*Mass casualty is incorporated into the above hazards as a consequence of the hazard.

Responsibilities of the Director of Emergency Services

The Director of Emergency Services has both formal duties (i.e., outlined by law, ordinance, or agreement) and informal duties (i.e., outlined herein based upon SEMS, NIMS, and past activations and exercises).

Formal Responsibilities

County Ordinance 3-1-6: In the event of a proclamation of Local Emergency as herein provided, the proclamation of a state of emergency by the Governor or the Director of the State Office of Emergency Services, or the existence of a "state of war emergency," the Director of Emergency Services is empowered to:

- Rules and regulations. Make and issue rules and regulations on matters reasonably related to the protection of life and property as affected by such emergency.
- Obtain supplies and equipment. Obtain vital supplies, equipment, and any other properties found lacking and needed for the protection of life and property and to bind the County for the fair value thereof and, if required immediately, to commandeer the same for public use.
- Command the aid of citizens. Require emergency services of any County officer or employee and, in the event of a state of war emergency, state of emergency, or local emergency, command the aid of as many citizens of this County as (s)/he deems necessary in the execution of his/her duties; such persons shall be entitled to all privileges, benefits, and immunities as are provided by state law for disaster services workers.
- Requisition county personnel and material. Requisition necessary personnel or material of any County agency/ department.
- Initial emergency measures. All emergency measures taken by the Director of Emergency Services prior to the issuance of an official proclamation of emergency, or prior to any decision of the Board not to issue such proclamation, shall be legal and binding upon the County.

County Resolution 22-001

- Direction and Control: Serve as a key decision-maker in the emergency organization providing direction and control necessary to accomplish the purpose of the resolution.
- County Representative: Represent the County in all dealings with the public or private agencies on matters pertaining to emergencies as defined.
- Emergency Public Information: Appoint a Public Information Officer to coordinate the dissemination of all emergency information, press releases, and public initiation of rumors, as appropriate to the type of emergency confronting the County.

Operational Area Agreement

Per the Orange County Operational Area Agreement, when the emergency impacts Operational Area (OA) jurisdictions the designated Director of Emergency Services (DES) is assigned additional duties as the Operational Area Coordinator and is also responsible for ensuring direction, coordination, and communication of policy decisions, resource needs, and priorities between OA jurisdictions and the State throughout the emergency. Note: Individual disciplines (e.g., law, fire,

health) have Operational Area Coordinator positions defined by law with limited powers within their discipline for coordinating between the local government and the State; the DES role as OAC is specifically within the boundaries of Orange County and not discipline-specific.

- Direction and Coordination: Serve as key decision maker, in the County and OA Emergency Operations Center, providing direction and coordination necessary to accomplish the purposes of the Operational Area Agreement and responsibilities of the Operational Area Lead as specified in Title 19 California Code of Regulations Section 2409 (e).
- Operational Area Representative: Represent the Operational Area in all dealings with the public or private agencies on matters pertaining to emergencies.
- Appoint a Public Information Officer to coordinate the dissemination of all emergency information, news media releases, and public statements, and to manage conflicting information, misinformation, and the initiation of rumors, as appropriate to the type of emergency confronting the County of Orange.

Informal Responsibilities

- Serves as key decision maker in the County and Operational Area EOC, providing direction and coordination.
- Ensures Whole Community strategy is incorporated across the emergency response and recovery efforts.
- Authorizes the activation and deactivation of the County/OA EOC.
- Establishes the appropriate level of organization and staffing necessary to support operations and continuously monitor the effectiveness of that organization.
- Works with the EOC Manager to appoint all Section Chiefs.
- Ensures that the County Board of Supervisors and elected officials or their representatives are briefed on the status of the emergency and the EOC Action Plan.
- Requests the County Board of Supervisors proclaim the existence or threatened existence of a Local Emergency in the County if necessary.
- Provides status update reports to the Board of Supervisors on the need to continue or terminate Local Emergency Proclamation.
- Authorizes communications and alert and warning systems including AlertOC, WEA, and EAS; in conjunction with Unified Command/Incident Commander.
- Approves all EOC news media releases.
- Serves as the lead official for the State Multi-Agency Coordination System (MACS), ensuring multi-agency and inter-agency coordination.
- In conjunction with the Policy Group and Section Chiefs, sets priorities for emergency response efforts and ensures all organizational actions are accomplished as established.
- Approves the EOC Action Plan and Situation Summary Reports.
- Responsible for all resources, services, and operations.
- Ensures collection of, evaluation, and dissemination of damage assessments and other essential information.
- Coordinates with County Counsel and Board of Supervisors on establishing, delineating, or describing the demobilization of policy making authority for extended response and recovery.

- Transitions role and authorities to the Recovery DES when appropriate.

Alternates to the DES

The lines of succession for the DES are outlined in Board Resolution No. 22-001. Each incumbent of a position eligible to act as Director of Emergency Services will annually designate, by name and in writing, a minimum of three alternates. This designation will be filed with the County Emergency Manager no later than January 15th of each year.

Line of Succession.

In the event that the designated Director of Emergency Services and the designated alternates from that agency/department are not available to serve in the capacity of the Director of Emergency Services, the following line of succession will be used to ensure continuity of government during time of emergency.

- Sheriff-Coroner and a minimum of three designated alternates.
- Fire Chief, Orange County Fire Authority and a minimum of three designated alternates.
- County Executive Officer and a minimum of three designated alternates.
- Director, OC Public Works and a minimum of three designated alternates.
- Director, Health Care Agency and a minimum of three designated alternates.
- Director, Social Services Agency and a minimum of three designated alternates.

3.2.1.2 Policy Group

The Policy Group represents the Multi Agency Coordination Group for the County of Orange and the Orange County Operational Area. Whether composed of the EMC or OA Executive Board as described below, the individuals filling these roles must be able to set and establish policy for their respective discipline, and advise the DES on critical issues before, during, and after incidents. There is no minimum or maximum number that must be present or consulted during an incident, and combinations of the two groups may be activated depending upon the nature and scope of the incident.

Assignment of Primary Responsibility

The Policy Group consists of representatives of organizations with direct (functional) emergency response responsibilities. Their function is to establish response policies for the County and OA and to establish priorities for the allocation of resources. The Policy Group is composed of the following members:

County of Orange Emergency Management Council

1. A member of the Orange County Board of Supervisors
2. A representative from the County Executive Office
3. A representative from Orange County Health Care Agency
4. A representative from John Wayne Airport
5. A representative from Orange County Community Resources
6. A representative from Orange County Public Works
7. A representative from Orange County Waste and Recycling

8. A representative from Orange County Fire Authority
9. A representative from Probation Department
10. A representative from Sheriff-Coroner Department
11. A representative from Social Services Agency

The Policy Group may also be expanded to include key representatives from the OA Executive Board.

Orange County Operational Area Executive Board

1. The Chair of the Orange County Board of Supervisors
2. The County Executive Officer
3. The OA Law Enforcement Mutual Aid Coordinator, the Orange County Sheriff
4. The OA Fire & Rescue Mutual Aid Coordinator, as selected by the Orange County Fire Chiefs Association
5. The OA Public Works Mutual Aid Coordinator, the Orange County Public Works Director
6. The OA Health Care Mutual Aid Coordinator, the Orange County Health Care Agency Director
7. The OA Water/Wastewater Mutual Aid Coordinator
8. The Orange County Social Services Agency Director
9. A representative selected jointly from the Orange County City Managers Association
10. A representative from the Orange County Chiefs of Police and Sheriff's Association
11. A representative from the Orange County Fire Chiefs Association
12. A representative from the Orange County City Engineers and Public Works Directors Association
13. A representative from Independent Special Districts of Orange County
14. The Orange County Superintendent of Schools, representing Orange County K-12 School Districts
15. A representative selected jointly from Orange County Community College Districts
16. The Orange County Transportation Authority Chief Executive Officer

Responsibilities of the Policy Group

- Establishes basic policies, which govern the manner and means in which the County and OA will respond to an anticipated or actual disaster.
- Provides support to the DES.
- Advises DES, furnishing them with critical data to view the incident from different perspectives.
- Assists in making executive decisions based on policies of the Board of Supervisors.
- Assists the DES in the development of rules, regulations, proclamations, and orders.
- Represents the County and Operational Area in other discipline specific multi/interagency coordination groups as appropriate.
- Serves as discipline specific Operational Area Coordinator when designated by California Government Code.
- Serves as discipline specific policy liaison to the organization they represent.

- Establishes demobilization plan of policy making functions.
- Specifics to the Board of Supervisor member present (not designee):
 - May directly communicate with state and federal officials on behalf of the County for resource prioritization.
 - Coordinates information flow on behalf of other BOS members and with the assistance of County Counsel, assess Brown Act compliance.

Position Alternates and Successors

Organizations with assigned positions on the Policy Group are responsible for developing protocols for position succession within their organizations.

3.2.1.3 County and Operational Area EOC Manager

Assignment of Primary Responsibility

The OCSD Emergency Management Division Director serves as the County and Operational Area Emergency Manager and EMMA Coordinator. Upon activation of the County and OA EOC, the County and OA Emergency Manager becomes the County and OA EOC Manager and assigns the role of EMMA Coordinator to the Logistics Section Chief.

Responsibility of the County/OA EOC Manager

- Determines if primary or alternate EOC location is appropriate, with assistance of Logistics Section Chief. See alternate EOC SOP.
- Advises the DES on EOC activation levels and staffing.
- Ensures physical set-up for and staffing of support staff in the County/OA EOC.
- Serves as the 24-hour contact for the County and OA, including that for the state, OA jurisdictions, and Mutual Aid Coordinators.
- Advises the DES, Policy Group, Management, and General Staff regarding emergency management issues, legislation, and previous (historical) actions.
- Develops and maintain all plans and procedures pertaining to emergency response and recovery involving the County and OA.
- Manages requests from other agencies for sending liaison personnel to other EOCs.
- Conducts Business Process Meeting (Attachment 3) during the outset of an activation, to establish the documentation and purchasing ability for the EOC during its activation.
- Coordinates with the County CEO's office to obtain job-code information for the financial tracking of personnel, services, supplies, and equipment assigned to the activation.
- When requested by Finance and Logistics Section Chiefs, sign out Cal Cards using established procedure (Attachment 4).
- Oversees and coordinates with County and OA Field Liaisons deployed amongst OA jurisdictions.
- Directs and coordinates EOC support staff and EOC personnel.
- Acts as coordination point for internal and external management points of all disciplines.
- Ensures a Recovery transition plan is established.
- Delegates EMMA Coordinator duties, if needed.

Position Alternates and Successors

The Orange County Sheriff's Department, Emergency Management Division has protocols in place for the position of the County/OA EOC Manager succession. This position will be filled with an EMD team member.

3.2.1.4 EOC Liaison Officer**Assignment of Primary Responsibility**

Orange County Sheriff's Department, Emergency Management Division

Responsibilities

- Acts as a point of contact for the following types of agencies and external organizations:
 - Cities
 - County agencies/Departments
 - American Red Cross
 - Businesses
 - Operational Area(s)
 - State agencies
 - NGOs/COAD-OC
 - Federal agencies
 - Special districts
 - Others
- Establishes and maintains contact with impacted jurisdictions.
- Functions as a central point of contact for incoming agency representatives; provides workspace, and arranges for support as necessary.
- Ensures all developed guidelines, directives, EOC Action Plans, and appropriate situation information is disseminated to agency or external representatives.
- Coordinates with the Planning and Intelligence, Situation Analysis Unit on information received from external agencies.
- Works with the EOC Sections to ensure up-to-date information is posted to WebEOC® and other information sharing boards or systems.

Position Alternates and Successors

Agency Representative(s) from non-impacted jurisdiction(s) in Orange County.

3.2.1.5 EOC Field Liaison**Assignment of Primary Responsibility**

Orange County Sheriff's Department, Emergency Management Division

Responsibilities

- Provides and relays information between County departments, Department Operation Centers, OA jurisdictions and Incident Command Post (ICP), and the County/OA EOC in relation to policy matters, priorities, and jurisdiction-specific information.

- Communicates the status of activities at the assigned location to the County/OA EOC.
- Monitors activities at the assigned location for potential conflicts of strategy or information, discrepancies, or other concerns.

Position Alternates and Successors

The Orange County Sheriff's Department, Emergency Management Division has protocols in place for the position of the County/OA EOC Manager succession. This position will be filled with an EMD team member.

3.2.1.6 Legal Affairs Officer

Assignment of Primary Responsibilities

County of Orange, County Counsel

Responsibilities

- Advises the DES, Board of Supervisors, and the Policy Group on legal implications of emergency actions.
- Drafts local emergency proclamations.
- Drafts requests for a Governor's Proclamation of a State of Emergency.
- Advises on legal implications prior to and during response and recovery operations.
- Maintains documentation of advice given by the Legal Affairs Officer with respect to the incident.
- Commences legal proceedings as needed.
- Drafts mutual aid agreements, and coordinates their approval by DES or BOS.
- Coordinates DSW policy actions and language for County personnel.
- Coordinates with Logistics on emergency purchase contracts and FEMA rules.
- Coordinates with Logistics to ensure EMMA resources are appropriately requested and agreements are established.

Position Alternates and Successors

County Counsel is responsible for developing protocols for EOC position succession, including the Legal Affairs Officer position.

3.2.1.7 Public Information Officer

Assignment of Primary Responsibility

The Public Information Officer should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- Establishes contact and coordinates with the Field PIO, affected OA jurisdiction PIOs, Cal OES and other jurisdictions.
- Evaluates the incident and public information immediate needs, including EOC PIO support.
- Evaluates and determines activation of the Joint Information Center (JIC), determines structure and personnel needs, based on EPI Plan.

- Leads the operation of the Joint Information System (JIS) and JIC, maintains contact in order to coordinate information gathering and dissemination.
- Serves as the arbitrator on all public information related issues when conflicts or discrepancies arise.
- Develops, coordinates, and distributes in a timely manner emergency public information and warnings to the public and news media, using any appropriate and available channels.
- Facilitate public information is produced and disseminated in accessible formats such as American Sign Language and specific language requirements of the impacted communities.
- Identifies when the incident requires specialized Hotline personnel (e.g. terrorism=law enforcement reserves) or handling (e.g. Health Insurance Portability and Accountability Act (HIPAA)) and adjusts staffing, training, and documentation accordingly.
- Identifies which jurisdictions have established and disseminated hotline or email info to public and aligns efforts.
- Facilitate all public information releases are distributed to 2-1-1 Orange County.
- Establishes with the DES if there are any limits on information release.
- Obtains approval for news media releases and public messaging from DES.
- Establishes contact with pre-identified community partners, which serve the non-English speaking, culturally diverse, and people with disabilities and those with access and/or functional needs groups to allow them to initiate their communications protocols.
- Establishes contact with the news media to release lifesaving and health preservation instructions, taking into account the languages and cultures of impacted communities.
- Provides information on what is being done to respond to the emergency.
- Monitors news media reporting for accuracy.
- Monitors and responds to approved social media sites and accounts.
- Responds to news media inquiries.
- Keeps all EOC staff apprised of public information releases.
- Analyzes other sources of emergency information.
- Provides Hotline stats and important information for situation summary reports.

The PIO will coordinate with the following:

- Coordinates with CEO, DES, and Policy Group for dignitary services for observes, visitors, dignitaries, and experts not involved in the assisting in the emergency response (e.g., tours of damaged areas, County/OA EOC briefings, meetings with decision makers, and functional coordinators, etc.).
- Coordinates with the Logistics Section for logistical issues regarding dignitary services.
- Coordinates with the Law Enforcement and Traffic Control Branch and the Health Care Branch, regarding security, and health, and safety issues for dignitaries.
- Coordinates the interaction of dignitaries with the news media in accordance with the overall public information strategy and protocols.

Position Alternates and Successors

The successors to the Public Information Officer will be designated by the department with primary responsibility for serving as DES during the emergency. If the lead agency or department is unable to staff the position, that responsibility will fall to a trained individual within one of the other DES eligible departments (Orange County Sheriff's Department, Orange County Fire Authority, CEO, OC Public Works, or Health Care Agency).

3.2.1.8 Public Information Officer (PIO) Support Staff**Assignment of Primary Responsibility**

The Public Information Officer(s) Support Staff supports the PIO at the County and OA EOC and JIC, as needed. PIO Support Staff members will be requested from County departments and OA jurisdictions that are least affected by the emergency. In addition, PIOs from affected external organizations may be integrated as Support PIOs into the OA's JIC during emergencies. For example, PIOs from major businesses or non-governmental agencies affected by the incident may be asked to participate in the OA JIC at this level. The Support PIOs may share many of the same responsibilities as the PIO as assigned.

Responsibilities

- Coordinates and disseminates all information to the public for County/OA EOC operations.
- Supervises the Public Information Hotline/Rumor Control Supervisor and support staff at the County/OA EOC.
- Provides the news media and public with the County and OA official information being released.
- Supports the PIO, DES and members of the Policy Group, and County/OA EOC staff to keep the members apprised of emergency public information issues concerning the emergency.
- Coordinates with the Operations Section Chief and Alert & Warning for the drafting, approval and dissemination of alert and warning messages and official news media releases for the Orange County.
- Obtains approval for news media releases and messaging from PIO.
- Facilitates dissemination on all alert and warning messages, news media releases and notifications with the Operations Section Alert and Warning Unit Leader.
- Maintains contact with the County departments, OA jurisdictions, Department Operation Centers (DOCs), Incident Command Post (ICP) and Joint Information Center (JIC) in order to coordinate information gathering and dissemination.
- Establishes contact with pre-identified community partners, which serve the non-English speaking, and people with disabilities and those with access and/or functional needs to allow them to initiate their communications protocols.
- Establishes contact with news media, and begins releasing lifesaving and health preservation instructions.
- In accordance with the Emergency Public Information (EPI) Plan, develops and implements a public information plan for news media releases, development of briefings, dignitary coordination, and coordination of public information with County departments,

OA jurisdictions, ICP, and people with disabilities and those with access and/or functional needs.

- Uses fax, WebEOC, or EOC-to-EOC radio to coordinate and communicate public information with County departments and OA jurisdictions.
- Analyzes other sources of emergency information.
- Responds to news media inquiries.
- Monitors and responds to approved social media sites and accounts.
- Ensures all public information releases are distributed to 2-1-1 Orange County.
- Ensures Public Information Hotline/Rumor Control staff are tracking rumors and trends.
- Ensures the Public Information Hotline/Rumor Control Supervisor tracks calls received and provide reports on a regular basis.

Position Alternates and Successors

County agency representatives or Operational Area partners from non-impacted jurisdictions in Orange County.

3.2.1.9 Public Information Officer Support-Social Media

Assignment of Primary Responsibility

The Public Information Officer(s) Support – Social Media supports the PIO at the County and OA EOC and JIC, as needed. The Public Information Officer selects the PIO Support - Social Media from County departments and OA jurisdictions that are least affected by the emergency. The selected people should be familiar with website management platform, Internet protocols, social media policies, and website accessibility issues (Section 508 of the Rehabilitation Act of 1973).

Responsibilities

- Monitors and responds to social media sites and accounts.
- Maintains and updates incident websites and incident social media accounts: X formerly known as Twitter: @OrangeCountyEOC, Facebook: Orange County, California-Emergency Operations Center, Other County websites and social media accounts, as directed.
- Ensures approval of all items prior to posting on incident website.
- Ensures all items posted to the incident website are Section 508 compliant.
- Coordinates with web support personnel for all agencies represented, to ensure website meets individual agency requirements.
- Coordinates news media and community distribution lists.
- Determines newspaper, radio, television, and internet outlets to monitor.
- Monitors blogs and social networking sites.
- Gathers perceptions from the news media, the public, and other stakeholders about the progress of the response efforts.
- Identifies potential detrimental rumors and provides the PIO with effective ways to deal with them.
- Monitors news media, social media for use of text crawls, and sign language interpreters.

Position Alternates and Successors

County agency representatives or Operational Area partners from non-impacted jurisdictions in Orange County.

3.2.1.10 Public Information Hotline and Rumor Control Supervisor**Assignment of Primary Responsibility**

The Public Information Hotline/Rumor Control Supervisor will be an OCSD staff member. When this option is not available, it will be staffed by a County or OA jurisdiction employee with appropriate training and experience.

Responsibilities

- Ensures all information disseminated to the public is authorized for release by the PIO or PIO support staff.
- Serves as the liaison between the hotline staff, PIO Support Staff, and PIO.
- Coordinates with the Orange County 2-1-1 services to ensure the objectives, messages, and approach for hotline and rumor control are the same and integrated amongst both entities.
- Monitors news media reporting for accuracy; reports any discrepancies to PIO.
- Tracks calls received and provides the PIO with hourly statistical reports.
- Tracks rumors and trends received three times or more by Hotline staff; provides relevant information to the PIO.

Position Alternates and Successors

The Orange County Sheriff's Department, Emergency Management Division has protocols in place for the position of the County/OA EOC Manager succession. This position will be filled with an EMD team member.

3.2.1.11 Public Information Hotline and Rumor Control Support Staff**Assignment of Primary Responsibility**

Staffing for the Public Information Hotline and Rumor Control will be provided by County departments and OA jurisdictions. Consider use of County affiliated volunteers to staff the Hotline.

Responsibilities

- Serves as an alternative to the emergency 9-1-1 system for non-life-threatening circumstances and redirects emergency calls that come to the hotline.
- Provides information to the public related to the emergency including, but not limited to:
 - Evacuation routes
 - Shelter locations
 - Transportation logistics
 - Protective actions to follow
 - People with disabilities and those with access and/or functional needs information
 - Road closures or impairments
 - Geographical boundaries of known disaster areas

- General safety and disaster information
- Referral and telephone numbers of agencies that can provide additional public assistance
- Receives emergency calls or inquiries, collects information, and forwards information to the appropriate Branch or Unit to handle.
- Tracks the number of calls received and what type of call.
- Identifies and track common questions and rumor trends heard from callers.
- Clarifies rumors and inaccuracies presented by callers.
- Directs calls from the news media to the PIO Support Staff and/or PIO.

Position Alternates and Successors

County agency representatives or Operational Area partners from non-impacted jurisdictions in Orange County. 2-1-1 OC may be used as an alternate to the Hotline.

3.2.1.12 Health Officer

Assignment of Primary Responsibilities

The Health Officer must be a physician employed by Orange County Health Care Agency who has been appropriately deputized.

Responsibilities

- Determines and initiates appropriate public health-related protective actions upon recommendation from County departments, OA jurisdictions, California Department of Public Health (CDPH) and or other criteria.
- Directs programs deemed necessary for public and emergency worker health and safety in consultation with Cal OES and appropriate state and federal agencies.
- Coordinates with Operational Area (OA) jurisdictions, OC Public Works, the Water Emergency Response Organization of Orange County (WEROC), and the Orange County Health Care Agency to ensure the protection and purification of potable water and the safety of consumable food. Through Environmental Health, the Health Officer regulates water quality, works with utilities and WEROC to issue boil water notices, assesses contamination, and authorizes system clearance following incidents.
- If necessary, declares a local health emergency in the County and/or OA.

Position Alternates and Successors

The responsibility of the County to appoint an appropriate alternate or successor when deemed necessary.

3.2.1.13 Radiological Protection Officer

Assignment of Primary Responsibility

Orange County Health Care Agency, Environmental Health HazMat

Responsibilities

- Ensures the Health Officer is kept apprised of radiological protection issues.
- Recommends radiological safety criteria to the Health Officer.

- Coordinates radiological monitoring, assessment and decontamination activities with the Health Officer, Medical and Health Care Branch, Care and Shelter Branch as well as State and Federal agencies.
- Provides information to all sections of the emergency organization on radiological protection measures.
- Supervises the Emergency Worker Exposure Control Coordinator (EWECC) and management of the emergency worker exposure under the direction of the county control and the issuance and tracking of dosimetry.
- Provides information to the County Health Officer on mission limits which have exceeded established guidelines and/or the needs for emergency worker decontamination.
- Supervises the County Dosimetry Coordinator and personnel performing water, food and agricultural inspections.
- Provides analysis of food and water supplies.
- Protects the public from radiological hazards.

Position Alternates and Successors

The responsibility of the Orange County Health Care Agency to appoint an appropriate alternate or successor when deemed necessary.

3.2.1.14 EOC Safety Officer

Assignment of Primary Responsibility

CEO, Office of Risk Management

Responsibilities

- Ensures EOC personnel use appropriate safety precautions during an emergency.
- Ensures all facilities used in support of EOC operations have healthy and safe operating conditions and meet the Americans with Disabilities Act (ADA) requirements.
- Reviews the EOC Action Plan for safety implications and provides safety messages to the Planning and Intelligence Section for inclusion in the EOC Action Plan.
- Exercises emergency authority to stop any activity deemed unsafe or to prevent unsafe acts.
- Develops on-site safety plans.
- Identifies and mitigate safety hazards and situations of potential County liability within the EOC.
- Investigates accidents that have occurred within the EOC sites or facilities supporting EOC operations.
- Coordinates with Finance Section on any Disaster Service Worker or Disaster Service Worker-Volunteer incident related accidents that may have OSHA or workers compensation impacts.

Position Alternates and Successors

The Office of Risk Management is responsible for developing protocols for EOC position succession, including the EOC Safety Officer position.

3.2.1.15 EOC Security Officer**Assignment of Primary Responsibilities**

Orange County Sheriff's Department

Responsibilities

- Provides 24-hour security for EOC facilities.
- Controls personnel access to facilities in accordance with policies established by the DES or County and Operational Area EOC Manager.
- Provides advice and guidance to the DES and EOC Manager on EOC security matters.
- Coordinates with the EOC Facility Unit to ensure parking and vehicle access is conducive to EOC operations.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC Security Officer succession.

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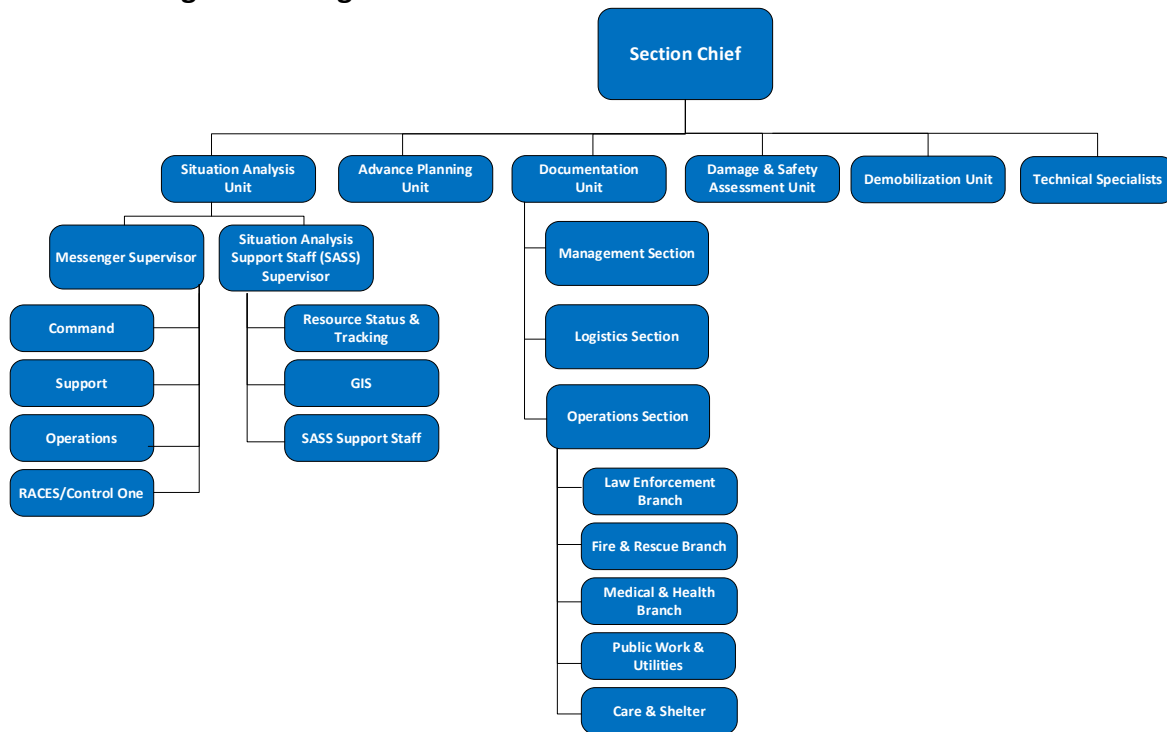
3.2.2 Planning and Intelligence Section

Figure 18: Org chart for the Planning and Intelligence Section

The Planning and Intelligence Section is responsible for collecting, evaluating, and disseminating situational information pertaining to the incident. In addition, this Section prepares and develops the EOC Action Plans (EAP), situation status reports, and incident maps. This Section is headed by a Planning and Intelligence Section Chief and is divided into several units, depending upon the needs of the incident. Situation Analysis, Documentation, and Damage Assessment are examples of the kinds of units that may be formed within this section. The Planning and Intelligence staff positions and units pre-identified for the County EOC are:

- Planning and Intelligence Section Chief
- Situational Analysis Unit Leader
- Situation Analysis Unit Assistant(s)
- Situation Analysis Support Staff Supervisor
- Situation Analysis Support Staff
- Situation Analysis-Resource Status and Tracking
- Geographical Information System Specialist (GIS)
- Messenger Supervisor
- Messengers
- Advance Planning Unit Leader
- Documentation Unit Leader
- Documentation Support Staff-Operations Section

- Documentation Support Staff-Public Works and Utilities Branch
- Documentation Support Staff-Medical and Health Care Branch
- Documentation Support Staff-Fire and Rescue Branch
- Documentation Support Staff-Law Enforcement and Traffic Control Branch
- Documentation Support Staff-Care and Shelter Branch
- Documentation Support Staff-Logistics Section
- Damage and Safety Assessment Unit Leader
- Demobilization Unit Leader
- Technical Specialist(s)

3.2.2.1 Planning and Intelligence Section Chief

Assignment of Primary Responsibility

The Planning and Intelligence Section Chief should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- With the DES, establishes initial EOC objectives and priorities.
- Establishes the appropriate level of organization within the Section, assigns section duties, and continuously monitors the effectiveness of that organization.
- With the DES and EOC Manager, establishes a “Battle Rhythm” (Attachment 5) for the incident.
- Identifies essential elements of information needed for the incident.
- Determines a timeline and method for jurisdictions to communicate status to the County/OA EOC. Communicate expectations to the OA via EOC Liaison.
- Ensures the Planning and Intelligence function is performed consistent with SEMS and NIMS guidelines, including:
 - Collects and analyze all data regarding the status and operations of the Operational Area.
 - Prepares periodic situation reports.
 - Initiates and document the EOC’s Action Plan and After-Action Report.
 - Advance planning for future operational periods and recovery operations.
 - Plans for demobilization.
- Provides Geographic Information Services (GIS) and other technical support services to the various organizational elements within the EOC.
- Coordinates with counterpart Planning and Intelligence Section Chiefs in other active EOCs and DOC’s, and ICP to ensure the OA priorities and strategies comply with County and OA needs.
- Coordinates directly with Section Chiefs of other EOC’s and ICP to gather situational and operational status of the incident.
- Tracks the incident and provides information to the DES, Policy Group on the overall effectiveness of the policies established.
- Establishes Documentation Collection Plan (Attachment 6) and disseminates it to the EOC responders.
- Collects and maintains event documents for all activities.

- Collects and report damage assessment information.
- Facilitates meetings with the other section chiefs and key EOC positions in accordance with the Planning “P.”
- Provides briefings to General Staff as well as situation information from management meetings.
- Oversees the activation of appropriate Technical Specialists for the response.
- Coordinates with Demobilization Unit Leader to draft, approve, and implement responder debriefing and Demobilization Plan.

Position Alternates and Successors

The successors to the Planning and Intelligence Section Chief will be designated by the department that has primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for position succession within their organization.

3.2.2.2 Situation Analysis Unit Leader

Assignment of Primary Responsibility

The Situation Analysis Unit Leader should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- Directs the collection, collation, organization and display of incident situational information.
- Monitors, assesses, and evaluates situation and operational information.
- Ensures OA jurisdictions report their status to the County/OA EOC.
- Ensures situational awareness and a common operating picture is maintained amongst all EOC stakeholders.
- Assists with the development of EOC Action Plans.
- Notifies the Planning and Intelligence Section Chief of new information, unusual events, information discrepancies, etc.
- Coordinates with counterpart Situation Analysis Units and/or Planning and Intelligence Sections within the County and OA to ensure the collection of information for a complete and accurate common operational picture.
- Coordinates damage information for use in the Preliminary Damage Assessment (PDA).
- Maintains charts, display boards, and records of situation information, coordinates the information to be displayed or plotted, such as:
 - Personnel status information.
 - Maps.
 - Records of situation information.
 - Location and status of incidents and resources.
 - Coordinates situational and status information in WebEOC®.
- Provides situational and status information into Cal OES web portal Cal EOC 360.
- Prepares situation summaries and meeting minutes from briefings.

- Prepares maps and gathers and disseminates information and intelligence for use in the EAP.
- Supervises Situation Analysis Support Staff/Plotter and GIS Specialist responsible for displaying information in the Command, Operations and Support Center within the County/OA EOC.
- Supervises the Messenger Supervisor.
- Identifies emerging trends and anticipates emerging needs.

Position Alternates and Successors

The successors to the Situation Analysis Unit Leader will be designated by the department with primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for positions succession within their organization.

3.2.2.3 Situation Analysis Unit Assistant(s)

Assignment of Primary Responsibility

The Situation Analysis Unit Assistant(s) should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- Supports the collection, collation, organization and display of incident situational information.
- Monitors and assess situation and operational information.
- Ensures situational awareness and a common operating picture is maintained amongst all EOC stakeholders.
- Evaluates information and assists in the development of EOC Action Plans.
- Notifies the Situation Analysis Unit Leader of important information, unusual events, information discrepancies, etc. that need to be brought to the attention of the Planning and Intelligence Section Chief, DES, County/OA EOC Manager, and Policy Group and Section Chiefs.
- Coordinates closely with counterpart Situation Analysis Units or Planning and Intelligence Sections within the County and OA to ensure the collection of information for a complete and accurate common operational picture.
- Coordinates information for use in the Preliminary Damage Assessment (PDA).
- Maintains charts, display boards, and records of situation information, coordinates the information to be displayed or plotted, such as:
 - Personnel status information
 - Relevant maps
 - Records of situation information
 - Current location and status of incidents and resources
- Coordinates the relevant event incident situational and status information in WebEOC®.
- Coordinates the situational and status information into Cal OES web portal Cal EOC.
- Prepares situation summaries and meeting minutes from briefings.
- Identifies emerging trends and anticipates emerging needs.

Position Alternates and Successors

The successors to the Situation Analysis Unit Assistant will be designated by the department with primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for positions succession within their organization.

3.2.2.4 Situation Analysis Support Staff (SASS) Supervisor**Assignment of Primary Responsibility**

Staffing for the SASS Supervisor will be provided by County departments or OA jurisdictions.

Responsibilities

- Assigns staff to ensure status displays (projection displays) are maintained and monitored in Operations, Command and Support Centers.
- If technology fails, assign personnel to serve as Plotters to manually update whiteboards in each room.
- Assigns staff to monitor specific situational status information in WebEOC.
- Ensures situational status information is gathered and displayed.
- Monitors, updates, collects, processes, and organizes ongoing situation information.
- Notifies the Situation Analysis Unit Leader of important information, unusual events, information discrepancies, etc. that need to be brought to the attention of the Planning and Intelligence Section Chief, County/OA EOC Manager, DES, Policy Group, and other Section Chiefs.
- Coordinates with County departments, OA jurisdictions, DOCs, ICP Situation Analysis Units or Planning Sections to ensure the collection of information for a complete and accurate common operational picture.
- Coordinates information and reporting systems including the Initial Damage Estimates (IDE).
- Coordinates with Documentation Unit to ensure relevant event summaries and status sections are being documented in hard copy.
- Gathers and maintain charts, display maps, and records of situation information.
- Assists in developing projections and forecasts of future events related to the incident.
- Gathers and disseminate information and intelligence for use in the EOC AP.
- As part of the Planning process, coordinates with other sections to ensure that for the next operational period the following occurs:
 - Assist in the identification of resources immediately available and accessible to meet short-term needs.
 - Assist in the identification of resources that can be expected to be or become available during mid- and long-term response.
 - Maintain a master list of all resources committed to incident operations.
 - Identifies resources immediately available and accessible to meet short-term needs.
 - Identify resources that can be expected to be or become available during mid- and long-term response.
 - Track resources committed and available.

- Establish a resource status display within the EOC.
- Support the Operations Section Chief to ensure that incident resources being tracked in the EOC are accounted for.
- Works closely with the Demobilization Unit Leader and assists with development of demobilization plan.
- Assists in the identification of emerging trends and anticipates emerging needs.

Position Alternates and Successors

The successors to the Situation Analysis Unit Assistant will be designated by the department with primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for positions succession within their organization.

3.2.2.5 Situation Analysis Support Staff (SASS)

Assignment of Primary Responsibility

Staffing for the SASS support staff will be provided by the County departments or OA jurisdictions.

Responsibilities

- Collects, processes, organizes and updates ongoing situational information.
- Notifies the Situation Analysis Support Supervisor of important information, unusual events, and information discrepancies.
- Coordinates with OA jurisdictions, County department DOCs, ICP Situation Analysis Units or Planning Sections, private sector, non-governmental agencies to ensure the collection of a complete and accurate common operational picture.
- Gathers and maintains charts, display maps, and records of situation information. These items are used to gather and disseminate information and intelligence for use in the EOC EAP.
- Ensures the relevant event summaries and situation status information are documented in WebEOC®.
- Assists in developing projections and forecasts of future events related to the incident.
- Assists in the identification of resources immediately available and accessible to meet short-term needs.
- Assists in the identification of resources that can be expected to be or become available during mid- and long-term response.
- Assists in the identification of emerging trends and anticipates emerging needs.

Position Alternates and Successors

The successors to the Situation Analysis Unit Assistant will be designated by the department with primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for positions succession within their organization.

3.2.2.6 Situational Analysis Support Staff-Resource Status and Tracking**Assignment of Primary Responsibility**

Staffing for the SASS-Resource Status and Tracking support staff will be provided by the County departments or OA jurisdictions.

Responsibilities

- Coordinates with the Logistics Section, Resource and Support Unit to track incident resources ordered, available and deployed from the EOC:
 - Equipment
 - Personnel
 - Services
 - Supplies
- Processes resource status change information, including location of resources.
- Coordinates with Logistics Section, Resource and Support Unit in maintaining a real-time inventory control database for all donated goods.

Position Alternates and Successors

The successors to the Situation Analysis Unit Assistant will be designated by the department with primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for positions succession within their organization.

3.2.2.7 GIS Specialist**Assignment of Primary Responsibility**

Staffing for the GIS Unit will be provided by OC Public Works and/or other County departments or OA jurisdictions.

Responsibilities

- Prepares maps and gathers and disseminates information and intelligence for use in the EOC Action Plan.
- Gathers and maintain charts, display maps, and records of situation information.
- Collects, processes, organizes and updates ongoing situational information for use in maps and other spatial products.
- Develops and maintains spatial datasets related to the incident
- Validates and use information recorded in WebEOC to produce maps and other decision-making tools for EOC Operations.
- Notifies the Situation Analysis Unit Leader of important information, unusual events, and information discrepancies.
- Coordinates with OA jurisdictions, County department DOCs, ICP Situation Analysis Units or Planning Sections, private sector, non-governmental agencies to ensure the collection of a complete and accurate common operational picture.
- Prepares maps and gathers and disseminates information and intelligence for use in the EOC AP.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the GIS Specialist position.

3.2.2.8 Messenger Supervisor**Assignment of Primary Responsibility**

Staffing for the Messenger Supervisor will be provided by County departments or OA jurisdictions.

Responsibilities

- Ensures accurate and coordinated flow of incident information within the County/OA EOC.
- Assists with reproduction of charts, display maps, and records of situation information.
- Manages messengers assigned in the Command, Operations, and Support Centers by providing guidance and answering questions.
- Ensures accuracy and completeness of message forms used for communication within the County/OA EOC.
- Ensures the timely delivery of time sensitive information such as an Emergency Alert System (EAS) message, AlertOC, or responder safety messages.

Position Alternates and Successors

All County of Orange Agencies are responsible for staffing the Messenger Supervisor EOC position.

3.2.2.9 Messenger**Assignment of Primary Responsibility**

Staffing for the Messenger Support Staff will be provided by County departments or OA jurisdictions.

Responsibilities

- Ensures accurate and coordinated flow of incident information within County/OA EOC.
- Assists with photocopying and facsimile support.
- Assists with reproduction of charts, display maps, and records of situation information.
- Reviews messages for completeness, use of acronyms, or missing information.
- Delivers time sensitive information such as an Emergency Alert Systems messages, AlertOC, WEA, and responder safety messages to the appropriate personnel.

Position Alternates and Successors

All County of Orange Agencies are responsible for staffing the Messenger Supervisor EOC position.

3.2.2.10 Documentation Unit Leader**Assignment of Primary Responsibility**

Staffing for the Documentation Unit Leader will be provided by County departments or OA jurisdictions.

Responsibilities

- With the PSC, establishes and disseminate a Documentation Collection Plan (Attachment 6).
- Coordinate with the Planning and Intelligence Section Chief and Situation Analysis Unit Leader to assist in the development of the EOC Action Plan (EAP).
- Maintain the files and records that are developed as part of the overall EAP and planning function.
- Assign and supervises Documentation Support Staff that have been assigned to Sections and/or Branches, as appropriate.
- Supervise Documentation Support Staff assigned to Sections and Branches
- Maintain accurate and complete incident files for legal, analytical, and historical purposes.
- Assist in financial recovery and maintains official records and reports related to recovery activities.

Position Alternates and Successors

All County of Orange Agencies are responsible for staffing the Messenger Supervisor EOC position.

3.2.2.11 Documentation Support Staff**Assignment of Primary Responsibility**

Staffing for the Documentation Support Staff will be provided by County department or OA jurisdictions.

Responsibilities

- Coordinates with Documentation Unit Leader with messages, and incident activities, to ensure complete documentation is maintained.
- Maintains all files and paperwork for the Section, Branch, Unit or Group support staff is assigned to.
- Assists Sections, Branches and Units in completing Status Reports.
- Participates in the development of the EOC Action Plan (EAP) and maintains the files and records that are used as part of the overall EAP and planning function.
- Monitors, maintains and updates situational information in WebEOC® for the assigned Section, Branch, Unit or Group.
- Records all actions taken and decisions made within the Section, Branch, Unit or Group and properly secures all documents for future filings and legal actions.

Position Alternates and Successors

All County of Orange Agencies are responsible for staffing the Messenger Supervisor EOC position.

3.2.2.12 Damage and Safety Assessment Unit Leader**Assignment of Primary Responsibility**

OC Public Works

Responsibilities

- Collects and document safety assessments (evaluation of structures to determine whether or not they can continue to be occupied) from County departments and OA jurisdictions.
- Collects and document damage assessments (process of determining how badly a facility or structure has been damaged and provides an estimate of what it will cost to repair) from County departments and OA jurisdictions.
 - This information documents the impacts of the disaster and is used for obtaining public disaster assistance and individual assistance from the State and/or Federal government.
- Assists in evaluating damage to County facilities, county unincorporated areas and OA jurisdictions. This may include public buildings, public infrastructure (roads, bridges, flood control channels), and private structures.
- Provides damage and safety assessment reports to the Finance and Administration Section and Situation Analysis Unit Leader for tracking of overall costs and situation status reports.
- Assists in the determination of whether a Local Emergency should be proclaimed and whether a Gubernatorial Proclamation and/or Presidential Declaration is requested.
- Assists in identifying the extent of assistance needed from State and Federal agencies, to expedite disaster assistance.
- Coordinates with Operations on reconciling identified structures impacted by the incident.
- Coordinates with the Situation Analysis Unit to estimate property losses to be included in the Initial Damage Estimate.
- Coordinates in the assessment of impacts to damaged facilities and their ability to function (e.g., impact on customers), and the cost to repair or replace it.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the Damage Assessment Unit Leader position.

3.2.2.13 Advance Planning Unit Leader**Assignment of Primary Responsibility**

The Advance Planning Unit Leader should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- Identifies issues and requirements for future operational periods, typically 36 to 72 hours.

- Consults with Operations for projected strategies and tasks for the next 36 to 72 hours.
- Prepares reports and briefings for strategy and planning meetings.
- Monitors action-planning activities to identify the transition in operational objectives from response to recovery.
- Will assist with completing and updating the ICS 209 form.
- Identifies considerations and develops strategies to support a transition to recovery.
- Coordinates with the Demobilization Unit Leader.

Position Alternates and Successors

The successors to the Advance Planning Unit Leader will be designated by the department that has primary responsibility for serving as the DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for position succession within their organizations.

3.2.2.14 Demobilization Unit Leader

Assignment of Primary Responsibility

The DES and Demobilization Unit Leader should be from the same discipline agency as determined by the type of incident.

Responsibilities

- Prepares the demobilization plan (Attachment 16) for the County/OA EOC to ensure an orderly, safe, and cost-effective release of personnel and equipment.
- Supports counterpart Demobilization Units within active County departments and OA jurisdictions in developing strategies for demobilization.
- Provides input to the Planning and Intelligence Section Chief on timeline for demobilization as outlined in the demobilization plan.
- Ensures personnel reviews are completed and documentation maintained.
- Ensures safety and behavioral health resources are provided to responders as part of the Demobilization Plan.
- Establishes with Planning and Intel Section Chief when responder debriefings will occur and include this information in the demobilization plan.

Position Alternates and Successors

The successors to the Demobilization Unit Leader will be designated by the department that has primary responsibility for serving as DES during the emergency situation underway. Organizations assigned with this position are responsible for developing protocols for position succession within their organizations.

3.2.2.15 Technical Specialist (s)**Assignment of Primary Responsibility**

Designated by functional capability and responsibility.

Responsibilities

Technical Specialists are advisors with special skills and are activated only when needed. Specialists may serve anywhere within the organization, including the Management Section. No minimum qualifications are prescribed, as technical specialists normally perform the same duties during an incident that they perform in their everyday jobs, and they are typically specially certified in their fields or professions.

Technical specialists assigned to the Planning and Intelligence Section may report directly the Section Chief, may report to any function in an existing unit, or may form a separate unit within the Planning and Intelligence Section, depending on the requirements of the incident and the needs of the organization. Technical specialists may also be assigned to other parts of the organization (e.g., to the Operations Section to assist with tactical matters or to the Finance and Administration Section to assist with fiscal matters). Generally, if the expertise is needed for only a short period and normally involves only one individual, that individual should be assigned to the Situation Analysis Unit. If the expertise will be required on a long-term basis and may require several personnel, it is advisable to establish a separate Technical Specialist Unit in the Planning and Intelligence Section.

- Provides technical expertise, i.e., terrorism and cyber-security specialist, to the Planning and Intelligence Section and others as required.
- Provides support specific to a field or function not addressed elsewhere or by any other discipline in the EOC.

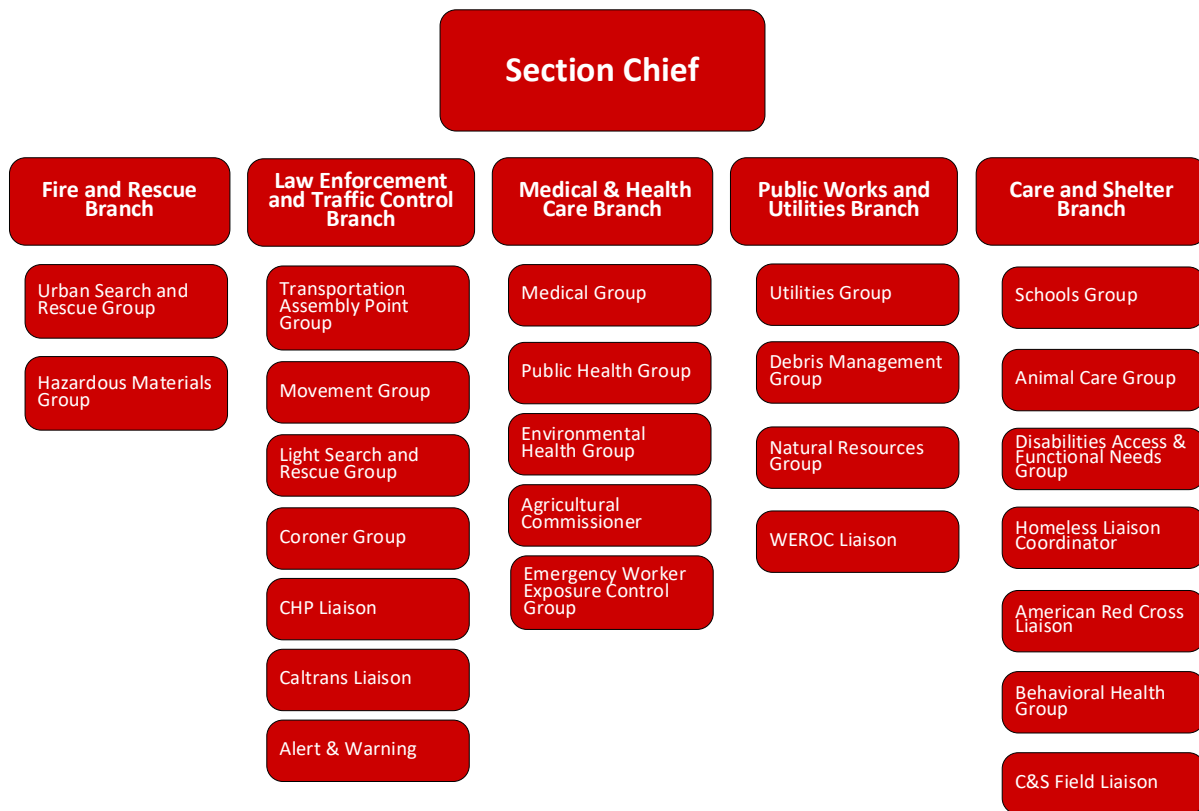
3.2.3 Operations Section

Figure 19: Org chart for the Operations Section

The Operations Section is responsible for coordinating incident and mutual aid support for the tactical operations of response agencies and impacted OA jurisdictions. The Operations Section Chief, each of the Branch Directors, and each of the Group Supervisors are responsible for coordinating with their counterparts, in the Incident Command Posts and active OA jurisdiction's EOC's to identify and seek out needed response resources and support on their behalf. In addition, there may be situations in which OA jurisdictions can better respond to a regional incident if their resources are pooled and coordinated under a single command. In these cases, County/OA EOC Operations Section personnel will coordinate with OA jurisdictions to direct the identification of, deployment and tactical operations of regional resources.

Incident operations within each OA jurisdiction can be organized and executed in many ways. The County/OA EOC will be organized in a way similar to that being used in OA jurisdiction EOCs. The specific method selected will depend on the type of incident, agencies involved, and objectives and strategies of the incident management effort. The Operations staff positions and units pre-identified for the County/OA EOC are:

- Operations Section Chief
- Fire and Rescue Branch Director
- Urban Search and Rescue Group
- Hazardous Materials Group

-
- Law Enforcement and Traffic Control Branch Director
 - Transportation Assembly Point Group
 - Movement Group
 - Light Search and Rescue Group
 - Coroner Group
 - CHP Liaison
 - Caltrans Liaison
 - Alert and Warning Group
 - Medical and Health Care Branch Director
 - Medical Group
 - Public Health Group
 - Environmental Health Group
 - Agricultural Commissioner
 - Emergency Worker Exposure Control Group
 - Public Works and Utilities Branch Director
 - Utilities Group
 - Debris Management Group
 - Natural Resources Group
 - WEROC Liaison
 - Care and Shelter Branch Director
 - Schools Group
 - Animal Care Group
 - Behavioral Health Group
 - Disabilities Access and Functional Needs Group
 - Homeless Liaison Coordinator
 - American Red Cross Liaison

3.2.3.1 Operations Section Chief

Assignment of Primary Responsibility

The EOC Operations Section Chief should be from the same discipline and agency as the DES as determined by the type of incident.

Responsibilities

- Manage Section activities in direct support of field operations.
- Implement management decisions with respect to priorities and response plans.
- Support Incident Command in identifying incident priorities, assessing resources, and maintaining situational awareness.
- Identify situations in which alert and warning notifications to the public are necessary and ensures coordination with the DES, PIO, GIS Specialist, and the Operations Section Alert & Warning Group occurs.
- Determine the need for resources, as required by the incident.

- Request mutual aid and other necessary resources in support field operations.
- Coordinate directly with Section Chiefs in the EOC, ICP and with representatives at the Department Operations Center if activated.

Position Alternates and Successors

The successors to the Operations Section Chief should be designated by the department that has primary responsibility for serving as the DES during the emergency situation that is underway. Organizations assigned with this position are responsible for developing protocols for position succession within their organizations.

3.2.3.2 Fire and Rescue Branch Director

Assignment of Primary Responsibility

Orange County Fire Authority, Division Chief or Battalion Chief

Responsibilities

- Monitors and supports field tactical operations related to:
 - Urban search and rescue
 - Heavy rescue
 - Fire suppression and control
 - Paramedic medical service
 - Hazardous materials
 - Mass casualty
- Coordinates resources to assist with the mobilization and deployment for fire operations as necessary.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and with representatives at the Fire Department Operations Center, if activated.

Position Alternates and Successors

The Orange County Fire Authority is responsible for developing protocols for EOC position succession, including the Fire and Rescue Branch position.

3.2.3.3 Urban Search and Rescue Group

Assignment of Primary Responsibility

Orange County Fire Authority, Battalion Chief or Captain

Responsibilities

- Coordinates resources and personnel for the care of and safe removal of endangered, trapped, injured or isolated persons.
- Coordinates with the Light Search and Rescue Group in the Law Enforcement and Traffic Control Branch as necessary.
- Coordinates with the Coroner Group as necessary.

Position Alternates and Successors

The Orange County Fire Authority is responsible for developing protocols for EOC position succession, including the Urban Search and Rescue Group position.

3.2.3.4 Hazardous Materials Group

Assignment of Primary Responsibility

Orange County Fire Authority, Battalion Chief or Captain

Responsibilities

- Provides operational expertise, policies, and procedures for response and recovery operations associated with hazardous material situations.
- Coordinates and support hazardous materials situations during response and recovery operations.

Position Alternates and Successors

The Orange County Fire Authority is responsible for developing protocols for EOC position succession, including the Hazardous Materials Group position.

3.2.3.5 Law Enforcement and Traffic Control Branch Director

Assignment of Primary Responsibility

Orange County Sheriff's Department, Captain

Responsibilities

- Monitors and support field operations related to:
 - Enforcing laws, orders, and regulations
 - Alerting and warning the public and responders
 - Managing and directing vehicular traffic, access and perimeter control
 - Managing evacuations
 - Protects, houses and relocates prisoners as needed
 - Provides security for County critical facilities and resources
 - Assisting in light search and rescue operations
 - Coordinate Law Enforcement Mutual Aid requests
- Coordinates shelter-in-place orders as determined by field-based Incident Command.
- Supports the Security Officer in law enforcement activities within the County/OA EOC.
- Identifies resources required to assist with the mobilization and deployment for law enforcement, traffic control and perimeter control operations as necessary.
- Provides and/or coordinates security for all County facilities, care and shelter sites, reception centers, and evacuated areas.
- Coordinates and supports Law Mutual Aid within the County and Operational Area.
- Supports damage assessment surveys of the County's unincorporated areas and County facilities.
- Coordinates directly with appropriate Sections, Units and Group Supervisors in the EOC, ICP and with representatives at Department Operations Center if activated.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the Law Enforcement and Traffic Control Branch position.

3.2.3.6 Transportation Assembly Point (TAP) Group

Assignment of Primary Responsibility

Orange County Sheriff's Department, Lieutenant or Sergeant

Responsibilities

- Coordinates with the Movement Group Supervisor in establishing and staffing the Transportation Assembly Points for evacuees without transportation of their own.
- Coordinates with the Transit Liaison Supervisor in Logistics regarding the number and which type of vehicles are available for deployment to identified TAP locations.
- Ensures orderly operation at TAPs to facilitate a timely evacuation.
- Coordinates with the Movement Group Supervisor on resource needs and activities at TAPs.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the Transportation Assembly Point Group Supervisor position.

3.2.3.7 Movement Group

Assignment of Primary Responsibility

Orange County Sheriff's Department, Sergeant or above

Responsibilities

- Implements the strategies and objectives from the County of Orange and Orange County Operational Area Evacuation Annex.
- Determines strategy for sharing, acquiring and distributing evacuation resources and personnel for the incident, including translators and sign language interpreters.
- Coordinates evacuation and movement of persons out of the impacted area.
- Coordinates resources and personnel to support traffic control for the movement of impacted populations.
- Coordinates with field personnel to ensure evacuated areas are reasonably secured and that access to the evacuated area is controlled.
- Assist the Medical and Health Care Branch in the relocation of medical facility personnel and patients located in the impacted area.
- Assists in the relocation of personnel incarcerated in county facilities.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the Movement Group Supervisor position.

3.2.3.8 Light Search and Rescue Group

Assignment of Primary Responsibility

Orange County Sheriff's Department, Deputy II (Mutual Aid) or above

Responsibilities

- Identifies the best strategy for sharing, acquiring and distributing light search and rescue resources and personnel, including the use of law enforcement Reserves.
- Coordinates resources and personnel in the support of the safe removal of endangered, trapped, injured or isolated persons.
- Coordinates with the Urban Search and Rescue Group in the Fire and Rescue Branch as necessary.
- Coordinates with the Coroner Group as necessary.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the Light Search and Rescue Group Supervisor position.

3.2.3.9 Coroner Group

Assignment of Primary Responsibility

Orange County Sheriff's Department, Coroner Division, Supervising or Senior Deputy Coroner

Responsibilities

- Implements objectives and strategies from the Orange County Mass Fatality Annex.
- Coordinates emergency procedures to expand decedent operations, which may include the establishment of temporary morgues, personal property management and Family Assistance Center.
- Implements policy for the collection, identification and disposition of human remains in compliance with 36 CFR 800.11.
- Coordinates with the Search and Rescue Groups as necessary to acquire resources for search and recovery operations.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the Coroner Group Supervisor position.

3.2.3.10 California Highway Patrol (CHP) Liaison

Assignment of Primary Responsibility

California Highway Patrol Designee

Responsibilities

- Identifies the best strategy for sharing, acquiring and distributing CHP resources and personnel in support of the incident.
- Coordinates evacuation and movement of persons out of the impacted area with the Movement Group and Caltrans Liaison.

- Coordinates resources and personnel to support traffic control for the movement of impacted populations with the Movement Group and Caltrans Liaison.

Position Alternates and Successors

The California Highway Patrol (CHP) is responsible for developing protocols for EOC position succession, including the CHP Liaison position.

3.2.3.11 Caltrans Liaison

Assignment of Primary Responsibility

California Department of Transportation (Caltrans)

Responsibilities

- Identifies the best strategy for sharing, acquiring and distributing Caltrans resources and personnel in support of the incident.
- Coordinates evacuation and movement of persons out of the impacted area with the Movement Group and CHP Liaison.
- Coordinates resources and personnel to support traffic control for the movement of impacted populations with the Movement Group and CHP Liaison.
- Assists with the use of Changeable Message Signs (CMS) on Freeways and Toll Roads.
- Coordinate with Traffic Management Center for Sig-Alerts.

Position Alternates and Successors

The California Department of Transportation (Caltrans) is responsible for developing protocols for EOC position succession, including the Caltrans Liaison position.

3.2.3.12 Alert and Warning Group Supervisor (AWGS)

Assignment of Primary Responsibility

Orange County Sheriff's Department Emergency Management Division representative or Control One Supervisor

Responsibilities

- Under the direction of the DES, activates the emergency alert and notification systems including but not limited to:
 - Integrated Public Alert and Warning System (IPAWS)
 - Emergency Alert System (EAS)
 - Wireless Emergency Alert System (WEA)
 - AlertOC (public emergency mass notification system)
 - Message boards
- The use of community sirens may be used, however, the jurisdiction will retain ultimate control and will be the sole responsibility to launch a message. The County does not own or operate any community sirens.
- Coordinates with the Public Information Officer and the Operations Section Chief to determine appropriate message content, necessary language or cultural considerations, and ensure messages meet any technical limitations for alerting technologies.

- Coordinates with the Operations Section Chief and Situation Analysis Support Staff-GIS to identify geographic area for alert notifications to target.
- Coordinates alert and warning message content and geography with other impacted jurisdictions.
- Communicates alert and warning message content and geography to other jurisdictions which may not be directly impacted by the incident but may experience cascading impacts (e.g., receiving evacuees).
- Communicates to the Situation Analysis Support Staff-GIS the geographic area of any alert and warning messages sent by other jurisdictions for mapping purposes.
- Identifies any overlapping alert and warning messages, especially any conflicting protective actions, and seeks guidance from the Operations Section Chief, Public Information Officer, and DES in correcting any conflicts.
- Updates WebEOC with Alert & Warning messages.

Position Alternates and Successors

The successors to the Alert and Warning Group Supervisor will be identified by the Orange County Sheriff's Department, Emergency Management Division in coordination with Control One and Technology Division. Depending upon the severity of the incident, Control One may provide support staff to this position.

3.2.3.13 Medical and Health Care Branch Director

Assignment of Primary Responsibility

Orange County Health Care Agency

Responsibilities

- Monitors and coordinates with field tactical operations related to:
 - People with disabilities and those with access and/or functional needs
 - Emergency medical systems
 - Environmental health concerns
 - Injured transport
 - Hospital functions
 - Skilled Nursing and Assisted Living Facilities
 - Disease control
 - Medical mass care
 - Behavioral health issues
- Coordinates resources to assist with the mobilization and deployment for health, medical, behavioral, and environmental operations as necessary.
- Coordinates directly with Sections, Branches, Units and Group Supervisors in the EOC, ICP, and with representatives at the Health Care Agency DOC, if activated.
- Coordinates health, medical, environmental and behavioral health resource requests with the MHOAC for medical mutual aid requests through Cal OES Southern Region and RDMHC and provides information as needed to the MHOAC for status reports.

- Coordinates with Care & Shelter Branch and Logistics Section, as needed, to facilitate provision of certain resources such as durable medical equipment (DME) and consumable medical supplies (CMS) as needed by clientele.

Position Alternates and Successors

The OC Health Care Agency is responsible for developing protocols for EOC position succession, including the Medical and Health Care Branch Director position.

3.2.3.14 Medical Group

Assignment of Primary Responsibility

Orange County Health Care Agency

Responsibilities

- Coordinates medical response with hospitals and private ambulance companies as needed.
- Coordinates and supports Skilled Nursing and Assisted Living Facilities with relocation.
- Implements procedures for handling Medical Mass Care and medical surge.
- Coordinates emergency medical services for incident victims.
- Coordinates logistical requests for medical transportation and medical supplies with the Health Care Agency – Agency Operations Center (HCA AOC).
- Coordinates directly with appropriate Group Supervisors in the EOC, ICP and with representatives at the EMS-DOC or at the HCA AOC, if activated.
- Coordinates health, medical, environmental and behavioral health resource requests with the MHOAC for medical mutual aid requests through Cal OES Southern Region EOC and RDMHC and provides information as needed to the MHOAC for status reports.

Position Alternates and Successors

The OC Health Care Agency is responsible for developing protocols for EOC position succession, including the Medical Group position.

3.2.3.15 Public Health Group

Assignment of Primary Responsibility

Orange County Health Care Agency

Responsibilities

- Coordinates resources and personnel to support inspection and advisory services on public health issues, including handling of food in mass care facilities and resolving sanitation issues.
- Coordinates preventive public health services (e.g. health surveillance, epidemiology, health education, disease prevention, vaccination, occupational safety, etc.).
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and with representatives at the HCA AOC, if activated.
- Coordinates health, medical, environmental and behavioral health resource requests with the Medical and Health Operational Area Coordinator (MHOAC) for mutual aid

requests through Cal OES Southern Region and Regional Disaster Medical Health Coordinator (RDMHC) and provides information as needed to the MHOAC for status reports.

Position Alternates and Successors

The OC Health Care Agency is responsible for developing protocols for EOC position succession, including the Public Health Group position.

3.2.3.16 Environmental Health Group

Assignment of Primary Responsibility

Orange County Health Care Agency

Responsibilities

- Coordinates environmental health resources and personnel to manage monitoring, remediation, and testing of food and water, facility inspections, environmental remediation, hazardous waste, contamination, and sanitation.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and with representatives at the HCA AOC, if activated.
- Coordinates health, medical, environmental and behavioral health resource requests with the Medical and Health Operational Area Coordinator (MHOAC) for medical mutual aid requests through Cal OES Southern Region and Regional Disaster Medical Health Coordinator (RDMHC) and provides information as needed to the MHOAC for status reports.

Position Alternates and Successors

The OC Health Care Agency is responsible for developing protocols for EOC position succession, including the Environmental Health Group position.

3.2.3.17 Agricultural Commissioner Group Supervisor

Assignment of Primary Responsibility

OC Public Works, Agricultural Commissioner

Responsibilities

- Provides information and recommendations on agricultural issues due to the incident.
- Coordinates information on advisories, protective actions or embargoes impacting agriculture.
- Coordinates with the Public Information Officer for public messaging on agricultural advisories, protective actions and embargoes.
- Provides preliminary estimates for damage assessment to crops and livestock.
- Estimate cost of precautionary quarantine/interdiction or crop destruction.
- Obtains farm data, including location and crop type.
- Coordinates with Public Information Officer and the Operations Section Alert and Warning Group Supervisor to notify local ranchers, if necessary on:
- Place all grazing animals identified on stored feed and water

- Cover all stored feed
- Removes all lactating animals from pasture
- Shelter livestock
- Gather and maintain current information on farms, food crops, livestock and other agricultural data that are within the impacted area.
- Collaborates with the Public Works Branch regarding debris removal.
- Coordinates with Operations/Field ICP in regards to Livestock Ag Pass Program.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the Agricultural Commissioner Group position.

3.2.3.18 Emergency Worker Exposure Control Coordinator

Assignment of Primary Responsibility

Orange County Health Care Agency

Responsibilities

- Ensures dosimetry is issued to emergency workers.
- Tracks emergency workers exposures and provide the Radiological Protection Officer with this information.
- Maintains inventory of dosimetry devices and maintain records of all emergency worker exposures under county control.
- Manages dosimetry issued to agencies with predesigned emergency workers.
- Informs the Health Officer when emergency workers exposure occurs.
- Ensures the Radiological Protection Officer is kept apprised of the dosimetry issuance.
- Ensures 24-hour capability for exposure control activities is maintained.
- Requests additional equipment through State and Federal resources as necessary.
- Ensures exposure records are kept on file at the conclusion of the event.
- Ensures all emergency workers dosimetry equipment and records, such as the R-1 forms, are collected at the end of the event.

Positions Alternates and Successors

The Orange County Health Care Agency is responsible for developing protocols for EOC positions succession, including the Emergency Worker Exposure Control position.

3.2.3.19 Public Works and Utilities Branch Director

Assignment of Primary Responsibility

OC Public Works, Division Manager from either Flood, Construction, or Road Divisions.

Responsibilities

- Coordinates resources and personnel to assist with the mobilization and deployment for public works operations.
- Coordinates flood mitigation and abatement operations.

- Coordinates resources and personnel for heavy equipment support.
- Assists law and fire personnel in establishing or maintaining traffic control points, perimeter control, and hazardous material incident operations by providing changeable message signs, k-rails, barriers or other closure items.
- Coordinates with Planning and Intelligence Section on damage assessment inspections of public and private facilities.
- Coordinates emergency repair and restoration, debris clearance and route recovery operations.
- Coordinates debris removal and implements the County of Orange Debris Management Plan.
- Assists OA jurisdictions with their debris removal planning.
- Coordinates public works mutual aid requests.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP, and with representatives at the OC Public Works DOC, if activated.
- Identifies resource needs for safety damage assessments.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the Public Works and Utilities Branch Director position.

3.2.3.20 Utilities Group

Assignment of Primary Responsibility

OC Public Works, Manager

Responsibilities

- Coordinates utility resources and personnel (e.g. emergency repairs, temporary construction, restoration of essential utilities, etc.).
- Coordinates with the Water Emergency Response of Orange County (WEROC) for damage assessments and restoration of water and wastewater systems; including the coordination of water mutual aid.
- Coordinates with outside utility vendors, providers, and contractors as necessary (e.g., Southern California Edison, San Diego Gas and Electric, Southern California Gas Company, telecommunication providers) for damage assessments and restoration of services.
- Coordinates directly with appropriate Branches, Units and Groups in the EOC, ICP and with representatives at the OC Public Works Department Operations Center, if activated.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the Utilities Group position.

3.2.3.21 Debris Management Group

Assignment of Primary Responsibility

OC Public Works, Manager

Responsibilities

- Coordinates resources and personnel to assist with the mobilization and deployment for public works operations in support of debris management.
- Coordinates resources and personnel for heavy equipment support.
- Coordinates emergency repair and restoration, debris clearance and route recovery operations.
- Coordinates debris removal and executes the County of Orange Debris Management Plan at the direction of the branch director.
- Coordinates with OC Waste and Recycling for debris management planning.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP, and with representatives at the OC Public Works DOC, if activated.

Position Alternates and Successors

OC Public Works is responsible for developing protocols for EOC position succession, including the Public Works and Utilities Branch Director position.

3.2.3.22 Natural Resources Group

Assignment of Primary Responsibility

OC Community Resources, OC Parks, Manager

Responsibilities

- Provides technical expertise on wildlife, fisheries, environmental issues, and habitat conservation for wildlife affected by the emergency.
- In conjunction with the Logistics Section, provide available County parks, that can be used to support emergency response operations, including but not limited to:
 - Staging areas
 - Base camps
 - Incident Command Post site
 - Temporary Debris Management sites
- Works with the County Archeologist to check the California Historical Resources Information System (CHRIS).
- Coordinates resources and personnel with Law Enforcement and Traffic Control Branch for evacuation of County parks.
- Coordinates with OC Public Works emergency repair and restoration, debris clearance and route recovery operations.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and with representatives at the OC Public Works DOC, if activated.

Position Alternates and Successors

OC Community Resources, Parks is responsible for developing protocols for EOC position succession, including the Natural Resources Group position.

3.2.3.23 Water Emergency Response Organization of Orange County (WEROC) Liaison

Assignment of Primary Responsibility

WEROC, Director of Emergency Management

Responsibilities

- Serves as the OA Water and Waste Water Mutual Aid Coordinator as described in the Operational Area Agreement.
- Serves as the representative on the Policy Group as the OA Water and Waste Water Mutual Aid Coordinator when the representation from the Orange County Operational Area Executive Board is required for decisions and Multi Agency Coordination (MAC) Group is required for direction and decisions.
- Coordinates water and waste water resources and personnel (e.g. emergency repairs, temporary construction, restoration of essential utilities, etc.).
- Coordinates with the WEROC to obtain information and status updates regarding damage assessments and information on the restoration of water and wastewater systems; or information on the coordination of water mutual aid which WEROC is responsible for within Orange County and also serves as the CalWARN Region I Coordinator.
- Coordinates with the Orange County Drought Task Force as appropriate.
- Coordinates directly with Branches, Units and Groups in the EOC, ICP, and with representatives at the OC Public Works Department Operations Center, if activated.

Position Alternates and Successors

WEROC is responsible for developing protocols for EOC position succession, including the WEROC Liaison position.

3.2.3.24 Care and Shelter Branch Director

Assignment of Primary Responsibility

Social Services Agency, Senior Management

Responsibilities

- Coordinates resources and personnel to assist with the mobilization and deployment for care and shelter operations as necessary. Working with Logistics to fill staffing needs.
- Coordinates with Schools Group and American Red Cross Liaison to ensure shelter sites meet ADA (American with Disabilities Act) requirements.
- Coordinates with the Disabilities and Access and Functional Needs Group on any related issues, resources and public information needs (including translators and sign language interpreters) for both impacted and non-impacted populations.
- Coordinates with the Public Information Officer on shelter status and operations.
- Coordinates with American Red Cross of Orange County and others as needed, in support of shelter operations and mass care messaging.

- Coordinates with OC Animal Care Group for the care of animals and determination of appropriate animal care sites.
- Coordinates directly with appropriate Sections, Branches, Unit Leaders and Group Supervisors in the EOC and ICP, partner jurisdictions and with representatives at the Social Services Agency DOC, if activated, as needed for shelter needs and support.
- Coordinates with Schools Group, Red Cross Liaison and other jurisdictional partners to determine site locations for County Unincorporated residents and the need to combine shelter efforts with city jurisdictions.
- Assists the OA with Local Assistance Center (LAC) operations or may be the primary point of contact for establishing County LACs as described in the County/OA Recovery Annex.
- Assists the OA with Family Assistance Center (FAC) operations or may be the primary point of contact for establishing the County FACs.
- Coordinates with the Office of Immigrant and Refugee Affairs and Regional Task Forces to assess and address needs of impacted immigrants.

Position Alternates and Successors

The OC Social Services Agency is responsible for developing protocols for EOC position succession, including the Care and Shelter Branch Director's position.

3.2.3.25 Schools Group

Assignment of Primary Responsibility

Orange County Department of Education

Depending upon the incident, schools may reside within Care and Shelter or be adapted to a separate Branch if the schools and their day to day duties/authorities are impacted. If the latter, the Department of Education will serve as the Branch Director.

Responsibilities

- Coordinates with school management to determine status of facilities, operations, resource and personnel needs.
- Coordinates with Logistics Section, Transportation Unit for status of available school buses, including paratransit vehicles, that could be used for transportation of impacted population.
- Coordinates with the American Red Cross and the Disabilities and Access and Functional Needs (DAFN) Group in identifying appropriate school sites for care and shelter operations.
- Coordinates with the Public Information Officer on school(s) status.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and representatives at the OCDE Department Operations Center, if activated.
- Keeps the emergency organization apprised of issues relating to schools and children.
- Coordinates with private schools and childcare facilities on reunification, lockdown, evacuation plans and unaccompanied minor situation status.

- Provides regular updates to Policy on the status of education/instruction, impacted technology, and meals programs.

Position Alternates and Successors

The OC Department of Education is responsible for developing protocols for EOC position succession, including the Schools Group position.

3.2.3.26 Animal Care Group

Assignment of Primary Responsibility

OC Community Resources, Animal Care Services, Manager

Responsibilities

- Monitors and supports field operations related to animal evacuations.
- Coordinates with volunteer groups for large animal relocation.
- Coordinates and supports operations relating to:
 - Establishing animal shelters
 - Volunteer groups for large animal relocation
 - Animal transportation
 - Search and rescue
 - Reunification with owners
 - Euthanizing
 - Carcass handling and disposition
- Coordinates with the Public Information Officer and Public Information Officer Support Staff on animal related issues, status, and operations.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP, and with representatives at the Department Operations Center, if activated.
 - When appropriate, incorporating compliance with the Food and Agriculture Code 3200-32003 requirements for information related to lost and found animals.
- Coordinate with state-level emergency response resources, including but not limited to the California Emergency Support Function (CA-ESF) Coordinators and/or California Animal Response Emergency Support (CARES) on mission resource tasking.

Position Alternates and Successors

OC Community Resources, Animal Care Services is responsible for developing protocols for EOC position succession, including the Animal Care Group position.

3.2.3.27 Behavioral Health Group

Assignment of Primary Responsibility

Orange County Health Care Agency, Behavioral Health Services, Mental Health Specialist

Responsibilities

- Coordinates behavioral health resources and personnel in support of shelter operations.
- Monitors behavioral health teams in the impacted disaster areas, if deployed.
- Monitors and provides appropriate psychological support to the County/OA EOC staff.

- Coordinates with the hotline supervisor and provides a representative to work the hotline as needed.
- Coordinates directly with appropriate Sections, Branches, Units and Group Supervisors in the EOC, ICP and with representatives at the HCA AOC, if activated.
- Coordinates health, medical, environmental and behavioral health resource requests with the MHOAC for medical mutual aid requests through Cal OES Southern Region and RDMHS/C and provides information as needed to the MHOAC for status reports.

Position Alternates and Successors

The OC Health Care Agency is responsible for developing protocols for EOC position succession, including the Behavioral Health Group position.

3.2.3.28 Disabilities and Access and Functional Needs Group

Assignment of Primary Responsibility

County Executive Office-Risk Management

Responsibilities

- Provides information to County/OA EOC Sections, Branches, Units and Groups on people with disabilities and those with access and/or functional needs-related issues, including available resources.
- Facilitates communication between the County and OA EOC and area organizations to monitor their response activities serving people with disabilities and those with access and/or functional needs.
- Ensures people with disabilities and those with access and/or functional needs are properly considered in all aspects of the incident response and recovery.
- Coordinates with the Operations Section Alert and Warning Group Supervisor to ensure all methods of emergency communications with the public are as accessible as possible, including AlertOC and the Emergency Alert System (EAS).
- Coordinates with Operations Section and Branches to identify access and functional needs-related issues and available resources.
- Works with Planning and Intelligence Section to provide information for inclusion in the EOC Action Plan.
- Provides information to the PIO, PIO Support Staff and Hotline Supervisor on how to effectively communicate with people with disabilities and those with access and/or functional needs.
- Coordinates with the PIO and PIO Support Staff to ensure organizations serving people with disabilities and those with access and/or functional needs are receiving all County and OA public notifications including EOC news media releases.
- Coordinates with Medical and Health Care Branch to indicate the available facilities to determine the extent to which critical care facilities are impacted.
- Coordinates with Law Enforcement and Traffic Control Branch, Movement Group and Logistics Section, Transportation Unit to address any needs related to transportation accessibility and availability.

- Coordinates with American Red Cross Liaison and Care and Shelter Branch Director to address any accessibility issues in shelter locations.
- Coordinates with other shelter agencies on access and functional needs issues in shelters including the American Red Cross, Health Care Agency Behavioral Health, and Animal Care Services.
- Coordinates with Medical and Health Care Branch and Logistics Section, as needed, to facilitate provision of certain resources such as durable medical equipment (DME) and consumable medical supplies (CMS) as needed by clientele.
- Coordinates with:
 - Advanced Planning Unit (for people with disabilities and those with access and/or functional needs resource forecasting)
 - Public Works Branch and Utilities to obtain manifest lists of those who need electricity to use critical devices for use during power outages
 - Planning and Intelligence Section, Situational Analysis Support Staff (to facilitate specific information related to people with disabilities and those with access and/or functional needs is collected)

Position Alternates and Successors

The County Executive Office is responsible for developing protocols for EOC position succession, including Disabilities and Access and Functional Needs Group position.

3.2.3.29 Homeless Liaison Coordinator

Assignment of Primary Responsibility

CEO-Office of Care Coordination, Management

Responsibilities

- Provides information to County/OA EOC sections on issues of people experiencing homelessness and what resources are available.
- Facilitates and maintains communication between the County/OA EOC and area organizations serving those experiencing homelessness.
- Ongoing monitoring of the needs of impacted homeless population specific to the disaster.
- Ensures people experiencing homelessness are properly considered in all aspects of the incident response and recovery activities.
- Coordinates with the Law Enforcement and Traffic Control Branch Director, Public Works and Utilities Branch Director, Logistics Section, Alert and Warning Group Supervisor, Public Information Officer and PIO Support staff to ensure methods of emergency communications are including homeless populations impacted by the event.
- Coordinates with Operations Section to identify homeless related issues and available resources.
- Works with Planning and Intelligence Section to provide information for inclusion in EOC Action Plan.

- Provides information to PIO, PIO Support Staff, 211 OC and Public Information Hotline and Rumor Control Supervisor on effectively on communicating updates and efforts with people experiencing homelessness in Orange County.
- Forwards any public notification and press releases to community organizations serving people experiencing homelessness in Orange County.
- Coordinates with Movement Group and Transportation Unit to address any needs related to transportation accessibility and availability. Related to transportation accessibly and relatability, especially for evacuations.
- Identifies and coordinates accessible storage for homeless belongings along with homeless transportation with the Logistics Section
- Coordinates with American Red Cross Liaison and Care and Shelter Branch Director to address any homeless population accessibility issues in official shelter locations.
- Coordinates with other shelter agencies on identified issues as it pertains to people experiencing homelessness in shelters including the American Red Cross, Health Care Agency Behavioral Health, and Animal Care Services.
- Coordinates with community organizations serving people experiencing homelessness in Orange County, including but not limited to: non-profit/faith based organizations providing care and services to the homeless population.
- Creates list of available resources or locations offered by such organizations and provide this information to the Logistics Section.
- Coordinates with:
 - Law Enforcement and Traffic Control Branch (evacuation and alert and warning notifications)
 - Public Works and Utilities Branch (obtain list or location of where personal artifacts were relocated from riverbed channels during storm events)
 - Planning and Intelligence Section, Situational Analysis Support Staff (to ensure specific information related to homeless populations is collected and documented)
 - Planning and Intelligence Section, Advance Planning Unit (for homeless needs resource forecasting)

Position Alternates and Successors

CEO-Office of Care Coordination is responsible for developing protocols for EOC position succession, including Homeless Liaison position.

3.2.3.30 American Red Cross Liaison

Assignment of Primary Responsibility

American Red Cross

Responsibilities

- Communicates and coordinates information, requests, and resources between the EOC and the American Red Cross EOC and field operations.
- Supports the County and Operational Area in meeting the resource needs of the County and OA jurisdictions that relate to:
 - May assist in site selection of the Care and Reception Center

- Overnight Congregate/Non-Congregate Shelter
- Behavioral Health Support
- Disaster Health Services
- Mass casualty support
- Public messaging support and coordination
- Emergency food and water distribution
- Recovery process support
- Schools

Position Alternates and Successors

The American Red Cross is responsible for developing protocols for EOC position succession, including the American Red Cross Liaison position.

3.2.3.31 Care and Shelter Field Liaison (C&S Field Liaison)

Assignment of Primary Responsibility

Social Services Agency

Responsibilities

- Upon the County/OA EOC activating a shelter location, coordinate the following:
 - Provides and relays information between the County or City Shelter, County department, Department Operations Centers, OA Jurisdictions and Incident Command Post (ICP) and the County/OA EOC in relation to policy matters, priorities, resource needs/requests, and jurisdiction-specific information.
 - Upon arrival makes contact with Shelter/Manager Supervisor and explains role and independent reporting structure.
 - Communicates the status of activities at the assigned location to the County/OA EOC.
 - Promotes a collaborative environment by actively monitoring activities, information, concerns and discrepancies at the assigned location.
 - These actions are not reflective of a mutual aid request to support local jurisdictions shelters.

Position Alternates and Successors

The Social Services Agency is responsible for developing protocols for the Care and Shelter Field Liaison position succession.

3.2.4 Logistics Section

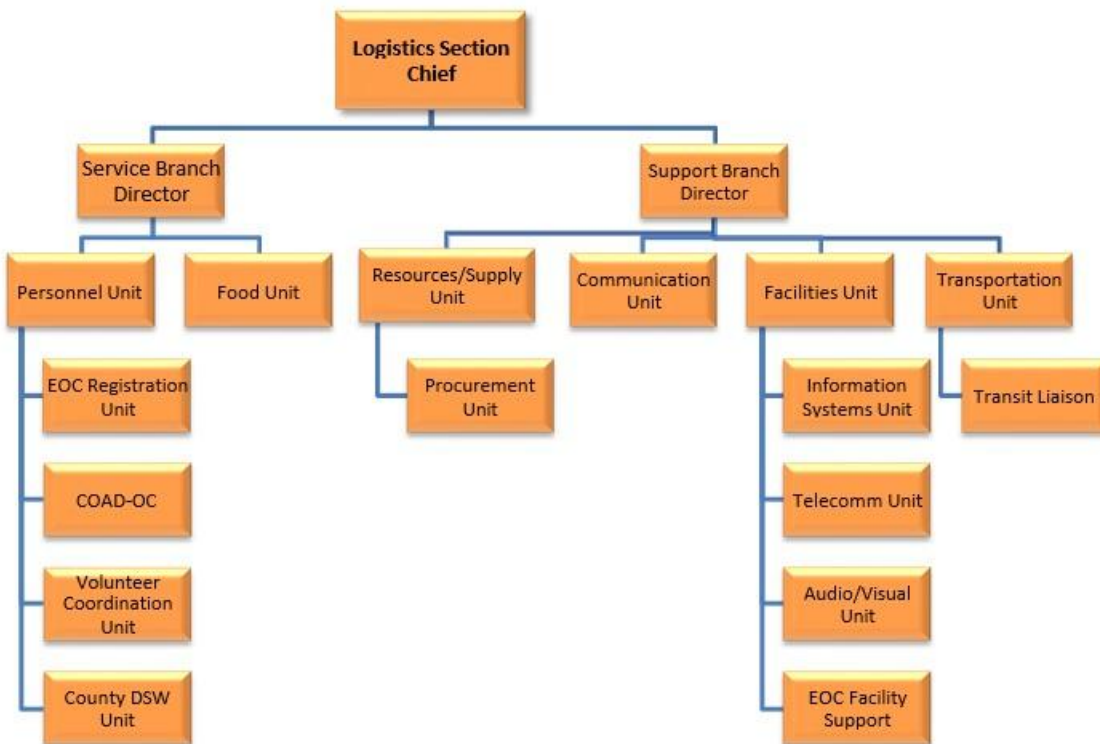


Figure 20: Org chart for the Logistics Section

The Logistics Section is responsible for providing facilities, services, transportation, personnel, equipment, food service, communications and other materials to the County/OA EOC operation to ensure that its role as a coordination point can continue without interruption. In addition, the Logistics Section will support the resource needs of any regional resource mobilized and directed by the County/OA EOC Operations Section. This may include ordering resources through appropriate procurement authorities, distribution of resources, and monitoring and managing resources in support of County/OA EOC objectives. The Logistics staff positions and units pre-identified for the County/OA EOC are:

- Logistics Section Chief
- Service Branch Director
- Personnel Unit Leader
- EOC Registration Unit
- COAD-OC Liaison
- Volunteer Coordination Unit
- County DSW Unit
- Food Unit

- Support Branch Director
- Resources and Supply Unit Leader
- Procurement Unit
- Communications Unit Leader
- Facilities Unit Leader
- Information Systems Unit
- Telecommunications Unit
- Audio and Visual Unit
- EOC Facility Support Unit
- Transportation Unit Leader
- Transit Liaison

3.2.4.1 Logistics Section Chief

The Logistics Section Chief manages all Logistics Section activities in support of the EOC and field activities and implements the EAP. The Logistics Section Chief may have one or more assistants. Assistants will be qualified to a similar level as the Logistics Section Chief. The Logistics Section Chief should be designated for each operational period and will have direct involvement in the preparation of the EOC Action Plan for the period of responsibility.

Assignment of Primary Responsibility

The Logistics Section Chief will be from the County Executive Office, Purchasing Unit Management.

Responsibilities

- With the EOC Manager, determine if primary or alternate EOC location is appropriate for response.
- Provide situational and resource status information to Section Chiefs and Management.
- Provide logistical support for EOC, field, and shelter operations such as:
 - Personnel, in coordination with DOCs and mutual aid coordinators
 - Food and water
 - Facilities
 - Services and supplies
 - Transportation
 - Fuel
 - Communications
 - Donated goods
 - Volunteer coordination
- Coordinate and track all incident resources procured by the Logistics Section.
- Implement management decisions with respect to priorities and EOC Action Plan.
- Monitor incident activities and recommends course of action, as necessary.
- Coordinate directly with Section Chiefs in the EOC, ICP to gather situational and resource status of the incident.

- When delegated by the EOC Manager, this position becomes the EMMA Coordinator with primary responsibility for ordering, vetting, receiving, and demobilizing EMMA resources.
- Obtain and use, as appropriate, EOC petty cash, Cal Card, and checks (Attachment 4).

Position Alternates and Successors

The County Executive Office is responsible for developing protocols for EOC position succession, including the Logistics Section Chief position.

3.2.4.2 Service Branch Director

The Service Branch Director will be from the County Executive Office, Purchasing Unit Management.

Responsibilities

- Supports the incident by acquiring and coordinating resources as needed.
- Oversees and support Personnel Unit Leader in fulfillment of their duties and assignments.
- Oversees and support Food Unit Leader in fulfillment of their duties and assignments.
- Coordinates directly with other Branches, Units and Groups in the EOC, ICP and with representatives at Department Operation Center (if activated), for personnel status and deficiencies.

Position Alternates and Successors

The County Executive Office is responsible for developing protocols for EOC position succession, including the Service Branch Director.

3.2.4.3 Personnel Unit Leader

Assignment of Primary Responsibility

County Executive Office, Human Resources Services

Responsibilities

- Supports the incident by staffing, coordinating and providing County/OA EOC personnel related operations.
- Ensures the EOC Registration Unit position is staffed.
- Ensures all responders sign out at end of their shift.
- Ensures shift change registration is ready for next shift.
- Provides status report of filled and unfilled EOC positions to the County/OA EOC Manager and Planning and Intelligence Section Chief.
- Requests support staff to assist with activities and tasks.
- Coordinates with the Security Officer on any issues related to EOC security.
- Coordinates with Transportation Unit Leader for transportation support for EOC responders, if offsite parking has been implemented.
- Identifies the best strategy for sharing, acquiring and distributing County/OA EOC personnel.
- Manages personnel issues and addresses personnel policies during emergency situations.

- Activates the Volunteer Coordination Unit and Collaborative Organizations Active in Disasters (COAD-OC) Liaison as required.
- Coordinates with COAD-OC Sector Leadership and COAD-OC members to determine needs and capabilities of the COAD-OC.
- Coordinates the Volunteer Coordination Unit on requests for spontaneous volunteers and coordination with OneOC.
- Coordinates use of County Human Resources and County Counsel in implementing the California's Disaster Service Worker authorities.
- Coordinates the activation of Community Emergency Response Team (CERT) Mutual Aid Program (CMAP) through the Operation Area, if required.
- Ensures the general welfare and safety of all volunteers used.
- Addresses volunteer issues during incident.
- Documents and maintain records on volunteer requests, assignments and generates reports for distribution Planning and Intelligence Section Chief.
- Documents and maintain records of personnel used for the incident, generates reports for distribution to Management and Section Chiefs.
- Manages County Disaster Service Workers.

Position Alternates and Successors

OC Human Resources Department is responsible for developing protocols for EOC position succession, including the Personnel Unit Leader position.

3.2.4.4 County Disaster Service Worker Unit Leader

Assignment of Primary Responsibility

The County Disaster Service Worker (DWS) Unit Leader will be from the County Human Resource Agency Management.

Responsibilities

- Activates the County DSW website and informs County managers.
- Reviews and coordinates established DSW requests and assignments through coordination with home agency supervisors.
- Supports requests from the Operational Area by gathering validated requests and posting appropriate jobs via the Orange County DSW job website.
- Monitors and assist in processing of DSW in staffing for Operational Area needs.

Position Alternates and Successors

The successors to the County Disaster Service Worker Unit Leader will be provided by the CEO – Human Resource Services.

3.2.4.5 Volunteer Coordination Unit

Assignment of Primary Responsibility

Orange County Sheriff's Department, Emergency Management Division

Responsibilities

- Coordinates affiliated volunteers from County and City-run volunteer programs. This includes: CERT, MRC, VIPS, RACES, and Fire Corps.
- Assure the DSWV Program Form is completed and stored properly for County and City Volunteers.
- Documents volunteer services from County and City-run programs.
- Shares resources among jurisdictions to fill unmet needs.
- Fills in for volunteer coordinators at local EOCs as needed.
- Initiates planning for logistics to support the volunteers.
- Implements the CMAP Activation Plan as required.
- Coordinates with COAD-OC Liaison.
- Coordinates with the PIO on messaging for monetary donations, rather than in-kind goods and items. Monetary donations should be made directly to the CBOs and NGOs assisting in the disaster relief effort, or to the established donation collection fund.
- Works with the PIO on volunteer and donations messages.
- Coordinates the donations management efforts of volunteer groups, local government and Resources and Support Unit Leader.
- Engages with COAD-OC to receive, manage, and distribute donated items.
- Assists with the establishment of a central reception area for donated goods, including the inventory and distribution of such goods.
- Assesses the need to establish a donation collection fund through identified COAD-OC partners.

Position Alternates and Successors

The successors to the Volunteer Unit Leader will be provided by other OA jurisdictions with volunteer coordination responsibilities.

3.2.4.6 COAD-OC Liaison

Assignment of Primary Responsibilities

COAD-OC Leadership Council

Responsibilities

- Coordinates affiliated volunteers from COAD-OC volunteer programs. This includes NGOs, CBOs, and FBOs.
- Ensures the general welfare and safety of all volunteers deployed.
- Coordinates with Southern California VOAD. In large-scale disasters, collaborates with Southern California VOAD to convene and facilitate meetings and conference calls as required.
- Implements the COAD-OC Emergency Management Plan as required.
- Coordinates with Volunteer Coordination Unit Supervisor.

- Coordinates with the County and OA EOC Manager or designee to request OneOC to activate the EVC to register spontaneous volunteers.
- Shares resources among NGOs, CBOs, and FBOs to fill unmet needs.
- Maintains awareness of all COAD-OC volunteer activities.
- Coordinates with the Volunteer Coordination Unit position.
- Works with the Volunteer Coordination Unit Supervisor and PIO on volunteer and donations messages.

Position Alternates and Successors

The COAD-OC Leadership Council is responsible for developing protocols for EOC position succession, including the COAD-OC Liaison position.

3.2.4.7 EOC Registration Unit

Assignment of Primary Responsibility

Orange County Sheriff's Department

Responsibilities

- Ensures all EOC responders have picture identification, sign in, and direct them to the appropriate position or supervisor.
- Ensures all responders sign out at end of their shift.
- Ensures all responder sign into their specific positions in WebEOC.
- Ensures shift change registration is ready for next shift.
- Provides copies of each shifts sign in sheets to the Personnel Unit Leader.
- Provides status report of any unfilled positions to the Personnel Unit Leader or EOC Manager if the Personnel Unit Leader is not activated.
- Assists with the Personnel Unit Leader for the call out of additional personnel.
- Coordinates with the Security Officer on any issues related to EOC security.

Position Alternates and Successors

The Orange County Sheriff's Department is responsible for developing protocols for EOC Security Officer succession.

3.2.4.8 Food Unit

Assignment of Primary Responsibility

The Food Unit staff will be identified and assigned at the time of the incident based on the availability of staff with applicable experience, expertise, and capability. Staffing for the Food Unit will be provided by the County departments or OA jurisdictions.

Responsibilities

- Determines location of working assignments, and number of personnel assigned to EOC, shelters, and other facilities.
- Determines method of feeding to best fit each situation.
- Activates and monitor contracts and agreements to obtain necessary equipment and supplies to provide food catering service facilities.

- Obtains necessary equipment and supplies to operate food service facilities at EOC, shelters, and /or other facilities.
- Sanitizes work area.
- Sets up Food Unit equipment.
- Verifies menus to ensure incident personnel of well-balanced meals and food sensitivities allergies.
- Ensures that sufficient potable water is available to meet all incident needs.
- Maintains casual meal invoicing and documentation process.
- Ensures that all appropriate health and safety measures are taken.
- Supervises cooks and other Food Unit personnel.
- Keeps inventory of food on hand, and check in food orders.
- Preplan food for several days out.
- Provides Supply Unit Leader with food supply orders.
- Demobilizes Food Unit in accordance with Incident Demobilization Plan.

3.2.4.9 Support Branch Director

Assignment of Primary Responsibility

The Support Branch Director will be from the County Executive Office, Purchasing Unit Management.

Responsibilities

- Supports the incident by acquiring and coordinating resources as needed
- Oversees and support the Resources/Supply Unit in the completion of their duties and assignments.
- Oversees and support the Communications Unit in the completion of their duties and assignments.
- Oversees and support the Facilities Unit in the completion of their duties and assignments.
- Oversees and support the Transportation Unit in the completion of their duties and assignments.
- Coordinates directly with other Branches, Units and Groups in the EOC, ICP and with representatives at Department Operation Center (if activated), for incident needs.
- Supports and coordinates with facilities to address EOC needs.

Position Alternates and Successors

All County Departments and Agencies through Support Pool assignments

3.2.4.10 Resource and Support Unit Leader

Assignment of Primary Responsibility

County Executive Office, Purchasing Unit, Buyer II or Buyer I

Responsibilities

- Supports the incident by acquiring and coordinating resources as needed.

- Coordinates and track incident resources and works with the Planning and Intelligence Section, Situation Analysis Support Staff (SASS)-Resource Status and Tracking for tracking of personnel, services and supplies.
- Identifies the best strategy for sharing, acquiring, and distributing response resources and personnel.
- Provides resources, technical support and maintenance to the County/OA EOC as necessary.
- Receives, stores, and deploys delivered supplies to the County/OA EOC.
- Assists in determining facility requirements for the incident.
- Supports the acquisition and distribution of food for incident responders.
- Supports the Care and Shelter Branch in supplying food, water, and supplies to incident victims at shelters or reception centers.
- Coordinates with Medical and Health Care Branch to address food security and safety concerns.
- Coordinates with the Public Information Officer to ensure donation needs, information on the availability of donated goods and pertinent information on donations are provided to the public.
- Assists with the establishment of a central reception area for donated goods, for inventorying and redistribution.
- Coordinates with Planning and Intelligence Section, SASS-Resource Status and Tracking in maintaining a real-time inventory control database for all donated goods
- Coordinates security with Law Enforcement and Traffic Control Branch for donated goods.
- Assesses the condition of and return of donated goods to their original owners when applicable.
- Coordinates directly with Branches, Units and Groups in the EOC, ICP and with representatives at Department Operations Center (if activated), for resource and personnel status and deficiencies.

Position Alternates and Successors

The County Executive Office is responsible for developing protocols for EOC position succession, including Resource and Support Unit Leader position.

3.2.4.11 Procurement Unit Leader

Assignment of Primary Responsibility

County Executive Office Real Estate, Purchasing Unit, Buyer II or Buyer I

Responsibilities

- Administers all financial matters pertaining to vendor contracts.
- Coordinates with County departments and Operational Area jurisdiction to identify sources for resources.
- Leverages the Disaster Purchasing website for needed resources (Attachment 7).
- Prepares and sign equipment rental agreements, and processes all administrative requirements associated with resource rental and supply contracts.

- Purchases necessary equipment, materials and supplies in support of the County/OA EOC and field operations.
- Maintains resource listings of vendors.
- Coordinates delivery of supplies and materials to designated sites.
- Coordinates properties or agreement for property management.

Position Alternates and Successors

The County Executive Office is responsible for developing protocols for EOC position succession, including the Procurement Unit Leader position.

3.2.4.12 Communications Unit Leader

Assignment of Primary Responsibility

Orange County Sheriff's Department, Technology Division

Responsibilities

- Develops the Communications Plan (ICS 205) to ensure effective use of the communications equipment and facilities assigned to the incident.
- Identifies the best strategy for sharing, acquiring and distributing EOC radio and data needs.
- Monitors all communication systems to ensure they are operational.
- Coordinates the installation of communication equipment used to support the incident.
- Implements procedures for the distribution and recovery of communication equipment assigned to incident personnel and locations.
- Coordinates the maintenance and repair of communications equipment at the County/OA EOC and in the field.
- Coordinates telephone, radio and data communications support for the field response, ICP, Department Operations Center, shelters, etc.
- For RACES activation refer to section 4.13.5.

Position Alternates and Successors

The Orange County Sheriff's Department, Technology Division is responsible for developing protocols for EOC position succession, including the Communications Unit Leader position.

3.2.4.13 Facilities Unit Leader

Assignment of Primary Responsibility

CEO Real Estate

Responsibilities

- In coordination with Resources and Support Unit obtains additional facilities, including but not limited to:
 - Alternate EOC
 - Joint Information Center
 - Local Assistance Centers
 - Points of Distribution Locations
 - Shelter Locations

Position Alternates and Successors

Research and Development Facility Operation Unit. The Orange County Sheriff's Department is responsible for developing protocols for EOC position succession, including the EOC Facilities Unit Leader position.

3.2.4.14 EOC Facility Support**Assignment of Primary Responsibility**

Orange County Sheriff's Department, Research and Development Division, Facilities Operations

Responsibilities

- Coordinates the setup of necessary support areas, including areas for food and water service, sleeping, sanitation, showering, etc. within the County/OA EOC.
- Ensures all voice and data communications, audio and visual equipment in the County/OA EOC is functional, and coordinates technical support, as required.
- Ensures the County/OA EOC remains functional by coordinating all facility support needs.
- Coordinates with vendors for facility needs.
- Coordinates for the technical support of the operating and delivery systems used by the County/OA EOC, including but limited to:
 - Water system
 - Heating and air conditioning systems
 - Trash collection
 - Septic system
 - Propane
 - Facility generators
- Coordinates the installation, repair of and maintenance of facility operating and delivery systems used by the County/OA EOC.
- Coordinates necessary laundry services

Position Alternates and Successors

The Orange County Sheriff's Department, Research and Development Division, Facilities Operations is responsible for developing protocols for EOC position succession, including the EOC Facility Support Unit position.

3.2.4.15 Information Systems Unit**Assignment of Primary Responsibility**

Orange County Sheriff's Department Technology Division

Responsibilities

- Provides technical support for the operation of information technology and delivery systems used by the County/OA EOC.
- Coordinates with the EOC Facility Unit Leader with IT support operations, in the establishment of new and existing facilities.

Position Alternates and Successors

The Orange County Sheriff's Department Technology Division is responsible for developing protocols for Information Systems Unit EOC position succession.

3.2.4.16 Telecommunications Unit**Assignment of Primary Responsibility**

County Executive Office, Telephone Services Division

Responsibilities

- Provides technical support for the operation of telecommunications systems used by the County/OA EOC.
- Coordinates with the EOC Facility Unit Leader to provide IT support for newly established support facilities.
- Coordinates the installation, repair of and maintenance of telecommunication equipment used by the County/OA EOC.

Position Alternates and Successors

The County Executive Office Telephone Services Division is responsible for developing protocols for EOC position succession, including the Telecommunications Group position.

3.2.4.17 Audio and Visual Unit**Assignment of Primary Responsibility**

Orange County Sheriff's Department Technology Division

Responsibilities

- Provides technical support for operation of audio and visual systems used by the County/OA EOC.
- Coordinates the repairs and maintenance of the audio and visual equipment used by the County/OA EOC.

Position Alternates and Successors

The Orange County Sheriff's Department Technology Division is responsible for developing protocols for Audio and Visual EOC position succession.

3.2.4.18 Transportation Unit Leader**Assignment of Primary Responsibility**

OC Public Works Fleet Services

Responsibilities

- Identifies the best strategy for sharing, acquiring and distributing transportation equipment and related personnel.
- Coordinates with the Orange County Transportation Authority (OCTA), school districts and other agencies to ensure adequate vehicles are available, including para-transit vehicles for movement of impacted population.
- Establishes a pool of vehicles for use by County/OA EOC staff as needed.

- Coordinates with Medical and Health Care Branch to ensure vehicles are available to assist in the transportation of impacted population to and from medical facilities as needed.
- Ensures auxiliary transportation methods for supporting people with disabilities and those with access and/or functional needs.
- Coordinates with the Care and Shelter Branch for transportation support.
- Coordinates the maintenance and repairs of response vehicles and mobile ground support equipment.
- Records usage time for all ground equipment, including contract equipment.
- Coordinates fuel for all response vehicles.
- Assists in the development of the incident and EOC map to include traffic control and transportation information (ICS 201 map).
- Responsible for transportation planning.

Position Alternates and Successors:

OC Public Works is responsible for developing protocols for Transportation Unit Leader EOC position succession.

3.2.4.19 Transit Liaison**Assignment of Primary Responsibility**

Orange County Transportation Authority (OCTA)

Responsibilities

- Ensures mass transit and para-transit vehicles are available to assist in the transportation of impacted population.
- Coordinates transportation support from outside agencies, including school districts and other mass transit agencies.
- Coordinates the implementation of transportation operations within OCTA.
- Coordinates maintenance and repairs of agency vehicles used to support the incident.
- Coordinates transportation methods to support people with disabilities and those with access and/or functional needs.
- Coordinates with Transportation Unit Leader for fuel support of deployed vehicles.

Position Alternates and Successors

The OC Transportation Authority is responsible for developing protocols for the Transit Liaison EOC position succession.

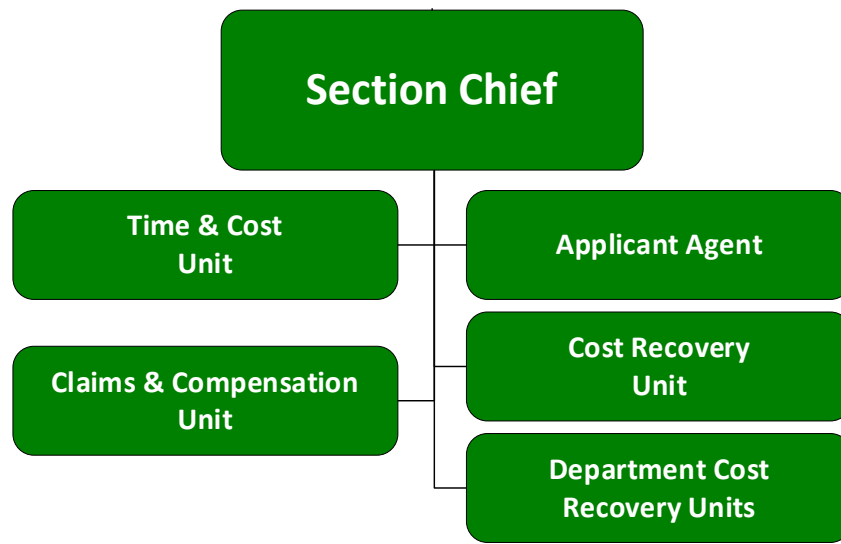
3.2.5 Finance and Administration Section

Figure 21: Org chart for the Finance and Administration Section

When there is a specific need for financial (individual and agency or department), and/or administrative services to support the County/OA EOC management activities, a Finance and Administration Section is established. Not all agencies and incidents will require such assistance. In large, complex scenarios involving significant funding originating from multiple sources, the Finance and Administration Section is an essential part of the response organization. In addition to monitoring multiple sources of funds, the Finance and Administration Section must track and report on the financial “burn rate” as the incident progresses. This allows the County/OA EOC Management to forecast the need for additional funds before operations are negatively affected. This is particularly important if significant operational assets are under contract from the private sector. The Finance and Administration Section may also need to monitor cost expenditures to ensure applicable statutory rules are met. Close coordination with the Planning and Intelligence Section and Logistics Section is also essential so operational records can be reconciled with financial documents. Because of the flexible nature of SEMS, NIMS, and ICS, in some cases, only one or a few specific functions may be required.

The Finance and Administration Section will be activated as required for purposes of maintaining records on personnel and equipment time, providing payments to vendors for supplies and equipment usage, and determining the cost considerations or various alternatives strategies associated with incident planning. The Finance and Administration Section Chief will determine, given current and anticipated future requirements, the need for establishing specific subordinate units. The Finance and Administration staff positions and units pre-identified for the County/OA EOC are:

- Finance and Administration Section Chief
- Time and Cost Unit Leader
- Cost Recovery Unit Leader
- Claims and Compensation Unit Leader

- Applicant Agent
- Department Cost Recovery Unit Leader

3.2.5.1 Finance and Administration Section Chief

Assignment of Primary Responsibility

County Executive Office, Finance Office, Senior Management.

Responsibilities

- Manages all financial and cost analysis of the incident.
- Identifies the best strategy for sharing, acquiring and distributing response expenditures.
- Implements a County Disaster Accounting process.
- Provides regular accounting of costs (personnel, equipment, services and supplies) reports associated with the incident.
- Assists with the quantification of damage to public property.
- Acts as a financial liaison between the County, Operational Area, and other agencies.
- Recommends financial policies to Management Section and carries out agreed upon policies.
- Authorizes and reconcile purchase orders and contracts associated with the incident.
- Processes worker's compensation claims associated with the incident.
- Processes travel and expense claims associated with the incident.
- Processes insurance claims associated with the incident.
- Manages the financial claims process, working with the County's designated Applicant Agent, Cal OES and FEMA.
- Coordinates directly with Section Chiefs in the EOC, ICP and with representatives at the Department Operations Center, if activated.
- When EMMA is requested, coordinate with Logistics and County Counsel to develop and implement a claims standard format and submission process that meets Federal, State, and Local requirements.

Position Alternates and Successors

The County Executive Office, Finance Office is responsible for developing protocols for EOC position succession, including the Finance and Administration Section Chief position.

3.2.5.2 Time and Cost Unit Leader

Assignment of Primary Responsibility

Auditor-Controller, Senior Management.

Responsibilities

- Coordinates with the Logistics and Planning and Intelligence Sections to track incident resources and personnel expenditures.
- Maintains and process complete and accurate time records of all personnel used in the incident and equipment costs.
- Prepares regular reports for the Cost Recovery Unit that documents all personnel and equipment related costs of the operation at the County/OA EOC and field level.

- Ensures proper recording of personnel time in accordance with the policies of the County and the relevant departments and agencies.
- Documents excess hours worked and overtime of response personnel.
- Documents equipment usage time and expenses.
- Prepares personnel cost reports for Planning and Intelligence Section Chief.
- Provides all cost analysis activity associated with EOC and incident operations.
- Coordinates with counterparts in activated Emergency Operating Centers, to ensure that complete and accurate records are maintained.
- Coordinates directly with Unit Leaders and Group Supervisors in the EOC, ICP and with representatives at the Department Operations Center, if activated.

Position Alternates and Successors

The OC Auditor-Controller is responsible for developing protocols for EOC position succession, including the Time Cost Unit Leader position.

3.2.5.3 Claims and Compensation Unit Leader

Assignment of Primary Responsibility

County Executive Office, Office of Risk Management

Responsibilities

- Coordinates documentation of incident injury and property damage.
- Accepts claims resulting from the incident as the agent for the County.
- Initiates and coordinates the investigation and compensation of injury in the areas of: Worker's compensation, Property damage, and Liability
- Ensures preparation of forms and reports required by worker's compensation programs, providing support of claims, etc.
- Maintains a file of injuries and illnesses associated with response personnel.

Position Alternates and Successors

The Office of Risk Management is responsible for developing protocols for EOC position succession, including the Claims and Compensation Unit Leader position.

3.2.5.4 Cost Recovery Unit Leader

Assignment of Primary Responsibility

Auditor-Controller, Senior Management.

Responsibilities

- Coordinates the implementation of and maintains the County Disaster Accounting process.
- Coordinates documentation requirements with other EOC sections, County departments and agencies.
- Acts as liaison with disaster assistance agencies.
- Coordinates with the County's designated Applicant Agent in the preparation of reimbursement claims for costs associated with response and recovery operations.

- Collects and secure all required financial accounting data for expected audits.
- Assists the County's designated Applicant Agent with the filing of required Disaster Assistance Application(s) with state and federal agencies.
- Coordinates with the County's designated Applicant Agent during audits by Cal OES and FEMA.

Position Alternates and Successors

The OC Auditor-Controller is responsible for developing protocols for EOC position succession, including the Cost Recovery Unit Leader position.

3.2.5.5 Applicant Agent

Assignment of Primary Responsibility

OC Public Works, Management

Responsibilities

- A representative of the Applicant Agent will assist with the Preliminary Damage Assessment (PDA) site visits with Cal OES and FEMA
- The Applicant Agent is responsible for incident project identification on behalf of County departments and agencies.
- Developments of the project worksheet for claims related to the incident on behalf of County departments and agencies.
- Preparation of appropriate document submission and conflict resolution of all State and FEMA financial matters for the County.
- Coordinates with County departments and agencies for project estimations, contractor selection and repair and reconstruction activities.

Position Alternates and Successors

The OC Public Works is responsible for developing protocols for EOC position succession, including the Applicant Agency position.

3.2.5.6 Department Cost Recovery Unit Leader (s)

Assignment of Primary Responsibility

All County Departments and Agencies

Responsibilities

- Coordinates and tracks department and agency resources and personnel used during the incident.
- Maintains and processes complete and accurate time records of all department and agency personnel and equipment costs used in support of the incident.
- Prepares regular reports for the Cost Recovery Unit that documents all department and agency personnel and equipment incident related costs.
- Ensures proper recording of department personnel time in accordance with the policies of the County.

- Ensures complete and accurate department and agency records are maintained.
- Prepares department and agency reimbursement claims for costs associated with response and recovery operations.
- Collects and secures all required financial accounting data for expected audits.

Position Alternates and Successors

The successors to the Department and Agency Unit Leader(s) will be designated by each County Department. Each County Department and Agency is responsible for developing protocols for position succession within their organization.

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Chapter 4 DIRECTION, CONTROL, AND COORDINATION

4.1 EOC Purpose

The County/OA EOC is the information and resource coordination center for the County and OA emergency response organization, providing a central point for directing the coordination of operational, administrative, and support needs of the County and OA jurisdictions. It facilitates the coordination and communication between Mutual Aid Coordinators and Cal OES during county-wide and state-wide emergency response and recovery operations. The County/OA EOC may be used to gather and process information to and from the County, cities, schools and special districts, business and industry, volunteer organizations, individuals, and state and federal government agencies. It has the capability to function virtually so that the County and OA jurisdictions may communicate between EOCs without co-location. The County/OA EOC is responsible for managing regional resources to meet incident priorities and benefit of the OA as a whole.

4.2 County of Orange Role and Responsibilities

By County Ordinance and Resolution, the County has established the Emergency Management Council (EMC) which serves as the County's disaster council under Government Code section 8610. The EMC is charged with:

- Directing the development and maintenance of this EOP
- Reviewing potential disaster situations and providing recommendations to the Director of Emergency Services and the Chair of the Board of Supervisors
- Reviewing and recommending for adoption by the Board of Supervisors, emergency and mutual aid plans, agreements, the Emergency Organization ordinance, resolutions, and any rules and regulations necessary to implement such plans and agreements
- Providing advice to County Officials regarding rebuilding and Cost recovery

During disasters, the County of Orange has the responsibility to direct and coordinate emergency operations at two levels, the field response and local government levels. At the field level, all response departments and agencies will use the Incident Command System (ICS) to manage the emergency response and report emergency related information to the County emergency management organization located in the EOC.

The County EOC manages, for the County's jurisdiction, the overall response to disasters and coordinates interdepartmental response and recovery efforts, implements local policies and determines the mission and priorities and provides direction and the authority to act. The County's EOC engages in long-range planning and coordination with outside agencies and organizations. The County EOC is the source of information for dissemination to the public and provides support for cost recovery efforts for the County by tracking and reporting the personnel, supplies, and equipment used by its various agencies and departments.

4.3 Operational Area Role and Responsibilities

The California Emergency Services Act requires the Operational Area (with the County designated as the lead agency) to support OA jurisdictions, or local governments, in identifying and coordinating resources and in communicating with regional and state authorities. During disasters, all jurisdictions within the County are required to coordinate emergency operations with the OA and, in some instances, other local governments.

The OA is overseen by the Orange County Operational Executive Area Board, which consists of the Chair of the Orange County Board of Supervisors, County Executive Officer, OA Law Enforcement Mutual Aid Coordinator (Orange County Sheriff-Coroner Department), OA Fire & Rescue Mutual Aid Coordinator (Orange County Fire Chiefs Authority), OA Public Works Mutual Aid Coordinator (Orange County Public Works Director), OA Health Care Mutual Aid Coordinator (Orange County Health Care Agency Director), OA Water/Wastewater Mutual Aid Coordinator (WEROC), Orange County Social Services Agency Director, a representative selected jointly from the OC City Managers Association, a representative from the OC Chiefs of Police and Sheriff's Association, a representative from the Orange County Fire Chiefs Association, a representative from the Orange County City Engineers and Public Works Directors Association, a representative from Independent Special Districts of Orange County, Orange County Superintendent of Schools-representing Orange County K-12 School Districts, a representative selected jointly from Orange County Community College Districts, the Orange County Transportation Authority Chief Executive Officer. The Orange County OA:

- Shares information amongst OA jurisdictions and with California Office of Emergency Services (Cal OES) Southern Region.
- Assists OA jurisdictions in obtaining resources and personnel to support their operations.
- Serves as the OA mutual aid coordination point for OA jurisdictions seeking resource support from within or outside the Orange County Operational Area.
- Serves as the OA jurisdictions' link to state government authorities and resources.
- Identifies and coordinates with resources outside the mutual aid system.
- Identifies strategies for sharing, acquiring, and/or distributing resources and personnel in the OA based on the needs of all involved OA jurisdictions.
- Identifies opportunities for the efficient use of response resources and personnel amongst OA jurisdictions.

California is divided into 6 mutual aid regions. The Orange County OA is in Cal OES Region I, which includes Orange, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo Counties. The Cal OES Southern Region is located in Santa Ana, California. Mutual Aid Regions I and VI make up the Southern Cal OES Administrative Region. Requests to the County/OA that are unable to be fulfilled locally are passed to the Cal OES Southern Region or the Mutual Aid Regional Coordinator.

4.4 EOC Activation

Activation of the County/OA EOC is required by SEMS, Title 19 California Code of Regulations Section 2409 (f), under the following conditions:

- On Request - A local government within the OA has activated its EOC and requested activation of the County/OA EOC to support its emergency operations. Jurisdiction(s) determine that additional response resources beyond that which would normally be covered by mutual aid are required and assistance from the OA may be necessary.
- Two City Local Emergency - Two or more cities within the OA have proclaimed a Local Emergency.
- County and City Local Emergency - The County and one or more cities have proclaimed a Local Emergency.
- Request for Governor's Proclamation - A city, city and County, or County has requested a Governor's proclamation of a State of Emergency, as defined in Government Code 8558(b).
- State of Emergency - A State of Emergency is proclaimed by the Governor of the State for the County or two or more cities within the OA.
- Request for Outside Resources - The OA is requesting resources from outside its boundaries, except those resources used in normal day-to-day operations which are obtained through existing agreements providing for the exchange or furnishing of certain types of facilities and services on a reimbursable, exchange, or other basis as provided for under the Master Mutual Aid Agreement.
- Request for OA Resources - The OA has received resource requests from outside its boundaries, except those resources used in normal day-to-day operations which are obtained through existing agreements providing for the exchange or furnishing of certain types of facilities and services on a reimbursable, exchange, or other basis as provided for under the Master Mutual Aid Agreement.

The DES or alternate or successor, will declare the County/OA EOC operational when adequate personnel have arrived to facilitate decisions.

4.5 Determining the Need to Activate

When an emergency occurs, the County and all OA jurisdictions will analyze the situation and can request activation of the County/OA EOC, if appropriate.

Designated emergency response in the field (Fire, Law Enforcement, Health Care, Public Works, etc.) will respond to emergencies, assess impacts and damage, and provide status reports to their jurisdiction according to internal operating procedures. The County and OA jurisdictions compile the information and provide it to the County/OA EOC. The County/OA EOC will compile that information and provide it to Cal OES.

The County/OA Emergency Manager monitors situation reports from the County, OA jurisdictions, National Weather Service and the State, as well as radio frequencies and news media reports.

Control One will notify the County/OA Emergency Manager of situation reports which may warrant a County or county-wide emergency coordination, (e.g., any natural or technological emergency or disaster occurring in Orange County), or from State information sources (e.g., fire, flood, storm, earthquake, hazardous materials release, large scale civil disturbance, etc.) in which:

- Evacuation and/or sheltering of residents is required
- Coordination of several County departments and/or OA jurisdictions in response to the emergency
- Local resources are overwhelmed and a Proclamation of Local Emergency may be warranted

The County/OA Emergency Manager contacts the designated DES and:

- Briefs them on the current situation and resource status in the County and OA;
- Determines if the current County and/or OA response is adequate; and
- Assesses the need to notify and mobilize additional personnel and/or activate the County/OA EOC.

4.6 Alternate Facilities

The primary County EOC is located at 2644 Santiago Canyon Road, Silverado, CA 92676-9719. It is 14.8 ground miles from the County Civic Center located in Santa Ana. The County/OA EOC facility meets the physical requirements and capabilities for managing a disaster response. For functional purposes, the facility also hosts the County's Systems Watch, which maintains communications systems throughout the County, and Sheriff's Dispatch and Control One (Emergency Communications Bureau). There may be disasters which impact the primary EOC, making it either inaccessible or ill-suited for the incident. The County maintains a plan to determine whether or not to use the facility and outlining options and responsibilities should an alternate EOC be needed: Orange County and OA Alternate EOC Standard Operating Guidelines. As detailed in the Alternate EOC Standard Operating Guideline, there are multiple options identified including pre-determined alternate EOC locations, mobile command vehicles, and the location of the alternate EOC backup equipment.

4.7 Levels of EOC Activation

The extent to which the County/OA EOC is activated and when the designated DES assumes responsibility for the County/OA EOC depends on the type of emergency situation, its potential for escalation, its geographic extent, and other factors. These staffing levels can either be in person (located at the EOC) or virtual (assigned to the EOC but working remotely). The level of County/OA EOC activation is determined by the designated DES and County/OA Emergency Manager in

consultation with the affected jurisdiction(s). Once the County/OA EOC is activated, the County/OA Emergency Manager becomes the County/OA EOC Manager. The activation levels and their associated staffing²⁵ are identified in the following table:

Figure 22: Activation levels and possible conditions

Activation Level	Conditions/Definition
LEVEL 1 (High)	• A major emergency where Operational Area or regional resources are overwhelmed and state or federal resources and assistance are required • All County/OA EOC positions activated
LEVEL 2 (Medium)	• An incident/emergency for which resources and mutual aid are required on an Operational Area, regional or statewide basis • Selected County/OA EOC positions activated ○ Director of Emergency Services ○ County/OA EOC Manager ○ Policy Group – as required ○ Section Chiefs ○ Public Information Officer ○ Branches and Units – as required ○ Support Pool Staffing (Hotline, SASS, Messengers, etc.) – as required ○ Specialists – as required ○ OCSD/Emergency Management Division Staff
LEVEL 3 (Low)	• Small to moderate incident or pre-planned event • Selected County/OA EOC positions activated ○ Director of Emergency Services ○ County/OA EOC Manager ○ OCSD/Emergency Management Division Staff
NORMAL OPERATIONS	• Duty Officer status ○ Orange County Sheriff's Department, Emergency Management Division Director or Manager • Operational readiness • Maintaining situational awareness

4.8 Transition to Recovery

For EOC activations required under California Code Regulations (CCR) §2409(f) for which there is no clear local need for the County/OA EOC, the County/OA EM will discuss with the DES to determine activation levels.

²⁵ Minimum staffing may vary with actual situation.

4.9 Deactivation of the County/OA EOC

The DES has the authority to determine when to deactivate the EOC. The duration of an EOC activation is often dependent on the severity of the emergency situation. For preplanned events or smaller incidents with minimal recovery concerns, the activation might be limited to days or even hours. In major catastrophic events, the EOC may be activated for months or longer as operations transition from response to supporting long-term recovery. Following smaller incidents, deactivation of the EOC will typically take place after on-scene incident management activities have ceased, when it is determined that on-scene personnel have the incident fully contained and there is limited or no possibility of escalation, or when the incident has become small and specific enough that a single DOC can manage the incident alone. In either case, the DES in consultation with the Policy Group, will determine the time to deactivate the EOC. Once the decision has been made to deactivate the EOC, reducing EOC activities will occur in a phased process. Depending on the magnitude of the incident and the associated response, this phased process may be implemented over months, days, hours, or even minutes. The demobilization and deactivation of the EOC is determined by the DES in the following recommended order:

Operations Section

The Operations Section is typically the first to deactivate. The specifics of demobilization are determined by the Operations Section Chief and Branch Directors in accordance with the Demobilization Plan developed by the Planning and Intelligence Section, Demobilization Unit.

Logistics Section

The Logistics Section supports the Operations Section's deactivation. It will begin closing down facilities and reclaiming or disposing of resources that were used to support emergency workers (e.g., feeding locations, lodging, sanitation, etc.). It assists in accounting for resources, determining their status, returning or disposing of response resources, and reporting status, costs, and losses to the Finance and Administration Section.

Planning and Intelligence Section

The Planning and Intelligence Section, Demobilization Unit is responsible for developing the Demobilization Plan used by the Operations and Logistics Sections. The Planning and Intelligence Section remains active while the Operations and Logistics Sections deactivate in case questions arise or revised strategies are needed. Following the deactivation of the Operations and Logistics Sections, the Planning and Intelligence Section will cease operations.

Finance and Administration Section

The Finance and Administration Section deactivates following the Planning and Intelligence Section. It is responsible for gathering all documentation related to the incident, identifying all associated costs (including demobilization costs), and leading cost recovery efforts. It may sometimes take considerable time to ensure all documentation is gathered from the other sections and to validate costs. Furthermore, complete accountability for the operation cannot be determined until all other sections have fully deactivated.

Management Section

The DES is accountable for all emergency management activities occurring in the EOC from start to finish. Therefore, the Management Section is the last to deactivate. At any time throughout the deactivation process, the DES may choose to dismiss elements of the Management Section. The DES typically receives a debriefing from the Section Chiefs as they cease operations. When the last Section Chief has provided a debriefing and the DES is confident that operations are terminated and all elements are accounted for, then official operational deactivation may result, and transition to the Recovery DES (CEO).

As personnel are released from the EOC, they will perform the following activities in accordance with the SEMS Generic Demobilization Phase Checklist:

- Close out logs when authorized by their Section Chief.
- Complete all required forms, reports, and other documentation. Submit all forms and logs to the Planning and Intelligence Section, Documentation Unit, prior to departure.
- Notify other appropriate organizations of the deactivation.
- Ensure any open actions not yet completed will be handled after deactivation.
- Be prepared to provide input to the after-action report.

Following an EOC activation and prior to deactivation, the Emergency Management Division will be responsible for restoring the County/OA EOC to a state of readiness. This may include:

- Cleaning services
- Servicing equipment and/or coordinating repairs
- Restocking EOC supplies.
- Reorganizing and rearranging furniture or other resources
- Producing fact sheets or public information for use by OC Sheriff's Department, Emergency Communications Bureau (Dispatch Center).
- Ensure PIO has updated the County of Orange website and any associated social media accounts.

4.10 Organization and Assignment of Responsibilities

The emergency response of government agencies in California is an extension of day-to-day operations. Emergency operations rely on the normal authority and responsibilities of government, plus police powers that may be invoked by executive authority under specified conditions. Governments at all levels must work together, along with the private sector, business and industry, community based organizations, and volunteers, to meet the challenges posed by a disaster. SEMS and NIMS are the systems required for managing response to multi-agency and multi-jurisdiction emergencies in California as described in the next section. SEMS and NIMS unifies all elements of California's emergency management organization into a single integrated system.

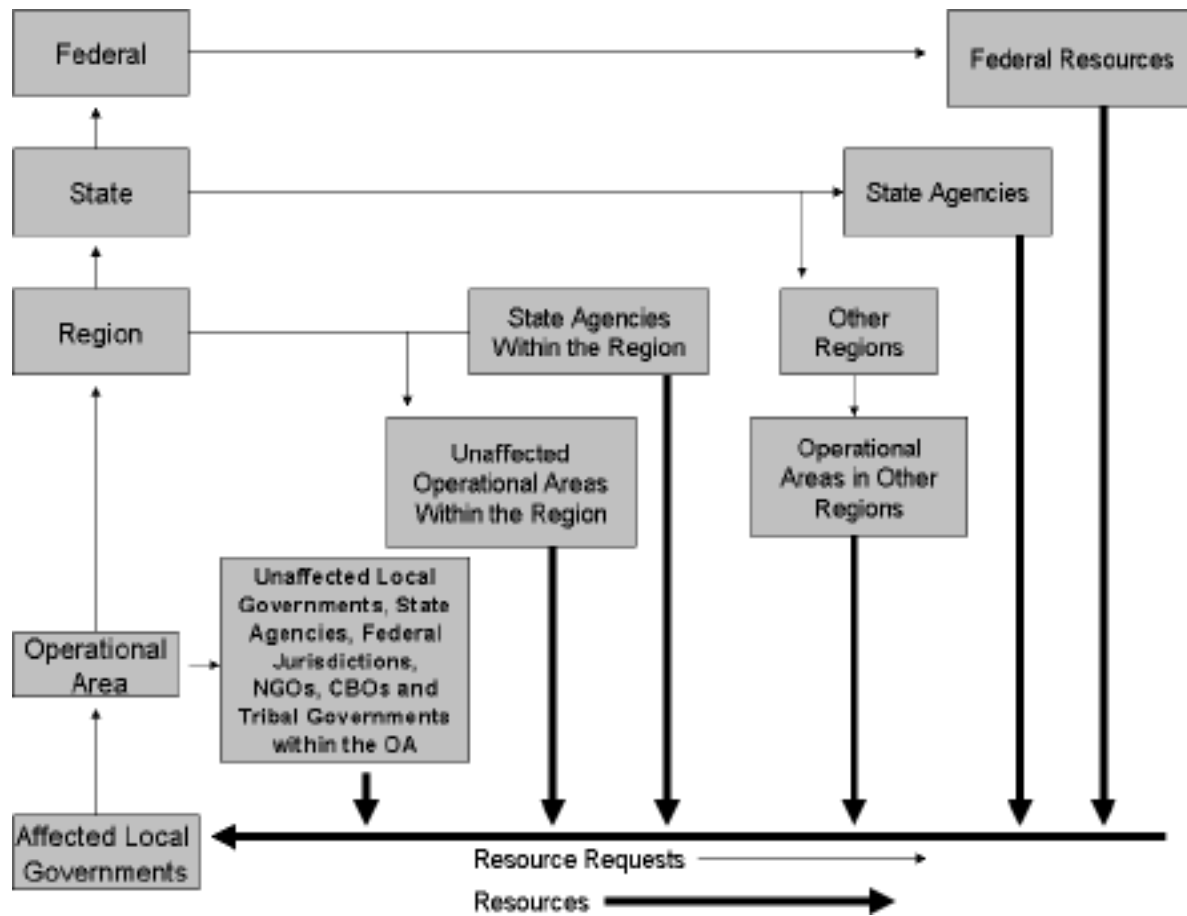
The five SEMS and NIMS organization levels, together with the private sector, are collectively referred to as the California Emergency Organization. This organization represents all resources available within the State, which may be applied in disaster response and recovery phases. The system operates from established EOCs at all levels of government, as well as in many businesses and industries. The goal is to support emergency activities to protect life, property, and the environment.

Emergency mutual aid response and recovery activities are generally conducted at the request and under the direction of the affected local government. Some emergency responses are led by designated state agencies. In some cases, there may be a joint response requiring a Unified Command between state and local jurisdictions (e.g., hazardous material, nuclear power plant, and terrorism emergencies).

Resource requests for response and recovery originate at the lowest level of government and are progressively forwarded to the next level until filled. For example, if an OA is unable to provide the necessary requested assistance, it may contact the Cal OES Southern Region and forward the request. During complex emergencies involving multiple jurisdictions and agencies, coordination of resources can be achieved through the use of liaison officers, agency representatives, and unified command.

When support requirements cannot be met with state resources, the State may request assistance from those federal agencies having statutory authority to provide assistance in the absence of a Presidential Declaration. The State may also request a Presidential Declaration of an Emergency or Major Disaster Declaration under the provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93288 as amended.

Figure 23: Resource Request, and Supply Paths for the OA



Emergency Organizational Levels

When fully activated, the Standardized Emergency Management System (SEMS) consists of five levels: field response, local government, Operational Area, Cal OES Mutual Aid Regions, and state government. For the OA, those levels are assigned as follows:

Level	Facility
• Field	• Field Command
• Local	• Government Emergency Operations Center
• Operational Area	• Orange County OA EOC
• Region	• Cal OES Southern Region EOC

Level	Facility
• State	• Cal OES State Operations Center (SOC)

Figure 24: Cal OES SEMS levels and the corresponding facilities

Field-Response Level

The field response level is where emergency response personnel and resources, under command, carry out tactical decisions and activities in direct response to an incident or threat. SEMS and NIMS regulations require the use of the ICS at the field response level. The ICS field functions used for incident management include Command, Operations, Planning and Intelligence, Logistics, and Finance and Administration.

Local Government Level

Local governments include counties, cities, school districts, and special districts. Local governments manage and coordinate the overall emergency response and recovery activities within their jurisdiction and amongst their field responders. Local governments are required to use SEMS and NIMS when their EOC is activated or a local emergency is proclaimed in order to be eligible for recovery funding of response related personnel costs. In SEMS and NIMS, the local government emergency management organization and its relationship to the field response level may vary depending upon factors related to geographical size, population, function, and complexity. Local jurisdictions are responsible for the overall direction of personnel and equipment provided for emergency operations through mutual aid (Government Code Section 8618). Local governmental levels shall provide the following functions: Management, Operations, Planning and Intelligence, Logistics, and Finance and Administration. Additional details relative to the organization and responsibilities of the SEMS and NIMS elements in the County EOC are provided in EOC Concept of Operations, as well as the position checklists.

Operational Area Level

Section 8605 of the California Emergency Services Act designates each county area as an Operational Area (OA). California is comprised of 58 OAs, one for each geographic county. The OA is the intermediate level of the state's emergency services organization, and consists of the county government, local (city) governments and special districts, located within the county area. During a State of Emergency, a State of War Emergency, or a Local Emergency, OA's are used to coordinate resources, develop priorities, disseminate information, and serve as a coordination and communication link to the State Mutual Aid System. As of December 1, 1996, per SB 1841, the utilization of the OA during emergencies is mandatory for local governments who wish to receive financial reimbursement for related response costs.

Signatories to the Orange County OA Agreement consist of cities, school districts, special districts and the County of Orange. The OA is responsible for:

- Coordinating information, resources and priorities amongst local governments within the OA.
- Coordinating information, resources and priorities between the regional level and the local government level.
- Using multi-agency and inter-agency coordination to facilitate decisions for overall OA level emergency response activities. SEMS regulations specify that the County Board of Supervisors is responsible for the establishment of an OA. The Orange County Sheriff-Coroner Department is the lead agency for the Orange County OA. All local governments cooperate in organizing an effective operational area, but the OA's authority and responsibility are not affected by the nonparticipation of any local government.

Figure 25: Cal OES Administrative Regions



Regional Level

The Regional Level manages and coordinates information and resources among OAs within the mutual aid region and also between the OA and the State Level. The Regional Level also coordinates overall state agency support for emergency response activities within the region. California is divided into three Cal OES Administrative Regions-Inland, Coastal and Southern, which are further divided into six mutual aid regions. Regional Level operations are executed from the Cal OES Southern Region.

State Level

The State Level prioritizes tasks and coordinates state resources in response to the requests from the Regional Level and coordinates between the Regional Level and State Level. The State Level also serves as the coordination and communication link between the state and the federal

emergency response system. The State Level coordinates with the Federal Level when federal assistance is requested.

Federal Level

At the Federal Level, the National Response Framework identifies the methods and means for federal resources to provide support to the state and local government.

4.10.1 Emergency Organization Functions and Concepts

SEMS and NIMS require five functions: Management, Operations, Planning and Intelligence, Logistics, and Finance and Administration. The term command is used in the field and management is used in multiagency coordination centers (e.g., EOCs). These functions are the basis for structuring the County/OA EOC organization:

Section	Responsibility
Management	Responsible for the overall emergency policy and coordination through the joint efforts of governmental agencies and private organizations. Dissemination of information and protective actions to the public.
Operations	Responsible for coordinating and supporting operations of the emergency response at the field level.
Planning and Intelligence	Responsible for collecting, evaluating and documenting information, resources, developing the EOC Action Plan, Situation Summary Reports, and After-Action Reports with other EOC functions.
Logistics	Responsible for obtaining and providing services, personnel, equipment, supplies, materials, facilities and volunteer coordination.
Finance and Administration	Responsible for all financial activities and other administrative aspects.

Figure 26: EOC Sections and the primary responsibilities for each

Organization Flexibility and Modular Organization

The five SEMS and NIMS functions are established as “sections” within the County/OA EOC. All other functions are organized as branches, groups, or units within sections. The activated functions and their relationship to one another depends upon the size and nature of the incident.

Only those functional elements required to meet current objectives will be activated. Those functions that are needed but not staffed will be the responsibility of the next higher element in the organization structure.

Management of Personnel - Unity of Command and Span of Control

Each activated function has one person in charge of it (Unity of Command), but a supervisor may be in charge of more than one functional element. Every individual has one supervisor to eliminate potential conflicts or confusion among supervisors, and each supervisor is responsible for three to seven persons or functions, with the ideal span of control being five.

The County/OA EOC Section Chiefs for Operations, Planning and Intelligence, Logistics, and Finance and Administration constitute the EOC General Staff. The General Staff are responsible for:

- Overseeing the operations of their section.
- Interacting with each other, the DES, County/OA EOC Manager, and other entities within the County/OA EOC to ensure the effective functioning of the EOC organization.

Unified Command and Area Command Concepts

Unified Command (UC) is an ICS application used when more than one agency has incident jurisdiction or when incidents cross political jurisdictions. Agencies work together through the designated members of the UC, often the senior person from agencies or disciplines participating in the UC, to establish a common set of objectives and strategies and a single Incident Action Plan (IAP) (e.g., EOC, Field, etc.). This is accomplished without losing or abdicating agency authority, autonomy, responsibility, or accountability. This occurs most frequently at the field level, in large-scale events, that involve more than one jurisdiction.

An Area Command is an organization established to oversee the management of multiple incidents that are each being handled by an ICS organization, or to oversee the management of large or multiple incidents to which several Incident Management Teams have been assigned. The Area Command has the responsibility to set overall strategy and priorities, allocate critical resources according to priorities, ensure incidents are properly managed, and ensure objectives are met and strategies followed. Area Command becomes Unified Area Command when the multiple incidents under the control of the Area Command are multi-jurisdictional. Area Commands are typically established at EOCs or some location other than an incident command post.

The County/OA EOC could become a Unified Command depending on the situation and the types of disciplines requiring involvement in the coordination of response activities. The EOC typically does not serve as an Area Command however, it is an option based on the flexible nature of ICS and the given situation. County of Orange may also be integrated into a UC or Area Command established in another jurisdiction during an incident in which it is involved.

Multi-Agency and Organizational Level Coordination

An integral part of SEMS and NIMS is the use of multi and inter-agency coordination. Within the context of SEMS and NIMS, this involves prioritizing and assigning resources, managing competing demands, and maximizing resources amongst numerous response organizations, disciplines, and levels. By its composition, the County/OA EOC Policy Group serves as a MAC Group.

4.10.2 Mutual Aid

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure adequate resources, facilities, and other support are provided to jurisdictions whenever their own resources are insufficient to address an incident. The basis for the system is the California Disaster and Civil Defense Master Mutual Aid Agreement and is provided for in the California Emergency Services Act. The Master Mutual Aid Agreement creates a formal structure wherein each jurisdiction retains control of its own facilities, personnel and resources, but may also receive or render assistance to other jurisdictions within the state. State government is obligated to provide available resources to assist local jurisdictions in emergencies.

4.10.3 Federal Mutual Aid System

California is a member of the interstate Emergency Management Assistance Compact (EMAC), a congressionally ratified organization that provides, structure and procedures for rendering emergency assistance between states. After a state of emergency declaration, California can request and receive reimbursable assistance through the EMAC from other member states. The Secretary of Cal OES and the state EMAC Coordinator are responsible for facilitating request for assistance pursuant to EMAC. Additional information on EMAC can be accessed at <https://www.emacweb.org/>

4.10.4 California Mutual Aid System

A statewide mutual aid system, operating within the framework of the California Master Mutual Aid Agreement, allows for the progressive mobilization of resources to and from emergency response agencies, local governments, Operational Areas, regions, and the state with the intent to provide requesting agencies with adequate resources.

The statewide mutual aid system includes several discipline-specific mutual aid systems, such as fire and rescue, law, medical, emergency management, water and waste water and public works. These systems work through local government, operational areas, regional, and state levels consistent with the SEMS and NIMS. Mutual aid may also be obtained from other states. Interstate mutual aid may be obtained through direct state-to-state contacts pursuant to interstate agreements and compacts, or may be coordinated through federal agencies.

California mutual aid regions are established under the Emergency Services Act by the Governor.

4.10.5 Mutual Aid Coordinators

To facilitate mutual aid, discipline-specific mutual aid systems work through designated mutual aid coordinators at the local, Operational Area, regional, and state levels. The basic role of a mutual aid coordinator is to receive mutual aid requests, coordinate the provision of resources from within the coordinator's geographic area of responsibility, and pass on unfilled requests to the next level in the mutual aid system.

Mutual aid requests that do not fall into one of the discipline-specific mutual aid systems are handled through the emergency services mutual aid system at the local government, Operational Area, regional and state levels.

Mutual aid coordinators may function from an Emergency Operations Center (EOC), their normal departmental location or other locations depending on the circumstances. Some incidents require mutual aid but do not necessitate activation of the affected local government or County/OA EOC because of the incident's limited impacts. In such cases, mutual aid coordinators typically handle requests from their normal work location. When EOCs are activated, all activated, discipline-specific mutual aid systems should establish coordination and communications with the EOCs as follows:

- When the County/OA EOC is activated, the mutual aid system representatives will be at the County/OA EOC to facilitate coordination and information flow.
- When Cal OES or Regional EOC is activated, regional mutual aid coordinators should have representatives in the Cal OES Southern Region EOC unless it is mutually agreed that effective coordination can be accomplished by remote means.
- State agencies may be requested to send representatives to the Cal OES Southern Region to assist Cal OES regional staff in managing mutual aid requests for disciplines or functions that do not have designated mutual aid coordinators.
- When the State Operations Center (SOC) is activated, state agencies with mutual aid coordination responsibilities will be requested to send representatives to the SOC.

4.10.6 Orange County Mutual Aid Activation

When resources are insufficient within Orange County to respond to an emergency, the Mutual Aid Coordinators are responsible for coordinating and securing resources through the OA. Such coordination and acquisition of resources do not require an activation of the County/OA EOC. When resources are required from outside Orange County the Mutual Aid Coordinators will provide relevant information and submit requests for support to the Cal OES Southern Region. In larger scale incidents, Mutual Aid Coordinators will work from the County/OA EOC when mutual aid channels are active.

Resource requests submitted to the OA from jurisdictions and agencies within the County and those passed from the OA to the Cal OES Southern REgion use the 213RR form (Attachment 8) should specify, at a minimum:

- Number and type of personnel needed.
- Type and amount of equipment needed.
- Reporting time and location.
- Authority to whom resources should report.
- Estimated duration of operations.
- Access routes.
- Risks and hazards.

Mutual aid assistance may be provided under one or more of the following authorities:

- California Master Mutual Aid Agreement
- California Emergency Management Mutual Aid Plan (EMMA)
- Emergency Management Assistance Compact (EMAC)
- Orange County Operational Area Agreement
- California Fire and Rescue Emergency Mutual Aid Plan
- California Law Enforcement Mutual Aid Plan
- California Coroners' Mutual Aid Plan
- California Medical Mutual Aid Plan
- Statewide Public Works Mutual Aid Agreement
- Transit Mutual Assistance Compact (TransMac)
- Water Emergency Response Organization of Orange County (WEROC)
- California Water/Wastewater Agency Response Network (CalWARN)
- Robert T. Stafford Disaster Relief and Emergency Assistance Act

4.10.7 Orange County Mutual Aid Structure

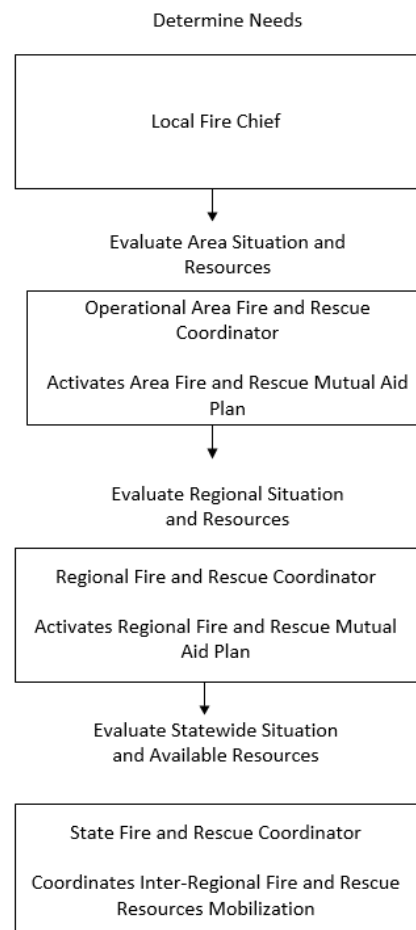
Fire and Rescue Mutual Aid

The Orange County Fire Authority (OCFA) coordinates the Fire and Rescue Mutual Aid System for the County and OA, see Figure 27 and 28. The Fire and Rescue Mutual Aid Coordinator is responsible for organizing and coordinating with other fire and rescue agencies within the OA for resources to support the County and OA. If the Fire and Rescue Mutual Aid Coordinator is unable to mobilize appropriate resources from within the Operational Area, then the Regional Fire and Rescue Coordinator and the Cal OES Southern Region will be contacted. Fire and Rescue Mutual Aid air support will be coordinated through normal fire mutual aid channels. Additional air support assets can be requested through the Law Enforcement Mutual Aid Coordinator.

Figure 27: Fire and Rescue Mutual Aid Regions



Figure 28: Channels for Requesting Fire and Rescue Mutual Aid Resources



Law Enforcement and Coroner Mutual Aid

The Orange County Sheriff-Coroner Department coordinates the Law Enforcement and Coroner Mutual Aid System for the County and OA and serves as the Operational Area Coordinator, see Figure 29 and 30. The Law Enforcement and Coroner Mutual Aid Coordinator is responsible for organizing and coordinating with other law enforcement agencies within the OA for resources to support the OA. If the Law Enforcement and Coroners Mutual Aid Coordinator is unable to gather appropriate resources from within the OA, then the Regional Law Enforcement and Coroner Coordinator and the Southern Region EOC, will be contacted.

The Law Enforcement Mutual Aid system is enhanced by Section 830.1 of the Penal Code, which states that whenever a State of Emergency exists within a region or area, the following personnel within the region or area, or who may be assigned to duty therein, have full peace officer powers and duties:

- All members of the California Highway Patrol.
- All wardens of the Department of Fish and Wildlife who have been appointed to enforce the provisions of the Fish and Game Code.
- The State Forester and the staff of the Department of Forestry who are designated by the State Forester as having the powers of peace officers.
- Peace officers who are state employees within the provisions of Section 830.5 of the Penal Code.

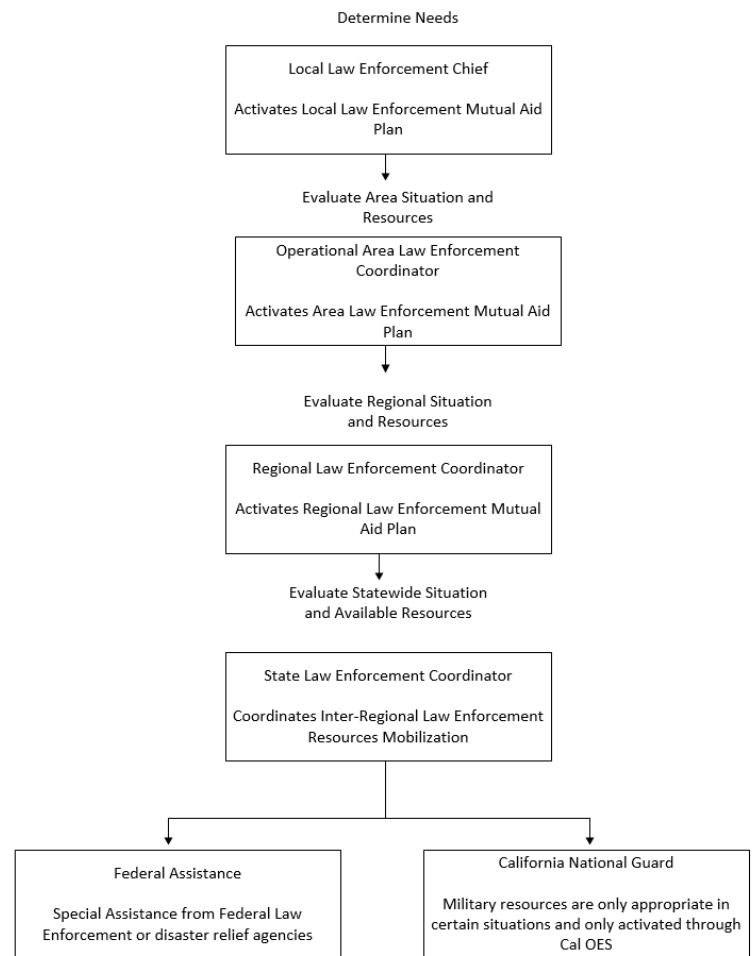
County of Orange and Orange County Operational Area Unified Emergency Operations Plan

Chapter 4

Figure 29: Law Enforcement and Coroner Mutual Aid Regions



Figure 30: Channels for Requesting Law Enforcement and Coroner Mutual Aid Resources



Public Works Mutual Aid

OC Public Works coordinates the Public Works Mutual Aid System for the County and OA and serves as the Operational Area Coordinator. The Public Works Mutual Aid Coordinator is responsible for organizing and coordinating with other public works resources and agencies in the OA for resources to support the OA. If the Public Works Mutual Aid Coordinator is unable to mobilize appropriate resources from within the OA, then the Regional Public Works Coordinator at the Cal OES Southern Region will be contacted.

The Public Works Mutual Aid Coordinator also coordinates closely with the Water Emergency Response Organization of Orange County (WEROC), which serves as the Operational Area (OA) Water and Wastewater Mutual Aid Coordinator. WEROC does not operate individual water systems; rather, it was established on the principle that each agency is responsible for its own preparedness and emergency response. In a disaster, WEROC facilitates mutual aid by expediting requests for and offers of personnel, equipment, and materials between water and wastewater agencies. WEROC also ensures continuous coordination with the OA Emergency Operations Center (EOC), public health officials, and other key entities to support the protection of critical lifeline water and wastewater services.

Social Human Services Agency Mutual Aid

The Orange County Social Services Agency is part of the Southern Association of County Human Services Agencies (SACHS). The purpose of the SACHS is to support partner county Human Service Agencies and their ability to maintain services in times of disaster or other emergencies. The objectives of these voluntary mutual aid procedures are to:

- Provide emergency mutual aid from unaffected areas to support local jurisdictions during emergencies.
- Provide emergency management personnel and technical specialists to support the disaster operations of affected jurisdictions during emergencies.
- Provide a system (organization, information, forms) necessary to coordinate the formal request, reception, assignment, and tracking of assigned personnel from mutual aid countries.
- Establish a structure to maintain these procedures.
- Promote the safety and wellbeing of the whole community without imposing additional financial burden on the impacted jurisdiction.

Water and Wastewater

The Water Emergency Response Organization of Orange County (WEROC) supports the county's 36 water and wastewater agencies in preparing for and responding to natural disasters, infrastructure failures, cyber threats, and public health emergencies. As the designated Operational Area Water and Wastewater Mutual Aid Coordinator, WEROC is fully integrated into the Orange County Operational Area Emergency Operations Plan (OA EOP) and plays a vital role in regional emergency management.

Emergency Response Role

WEROC activates its Emergency Operations Center (EOC) during disasters and emergency incidents to serve as the central coordination point between:

- Local water and wastewater utilities,
- Regional wholesale water agencies,
- The County of Orange,
- State and federal partners including Cal OES, FEMA, and the State Water Board.

This coordination includes situational awareness, resource tracking, mutual aid facilitation, and the development of system-wide messaging to ensure the public receives timely, accurate, and actionable safety information.

Public Health Emergency Coordination

WEROC works closely with the Orange County Health Care Agency (HCA) and other local public health authorities to respond to drinking water advisories, contamination events, and waterborne disease outbreaks. WEROC plays a supportive role in:

- Coordinating declarations of a local public health emergency under California Health and Safety Code §101080
- Facilitating communication between public health officials and affected water agencies
- Ensuring regulatory notifications and required sampling or mitigation steps are executed promptly
- Supporting inter-agency response when boil water orders, do-not-drink notices, or water quality violations are issued

WEROC also assists in fulfilling state notification requirements and supports incident documentation necessary for potential Governor's proclamations or requests for federal assistance.

Mutual Aid and California Water and Wastewater Agency Response Network (CalWARN)

WEROC administers a countywide mutual aid agreement among its 36 member agencies, including cities, special districts, and one private utility. This agreement ensures a coordinated response across operationally connected systems that share resources, infrastructure, and interdependencies. The WEROC Mutual Aid Coordinator (Operational Area WEROC Liaison) is responsible for organizing mutual aid within the Operational Area. If local resources are insufficient, the Coordinator escalates requests to the CalWARN Region 1 Coordinator via <https://calwarn.org/>

CalWARN is a statewide mutual aid system organized into six regions, enabling water and wastewater utilities to rapidly share personnel, equipment, and technical resources during emergencies. CalWARN is a critical lifeline for utilities impacted by fires, earthquakes, flooding, cyberattacks, and other catastrophic events.

Statewide Utility Coordination

WEROC engages with the California Utilities Emergency Association (CUEA), which serves as the Emergency Support Function 12 (ESF-12) Coordinator in the State Operations Center

(SOC). CUEA acts as the primary liaison for critical infrastructure sectors-including water, wastewater, power, and communications-ensuring that the needs of utilities are prioritized in statewide response and recovery operations.

Medical Mutual Aid

The Orange County Health Care Agency coordinates the Medical Health Mutual Aid System for the County and OA and serves as the Medical and Health Operational Area Coordinator (MHOAC). The MHOAC is responsible for organizing and coordinating with other health and medical resources and agencies within the OA for resources to support the OA during a major incident and sharing medical health situational updates with state health authorities. If the MHOAC is unable to obtain appropriate resources from within the OA, then the Regional Medical and Health Coordinator is contacted.

California Emergency Management Mutual Aid (EMMA)

Emergency Management Mutual Aid (EMMA) provides emergency management personnel and technical specialists from unaffected areas to support local jurisdictions, OA and regional emergency operations impacted by a disaster.

Collaborating Organizations Active in Disasters-Orange County (COAD-OC)

The focus of COAD-OC is establishing and maintaining relationships with the private sector, non-profit organizations, community based organizations, faith based community and government by holding regular in person meetings. When activated during disaster, COAD-OC holds a seat at the County/OA EOC under the Logistics Section to coordinate resource that fulfil unmet needs in the community. COAD-OC organizations may provide a variety of resources that include commodities, donations management and volunteer services. COAD-OC assists with long-term recovery by continually identifying and fulfilling emerging and unmet needs of the community.

CERT Mutual Aid Program (CMAP)

The Community Emergency Response Team (CERT) Mutual Aid Program (CMAP) is part of the local, state and national Citizen Corps effort to incorporate and use volunteers in the community. Citizen Corps is endorsed by the President, the Department of Homeland Security, the Operational Area and local jurisdictions. CMAP volunteers are trained in basic response techniques and mutual aid training to assist the Operational Area (OA) cities in a disaster or major emergency situation. CMAP is a mechanism to coordinate and provide staffing resources during proclaimed local emergencies as defined by the California Emergency Services Act. CMAP volunteers have a wide range of skills and vary in their capabilities. Not all volunteers will have the physical abilities to do all tasks. Requesting agencies and CMAP jurisdictions should be aware of the volunteer assignments and tasks of the activation. The CMAP Coordinator will ensure volunteers sent meet activation requirements.

4.11 Proclamations

Emergency proclamations expand the emergency powers and authorities of the state and its political subdivisions. They establish a mechanism for unaffected jurisdictions to provide resources

and assistance to affected jurisdictions. Although emergency proclamations facilitate the flow of resources and support to the affected jurisdictions and local government, they do not preclude rendering mutual aid and assistance under existing agreements.

Definition of Local Emergency

“Local emergency” means the duly proclaimed existence of conditions of disaster or of extreme peril of the safety of persons and property within the territorial limits of a county, city and county, or city, caused by conditions such as air pollution, fire, flood, storm, epidemic, riot, drought, cyberterrorism, sudden and severe energy shortage, deenergization event, electromagnetic pulse attack, plant or animal infestation or disease, the Governor’s warning of an earthquake or volcanic prediction, or an earthquake, or other conditions, other than conditions resulting from a labor controversy, which are or are likely to be beyond the control of the services, personnel, equipment, and facilities of that political subdivision and require the combined forces of other political subdivisions to combat, or with respect to regulated energy utilities, a sudden and severe energy shortage or deenergization event that requires extraordinary measures beyond the authority vested in the Public Utilities commission.

(California Government Code, section 8558 (c)).

The California Emergency Services Act provides for three types of emergency proclamations in California:

- Local Emergency
- State of Emergency
- State of War Emergency

Local Emergency Proclamation

A local governing body or designee may proclaim a Local Emergency if there is extreme peril to the safety of persons and property within the territorial limits of a county, city and county, or city where the declaring entity is overwhelmed and unable to abate an existing or potential emergency and requires resources from other unaffected political subdivisions and jurisdictions. Proclamations may be issued by (Government Code section 8630 (a)):

- Governing body of a city, county or city and county or
- An official designated by ordinance adopted by that governing body.

Purpose (Government Code sections 8625 and 8634):

- Authorizes the promulgation of orders and regulations necessary to protect life and property (e.g., special purchasing or emergency contracting).
- Power to conduct and perform emergency response activities under emergency conditions with broadened immunities from legal liability for performance or failure of performance.

- Describes the circumstances that exist that may support the need for issuance of a State of Emergency Proclamation and/or Executive Order.
- Supports request for a Director's Concurrence, Governor's Proclamation of a State of Emergency, Executive Order, California Disaster Assistance Act (CDAA) funding, and/or a Presidential Declaration of Emergency or Major Disaster.

A sample proclamation is included as Attachment 9.

Deadlines

- Issuance: Within 10 days after the actual occurrence of a disaster if assistance will be requested through CDAA (Government Code section 8685.2).
- Ratification: If issued by official designated by ordinance, must be ratified by governing body within 7 days (Government Code section 8630 (b)).
- Renewal: Reviewed at least once every 60 days by the governing body until terminated (Government Code section 8630 (c)).
- Termination: At the earliest possible date that conditions warrant (Government Code 8630 (d)).

When a local government requests a Gubernatorial State of Emergency Proclamation, Directors Concurrence and/or CDAA funding, the local government will need to provide information describing local response efforts and identify the specific type and extent of state emergency assistance needed, including regulatory waivers necessary to facilitate the protection of life and property during response efforts.

Each political subdivision within the OA will retain the powers and responsibilities as granted by law to proclaim an emergency in its jurisdiction according to procedures set forth by the jurisdiction. The County Board of Supervisors will retain the powers and responsibilities as prescribed by County Ordinance No. 3915, Section 3-1-6, to proclaim an emergency for the County of Orange and for the County geographic area.

Notifications Process (consistent with Standardized Emergency Management System (Government Code section 8607))

- Local governments should notify the OA and provide a copy of the local emergency proclamation as soon as possible.
- OA shall notify Cal OES Region and provide a copy of the proclamation as soon as possible.
- Cal OES Region will ensure notification to the Cal OES Director and Deputy Directors and shall be the primary contact between the Cal OES Director, OA and local jurisdiction for updates on any requests for assistance.

- Cal OES Director will respond in writing to the local government concerning the status of any request for assistance included within the local proclamation or accompanying letter.

Request for the Governor to Proclaim a State of Emergency

When emergency conditions exceed, or have the potential to exceed, local resources and capabilities, local government may request state assistance under the California Emergency Services Act (ESA). Local governments can request cost reimbursement from the state for certain disaster-related expenditures under the California Disaster Assistance Act (CDAA) following the proclamation of a Local Emergency. Cal OES must receive the request from local government within 10 days after the actual occurrence of a disaster and include the Initial Damage Estimate (IDE) and a request from the City Mayor or Administrative Officer or County Board of Supervisors.

Initial Damage Estimate

The request for a Governor's Proclamation of Emergency should include a copy of the local proclamation document and an Initial Damage Estimate (IDE) that estimates the severity and extent of the damage caused by the emergency. An IDE may not be required for sudden emergencies with widespread impacts, emergencies of significant magnitude, or during fast moving emergencies where immediate response assistance is necessary.

Analysis of Request

The request and the IDE are reviewed by the Cal OES Region and forwarded to the Governor through the Director of Cal OES.

Proclamation of a State of Emergency

The Governor proclaims a State of Emergency based on the formal request from the local governing body and the recommendation of Cal OES. If conditions and time warrant, the Governor drafts and signs a formal State of Emergency Proclamation. The Governor has expanded emergency powers during a proclaimed State of Emergency. The Governor:

- Has the right to exercise police power, as deemed necessary, vested in the State Constitution and the laws of California within the designated area.
- Is vested with the power to use and commandeer public and private property and personnel, to ensure all resources within California are available and dedicated to the emergency when requested.
- Can direct all state agencies to use and employ personnel, equipment and facilities for the performance of any and all activities designed to prevent or alleviate actual and threatened damage due to the emergency
- Can direct them to provide supplemental services and equipment to political subdivisions to restore any services in order to provide for the health and safety of the residents of the affected area.

Governor's Proclamation without a Local Request

A request from the local governing body is not always necessary for the Governor to proclaim a State of Emergency. The Governor can proclaim a State of Emergency if the safety of persons and property in California are threatened by conditions of extreme peril or if the emergency conditions are beyond the emergency response capacity and capabilities of the local authorities.

Proclamation of a State of War Emergency

In addition to a State of Emergency, the Governor can proclaim a State of War Emergency whenever California or the nation is attacked by an enemy of the United States, or upon receipt by California of a warning from the federal government indicating that such an enemy attack is probable or imminent. The powers of the Governor granted under a State of War Emergency are commensurate with those granted under a State of Emergency.

State Request for a Presidential Declaration

When it is clear that State capabilities will be exceeded, the Governor can request Federal assistance, including assistance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). The Stafford Act authorizes the President to provide financial and other assistance to State and local governments, certain private nonprofit organizations, and individuals to support response, recovery, and mitigation efforts following Presidential emergency or major disaster declarations.

Preliminary Damage Assessment

Upon submission of the request, FEMA coordinates with the state to conduct a Preliminary Damage Assessment (PDA) and determine if the incident is of sufficient severity to require federal assistance under the Stafford Act. This process could take a few days to a week depending on the magnitude of the incident. FEMA uses the results of the PDA to determine if the situation is beyond the combined capabilities of the state and local resources and to verify the need for supplemental federal assistance. The PDA also identifies any unmet needs that may require immediate attention. Similar to the IDE, the PDA may not be required if immediate response assistance is necessary.

Federal Analysis of the State's Request

The FEMA Administrator assesses the situation and the request and makes a recommendation to the President through the Department of Homeland Security on a course of action. The decision to approve the request is based on such factors as the amount and type of damage, the potential needs of the affected jurisdiction and the state, availability of state and local government resources, the extent and type of insurance in effect, recent disaster history and the state's hazard mitigation history.

Federal Declarations without a Preliminary Damage Assessment

If the incident is so severe that the damage is overwhelming and immediately apparent, the President may declare a major disaster immediately without waiting for the PDA process described above.

Declaration of Emergency or Major Disaster

The President of the United States can declare an Emergency or Major Disaster under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 USC §5121 et seq.), thereby providing federal government resources to support the states' response and recovery activities. While Presidential Declarations under the Stafford Act release federal resources and funding to support response and recovery, federal agencies may also provide assistance under other authorities or agreements that do not require a Presidential Declaration.

4.11.1 Continuity of Government Plan

Please refer to the County of Orange Continuity of Government Plan for additional details.

4.12 Information Collection, Analysis, and Dissemination

The EOC provides the single point of contact for information sharing to County departments, OA jurisdictions and supporting agencies within the OA.

Prior to the County/OA EOC being activated, the County and OA can directly receive alert and warning notifications from several sources such as: the State Warning Center, the National Weather Service and County departments and OA jurisdictions. The Orange County Sheriff's Department, Emergency Management Division has the responsibility to collect, analyze, and disseminate these notifications based upon current plans and procedures.

Upon activation of the County/OA EOC, the Planning and Intelligence Section is responsible for gathering timely, accurate, accessible and consistent information to create intelligence during an emergency. This intelligence is used to create a common operating picture and incorporated into the EOC Action Plans (EAP) to establish and share the operational goals, priorities, and strategies for an incident. As detailed in Attachment 10, jurisdictions should share information via WebEOC or, if internet communications are down, using the paper-based Jurisdiction Information Management System (JIMS) forms and transmitted via facsimile, radio (OA radio or RACES winlink), or phone.

For law enforcement centric operations, the Orange County Intelligence Assessment Center (OCIAC) may establish a Homeland Security Information Network (HSIN) Room. Access is requested through Police Chiefs to OCIAC. Access should not be shared throughout the EOC.

The Planning & Intelligence Section is also responsible for assembling and distributing incident information in a situation summary report on a periodic basis. The content and frequency of the report will be decided by the DES in consultation with the Section Chiefs. Depending upon the sensitivity or tactical level of information, distribution of these reports may be limited.

Within the EOC, information sharing and dissemination occurs using various methods and tools such as:

- The EOC provides the structure for face-to-face communication and coordination.

- The EOC Message form is used for written communications and documentation of key messages within the EOC organizational structure.
- WebEOC's situational status display boards are kept updated throughout the activation.

Externally facing information sharing and dissemination occurs using various methods and tools such as:

- Telephone
- E-mail
- Radio
- WebEOC
- Website

4.13 Communications

4.13.1 Alert and Warning

Alert and warning is the process by which government organizations and the public are notified of the threat of imminent, extraordinary danger. Dependent upon the nature of the threat and the population at risk, warning can originate at any level of government. Protection of life and property is dependent upon timely dissemination of warning and emergency information to the populations in threatened areas. The County of Orange is responsible for alerting and warning the unincorporated County areas and County departments. As the Operational Area, it assists the OA jurisdiction with alert and warning of their populations.

The Orange County OA warning point is the Orange County Sheriff's Department, Control One, co-located at the County/OA EOC. The 24-hour a day personnel at Control One are responsible for notifying County departments, jurisdiction warning points, and the County and OA emergency management staff.

There are various means and methods whereby an alert or warning may originate and be disseminated to the County.

4.13.2 Government Notifications and Alerts

The County and OA may be notified of emergency situations or conditions via the following methods:

California State Warning Center (CSWC)

The California State Warning Center is the official State level point of contact for emergency notifications. The CSWC maintains contact with Operational Area Warning Points, state agencies, federal agencies and the National Warning Center.

- Notifications received by CSWC: Local governments and OAs notify the CSWC of emergencies that affect their community in accordance with existing laws, protocols, or when State assistance is requested or anticipated.
- Earthquake Notifications: the CSWC receives notifications of earthquakes from the California Integrated Seismic Network (CISN), National Earthquake Information Center (NEIC) and the United States Geological Survey (USGS).
- Tsunami Notifications: CSWC receives tsunami notifications from the National Tsunami Warning Center via the National Weather Service (NWS) and the National Warning Center.
- Weather Notifications: notification of severe weather is received from the NWS-San Diego Office.
- Energy Notifications: The California Independent Systems Operator (California ISO) monitors the state's power grids.
- Hazardous Materials, Oil Spill Release Notifications: in accordance with state law, CSWC will be notified of any release or threatened release of hazardous materials.

CSWC Dissemination of Alert and Warnings: the CSWC is responsible for informing, communicating, alerting and notifying local government, OAs, State officials and the Federal government of emergencies. CSWC is equipped with a number of telephone, data and radio systems, including CALWAS, CLETS, NWS Weather Radio (NWR), and Dialogic Automated Notification System. Most of these systems are used on a day-to-day basis; others are available for use in an emergency, as conditions require.

- CALWAS: The CSWC maintains the California Warning System (CALWAS) to communicate with Cal OES Regional Offices and County Warning Points during an emergency. CALWAS is part of the National Warning System (NAWAS). Control One monitors CALWAS 24 hours a day and functions as the point of contact for Orange County.
- CLETS: The California Law Enforcement Telecommunications System (CLETS) is a high-speed message switching system that provides law enforcement and criminal justice agencies with the capability of obtaining information directly from federal, state and local computerized information files. In addition, the system will provide fast and efficient point-to-point delivery of messages between agencies.
- Operational Area Satellite Information System (OASIS): Cal OES leases transponder space from a commercial satellite operator and operates a satellite communications system known as OASIS. This system serves as one of the back-up and redundancy systems and allows public safety agencies to exchange disaster intelligence and resource requests when the public switched telephone network (PSTN) fails. In the event of PSTN failure, OASIS is the primary back up, providing voice and internet connectivity with the California State Warning Center, Cal OES Regional Emergency Operations Centers, key State agencies and each Operational

Area. Control One monitors this system 24 hours a day and functions as the point of contact for Orange County.

National Weather Service (NWS)

The NWS provides warnings for weather, hydrologic and climate needs for the United States, its territories, adjacent waters and oceans. Orange County receives its notifications from the San Diego Forecast Office, which prepares any necessary warning for Orange County.

The National Weather Service transmits continuous weather information for the Orange County area on 162.450 MHz. The NWS severe weather broadcasts are preceded with a 1,050 MHz tone that activates weather monitor receivers equipped with decoders. The NWS can also access NAWAS to announce severe weather information, which is disseminated to the county warning points using the CALWAS system.

The levels of notifications that the NWS issues include the following:

- Outlooks
- Statements
- Watches
- Advisories
- Warnings

National Oceanic and Atmospheric Administration's (NOAA) National Tsunami Warning Center:

Tsunami warnings for California are issued by NOAA's National Tsunami Warning Center (NTWC) located in Palmer, Alaska. The NTWC monitors a network of seismic and sea level stations, providing the basis for which tsunami warnings, advisories, watches and information statements to the State Warning Center and to local coastal communities.

Operational Area Partners

All Operational Area Partners work collaboratively with the County when using the alert and warning program. Alert and warning notifications that extend across multiple jurisdictions will be communicated and coordinated with the impacted and neighboring jurisdictions. These notifications from Operational Area Partners will make the County aware of events.

Public Media

The County's emergency management and response personnel have access to and monitor news media outlets on a daily basis. If the news media reports on incidents underway or threats of pending incidents, then the County will become aware of those events.

4.13.3 Public Notifications and Alerts

Emergency information warnings, advice and protective action instructions may be broadcast to the public by one or more methods including: AlertOC, Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), outdoor alerting systems, Sig-Alerts, news media releases, and route alerting/door to door canvassing.

Methods of warning the public of specific emergency conditions are described below. These systems may also be primary ways that state and local governments become aware of emergency information. All public notifications and alerts issued by the County and OA are coordinated with other jurisdictions that are or may be impacted and in accordance with current plans and procedures.

More information on public notifications and alerts can be found in the County of Orange and Orange County Operational Area Alert and Warning Plan.

AlertOC

AlertOC is Orange County's regional public mass notification system to keep those who live or work in Orange County informed of important information during emergency events. AlertOC is available 24/7 and is pre-loaded with Orange County landline phone numbers (including unlisted) and countywide geographic maps. Additionally, citizens have the option to provide additional contact information via self-registration portal www.alertoc.gov. The System is used to send a message, describing the situation and recommended action the public should take, to affected businesses and households via:

- Phone Calls
- TTY and TDD
- E-mail
- Text message

Use of the Mass Notification System for emergency activity contains two components:

- The need to disseminate critical, safety-related information to individuals regarding emergency events occurring now, follow up information regarding the event, and termination of the emergency event.
- Communicating with safety-responder staff, volunteers and involved parties about the emergency event.

As a general rule, the System is to be used when the public is being asked to take some action (e.g. evacuate, prepare to evacuate, shelter in place, boil tap water before drinking, local assistance centers and other follow up information, re-entry to areas after evacuation orders have been lifted or termination of the emergency because the danger has passed).

Emergency Public Notifications are limited to:

- Imminent or perceived threat to life or property
- Disaster notifications
- Evacuation notices
- Public health emergencies
- Public safety emergencies

- Shelter-in place orders
- Any notification to provide emergency information to a defined community

Emergency Responder Notifications are limited to:

- Contacting first responders to advise of an emergency
- Contacting first responders to report for duty due to an emergency
- Contacting key staff regarding an emergency or crisis situation
- Contacting agency employees to report at a different time or location (or provide an update) due to an emergency
- Exercises

The AlertOC system also allows residents to “Opt-in” using only their phone number. This Opt-in feature provides those registrants with specific information and messaging related to local special events and impacts only. This option is of limited use with the approval of the OCSD Emergency Management Division Alert and Warning Coordinator.

Additional information can be found in the Orange County Operational Area Countywide Public Mass Notification System Standard Operating Procedures.

Integrated Public Alert and Warning System (IPAWS)

In Orange County, the components of Integrated Public Alert and Warning System (IPAWS) area accessed through the AlertOC portal. Access requires special credentials issued by the Orange County Sheriff’s Department Emergency Management Division (OCSD EMD). IPAWS is a national internet-based alert and warning system operated by FEMA that integrates multiple communication pathways.

Jurisdictional partners with an approved IPAWS certificate may use their specific organization portal within AlertOC to send IPAWS messages. The County Emergency Manager reserves the right to revoke this access if the jurisdiction fails to comply with AlertOC policies or applicable state and federal regulations.

Emergency Alert System (EAS)

The Emergency Alert System (EAS) is used to deliver emergency warnings via AM/FM radio, broadcast and cable television, and satellite TV systems. Federal, state, or local authorities may issue Emergency Alert System (EAS) alerts.

The State of California has been divided into EAS operational areas. Orange County is its own Emergency Alert System (EAS) operational area. Each operational area is assigned a Local Primary (LP-1) broadcast station responsible for originating EAS alerts. If the LP-1 station is unavailable, the designated LP-2 station assumes alerting duties. Currently, Control One serves as both LP-1 and LP-2 and handles all EAS alerting functions using a County VHF radio channel.

Broadcast and cable stations voluntarily re-transmit state and local EAS messages, although federal messages—especially Presidential Alerts—are mandatory. Presidential alerts are distributed via national broadcast networks. State-level alerts originate from the State Operations Center, and local alerts are issued through LP stations or IPAWS.

EAS alerts must be in voice format (live or prerecorded) and may not exceed two (2) minutes. The EAS is used for emergency events that affect a significant portion of the County population and when other communication methods are unavailable. Unlike AlertOC or Wireless Emergency Alerts (WEA), EAS does not support geo-targeting.

Examples of emergencies appropriate for EAS activation include:

- Earthquakes
- Major wildfires
- Heavy rains and flooding
- Hazardous materials incidents
- 9-1-1 system failures

All EAS requests are submitted to Control One. Any of the following entities may authorize EAS activation:

- **Orange County Sheriff-Coroner Department:** Sheriff-Coroner, Undersheriff, Assistant Sheriff's, Department Commander
- **Orange County Fire Authority:** Fire Chief, Division Chief, Battalion Chief
- **County Agencies:** HCA Director, OC Public Works Director, Director of Emergency Services
- **City Law Enforcement:** Police Chief, Watch Commander
- **City Fire Departments:** Fire Chief, Battalion Chief
- **City Governments:** City Manager
- **State Entities:** Governor, California Highway Patrol (for AMBER Alerts)
- **Federal Entities:** National Weather Service

Further details can be found in the Orange County EAS Communications Operations Plan, which is an attachment to the Orange County Alert and Warning Plan. This plan is maintained by the Local Emergency Communications Committee (LECC), which comprises local broadcasters, OCSD-EMD, Control One, the National Weather Service (NWS), and the San Onofre Nuclear Generating Station (SONGS).

Wireless Emergency Alerts (WEA)

With the implementation of IPAWS, Orange County agencies gained the ability to send Wireless Emergency Alerts (WEA). These short (360 characters or less) messages are broadcast to compatible mobile phones within a geographic area without the need for users to opt in.

WEA messages are effective for issuing urgent protective actions such as evacuations or shelter-in-place orders. Once an alert is sent through IPAWS, it is forwarded to cellular carriers, who then

broadcast the message via cell towers in the target area. Because these messages are broadcast from cellphone towers, it is impossible to know how many people will receive the message.

Due to the nature of cellular infrastructure, WEA delivery effectiveness may vary based on:

- Terrain and building density
- Indoor vs. outdoor reception
- Device status (e.g., powered off or out of service)
- Power availability at cell towers
- Antenna configuration (directional vs. omnidirectional)
- Variability in cell service providers and device compatibility

FEMA governs WEA authority, the Federal Communications Commission (FCC), and Cal OES, in consultation with the local Operational Area.

At the time of this plan's revision, the following jurisdictions in Orange County have direct authority from FEMA to issue WEA messages through their own portals and/or AlertOC:

Approved Agencies: The County of Orange, Aliso Viejo, Anaheim, Costa Mesa, Dana Point, Huntington Beach, Irvine, Laguna Beach, Newport Beach, Orange, and the University of California, Irvine.

Outdoor Alerting Systems

Some jurisdictions within Orange County have sirens or outdoor warning systems. Each jurisdiction is responsible for maintenance and activation of their own systems, and for educating the public who might hear them on actions to take when the system is activated. The County/OA EOC has no direct authority over these systems and should coordinate with the local jurisdiction for awareness of system activation.

Route Alerting and Door-to-Door Canvassing

Route alerting is a form of alert and notification used frequently in small-scale emergencies or during rapidly changing situations in a designated area. In route alerting, emergency officials drive or walk through an affected or potentially affected area alerting residents in that area of the emergency and actions they need to take. Route alerting can be conducted door to door or via a public address system on a police car, fire engine, etc. Although route alerting is effective when other systems are unavailable, it is dependent on resource availability and can be a slow process. Route alerting is traditionally used only in areas that are ordered to take action.

4.13.4 Communications with the Public

During all phases of an emergency, efforts will be made to keep residents, businesses, and government employees informed of what they can expect from the County and/or OA, and where and how they can access resources and information. Conversely residents, businesses, and government employees should be informed of what their community expects of them, any

protective actions that should be taken, and where and how they can access the resources, they need to be self-reliant and advance their own recoveries.

The County and OA have a multitude of tools available to assist in the dissemination of public information. It is the responsibility of the lead PIO to initiate the use of all applicable communication mediums in order to reach the intended audience during response and recovery. The tools listed below are intended to complement each other in distributing public information. The same message should be distributed across all channels to minimize any confusion that can arise from conflicting information.

Public information channels such as social media, hotlines, or in-person visits must be quickly established to receive incoming questions and referrals. Communication with community members and businesses that may have been displaced outside the county will also need to be addressed.

All forms of communication should incorporate, as well as possible, accessible multi-lingual formats.

Media Outlets

A list of news media outlets for Orange County and the surrounding region is maintained by the Orange County Sheriff's Department, Emergency Management Division. PIO members should attempt to contact as many news media outlets as possible when disseminating information, paying special attention to include non-English speaking outlets to ensure the greatest number of affected people are informed. Additionally, news media outlets should be encouraged to provide a television crawl and include sign language interpreters in broadcasts of press conferences so people with disabilities and those with access and/or functional needs have every opportunity to receive emergency messages.

Website Pages

The Orange County Sheriff's Department, Emergency Management Division EOC website ([Emergency Operations Center | Orange County, California - Sheriff's Department \(ocsheriff.gov\)](https://www.ocsheriff.gov/emergency-operations-center)) is an informational site for the public and County employees. During an activation of the EOC, this site serves as a place for news media releases and information to be publicly posted online. When updates to the website are needed during an EOC Activation, the updates are developed and approved by the EOC and provided to the Orange County Sheriff's Department Public Affairs and Community Engagement Division to be posted on the website.

Both FEMA and Cal OES maintain websites that provide information and resources available to assist businesses and individuals, their addresses are as follows:

- FEMA: <https://www.fema.gov/> and <https://www.disasterassistance.gov/>
- Cal OES: <https://www.caloes.ca.gov/>

Press Conferences, Public Forums and Community Meetings

Press conferences are an integral part of the public information function before (when possible), during, and after an emergency. A well-constructed press conference needs to identify key messages and important facts to share with the public, such as public resources that may be activated during an emergency (e.g., shelter, Local Assistance Center(s), 2-1-1, volunteer services, and donations).

There may be multiple spokespersons participating during a press conference, public forum, or community meeting. There may be times when one spokesperson for all aspects of the incident may be enough, but in most cases of a complex incident, a unified approach with multiple spokespersons is preferred. Preplanning meetings prior to a press conference is vital. The lead agency should make every effort to livestream press conferences on social media. Livestreams should, when possible, include closed captioning. Additionally, every effort should be made to provide translation services or a PIO able to speak fluently in a non-English language at the press conference and for individual media interviews after the press conference concludes.

For public meetings, consideration must be given to ensure all resources are available to accommodate the audience being addressed, such as sign-language interpreters, large-print handouts and displays, and translation services at all press conferences held by public officials.

The public looks to elected officials as sources of information and strength during an emergency and recovery. Officials need to advise the public on the status of the response and recovery efforts, the resources available to them, and what the public needs to do to assist in their recovery. The OA will work to give these officials the critical information needed to guide the public. OA PIOs can provide tools or guidance to help elected officials, including the following:

- Preparing talking points and key messages for elected officials to deliver during interviews.
- Anticipating questions elected officials may be asked and prepare appropriate answers (particularly for difficult questions).
- Highlighting public response efforts and recovery resources.

OCSO maintains equipment for press conferences including podiums, microphones, and multi-boxes. This equipment can be deployed to any location throughout the County by request through the EOC PIO if activated, or the County/OA Emergency Manager at other times.

Social Media

The County of Orange has approved the use of Facebook and X (formerly known as Twitter) for communications to the public during a disaster. Integrating information being received from verified accounts into the emergency organization can help to increase situational awareness and gain a better common operating picture. The County and OA will monitor these accounts for relevant information; however, the County Facebook page will be used strictly for providing information and not to receive any communications from the community. Many County

departments maintain their own social media sites, and receiving communications from the public is at their discretion.

Social media can also be a powerful tool in information dissemination; however, messages released by the OA to social media sites must be approved by the DES. Social media outlets used by the OA will only contain information present in approved news media releases, and only authorized OA representatives may post to the social media outlets.

County and Operational Area Public Information Hotline and Rumor Control

The County Public Information Hotline and Rumor Control, when activated, provides current, accurate and approved information to the community.

2-1-1 Orange County

2-1-1 Orange County (2-1-1) is a telephone-based service set aside by the Federal Communications Commission for the public's use in accessing community services 24 hours a day, 7 days a week. This need becomes even greater during and following a disaster. 2-1-1 works closely with the County and OA to provide essential information to Orange County residents during an emergency and maintains close working relationships with the County, the Red Cross, Orange County Social Services Agency, Orange County Health Care Agency and the COAD-OC. 2-1-1 is kept informed with the most up-to-date information from County authorities to ensure it can relay and support accurate information to any calls received. 2-1-1 also forwards calls to the County and OA if there are specific requests beyond the scope of services, such as people with disabilities and those with access and/or functional needs requests and volunteer and donation offers.

Non-Governmental, Non-Profit, Voluntary Organizations

Non-government, non-profit and voluntary organizations have a significant role in public information within the OA. Organizations will be looking for up to date information and citizens will be turning to their familiar community organizations as a source of information. Accurate, timely and approved information that is developed by the PIOs will need to be disseminated to local organizations as well as residents. PIOs will work with all information personnel, including organization liaisons, to ensure the communication of the most accurate and up-to-date information. The County of Orange works closely with COAD-OC, reference the COAD Emergency Management Plan.

Additional information can be found in the County of Orange and Orange County Operational Area Emergency Public Information Plan.

4.13.5 Communicating with County Departments and Operational Area Jurisdictions

A variety of voice, data and combined voice and data systems are available in the County/OA EOC to ensure uninterrupted communications amongst County Departments, OA jurisdictions and supporting organizations.

Telephones

The County/OA EOC has 140+ separate phone lines. These phone lines are on a first priority repair schedule in accordance with the County's Telecommunications Service Priority (TSP) program, if an interruption occurs. There are also conference call phones and numbers available for communications, both in the Command and Support Centers. Additional telecommunications services should be requested through the Logistics Section, EOC Facilities Unit.

Cellular Phones

The County/OA EOC has in building repeater systems to provide cellular service in the EOC by the three primary providers used by County departments, Verizon, T-Mobile, and AT&T.

800 MHz Countywide Coordinated Communication System

The County/OA EOC has connectivity to the County's 800 MHz Countywide Coordinated Communications System (CCCS), which provides the day-to-day and emergency communications capabilities to Orange County, its 34 cities (e.g., law enforcement, fire, emergency medical services, lifeguards, public works, public utilities, etc.), and other participating agencies. Orange County's EOC radio consoles are programmed with each county and city law enforcement, fire service, lifeguard, marine safety and public works agency for interoperable and mutual aid communications. Additional information about the radio system can be found in the 800 MHz CCCS SOP, which is available through the Orange County Sheriff's Department, Technology Division.

Operational Area Radio System

The OA Radio System consists of two VHF Low Band channels (OA1, OA 2), one VHF High Band channel (OC Access V), and one 800 MHz talkgroup (WEROC-1) for an additional communications capability between the County/OA EOC, County Departments and OA Jurisdictions. OA1, OA2, OC Access V, and WEROC-1 are always monitored by Control One if a department or jurisdiction cannot communicate by any other method; however, most County Departments and OA jurisdictions do not monitor these systems continuously. Once the County/OA EOC has been activated, notifications are sent out advising all departments and OA Jurisdictions to monitor the OA Radio System. The OA Radio System will be used to conduct at least one briefing each operational period; and it may also be used to provide updates on the emergency, situation status and press release information as it becomes available. A monthly radio test is conducted and all OA Radio System participants are encouraged to participate. Since it is not used on a regular basis, the monthly test ensures the agency-owned radio is operational. Additional information can be found in the Orange County Operational Area Radio System SOP, which is available through the Orange County Sheriff's Department, Emergency Management Division. (Attachment 11)

Interoperable Radio Communication Systems

The Operational Area (OA) has a large number of interoperable radio systems and channels available for use during emergency and disaster situations. In addition to the 800 MHz CCCS, the following National and State interoperable radio channels are available for use in Orange County by any authorized agency, including those that do not have 800 MHz CCCS radios. Agencies that

do not have 800 MHz CCCS radios may use these channels and optionally be electronically connected (patched), on a case-by-case basis, by Control One to any 800 MHz CCCS talk group.

- **California Emergency Services Radio System (CESRS):** CESRS serves as an emergency communications coordination system for Cal OES. The system assists in the dissemination of warning information and to support disaster and emergency operations. Control One monitors this channel 24 hours a day and functions as the point of contact for Orange County. This is also an alternate way for the County/OA EOC and Control One to communicate with the Cal OES Regional Emergency Operations Center in Santa Ana should normal methods of communication be disrupted.
- **California Law Enforcement Mutual Aid Radio System (CALAW):** CALAW was established to provide statewide police radio frequencies for use by state and local law enforcement agencies during periods of man-made or natural disasters or other emergencies where inter-agency coordination is required. The system is administered by Cal OES who has provided a CALAW channel in each public safety frequency band (VHF Low: LLAW1, VHF High: CALAW 1, UHF: CALAW2, 800 MHz: CALAW8). Control One monitors these channels and functions as the point of contact for Orange County.
- **California Law Enforcement Radio System (CLERS):** CLERS is a microwave interconnected radio system with statewide coverage. This system was designed for use by law enforcement agencies for point-to-point communications and to provide a backup warning system to all counties in the state. CLERS participation is voluntary, and many agencies no longer maintain the equipment. Cal OES provides and maintains the statewide repeater system and microwave network. Control One monitors this channel 24/7 and functions as the point of contact for Orange County.
- **Fire Mutual Aid Radio System (CAFIRE1):** CAFIRE1 was established to provide a common 800 MHz channel for use statewide by state and local fire agencies during periods of man-made or natural disasters or other emergencies where inter-agency coordination is required. It is administered by Cal OES. Control One monitors this channel 24/7 and functions as the point of contact for Orange County.
- **National Interoperability Channels:** Specific 700 MHz and 800 MHz nationwide channels are designed for interoperability between radios throughout the country. Control One monitors the National hailing channels (7CALL50 and 8CALL90) 24 hours a day and functions as the point of contact for Orange County.

Satellite Phone

Hardwired satellite phones are available within the County/OA EOC. These are used as back-up communication devices if telephones, cellular phones, radios, or other devices fail. It is not necessary to notify stakeholders that the satellite phone is being used because calls are rolled over from the satellite system to the commercial telephone automatically.

Radio Amateur Civil Emergency Service (RACES)

RACES consists of volunteer amateur radio (ham radio) operators who assist with emergency communications in times of emergency or disaster. This government auxiliary communications unit serves City and County agencies in Orange County. The County maintains a cadre of RACES volunteers and amateur radio systems to ensure communications capability between the EOC and various locations. Individual operators have their own radio equipment and can also be dispatched at the discretion of the County/OA EOC. Emergency information can be communicated through RACES operators to any location where an operator is dispatched (e.g., local EOCs, Incident Command Posts, shelters, staging areas, etc.). Emergency information of any sort may be communicated through a ham radio operator. At the discretion of the County/OA EOC, RACES operators are assigned to the EOC Radio Room to monitor and disseminate information over RACES channels and the Operational Area Radio System.

WebEOC

Orange County uses WebEOC® as its crisis information management system for real-time information sharing and primary form of communication during a disaster event. WebEOC® is a software program for electronically sharing disaster information within the County/OA EOC, County Departments, OA jurisdictions and supporting agencies. WebEOC® is accessed through the internet and is thereby accessible from any computer with internet access, as long as the user has an appropriate username and password. The system is used for, but not limited to:

- Maintaining accurate situational awareness amongst the OA jurisdictions.
- Maintaining individual activity logs by each position in the EOC.
- Monitoring and posting significant events taking place in the OA.
- Providing and sharing situational status information from County departments, OA jurisdictions and supporting agencies involved in the response, with display capabilities within the EOC.
- Monitoring who is supporting the response.
- Providing status information on operational shelters (e.g., location, capacity, accessibility, significant events, and other special considerations).
- Coordinating resources requesting using WebEOC® Resource Manager.

PrepareOC

PrepareOC is a SharePoint site operated and maintained by the Orange County Sheriff's Department Emergency Management Division. This site provides avenues for sharing large documents such as the County of Orange and Orange County Operational Area Emergency Operations Plan and supporting Annexes.

E-Mail

E-mail is the redundant method of communication between the County/OA EOC and County departments, OA jurisdictions and supporting agencies due to the number of reporting jurisdictions and the quantity of documentation provided. Like cellular telephones, if other primary

means of data or voice communications fail, then e-mail should be considered as a back-up. Before using e-mail, however, personnel should confirm that the intended recipient(s) has access to and is checking their e-mail. Confidential information should never be sent over e-mail unless confirmation exists that the intended recipient is receiving the messages.

The County has e-mail accounts for use specifically during County/OA EOC activations.

Fax Machines

Facsimile is used as a redundancy between the County/OA EOC and County departments and OA jurisdictions in addition to WebEOC® and e-mail. A variety of fax machines are available throughout the EOC.

Reddinet®

ReddiNet® is an emergency medical communications system that uses radios, telephone and internet to transmit messages between hospitals, dispatch centers, and public health officials. It is a concurrent network in both Orange and Los Angeles Counties.

ReddiNet® provides capabilities for managing mass casualty incidents, assessing available healthcare system resources, participating in syndromic surveillance, communicating hospital diversion status and sending secure messages to multiple network facilities. It is used to produce Diversion History Reports, Assessment History Reports, MCI Reports, Bed Availability Reports, and Bed Census Reports in near real-time (depending on the frequency of census requests).

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Chapter 5 PLAN DEVELOPMENT AND MAINTENANCE

5.1 Plan Development

The development of the EOP is a cooperative effort among all County and OA agencies and jurisdictions that have an emergency response and recovery role. The planning process is designed to: ensure a commitment to the tenets contained in the plan, consider the needs of the community, incorporate the various supporting agencies' capabilities and limitations, and maximize resources. Each department and stakeholder are equally engaged in the development of this EOP. They are solicited for input, best practices, and lessons learned. Each comment or recommendation is carefully considered and, if appropriate, revised. The final draft of the EOP is then submitted to the Emergency Management Council²⁶ and Operational Area Executive Board²⁷ for approval.

5.2 Plan Maintenance

The OCSD-EMD maintains a revision schedule process (Attachment 12) and schedule (Attachment 13) for all plans, annexes, and supporting documents, including the Unified EOP.

The EOP will be reviewed every two years unless otherwise noted, or as necessary following an actual or training event to ensure that plan elements are valid and current. The OCSD-EMD will lead the responsible jurisdictions, agencies, and departments in reviewing and updating their portions of the EOP as required based on deficiencies identified in drills, exercises, or actual occurrences. The OCSD-EMD is responsible for revising the EOP. The OCSD-EMD will prepare, coordinate, and publish any necessary changes to the EOP to all entities described in Record of Distribution section.

The OCSD-EMD, in collaboration with all County agencies and local jurisdictions, develops and implements a multi-year Integrated Preparedness Plan (Attachment 14). The IPP documents the cycle of planning, training, and exercises on all Plans, annexes, and supporting documents, including the Unified EOP.

5.3 Training and Exercise

A well-developed training and exercise program is vital to ensuring overall readiness and preparedness. Training ensures personnel are prepared for their roles and responsibilities. Exercises test the capabilities, resources, and working relationships of responding agencies. Each jurisdiction within the OC OA is responsible for its own planning, training and exercises, as well as involvement in Operational Area planning, training, and exercises as required by the

²⁶ The Emergency Management Council is responsible for developing and recommending County emergency and mutual aid plans, agreements, ordinances, resolutions, rules and regulations for adoption by the Orange County Board of Supervisors.

²⁷ The Operational Area Executive Board is responsible for developing and recommending Operational Area emergency and mutual aid plans, agreements, resolutions for adoption in accordance with the Operational Area Agreement

Standardized Emergency Management System and the National Incident Management System and described in the EOP.

5.3.1 Training

The purpose of this section is to provide County departments and OA jurisdictions with the current training requirements for County employees and EOC responders and to provide guidance to the Operational Area jurisdictions for establishing their training requirements.

The OCSD-EMD provides training for EOC responders on an ongoing basis and provides training and consultation to County departments and OA jurisdictions upon request. Training classes and opportunities are ongoing to ensure all response personnel are trained in SEMS, NIMS, and EOC functions.

All personnel who may respond to emergencies in the County and OA Emergency Operations Center (EOC), Department Operations Centers (DOCs) or at the field level must receive the appropriate SEMS, NIMS, EOC, and other specialized training as required by SEMS regulations, NIMS policy, and their specific position function. Individual departments and OA jurisdictions are responsible for identifying, coordinating, executing, and documenting training for those personnel with response responsibilities. The County and OA jurisdictions are committed to adopting and implementing the NIMS Position Qualification System. Measurable standards, such as credentialing, are essential in validating the identity and attributes (e.g. affiliation, skills, or privileges) of emergency personnel.

5.3.1.1 National Incident Management System (NIMS) Training

NIMS training, as identified in the National Incident Management System Training Program (Summer 2020) is available through FEMA's Independent Study program website <http://training.fema.gov/IS/NIMS.aspx>. Training requirements for specialized areas of response (law, fire, EMS, etc.) are the responsibility of individual departments to identify, develop, execute, and document.

NIMS represents a core set of doctrine, concepts, principles, terminology, and organizational processes that enable effective, efficient and collaborative incident management across all emergency management and incident management response organizations and disciplines. Homeland Security Presidential Directive-5 (Management of Domestic Incidents) and Homeland Security Presidential Directive-8 (National Preparedness) establish NIMS, which include adoption and implementation of NIMS requirements by Federal, State, tribal, and local agencies and is one of the conditions for receiving Federal preparedness assistance (through grants, contracts and other activities).

The following training requirements have been established for all County employees and County and OA Emergency Operations Center (EOC) responders. Each County department shall coordinate the following NIMS training at relevant levels for emergency personnel:

Mandatory Baseline training for all County Employees and Emergency Operations Center (EOC) Response Personnel:

TARGET AUDIENCE: All County employees and personnel designated to respond to the County and Operational Area EOC as Management, Policy Group, Section Chiefs, Branch Directors, Unit Leaders, Group Supervisors, and Support Pool Staff.

ICS-100c: Introduction to the Incident Command System

Instruction method: interactive web-based course via FEMA's Independent Study program. This course describes the history, features and principles, and organizational structure of the ICS. It provides the foundation for higher level ICS training and explains the relationship between ICS and NIMS.

IS-700.b: National Incident Management System, An Introduction

Instruction method: interactive web-based course via FEMA's Independent Study program. This course introduces an overview of NIMS and describes and identifies the key concepts, principles, scope, and applicability underlying NIMS.

G606: Introduction to Standardized Emergency Management System (SEMS)

Instruction method: interactive web-based course via California Office of Emergency Services, California Specialized Training Institute (CSTI). This course provides a comprehensive overview of the components of SEMS and how SEMS is used when responding to disasters in the State of California.

Additional mandatory training – Specific training based upon EOC and/or Emergency Management role or expected role and jurisdiction risk and/or specific interest.

TARGET AUDIENCE: County employees designated as EOC Management, Policy Group, and Section Chiefs

IS-706: NIMS Intrastate Mutual Aid System, An Introduction

Instruction method: interactive web-based course via FEMA's Independent Study program. This course provides an introduction to NIMS Intrastate Mutual Aid and Assistance, including:

- The purpose, benefits and uses of mutual aid and assistance.
- How mutual aid and assistance agreements related to NIMS.
- Identify what information should be included in a mutual aid and assistance agreement.
- Process for developing mutual aid and assistance agreements.
- Identify the elements of a mutual aid and assistance operational plan.

IS-800.d: National Response Framework (NRF), An Introduction

Instruction method: interactive web-based course via FEMA's Independent Study program. This course provides an introduction to the NRF including:

- The purpose of NRF.
- The roles and responsibilities of response partners.

- The core capabilities for response and actions required to deliver those capabilities.
- The coordinating structures and operational planning used to support emergency response.
- How the stabilization of the seven Community Lifelines threats to public health and safety, or economic security.

IS -2200: Basic EOC Functions

Instruction method: interactive web-based course via FEMA's Independent Study program. This course is designed to introduce the role, design, and function of the Emergency Operations Center (EOC) and the supportive relationship as a NIMS Command and Coordination component of the Multiagency Coordination System.

IS-29.a: Public Information Officer Awareness

Instruction method: interactive web-based course via FEMA's Independent Study program. This course not only provides basic understanding of the PIO function for those new to the position but familiarizes those in executive level roles the necessary knowledge of PIO roles and responsibilities during an emergency.

G191: Emergency Operations Center/Incident Command System Interface

Instruction method: instructor led classroom. The goal of this course is to enable the students to develop an effective interface between the Incident Command/Unified Command and the EOC by applying NIMS principles.

G775: EOC Management and Operations

Instruction method: instructor led classroom. This course reviews the role, design, and functions of Emergency Operations Centers and their relationships as components of a Multiagency Coordination System (MAC) at the local, state, and federal levels of government. Mandatory for EOC and incident responders designated as Public Information Officers and Public Information Officer's Support Staff.

G611: EOC Section Overview: Management

This training module will focus on key Emergency Operations Center (EOC) positions within the Management Section based on the state OES EOC Section/Position credentialing document. Content will include:

- What does the Management Section do
- Position Roles and Responsibilities
- How each section interacts with each other
- Detailed position description
- Functions of the section/positions within the EOC
- Table-Top Exercise to apply section/position concepts

G611: EOC Section Overview: Operations

This training module focuses on key Emergency Operations Center (EOC) positions within the Operations Section based on the state OES EOC Section/Position credentialing document. Content will include:

- What does the Operations Section do
- Position Roles and Responsibilities
- How each section interacts with each other
- Detailed position description
- Functions of the section/positions within the EOC
- Table-Top Exercise to apply section/position concepts

G611: EOC Section Overview: Planning and Intelligence

This training module focuses on key Emergency Operations Center (EOC) positions within the Planning and Intel Section based on the state OES EOC Section/Position credentialing document. Content will include:

- What does the Planning and Intelligence Section do
- Position Roles and Responsibilities
- How each section interacts with each other
- Detailed position description
- Functions of the section/positions within the EOC
- Table-Top Exercise to apply section/position concepts

G611: EOC Section Overview: Logistics

This training module focuses on key Emergency Operations Center (EOC) positions within the Logistics Section based on the state OES EOC Section/Position credentialing document. Content will include:

- What does the Logistics Section do
- Position Roles and Responsibilities
- How each section interacts with each other
- Detailed position description
- Functions of the section/positions within the EOC
- Table-Top Exercise to apply section/position concepts

G611: EOC Section Overview: Finance and Administration

This training module focuses on key Emergency Operations Center (EOC) positions within the Finance and Administration Section based on the state OES EOC Section/Position credentialing document. Content will include:

- What does the Finance and Administration Section do

- Position Roles and Responsibilities
- How each section interacts with each other
- Detailed position description
- Functions of the section/positions within the EOC
- Table-Top Exercise to apply section/position concepts

5.3.2 County and Operational Area Emergency Operations Center Training

OC EOC Overview, Introduction to ICS, SEMS, and NIMS

This course is mandatory for all County/OA EOC response personnel. This introductory course is intended to give participants a basic overview of the Incident Command System, Standardized Emergency Management System, National Incident Management System, and an orientation to the basic functions of the County Emergency Operations Center.

OC EOC Management Training

Course Overview: This course provides an overview of the Management Section including the specific roles and responsibilities of the Management Section, Policy Group and the Public Information Officer. Instruction will include decision making responsibilities such as how we proclaim a local emergency, how resources are requested and mobilized to support emergency response activities, and how to communicate public information during an emergency.

OC EOC Operations Section Training: Evacuations, Sheltering, Law Enforcement, and Critical Infrastructure

Course Overview: This course is designed for departments and jurisdictions who may fill the Operation Section position within the EOC to support field operations. Training will include an overview of the Operations Section, consequence management, conflict resolution, and training on specific emergency plans and annexes maintained by the Emergency Management Division. Training will include hands-on practice and training on position specific roles and responsibilities.

OC EOC Planning and Intelligence Section Function and Exercise: Action Planning, Information Analysis, Situational Awareness

Course Overview: This course is designed for departments and jurisdictions who may fill a Planning and Intelligence Section position within the EOC to maintain information management and situational analysis. Training will include an overview of the Planning and Intelligence Section, consequence management, EOC Action Planning process, and training on specific emergency plans and annexes maintained by the Emergency Management Division. Training will include hands-on practice and training on position specific roles and responsibilities.

OC EOC Logistics & Finance Section Training

Course Overview: This course is designed for departments and jurisdictions who may fill a Logistics and/or Finance Section position within the EOC. Training will include an overview of the Logistics and Finance Section process, protocols, position checklists, and hands-on practice.

OC EOC Public Information Officer Update

Course Overview: This course is designed for those who may fill a Public Information Manager or Public Information Officer Support Staff position within the EOC. Training will include an overview of the County of Orange and Orange County Operational Area Emergency Public Information Plan, Countywide Emergency Public Information Coordination and the Joint Information System as well as tools and resources available for Lead PIOs and PIO Support Staff in the County EOC.

AlertOC (Mass Notification System) Training

Course Overview: This course covers the processes and procedures to send a notification using the Everbridge system. The course addresses the main features of emergency Mass Notification that may also apply to other types of notifications using the Everbridge suite.

WebEOC Training

Course Overview: The WebEOC Training is a two-hour class on the WebEOC Incident Management System used in County and OA Emergency Operations Centers. The class is a hands-on tutorial including login procedures, Activity Logs, and the Jurisdictional Information Management System.

OC EOC Messenger and Documentation Training

Course Overview: This course is designed for those who may be assigned as Messengers or Documentation staff in the EOC. Training will include the proper use of message forms, gathering of information from your assigned Section or Branch, and information flow in the EOC. Training will be interactive and hands-on.

OC EOC Hotline Training

Course Overview: The course provides an overview of the Hotline and Rumor Control position within the Orange County Operational Area Emergency Operations Center. There will be hands-on training in the form of an exercise, and participants will practice on the hotline using WebEOC. Participants will learn how to appropriately answer calls, identify and manage trends and rumors and will use information from callers to report information to the Public Information Officer. It describes and explains the functions and responsibilities of Hotline and Rumor Control, the position and how it is used during an activation, introduces the tools and resources used as well as products produced by Hotline and Rumor Control.

OC EOC Situation Analysis Support Staff (SASS) Unit Orientation and Exercise

Prerequisite: Attendees must complete the WebEOC Orientation training
Course Overview: This course will focus on the Situation Analysis support within the EOC. Staff members assigned to this role are responsible for gathering, analyzing, and vetting important information impacting County departments, special districts, school districts, cities, and all other affected organizations and use of WebEOC and the Smart Board projection system used to plot information in the EOC. This course will include hands-on training on WebEOC Incident Management System.

OC EOC Care and Shelter Branch Training

Course Overview: This course is designed for individuals who may staff a position within the Care and Shelter Branch during an exercise or activation of the County and Operational Area Emergency Operations Center. Training will include an overview of the positions within the Care and Shelter Branch and their responsibilities. The training will include hands-on practice on position's specific roles and responsibilities.

5.3.3 Exercises

The best method for putting training to the test and for allowing staff to demonstrate and practice their skills in a near real life situation is through exercises. At the OA level, exercises are conducted at least annually and additionally as needed. Individual County departments and OA jurisdictions may conduct exercises more frequently as they deem necessary. However, OA-level, multiagency, or regional exercises (which are the responsibility of the EMD) will be conducted at least annually to ensure OA staff is able to efficiently perform emergency functions, work together, and work with external organizations. An example of training coordination are the drills conducted in support and preparation for the SONGS facility. These exercises are both tabletop and field based in nature and are held in conjunction with activities on site with cooperation of the plant owners/operators.

Exercises are conducted to maintain the readiness of operational procedures. Exercises provide personnel with an opportunity to become familiar with procedures, facilities, and systems, which will actually be used in emergency situations. Forms of exercises include the following:

Seminars

Seminars are commonly employed to orient participants to or provide an overview of authorities, strategies, plans, policies, procedures, protocols, response resources, or concepts, and ideas. Seminars provide a good starting point for jurisdictions that are developing or making major changes to their plans and procedures. They offer the following attributes:

- Low-stress environment employing a number of instruction techniques, such as lectures, multimedia presentations, panel discussions, case study discussions, expert testimony, and decision support tools
- Informal discussions led by a seminar leader
- Not constrained by real-time portrayal of events
- Effective with both small and large groups

Workshops

Workshops usually focus on having attendees develop a product. It is common to organize attendees into functional groupings aided by facilitators and to use breakout sessions. Final results are often presented and approved in a plenum session. In conjunction with exercise development, workshops are most useful in achieving specific aspects of exercise design, such as the following:

- Determining program or exercise objectives
- Developing exercise scenario and key events listings

- Determining evaluation elements and standards of performance

Tabletop Exercises (TTXs)

TTXs involve senior staff, elected or appointed officials, or other key staff in an informal setting to discuss simulated situations. This type of exercise is intended to stimulate discussion of various issues regarding a hypothetical situation. It can be used to assess plans, policies, and procedures, or to assess types of systems needed to guide the prevention, response to, and recovery from the defined event. TTXs can also be used to solve a specific problem. TTXs are typically aimed at facilitating the understanding of concepts, identifying strengths and shortfalls, and/or achieving a change in attitude. The effectiveness of TTXs is derived from the energetic involvement of participants and their assessment of recommended revisions to current policies, procedures, and plans. Attributes of a TTX may include the following:

- Practicing group problem solving
- Familiarizing senior officials
- Conducting a specific case study
- Examining personnel contingencies
- Testing group message interpretation
- Participating in information sharing
- Assessing interagency coordination
- Achieving limited or specific objectives

Drills

A drill is a coordinated, supervised activity usually employed to test a single specific operation or function in a single agency. Drills are commonly used to provide training on new equipment, develop or test new policies or procedures, or practice and maintain current skills. Typical attributes include:

- A narrow focus, measured against established standards
- Instant feedback
- Realistic environment
- Performance in isolation

Functional Exercises (FEs)

The FE is designed to test and evaluate individual capabilities, multiple functions or activities within a function, or interdependent groups of functions. It is generally focused on exercising the plans, policies, procedures, and personnel of the direction and control nodes of incident command and unified command. Generally, events are projected through an exercise scenario with event updates that drive activity at the management level. The movement of personnel and equipment is simulated. The objective of the FE is to execute specific plans and procedures and apply established policies under crisis conditions, within or by a particular function team(s). The FE simulates the reality of operations in a functional area by presenting complex and realistic problems requiring rapid and effective responses by trained personnel in a highly stressful environment. Attributes of an FE include:

- Evaluating functions
- Evaluating EOCs, headquarters, and staff
- Reinforcing established policies and procedures
- Measuring the adequacy of resources
- Examining inter-jurisdictional relationships

Full-Scale Exercises (FSEs)

In an FSE, response elements are required to mobilize and deploy to a designated site or locale in response to a simulated incident, generally for an extended period. Actual mobilization and movement of personnel and resources are required to demonstrate coordination and response capability. EOCs and field command posts are activated. The FSE is the largest, costliest, and complex exercise type and may involve participation at the state, local, regional, and federal level. Although pre-scripted events may be used, the exercise is primarily driven by player actions and decisions. The FSE is used to evaluate the operational capabilities of systems, functional interfaces, and interactions during an extended period. It involves testing a major portion of operations plans and organizations under field conditions. Attributes of an FSE may include the following:

- Assessing organizational and individual performance
- Demonstrating inter-agency cooperation
- Allocating resources and personnel
- Assessing equipment capabilities
- Activating personnel and equipment locations
- Assessing inter-jurisdictional cooperation
- Exercising public information systems
- Testing communication systems and procedures
- Analyzing memoranda of understanding (MOUs), standard operating procedures (SOPs), plans, policies, and procedures

5.3.4 After Action Reports

Exercises train personnel and test systems, equipment and procedures. Lessons learned are documented in after action reports (AARs). While the exact length, format, and development timeframe of AARs depend on the exercise type and scope, the main focus of the document is an assessment of the core capabilities being exercised, and a structured improvement plan that operationalizes lessons learned.

Chapter 6 AUTHORITIES AND REFERENCES

The following Authorities and References related to this Plan are listed below:

6.1 Federal

- [ADA Best Practices Tool Kit for State and Local Governments](#), Chapter 7, Emergency Management under Title II of the ADA (2007), Addenda 1-3, and the Introduction to Appendices 1 and 2 (Attached as Exhibit 1); Titles II, III, and V of the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101-12103, 12131-12134, 12181-12188, and 12201-12213, as amended by the ADA Amendments Act of 2008.
- [The Americans with Disabilities Act Title II Technical Assistance Manual \(1993\) and Supplement \(1994\)](#)
- [The Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151-4157 Construction and Alteration of Public Buildings, 41 C.F.R. pt. 101-19](#)
- [Disaster Mitigation Act of 2000](#)
- [Disaster Recovery Reform Act of 2018](#)
- [Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Federal Emergency Management Agency, 44 C.F.R. pt. 16](#)
- [Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of Justice, 28 C.F.R. pt. 39](#)
- [Federal Civil Defense Act of 1950 \(Public Law 920\), as amended](#)
- [Federal Disaster Relief Act of 1974 \(Public Law 93-288\) - Section 406 Minimum Standards for Public and Private Structures](#)
- [FEMA Comprehensive Preparedness Guide \(CPG\) 101, v3.1, May 2025](#)
- [FEMA National Incident Management System Training Program Summer 2020](#)
- [Homeland Security Act of 2002, as amended in March 2025](#)
- [Homeland Security Presidential Directive \(HSPD\) 5, Management of Domestic Incidents](#)
- [Homeland Security Presidential Directive and Presidential Policy Guidance 8, National Preparedness](#)
- [Nondiscrimination Based on Handicap in Federally Assisted Programs and Activities of the Department of Housing and Urban Development, 24 C.F.R. pt. 8](#)
- [Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, 28 C.F.R. pt. 36](#)
- [Nondiscrimination on the Basis of Disability in State and Local Government Services, 28 C.F.R. pt. 35](#)
- [Nondiscrimination on the Basis of Handicap in Programs or Activities Receiving Federal Financial Assistance, 45 C.F.R. pt. 84 \(Department of Health and Human Services\)](#)
- [Nondiscrimination on the Basis of Handicap in Programs or Activities Receiving Federal Financial Assistance, 34 C.F.R. pt. 104 \(Department of Education\)](#)
- [National Response Team \(NRT-1\), Hazardous Materials Emergency Planning Guide and NRT-1A Plan Review Guide \(Environmental Protection Agency's National Response Team\)](#)
- [U.S. Army Corps of Engineers-Flood Fighting, Public Law 84-99](#)
- [Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 \(Public Law 93-288, as amended through P.L. 118-44 enacted March 18, 2024 \)](#)

- [Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. §§ 794, as amended](#)
- [The Post-Katrina Emergency Management Reform Act of 2006, 6 U.S.C. 701 § as amended](#)
- [Title VIII of the Civil Rights Act of 1968 \(“Fair Housing Act”\), as amended, 42 U.S.C. §§ 3601-3631. Discriminatory Conduct Under the Fair Housing Act, 24 C.F.R. pt. 100](#)
- [United States Department of Homeland Security \(USDHS\), NIMS, October 2017](#)
- [USDHS, National Response Framework \(NRF\), October 2019](#)
- [USDHS, National Disaster Recovery Framework \(NDRF\), December 10, 2024](#)
- [USDHS, National Mitigation Framework, Second Edition, June 2016](#)

6.2 State

- [California Catastrophic Incident Base Plan, September 2008](#)
- [California Disaster and Civil Defense Master Mutual Aid Agreement, 1950](#)
- [California Disaster Assistance Act \(Chapter 7.5 of Division 1 of Title 2 of the Government Code\) The implementing regulation for CDAA can be found in Title 19 of the California Code of Regulation, Chapter 6.](#)
- [California Emergency Management Mutual Aid \(EMMA\) Plan, March 2022](#)
- [California Emergency Management Mutual Aid Plan Annex A: EMMA Coordinator Checklists and Forms \(March 2022\)](#)
- [California Emergency Services Act, 2021](#)
- [California Fire Service and Rescue Emergency Mutual Aid System, February 2023](#)
- [California Government Code 8607 \(a\): Standardized Emergency Management System](#)
- [California Law Enforcement Mutual Aid Plan, 2019](#)
- [California Medical and Health Operational Area Coordination Program Manual, December 2016](#)
- [California Medical Mutual Aid Plan. September 2007](#)
- [California State Oil Spill Contingency Plan, January 2023](#)
- [California Public Health and Medical Emergency Operations Manual, July 2011](#)
- [California State Emergency Plan, 2024](#)
- [California State Hazard Mitigation Plan, 2023](#)
- [Emergency Management Assistance Compact \(EMAC\), 2021](#)
- [Government Code, Title I, Division 4, Chapter 8, Sections 3100-3109](#)
- [Government Code, Title II, Division 1, Chapter 7. California Emergency Services Act, Article 12 State of War Emergency, Sections 8620-8624](#)
- [Government Code, Title II, Division 1, Chapter 7. California Emergency Services Act, Article 13. State of Emergency, Sections 8625-8629](#)
- [Standardized Emergency Management System \(SEMS\) Guidelines, November 2009](#)
- Southern Association of County Human Service Agencies (SACHS) Disaster Preparedness Mutual Aid Plan/Standard Operating Procedures (SOP), 2024 (no link, PDF can be requested)
- [California Environmental Protection Agency, Hazard Materials Business Plan, July 2021
https://calepa.ca.gov/hazardous-materials-business-plan-program/](#)
- [California Government Code 8593.3: Access and Functional Needs](#)

- [California Code of Regulations 19.2403](#)
- [California Assembly Bill 619](#)

6.3 County

- [Orange County Public Works Mutual Aid Process Guide and Agreements, as amended, 2011](#)
- [Orange County Public Works Mutual Aid Agreement, Region I with LA County, October 1989](#)
- County of Orange Resolution adopting the California Master Mutual Aid Agreement, November 28, 1950
- County of Orange Resolution No. 22-001, adopt resolution rescinding Resolution 12-036 and amending membership of the Emergency Management Council by updating titles, incorporating mandated, emergency plans, clarifying roles, and removing the Emergency Operation Center activation levels. Dated January 11, 2022.
- Orange County Board of Supervisors Ordinance 95-870 creating the Orange County OA
- [Orange County Board of Supervisors Resolution No. 05-144, adopting the National Incident Management System, dated June 7, 2005](#)
- [Orange County Codified Ordinance, Title 3, Division 1 \(Emergency Services\)](#)
- [Orange County Fire Service Operational Area Mutual Aid Plan, December 1, 1997](#)
- [Orange County Chiefs' of Police and Sheriff's Association Law Enforcement Mutual Aid Operational and Procedural Protocol, January 2010](#)
- Orange County Operational Area Agreement of the County of Orange and Political Subdivisions, January 2020
- [Orange County Operational Area Building Damage and Safety Assessment Mutual Aid Agreement, October 1997](#)

6.4 Relationship to Other Plans/References

This County and OA EOP is the primary document used by the County and OA to describe the conduct of emergency management activities from the County and OA perspective. The EOP provides a conceptual framework for all other emergency management planning of OA, but not necessarily of OA jurisdictions.

The EOP contributes to the emergency management programs of County departments and OA jurisdictions by describing how activities will be conducted within County of Orange and as the Operational Area, the limits and how support will be requested and coordinated—in the form of mutual aid and other resources—by County departments and OA jurisdictions and supporting agencies. When emergencies or disasters necessitate resource support from regional, state, federal, international, private, or non-profit sources outside the immediate control of County and/or OA, then this EOP will serve as the primary guide to coordinating those resources at the next SEMS level.

At the same time, this EOP is not a standalone document. Its purpose is to support the emergency plans and procedures of the County of Orange and OA jurisdictions. This EOP is designed to be flexible enough that it can adapt to changing response environments and to the needs of supporting and requesting organizations. This EOP will frequently support/complement other County of Orange and Orange County Operational Area Plans and Annexes including:

- County of Orange and Operational Area Legislated Aircraft Accident Annex, November 2022
- County of Orange and Operational Area Alert and Warning Plan, August 2024
- County of Orange Disaster Debris Management Plan, August 2019
- County of Orange and Operational Area Disease Outbreak Response Annex (DORA), February 2023
- County of Orange and Operational Area Excessive Temperature Annex, May 2024
- County of Orange and Operational Area Flood, Dam and Reservoir Annex, February 2023
- County of Orange & Orange County Fire Authority Local Hazard Mitigation Plan, December 2021
- County of Orange and Operational Area Emergency Public Information Plan, February 2023
- County of Orange and Operational Area Mass Evacuation Annex, May 2023
- County of Orange and Operational Area Power Outage Annex, May 2025
- County of Orange and Operational Area Rail Emergency Response Annex, May 2025
- County of Orange and Operational Area Recovery Plan, November 2023
- County of Orange and Operational Area Mass Care and Shelter Annex, November 2022
- County of Orange and Operational Area Tsunami Annex, August 2022
- County of Orange and Operational Area Volunteer and Donations Management Annex, February 2025
- County of Orange and Operational Area Terrorism Annex, August 2023
- Operational Area Jurisdictions Emergency Plans and Procedures
- County of Orange and Operational Area Mass Fatality Annex, May 2025
- Orange County Fire Authority's Hazardous Materials Area Plans
- Orange County Fire Service Operational Area Mutual Aid Plan, December 1997
- Orange County Law Enforcement Mutual Aid, January 2010
- Orange County Tactical Interoperability Communications Plan (TICP), May 2010
- San Onofre Nuclear Generating Station Emergency Operations Plan (SONGS), May 2024
- Alternate Emergency Operations Center Standard Operating Procedure, February 2024

6.5 Standard Operating Procedures and Guidelines (SOPs or SOGs)

Departments, agencies, and organizations that have responsibilities in this plan should have prepared organizational and/or position-specific SOPs or SOGs detailing personnel assignments,

policies, notification rosters, resource lists, and specific steps for accomplishing the functions assigned in this EOP.

Supporting plans, operating procedures, and checklists developed in concert with this EOP will be reviewed periodically by the EMC Sub-Committee under the direction of the Emergency Management Council and OCEDO under the direction of the OA Executive Board. Changes to SOPs or SOGs will be approved by their respective bodies.

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Chapter 7 APPENDICES

The following Authorities and References related to this Plan are listed below:

7.1 Acronyms List

A&W	Alert and Warning
AAR	After Action Report
ACI	Approved Course of Instruction
ADA	Americans with Disabilities Act
ALERT	Automated Local Evaluation in Real Time
AlertOC	Orange County Mass Notification System
ARC	American Red Cross
BAER	Burned Area Emergency Response
BFE	Base Flood Elevation
BOS	Board of Supervisors
BSSC	Building Seismic Safety Council
CAD	Computer-Aided Dispatch
CA-ESF	California Emergency Support Function
CAHAN	California Health Alert Network
CAISO	California Independent System Operator
CALAW	California Law Enforcement Mutual Aid Radio System
Cal Fire	California Department of Forestry and Fire Protection
Cal OES	California Governor's Office of Emergency Services
CALBO	California Building Officials
CalRecycle	California Department of Resources Recycling and Recovery
Caltech	California Institute of Technology
Caltrans	California Department of Transportation
CalWARN	California Water and Wastewater Agency Response Network
CalWAS	California Warning System
CAP	Corrective Action Planning
CBO	Community Based Organizations
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosives
CCC	California Conservation Corps
CCCS	800 MHz Countywide Coordinated Communications System
CCP	Crisis Counseling Assistance and Training Program
CCR	California Code of Regulations
CDAA	California Disaster Assistance Act
CDPH	California Department of Public Health
CDSS	California Department of Social Services
CEO	Chief Executive Officer
CEQA	California Environmental Quality Act
CESRS	California Emergency Services Radio System
CERT	Community Emergency Response Team

CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CHHS	California Health and Human Services Agency
CHP	California Highway Patrol
CISN	California Integrated Seismic Network
CLERS	California Law Enforcement Radio System
CLETS	California Law Enforcement Telecommunications System
CMAP	CERT Mutual Aid Plan
COAD-OC	Collaborative Organizations Active in Disasters - Orange County
COG	Continuity of Government
COOP	Continuity of Operations
CPUC	California Public Utilities Commission
CRS	Community Rating System
CSWC	California State Warning Center
CUEA	California Utilities Emergency Association
DAFN	Disabilities, Access and Functional Needs
DES	Director of Emergency Services
DFO	Disaster Field Office
DHCS	California Department of Health Care Services
DHS	United States Department of Homeland Security
DMV	California Department of Motor Vehicles
DO	Duty Officer
DOC	Department Operations Center
DOJ	United States Department of Justice
DRC	Disaster Recovery Center
DSW	Disaster Service Worker
DWR	California Department of Water Resources
EAP	EOC Action Plan
EAS	Emergency Alert System
ESF	Emergency Support Function (Federal)
EMAC	Emergency Management Assistance Compact
EMC	County of Orange Emergency Management Council
EMD	Orange County Sheriff's Department Emergency Management Division
EMMA	Emergency Managers Mutual Aid
EMS	Emergency Medical Services
EMSA	Emergency Medical Services Authority
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EQ	Earthquake
ESA	California Emergency Services Act
ESC	Emergency Services Coordinator
ESF	Emergency Support Function

ESRI	Environmental System Research Institute (GIS tool)
EVC	Emergency Volunteer Center
EWEC	Emergency Worker Exposure Control
EWP	Emergency Watershed Protection
FAA	Federal Aviation Administration
FAC	Family Assistance Center
FAST	Functional Assessment Service Team
FCC	Federal Communications Commission
FCO	Federal Coordinating Officer
FEAT	Flood Emergency Action Team
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FIRESCOPE	Firefighting Resources of California Organized for Potential Emergencies
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Studies
FMAG	Fire Management Assistance Grant
FTE	Full Time Equivalent
GIS	Geographic Information System
HAZMAT	Hazardous Materials
HCA	Orange County Health Care Agency
HEAR	Hospital Emergency Administrative Radio
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
HSEEP	Homeland Security Exercise and Evaluation
HSPD	Homeland Security Presidential Directive
HUD	Housing and Urban Development
IA	Individual Assistance
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IDE	Initial Damage Estimate
IHP	Individual and Household Program
IMAT	Incident Management Assistance Team
IPAWS	Integrated Public Alert and Warning System
IT	Information Technology
JFO	Joint Field Office
JIC	Joint Information Center
JIMS	Jurisdiction Information Management System
JIS	Joint Information System
JRIC	Joint Regional Intelligence Center
LAC	Local Assistance Center

LAN	Local Area Network
LEMA	Law Enforcement Mutual Aid
LHMP	Local Hazard Mitigation Planning
MAC	Multi-Agency Coordination
MARAC	Mutual Aid Regional Advisory Council
MCM	Medical Counter Measures
MHOAC	Medical Health Operational Area Coordinator
MMAA	California Disaster and Civil Defense Master Mutual Aid Agreement
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPH	Miles Per Hour
MSL	Meters Above Sea Level
NAWAS	National Warning System
NDRF	National Disaster Recovery Framework
NEIC	National Earthquake Information Center
NEMA	National Emergency Management Agency
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NGO	Non-Government Organization
NIBS	National Institute of Building Officials
NIMS	National Incident Management System
NLETS	National Law Enforcement Telecommunications System
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NRF	National Response Framework
NTWC	National Tsunami Warning Center
NWS	National Weather Service
OA	Operational Area
OAC	Operational Area Coordinator
OA EX	Orange County Operational Area Executive Board
OASIS	Operational Area Satellite Information System
OCAC	Orange County Animal Care Services
OCCR	Orange County Community Resources
OCEMO	Orange County Emergency Management Organization
OCFA	Orange County Fire Authority
OCHCA	Orange County Health Care Agency
OCIAAC	Orange County Intelligence Assessment Center
OCPW	Orange County Public Works
OCSD	Orange County Sheriff's Department
OCTA	Orange County Transportation Authority
OCWR	Orange County Waste and Recycling
ODAC	Offsite Dose Assessment Center
OES	Office of Emergency Services

PA	Public Assistance
PDA	Preliminary Damage Assessment
PIO	Public Information Officer
PNP	Private Non-Profit
PO	Purchase Order
POST	Peace Officer Standards and Training
PSA	Public Service Announcement
PW	Project Worksheet
RACES	Radio Amateur Civil Emergency Service
RAP	Recovery Action Plan
RCC	Recovery Coordination Center
RDMHC	Regional Disaster Medical Health Coordinator
RIMS	Response Information Management System
RPO	Radiological Protection Officer
RSF	Recovery Support Function
SAP	State Safety Assessment Program
SAR	Search and Rescue
SARS	Severe Acute Respiratory Syndrome
SBA	Small Business Administration
SCAQMD	South Coast Air Quality Management District
SCEC	Southern California Earthquake Center
SCO	State Coordinating Officer
SEMS	Standardized Emergency Management System (California)
SEP	State of California Emergency Plan
SHMP	State of California Multi-Hazard Mitigation Plan
SOC	State Operations Center
SONGS	San Onofre Nuclear Generating Station
SOP	Standard Operating Procedures
SSA	Orange County Social Services Agency
TICP	Tactical Interoperable Communications Plan
UC	Unified Command
UHF	Ultra High Frequency
UPS	Uninterrupted Power Source
USACE	United States Army Corps of Engineers
USAR	Urban Search and Rescue
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United State Geological Survey
VHF	Very High Frequency
VOAD	Voluntary Organizations Active in Disasters
WAN	Wide Area Network
WEA	Wireless Emergency Alerts
WEROC	Water Emergency Response of Orange County

WERT	Watershed Emergency Response Team
WMD	Weapons of Mass Destruction
WNV	West Nile Virus
WUI	Wildland Urban Interface

7.2 Glossary of Terms

A

Action Plan

The plan prepared in the EOC containing the emergency response objectives of that SEMS level reflecting overall priorities and supporting activities for a designated period. The plan is shared with supporting agencies. See also Incident Action Plan.

Activate

At a minimum, a designated official of the emergency response agency that implements SEMS as appropriate to the scope of the emergency and the agency's role in response to the emergency.

After Action Report

A report covering response actions, application of SEMS, modifications to plans and procedures, training needs, and recovery activities. After action reports are required under SEMS after any emergency, which requires a declaration of an emergency. Reports are required within 90 days.

Agency

An agency is a division of government with a specific function, or a non-governmental organization (e.g., private contractor, business, etc.) that offers a particular kind of assistance. In ICS, agencies are defined as jurisdictional (having statutory responsibility for incident mitigation), or assisting and/or cooperating (providing resources and/or assistance). (See Assisting Agency, Cooperating Agency and Multi-agency.)

Agency Dispatch

The agency or jurisdictional facility from which resources are allocated to incidents.

Agency Administrator or Executive

The official responsible for administering policy for an agency or jurisdiction.

Agency Representative

An individual assigned to an incident or to an EOC from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident or at the EOC. Agency Representatives report to the Liaison Officer at the incident, or the Liaison Coordinator at SEMS EOC levels.

Air Operations Branch Director

The person primarily responsible for preparing and implementing the air operations portion of the Incident Action Plan. Also responsible for providing logistical support to helicopters operating on the incident.

Allocated Resources

Resources dispatched to an incident.

Air Command

An organization established to: 1) oversee the management of multiple incidents that are each being handled by an Incident Command System organization; or 2) to oversee the management of a very large incident that has multiple Incident Management Teams assigned to it. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed.

Assigned Resources

Resources checked in and assigned work tasks on an incident.

Assignments

Tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident or EOC Action Plan.

Assistant

Title for subordinates of the Command Staff positions at the Field SEMS level. The title indicates a level of technical capability, qualifications, and responsibility subordinate to the primary positions. Assistants may also be used to supervise unit activities at camps.

Assisting Agency

An agency directly contributing tactical or service resources to another agency.

B**Base**

The location at an incident at which primary logistical functions for an incident are coordinated and administered. There is only one Base per incident. (Incident name or other designator will be added to the term "Base.") The Incident Command Post may be collocated with the Base.

Branch

The organizational level at the SEMS Field Level having functional or geographic responsibility for major parts of incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section. Branches are identified by the use of Roman Numerals or by functional name (e.g., medical, security, etc.). Branches are also used in the same sequence at the SEMS EOC levels.

Branch Director

The ICS title for individuals responsible for supervision of a Branch at the Field Level. At SEMS EOC levels, the title Branch Coordinator is preferred.

C**Cache**

A pre-determined complement of tools, equipment and/or supplies stored in a designated location, available for incident use.

Cal OES Southern Region EOC

Facilities found at State OES Administrative Regions. Cal EOC Regions are used to coordinate information and resources among operational areas and between the operational areas and the state level.

Camp

A geographical site, within the general incident area, separate from the Incident Base, equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

Chain of Command

A series of management positions in order of authority.

Check-in

The process whereby resources first report to an incident or into an EOC. Check-in locations at the SEMS Field Level include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Helibases, Helispots, and Division Supervisors (for direct line assignments).

Clear Text

The use of plain English in radio communications transmissions. No Ten Codes or agency specific codes are used when utilizing Clear Text.

Command

The act of directing, and/or controlling resources at an incident by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Commander.

Command Post

(See Incident Command Post)

Command Staff

The Command Staff at the SEMS Field Level consists of the Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander. They may have an assistant or assistants, as needed. These functions may also be found at the EOC levels in SEMS. At the EOC, they would report to the EOC Director but may be designated as Coordinators. At EOCs, the functions may also be established as Sections, or Branches to accommodate subsequent expansion.

Communications Unit

An organizational unit in the Logistics Section responsible for providing communication services at an incident or an EOC. A Communications Unit may also be a facility (e.g., a trailer or mobile van) used to provide the major part of an Incident Communications Center.

Community Based Organizations

A local organization (which may or may not be an affiliate of a national organization) with a primary mission to provide services to specific groups of people. This could include services to people who are developmentally disabled, homeless, low-income elderly, non-English speaking, or others. CBOs are usually nonprofit organizations. Most have a 501 (c) (3) tax-exempt status from the Internal Revenue Service. Some may have the nonprofit status from the Franchise Tax Board. In size, they range from all-volunteer organizations that get by on virtually no budget, to multi-million dollar operations. Examples include Food Banks, Centers for Independent Living, Immigration Assistance Programs, Easter Seals, Neighborhood Clinics, and Family Centers.

Compensation Unit/Claims Unit

Functional unit within the Finance/Administration Section responsible for financial concerns resulting from property damage, injuries or fatalities at the incident or within an EOC.

Complex

Two or more individual incidents located in the same general area, which are assigned to a single Incident Commander or to a Unified Command.

Cooperating Agency

An agency supplying assistance other than direct tactical or support functions or resources to the incident control effort (e.g., American Red Cross, telephone company, etc.)

Coordination

The process of systematically analyzing a situation, developing relevant information, and informing appropriate command authority of viable alternatives for selection of the most effective combination of available resources to meet specific objectives. The coordination process (which can be either intra-or inter-agency) does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc. Multi-agency or Inter-agency coordination is found at all SEMS levels.

Coordination Center

Term used to describe any facility that is used for the coordination of agency or jurisdictional resources in support of one or more incidents.

Cost Sharing Agreements

Agreements between agencies or jurisdictions to share designated costs related to incidents. Cost sharing agreements are normally written but may also be verbal between authorized agency or jurisdictional representatives at the incident.

Cost Unit

Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.

D**Delegation of Authority**

A statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. The Delegation of Authority can include objectives, priorities, expectations, constraints and other considerations or guidelines as needed. Many agencies require written Delegation of Authority to be given to Incident Commanders prior to their assuming command on large incidents.

Demobilization Unit

Functional unit within the Planning Section responsible for assuring orderly, safe and efficient demobilization of incident or EOC assigned resources.

Department Operations Center

A facility used by a distinct discipline, such as flood operations, fire, medical, hazardous material, or a unit, such as Department of Public Works, or Department of Health. Department Operations Centers may be used at all SEMS levels above the field response level depending upon the needs of the emergency.

Deputy Incident Commander (Section Chief or Branch Director)

A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior and therefore must be fully qualified in the position. Deputies may also be found as necessary at all SEMS EOC levels.

Disaster

A sudden calamitous emergency event bringing great damage loss or destruction.

Dispatch

The implementation of a command decision to move a resource or resources from one place to another.

Dispatch Center

A facility from which resources are assigned to an incident.

Division

Divisions are used to divide an incident into geographical areas of operation. Divisions are identified by alphabetic characters for horizontal applications and, often, by numbers when used in buildings.

Divisions are also used at SEMS EOC levels and are found organizationally between Branches and Units.

Division or Group Supervisor

The position title for individuals responsible for command of a Division or Group at an Incident. At the EOC level, the title is Division Coordinator.

Documentation Unit

Functional unit within the Planning Section responsible for collecting, recording and safeguarding all documents relevant to an incident or within an EOC.

E**Emergency**

A condition of disaster or of extreme peril to the safety of persons and property caused by such conditions as air pollution, fire, flood, hazardous material incident, storm, epidemic, riot, drought, sudden and severe energy shortage, plant or animal infestations or disease, the Governor's warning of an earthquake or volcanic prediction, or an earthquake or other conditions, other than conditions resulting from a labor controversy.

Emergency Management Coordinator

The individual within each jurisdiction that is delegated the day-to-day responsibility for the development and maintenance of all emergency management coordination efforts.

Emergency Management Director (Emergency Services Director)

The individual within each political subdivision that has overall responsibility for jurisdiction emergency management. For cities and counties, this responsibility is commonly assigned by local ordinance.

Emergency Medical Technician (EMT)

A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.

Emergency Operations Center (EOC)

A location from which centralized emergency management can be performed. EOC facilities are established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

Emergency Operations Plan

The plan that each jurisdiction has and maintains for responding to appropriate hazards.

Emergency Response Agency

Any organization responding to an emergency, or providing mutual aid support to such an organization, whether in the field, at the scene of an incident, or to an operations center.

Emergency Response Personnel

Personnel involved with an agency's response to an emergency.

EOC Action Plan (EAP)

The plan developed at SEMS EOC levels, which contains objectives, actions to be taken, assignments and supporting information for the next operational period.

Event

A planned, non-emergency activity. ICS can be used as the management system for a wide range of events, e.g., parades, concerts or sporting events.

F**Facilities Unit**

Functional unit within the Support Branch of the Logistics Section at the SEMS Field Response Level that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.

Field Operations Guide

A pocket-size manual of instructions on the application of the Incident Command System.

Finance/Administration Section

One of the five primary functions found at all SEMS levels, which is responsible for all costs and financial considerations. At the incident and Section can include the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.

Food Unit

Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident and/or EOC personnel.

Function

In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning/Intelligence, Logistics and Finance/Administration. The same five functions are also found at all SEMS EOC levels. At the EOC, the term Management replaces Command. The term function is also used when describing the activity involved, e.g., "the planning function."

Functional Element

Refers to a part of the incident, EOC or DOC organization such as section, branch, group or unit.

G

General Staff

The group of management personnel reporting to the Incident Commander or the EOC Director. They may each have a deputy, as needed. At the Field SEMS level, the General Staff consists of: Operations Section Chief, Planning/Intelligence Section Chief, Logistics Chief, Finance/Administration Chief. At some SEMS EOC levels, the position titles are Section Coordinators.

Generic ICS

Refers to the description of ICS that is generally applicable to any kind of incident or event.

Ground Support Unit

Functional unit within the Support Branch of the Logistics Section at the SEMS Field Response level that is responsible for the fueling, maintaining and repairing of vehicles, and the transportation of personnel and supplies.

Group

Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division) Groups are located between Branches (when activated) and Resources in the Operations Section.

H

Hazard

A hazard is any event that poses an uncommon threat to lives, property or the environment.

Helibase

The main location for parking, fueling, maintenance, and loading of helicopters operating in support of an incident. It is usually located at or near the incident base.

Helispot

Any designated location where a helicopter can safely take off and land. Some helispots may be used for loading of supplies, equipment, or personnel.

Hierarchy of Command (See Chain of Command)

I**Incident**

An occurrence or event, either human-caused or by natural phenomena, that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Action Plan

The plan developed at the field response level, which contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The plan may be oral or written.

Incident Base

Location at the incident where the primary logistics functions are coordinated and administered. (Incident name or other designator will be added to the term "Base.") The Incident Command Post may be collocated with the Base. There is only one Base per incident.

Incident Commander

The individual responsible for the command of all functions at the field response level.

Incident Command Post (ICP)

The location at which the primary command functions are executed. The ICP may be collocated with the incident base or other incident facilities.

Incident Command System (ICS)

The nationally used standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

Incident Communications Center

The location of the Communications Unit and the Message Center.

Incident Management Team

The Incident Commander and appropriate General and Command Staff personnel assigned to an incident.

Incident Objectives

Statements of guidance and direction necessary for the selection of appropriate strategy(s), and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed.

Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

Information Officer

A member of the Command Staff responsible for interfacing with the public and the media or with other agencies requiring information directly from the incident. There is only one Information Officer per incident. The Information Officer may have assistants. This position is also referred to as Public Affairs or Public Information Officer in some disciplines. At SEMS EOC levels, the information function may be established as a Coordinator or as a section or branch reporting directly to the EOC Director.

Initial Action

The actions taken by resources, which are the first to arrive at an incident.

Initial Response

Resources initially committed to an incident.

J**Jurisdiction**

The range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., special district, city, county, state or federal boundary lines), or functional (e.g., police department, health department, etc.). (See Multi-jurisdiction)

Jurisdictional Agency

The agency having jurisdiction and responsibility for a specific geographical area, or a mandated function.

L**Landing Zone**

See Helispot

Leader

The ICS title for an individual responsible for a functional unit, task forces, or teams.

Liaison Officer

A member of the Command Staff at the Field SEMS level responsible for coordinating with representatives from cooperating and assisting agencies. At SEMS EOC levels, the function may be done by a Coordinator and/or within a Section or Branch reporting directly to the EOC Director.

Life-Safety

Refers to the joint consideration of both the life and physical well-being of individuals.

Local Government

Means local agencies per Article 3 of the SEMS regulations. The Government Code 8680.2 defines local agencies as any city, city and county, county, school district or special district.

Local Government Advisory Committee (LGAC)

Committees established by the Director of OES to provide a forum for the exchange of information among the cities and counties of a Mutual Aid Region. The LGAC may develop a consensus of action and policy among local emergency managers on issues, policies, and programs of concern to local governments, and if necessary bring such concerns to the attention of the OES Executive Management. This Committee has become inactive with the advent of the Mutual Aid Regional Advisory Committees.

Logistics Section

One of the five primary functions found at all SEMS levels. The Section responsible for providing facilities, services and materials for the incident or at an EOC.

M**Management by Objectives**

In SEMS field and EOC levels, this is a top-down management activity, which involves a three-step process to achieve the desired goal. The steps are: establishing the objectives, selection of appropriate strategy(s) to achieve the objectives, and the direction or assignments associated with the selected strategy.

Master Mutual Aid Agreement

An agreement entered into by and between the State of California, its various departments and agencies, and the various political subdivision, municipal corporations, and public agencies of the State of California to assist each other by providing resources during an emergency Mutual Aid occurs when two or more parties agree to furnish resources and facilities and to render services to each other to prevent and combat any type of disaster or emergency.

Marshaling Area

An area used for the completed mobilization and assemblage of personnel and resources prior to their being sent directly to the disaster affected area. Marshaling Areas are utilized particularly for disasters outside of the continental United States.

Medical Unit

Functional unit within the Service Branch of the Logistics Section at SEMS Field levels responsible for the development of the Medical Emergency Plan, and from providing emergency medical treatment of incident personnel.

Message Center

The Message Center is part of the Incident or EOC Communications Center and is collocated or placed adjacent to it. It receives, records, and routes information to appropriate locations at an incident or within an EOC.

Mobilization

The process and procedures used by all organizations federal, state and local for activating, assembling, and transporting all resources that have been requested to respond to or support an incident.

Mobilization Center

An off-incident location at which emergency service personnel and equipment are temporarily located pending assignment to incidents, release, or reassignment.

Multi-Agency or Inter-Agency Coordination

The participation of agencies and disciplines involved at any level of the SEMS organization working together in a coordinated effort to facilitate decisions for overall emergency response activities, including the sharing of critical resources and the prioritization of incidents.

Multi-Agency Coordination System (MACS)

The combination of personnel, facilities, equipment, procedures and communications integrated into a common system. When activated, MACS has the responsibility for coordination of assisting agency resources and support in a multi-agency or multijurisdictional environment. A MAC Group functions within the MACS. MACS organizations are used within the California Fires Services.

Multi-Agency Incident

An incident where one or more agencies assist a jurisdictional agency or agencies. The incident may be managed under single or unified command.

Multijurisdictional Incident

An incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In ICS these incidents will be managed under Unified Command.

Mutual Aid Agreement

Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.

Mutual Aid Coordinator

An individual at local government, operational area, region or state level that is responsible to coordinate the process of requesting, obtaining, processing and using mutual aid resources. Mutual Aid Coordinator duties will vary depending upon the mutual aid system.

Mutual Aid Region

A mutual aid region is a subdivision of state OES established to assist in the coordination of mutual aid and other emergency operations within a geographical area of the state, consisting of two or more county (operational) areas.

O**Office of Emergency Services**

The Governor's Office of Emergency Services.

Operational Area

An intermediate level of the state emergency organization, consisting of a county and all political subdivisions within the county area.

Operational Period

The period of time scheduled for execution of a given set of operation actions as specified in the Incident or EOC Action Plan. Operational Periods can be of various lengths, although usually not over 24 hours.

Operations Section

One of the five primary functions found at all SEMS levels. The Section responsible for all tactical operations at the incident, or for the coordination of operational activities at an EOC. The Operations Section at the SEMS Field Response Level can include Branches, Divisions and/or Groups, Task Forces, Teams, Single Resources and Staging Areas. At the EOC levels, the Operations Section would contain Branches or Divisions as necessary because of span-of-control considerations.

Out-of-Service Resources

Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.

P**Planning Meeting**

A meeting held as needed throughout the duration of an incident to select specific strategies and tactics for incident control operations and for service and support planning. On larger incidents, the planning meeting is a major element in the development of the Incident Action Plan. Planning meetings are also an essential activity at all SEMS EOC levels.

Planning Section

(Also referred to as Planning/Intelligence) One of the five primary functions found at all SEMS levels. Responsible for the collection, evaluation, and dissemination of information related to the incident or an emergency, and for the preparation and documentation of Incident or EOC Action Plans. The section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident. At the SEMS Field Response Level, the Section will include the Situation, Resource, Documentation, and Demobilization Units, as well as Technical Specialists. Other units may be added at the EOC level.

Procurement Unit

Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.

Public Information Officer

The individual at field or EOC level that has been delegated the authority to prepare public information releases and to interact with the media. Duties will vary depending upon the agency and SEMS level.

R**Reporting Locations**

Specific locations or facilities where incoming resources can check-in at the incident. (See Check-in).

Resources

Personnel and equipment available, or potentially available, for assignment to incidents or to EOCs. Resources are described by kind and type, and may be used in tactical support or supervisory capacities at an incident or at EOCs.

Resources Unit

Functional unit within the Planning Section at the SEMS Field Response level responsible for recording the status of resources committed to the incident. The Unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resource needs.

S**Safety Officer**

A member of the Command Staff at the incident or within an EOC responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

Section

The organization level with responsibility for a major functional area of the incident or at an EOC, e.g., Operations, Planning/Intelligence, Logistics, Administration/Finance.

Section Chief

The ICS title for individuals responsible for command of functional sections: Operations, Planning/Intelligence, Logistics, and Administration/Finance. At the EOC level, the position will be Section Coordinator.

Service Branch

A Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical and Food Units.

Single Resource

An individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used on an incident.

Situation Unit

Functional unit within the Planning Section responsible for the collection, organization and analysis of incident status information, and for analysis of the situation as it progresses. Reports to the Planning Section Chief.

Span-of-control

The supervisory ratio maintained within an ICS or EOC organization. A span-of-control of five-positions reporting to one supervisor is considered optimum.

Special District

A unit of local government (other than a city, county, or city and county) with authority or responsibility to own operate or maintain a project (as defined in California Code of Regulations Section 2900(s) for purposes of natural disaster assistance. This may include a joint powers authority established under Section 6500 et.seq.of the Code.

Staging Area

Staging Areas are locations set up at an incident where resources can be placed while awaiting a tactical assignment. Staging Areas are managed by the Operations Section.

Staging Area Managers

Individuals within ICS organizational units that are assigned specific managerial responsibilities at Staging Areas (Also Camp Manager).

Standardized Emergency Management System (SEMS)

A system required by California Government Code for managing response to multi-agency and multijurisdictional emergencies in California. SEMS consists of five organizational levels, which are activated as necessary: Field Response, Local Government, Operational Area, Region, and State.

State Operations Center (SOC)

An EOC facility operated by the Governor's Office of Emergency Services at the state level in SEMS.

Strategy

The general plan or direction selected to accomplish incident or EOC objectives.

Supply Unit

Functional unit within the Support Branch of the Logistics Section responsible for ordering equipment and supplies required for incident operations.

Support Branch

A Branch within the Logistics Section responsible for providing personnel, equipment and supplies to support incident operations. Includes the Supply, Facilities and Ground Support Units.

Support Resources

Non-tactical resources under the supervision of the Logistics, Planning/Intelligence, Finance/Administration Sections or the Command Staff.

Supporting Materials

Refers to the several attachments that may be included with an Incident Action Plan, e.g., communications plan, map, safety plan, traffic plan, and medical plan.

T**Tactical Direction**

Direction given by the Operations Section Chief at the SEMS Field level which includes the tactics appropriate for the selected strategy, the selection and assignment of resources, tactics implementation, and performance monitoring for each operational area.

Task Force

A combination of single resources assembled for a particular tactical need, with common communications and a leader.

Team

(See Single Resource)

Technical Specialists

Personnel with special skills that can be used anywhere within the ICS or EOC organization.

Time Unit

Functional unit within the Finance/Administration Section responsible for recording time for incident or EOC personnel and hired equipment.

Type

Refers to resource capability. A Type 1 resource provides a greater overall capability due to power, size, capacity, etc., than would be found in a Type 2 resource. Resource typing provides managers with additional information in selecting the best resource for the task.

U**Unified Area Command**

A Unified Area Command is established when incidents under an Area Command are multijurisdictional. (See Area Command and Unified Command)

Unified Command

In ICS, Unified Command is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility or accountability.

Unit

An organizational element having functional responsibility. Units are commonly used in incident Planning/Intelligence, Logistics, or Finance/Administration sections and can be used in operations for some applications. Units are also found in EOC organizations.

Unity of Command

The concept by which each person within an organization reports to one and only one designated person.

7.3 Contact List

A list of agencies and personnel not internal to the organization, but critical to emergency operations will be provided upon request and with the written approval of the Emergency Management Manager.

Chapter 8 ATTACHMENTS

Attachment 1: Risk, Threat, and Hazard Identification Process

Attachment 2: Risk, Threat, and Hazard Analysis Process

Attachment 3: Business Process Meeting

Attachment 4: Cal Card Procedure

Attachment 5: Battle Rhythm

Attachment 6: Documentation Collection Plan

Attachment 7: Disaster Purchasing Website

Attachment 8: Resource Request Form (213RR)

Attachment 9: Sample Proclamation

Attachment 10: WebEOC Manual

Attachment 11: Operational Area Radio Standard Operating Procedure

Attachment 12: Plan Revision Process

Attachment 13: Plan Revision Schedule

Attachment 14: Integrated Preparedness Plan

Attachment 15: EOC Position Checklists

Attachment 16: Demobilization Plan

Attachment 17: State of California Emergency Management Mutual Aid Plan, Annex A: EMMA Coordinator Checklists and Forms (March 2022)