



Executive Summary

Colusa County, the two incorporated cities, and six special districts comprise the participating jurisdictions to the 2024 Colusa county Local Hazard Mitigation Plan (LHMP or Plan) Update. This Colusa County LHMP is a multi-jurisdictional plan that geographically covers the entire area within Colusa County's jurisdictional boundaries (hereinafter referred to as the Planning Area). The following jurisdictions participated in the planning process and are seeking FEMA approval of the LHMP Update:

- Colusa County*
- City of Colusa*
- City of Williams*
- Colusa County RCD
- Cortina Community Services District
- Kletsel Dehe Wintun Nation
- Reclamation District 108*
- RD 479
- Sacramento River West Side Levee District*

* Participated in 2018 Colusa County LHMP

The purpose of this 2024 Colusa County LHMP Update and hazard mitigation planning process is to reduce or eliminate long-term risk to people and property, critical facilities and infrastructure, natural and historic and cultural resources, and other community assets from future hazard events and natural disasters. This LHMP Update demonstrates the participating jurisdictions' commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This LHMP Update was also developed in order for the participating jurisdictions to be eligible for certain federal disaster assistance, specifically, the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC) program, and the Flood Mitigation Assistance (FMA) program.

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated through natural hazard mitigation.

2024 LHMP Update Plan Development Process

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts determined, mitigation goals set, and appropriate mitigation strategies determined, prioritized, and implemented. This LHMP Update documents the 2024 hazard mitigation planning process and identifies relevant hazards, community risk and vulnerabilities, and mitigation strategies the participating jurisdictions will use to decrease vulnerability and increase resiliency and sustainability in the Colusa County Planning Area.

This LHMP Update was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390), the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007, and current FEMA guidance. Colusa County jurisdictions followed a planning process prescribed by FEMA as detailed in Table ES-1.

Table ES-1 Local Hazard Mitigation Planning Process

DMA Process	Modified CRS Process
1) Organize Resources	
201.6(c)(1)	1) Organize the Planning Effort
201.6(b)(1)	2) Involve the Public
201.6(b)(2) and (3)	3) Coordinate with Other Departments and Agencies
2) Assess Risks	
201.6(c)(2)(i)	4) Identify the Hazards
201.6(c)(2)(ii)	5) Assess the Risks
3) Develop the Mitigation Plan	
201.6(c)(3)(i)	6) Set Goals
201.6(c)(3)(ii)	7) Review Possible Activities
201.6(c)(3)(iii)	8) Draft an Action Plan
4) Implement the Plan and Monitor Progress	
201.6(c)(5)	9) Adopt the Plan
201.6(c)(4)	10) Implement, Evaluate, and Revise the Plan

The planning process began with the organizational phase to establish the Hazard Mitigation Planning Committee (HMPC), comprised of key Colusa County jurisdictional representatives, and other local and regional stakeholders; to involve the public; and to coordinate with other departments and agencies. A detailed risk assessment was then conducted followed by the development of a focused mitigation strategy for the Colusa County Planning Area and specific to each participating jurisdiction. Once approved by Cal OES and FEMA, this 2024 LHMP Update will be adopted and implemented by the participating jurisdictions over the next five years.

Risk Assessment

A natural hazard risk assessment was conducted that identified and profiled hazards that pose a risk to the Colusa County Planning Area and to each participating jurisdiction, assessed the vulnerability of the Colusa County Planning Area and jurisdictions to these hazards, and examined the existing jurisdictional capabilities to mitigate identified hazards.

The Colusa County Planning Area is vulnerable to numerous hazards that are identified, profiled, and analyzed in this 2024 LHMP Update. Wildfires, floods, earthquakes, drought, dam failure, and other severe

weather events are among the hazards that can have a significant impact on the Planning Area. Table ES-2 details the hazards identified for this 2024 LHMP Update.

Table ES-2 Colusa County Planning Area Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Ag Hazards: Severe Weather/Invasive Species (Pests and Weeds)	Extensive	Highly Likely	Catastrophic	High	Medium
Climate Change	Extensive	Highly Likely	Limited	Medium	–
Dam Failure	Extensive	Occasional	Catastrophic	High	Medium
Drought & Water shortage	Extensive	Likely	Critical	High	High
Earthquake	Extensive	Unlikely	Critical	Medium	Low
Floods: 1%/0.2% annual chance	Extensive	Occasional/Unlikely	Catastrophic	High	Medium
Floods: Localized Stormwater	Significant	Highly Likely	Limited	Medium	Medium
Landslide, Mudslide, and Debris Flow	Limited	Likely	Limited	Medium	Medium
Levee Failure	Extensive	Occasional	Catastrophic	High	Medium
Severe Weather: Extreme Cold and Freeze	Extensive	Highly Likely	Critical	Medium	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Medium	High
Severe Weather: Heavy Rain and Storms (Wind, Hail, Lightning)	Extensive	Highly Likely	Critical	Medium	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Highly Likely / Occasional	Limited	Medium	Low
Stream Bank Erosion	Significant	Highly Likely	Limited	Medium	Medium
Subsidence	Limited	Likely	Limited	Medium	Low
Wildfire	Significant	Highly Likely	Critical	High	Medium
Geographic Extent <i>Limited:</i> Less than 10% of planning area <i>Significant:</i> 10-50% of planning area <i>Extensive:</i> 50-100% of planning area Likelihood of Future Occurrences <i>Highly Likely:</i> Near 100% chance of occurrence in next year, or happens every year. <i>Likely:</i> Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. <i>Occasional:</i> Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. <i>Unlikely:</i> Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years. Magnitude/Severity <i>Catastrophic:</i> More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths <i>Critical:</i> 25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability <i>Limited:</i> 10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability <i>Negligible:</i> Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance <i>Low:</i> Minimal potential impact <i>Medium:</i> Moderate potential impact <i>High:</i> Widespread potential impact Climate Change Influence <i>Low:</i> Minimal potential impact <i>Medium:</i> Moderate potential impact <i>High:</i> Widespread potential impact					

Mitigation Strategy

Based on the results of the risk assessment, a mitigation action strategy was developed to reduce the Colusa County Planning Area's risk and vulnerability to identified natural hazards. The resulting mitigation strategy is comprised of goals and objectives, and a mitigation action plan which includes a series of mitigation actions, projects, and implementation measures. The 2024 LHMP Update Goals and Objectives are detailed below followed by a summary table of the 2024 mitigation actions and projects.

Goal 1: Minimize risk and vulnerability of Colusa County to natural hazards (including climate change considerations) and protect lives and prevent losses to property, public health, economy, and the environment

- Provide protection for existing and future development
- Provide protection for critical facilities, infrastructure, and services and minimize disruptions
- Provide protection for natural resources
- Reduce the number of emergency incidents
- Consider future impacts of climate change in natural hazard mitigation
- Foster an economy that promotes and values a proactive approach to mitigation
- Preserve the functionality of property, economy, and commerce, that may be affected by infrastructure vulnerability

Goal 2: Increase community/public outreach, education, and awareness for all hazards to minimize hazard-related losses

- Increase public awareness of hazard risk, vulnerability, and mitigation
- Enhance outreach and education of community members to promote a hazard resilient community
- Educate citizens and farmers on water conservation methods to provide protection from future hazard events and build support for water storage projects
- Educate and increase awareness and understanding of migrant and other transient residents on hazards and natural hazard mitigation
- Increase education and awareness and ensure adequate resources among historically underserved populations, individual with access and functional needs, and populations impacted by natural hazards and disasters

Goal 3: Improve communities' capabilities to prevent/mitigate hazard-related losses and to be prepared for, respond to, and recover from a disaster event

- Increase communities' capabilities to respond to increased climate impacts, (e.g., legislation, education, projects)
- Make better use of technology to predict and mitigate damage
- Increase the use of shared resources and multi-agency efforts
- Continued improvements to emergency services and public safety capabilities
- Increase participation by all County entities and agencies operating in Colusa County in disaster planning activities to improve hazard awareness, intra-and inter-agency communications, mitigation action implementation, and coordinated response and recovery efforts
- Enhance Tribal coordination for disasters
- Maintain Colusa County communities' eligibility for FEMA grant funding and other FEMA programs

Goal 4: Build capacity and capabilities to increase disaster resilience among historically underserved populations, individuals with access and functional needs, and communities disproportionately impacted by disasters and climate change

- Increase education, outreach, and awareness of natural hazards and disasters and ensure adequate resources with a focus on the whole community
- Reduce hazard risk and vulnerability and increase disaster resilience through the equitable and accessible planning and implementation of hazard mitigation actions and priorities
- Enhance natural hazard mitigation strategies to protect the most rural, vulnerable areas

Goal 5: Improve community resiliency to flooding in Colusa County

- Reduce the flood risk and vulnerability in Colusa County
- Reduce life safety issues, property loss, and damages associated with flooding
- Reduce flooding adjacent to streams, residential areas, and areas with critical infrastructure
- Improve stream flow to reduce bank erosion
- Maintain/improve flood protection and control measures, including maintenance and improvements to the levee systems, to minimize future flood related impacts and damages

Goal 6: Continue to protect and promote Colusa County agriculture by ensuring safe and effective farming practices that protect the citizens and environment and that minimize future hazard related losses

- Reduce the impacts to and loss of agricultural resources from natural hazards and disasters
- Support and implement water projects that replenish the aquifer, increase available agricultural water during critical times of need for local crops, and ensure a consistent water supply and distribution to County residents.
- Educate County citizens as to how they can help protect Colusa's agriculture from noxious weeds and pests
- Work with local farmers to keep canals, ditches, and streambeds clear of debris reducing downstream flooding and other impacts

Based on the risk assessment review and goal setting process, the HMPC identified mitigation actions (Table ES-3), which provide direction for reducing future hazard-related losses within the Colusa County Planning Area and specific to each participating jurisdiction.

Table ES-3 Colusa County Planning Area Mitigation Actions

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Colusa County					
Multi-Hazard Actions					
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Previous Action	X	X		Prevention
Action 2. Public Education and Community Outreach Countywide	Previous Action	X	X	X	Public Education
Action 3. Alert and Warning System for Sheriff's Office and Public Health	New Action	X	X		Emergency Services
Action 4. Technology Enhancements to Support Hazard Mitigation Planning and Project Implementation and for use in Disaster Preparedness, Response, and Recovery Efforts (e.g., GIS Application Enhancements)	New Action	X	X	X	Prevention Public Information Emergency Services Property Protection
Action 5. Vulnerable Population Planning	New Action	X	X		Prevention Public Information Emergency Services
Action 6. Update 211 system	New Action	X	X		Emergency Services
Action 7. Coordinate with the American Red Cross (ARC) for Mass Care Planning	New Action	X	X		Prevention Public Information Emergency Services
Action 8. Vulnerable Population Planning (with a focus on Access and Functional Needs)	New Action	X	X		Prevention Public Information Emergency Services
Action 9. Coordination with Community Based Organizations	New Action	X	X		Prevention Public Information Emergency Services
Action 10. Enhance Tribal Coordination for Disasters	New Action	X	X		Prevention Emergency Services
Action 11. Generator Purchases to Enhance Project Power for Colusa County	New Action	X	X	X	Emergency Services Property Protection
Action 12. EOP Update & Implementation	New Action	X	X		Prevention Emergency Services
Action 13. Evacuation Planning Countywide	Previous Action	X	X		Emergency Services
Action 14. Migrant Center Improvements/House Vulnerable Populations During Disaster	New Action	X	X		Emergency Services
Action 15. Install Road Closure Infrastructure	New Action	X	X		Emergency Services

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Agricultural Hazards: Severe Weather/Invasive Species (Pests and Weeds)					
Action 16. Pest and Rodent Prevention Project for Infrastructure Protection	New Action	X	X		Prevention Property Protection
Action 17. Development of Ordinance and Zoning to Limit/Manage Pest Introduction into Colusa County	New Action	X	X		Prevention
Action 18. Abandoned Agricultural Lands Pest Management (joint with RCD)	New Action	X	X		Property Protection Natural Resource Protection
Climate Change Actions					
Action 19. Climate Change Mitigation Adaptation Action Plan	New Action	X	X	X	Prevention
Action 20. Climate-smart Agricultural Planning (joint with RCD)	New Action	X	X		Property Protection Natural Resource Protection
Dam Failure Actions					
Action 21. Continue Communication about Dam Safety and Awareness County-wide	New Action	X	X	X	Prevention Public Information Emergency Services
Action 22. Dam Failure Mitigation, Education, and Awareness	Previous Action	X	X	X	Prevention Public Information Emergency Services
Drought and Water Shortage Actions					
Action 23. Groundwater Recharge (joint with RCD)	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Action 24. Invasive Species Removal from Waterways (joint with RCD)	New Action	X	X	X	Property Protection Natural Resource Protection
Action 25. Irrigation Efficiency Technical Assistance (joint with RCD)	New Action	X	X		Property Protection Natural Resource Protection
Action 26. On-farm Water Storage Projects (joint with RCD)	New Action	X	X		Property Protection Structural Projects Natural Resource Protection
Earthquake Actions					
Action 27. Earthquake Vulnerability Study and Retrofitting of County Structural Assets	Previous Action	X	X		Prevention Structural

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Flood, Localized Flood, Levee Failure, and Heavy Rains and Storm Actions					
Action 28. Flood ordinance updates		X	X	X	Prevention
Action 29. Localized Stormwater Management and Streambank Erosion Mitigation (joint with RCD)	New Action	X	X	X	Prevention Property Protection Natural Resource Protection
Action 30. Princeton Storm Water Drainage Assessment	Previous Action	X	X	X	Prevention Property Protection Natural Resource Protection
Action 31. Roadway Flood Prevention	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Severe Weather Actions					
Action 32. Sheltering for Unhoused (winter weather)	New Action	X	X		Prevention Emergency Services
Action 33. Sheltering for Unhoused (Extreme Heat)	New Action	X	X		Prevention Emergency Services
Action 34. Severe Weather Plan Update	New Action	X	X	X	Prevention Emergency Services
Wildfire Actions					
Action 35. Beetle-killed Tree Removal (joint with RCD)	New Action	X	X		Natural Resource Protection Prevention Property Protection
Action 36. Update and Implement Community Wildfire Protection Plan (joint with RCD)	New Action	X	X		Natural Resource Protection Prevention Property Protection
Action 37. Colusa County Fire Mitigation Plan of 2024 Implementation (joint with RCD)	New Action	X	X		Natural Resource Protection Prevention Property Protection
Action 38. Colusa County Fire Safe Council (joint with RCD)	New Action	X	X		Natural Resource Protection Prevention Property Protection
City of Colusa					
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Previous Action	X	X		Prevention

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	New Action	X	X	X	Public Education
Action 3. Evacuation Training for the Community of Colusa	New Action				Emergency Services
Action 4. Fire and sanitation water is needed in case of emergency in the City of Colusa during a drought	New Action	X	X		Prevention Emergency Services Property Protection
Action 5. URM Mapping and Identification	Previous Action	X	X		Prevention Property Protection
Action 6. Project improvements to Decrease Flooding	New Action	X	X	X	Property Protection Structural Projects
Action 7. Levee Mitigation	New Action	X	X	X	Property Protection Structural Projects
Action 8. Colusa Basin Drain	New Action	X	X	X	Property Protection Structural Projects
City of Williams					
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Previous Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	New Action	X	X	X	Public Information
Action 3. Aquifer Recharge Project	New Action	X	X		Property Protection Natural Resource Protection
Action 4. Storm Drain Master Plan	Previous Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 5. Salt Creek Erosion Control	New Action	X	X	X	Property Protection Natural Resource Protection
Action 6. Underground Powerlines	New Action	X	X		Property Protection Structural Projects
Action 7. Healthy Trees Program	New Action	X	X		Property Protection Natural Resource Protection
Action 8. EQ Vulnerability Study and Retrofit of City Assets	Previous Action	X	X		Property Protection
Action 9. Detention Basin Construction (continuing from the 2018 LHMP)	Previous Action	X	X	X	Natural Resource Protection

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Colusa County RCD					
Action 1. Abandoned Agricultural Lands Pest Management	New Action	X	X		Property Protection Natural Resource Protection
Action 2. Beetle-killed Tree Removal	New Action	X	X		Property Protection Natural Resource Protection
Action 3. Climate Action Plan	New Action	X	X	X	Prevention
Action 4. Climate-smart Agricultural Planning	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 5. Update and Implement Community Wildfire Protection Plan	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 6. Colusa County Fire Mitigation Plan of 2024 Implementation	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 7. Colusa County Fire Safe Council	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 8. Groundwater Recharge	New Action	X	X		Property Protection Natural Resource Protection
Action 9. Invasive Species Removal from Waterways	New Action	X	X	X	Property Protection Natural Resource Protection
Action 10. Irrigation Efficiency Technical Assistance	New Action	X	X		Property Protection Natural Resource Protection
Action 11. Localized Stormwater Management and Streambank Erosion Mitigation	New Action	X	X	X	Property Protection Natural Resource Protection
Action 12. On-farm Water Storage Projects	New Action	X	X		Property Protection Natural Resource Protection
Cortina Community Services District					
Action 1. Armor the Salt Creek Bank	New Action	X	X	X	Property Protection Natural Resource Protection
Kletsel Dehe Wintun Nation					
Action 2. Update Cortina Rancheria Climate Change Adaptation Plan (2017)	New Action	X	X	X	Prevention

Action Title	New Action/ Previous Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 3. Water Tank	New Action	X	X		Property Protection Structural Project
Action 4. Emergency Generator	New Action	X	X		Emergency Services Property Protection
Action 5. Improve Erosion Control Management Practices	New Action	X	X	X	Property Protection Natural Resource Protection
Action 6. Secondary Evacuation Route	New Action	X	X		Emergency Services
Action 7. Fuel Reduction and Defensible Space Projects	New Action	X	X		Property Protection Natural Resource Protection
Action 8. Enhanced Mapping and Assessing Rancheria Vulnerability to Hazards	New Action	X	X		Prevention Emergency Services Property Protection
Action 9. Public Education and Outreach	New Action	X	X	X	Public Information
RD 108					
Action 10. Emergency Generator Maintenance and Upkeep - District Office	Previous Action	X	X	X	Emergency Services Property Protection
Action 11. Emergency Generator - Pump Stations	Previous Action	X	X	X	Emergency Services Property Protection
Action 12. Stabilization of Colusa Basin Drain Levee	Previous Action	X	X	X	Property Protection Structural Projects
RD 479					
Action 13. RD 479 Integrity Preservation	New Action	X	X	X	Property Protection Structural Projects
Sacramento Westside Levee District					
Action 14. Seepage Mitigation of Sacramento River Levee	Previous Action	X	X	X	Property Protection Structural Projects
Action 15. Hardening of Sacramento River Levee	Previous Action	X	X	X	Property Protection Structural Projects
Action 16. BRIC Project EMF-2021- BR-089-0008: Grimes Floodplain Restoration and Levee Resiliency Project	New Action	X	X	X	Property Protection Structural Projects

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Appendix E: Threatened and Endangered Species

Appendix F: Critical Facilities

Appendix G: FEMA National Risk Index Report

Abbreviations and Acronyms

Acronym	Definition
AB	Assembly Bill
AF	Acre-feet
ALERT	Automated Local Evaluation in Real Time
APG	California Adaptation Planning Guide
AQI	Air Quality Index
ASTDR	Agency for Toxic Substances and Disease Registry's
BAM	Best Available Map
BCA	Benefit Cost Analysis
BCEGS	Building Code Effectiveness Grading Schedule
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BRIC	Building Resilient Infrastructure and Communities
CA-DWR	California Department of Water Resources
CAISO	California Independent System Operator
Cal EPA	Environmental Protection Agency
Cal OES	California Office of Emergency Services
CAP	Climate Adaptation Plan
CAS	Climate Adaptation Strategy
CAV	Community Assistance Visit
CBC	California Building Code
CCHPR	Climate Change and Health Profile Report
CCSM	Community Climate System Model
CDAA	California Disaster Assistance Act
CDBG	Community Development Block Grant
CDC	Center for Disease Control
CDFW	California Department of Fish and Wildlife
CEMP	Comprehensive Emergency Management Program
CEQA	California Environmental Quality Act
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
CGS	California Geological Survey
CIP	Capital Improvements Plan
CLOMR	Conditional Letter of Map Revision
CNPS	California Native Plant Society
CNRA	California Natural Resource Agency
COG	Continuity of Government
COO	Continuity of Operations

Acronym	Definition
CPUC	California Public Utilities Commission
CRIL	Community Resources for Independent Living
CRS	(National Flood Insurance Program's) Community Rating System
CRV	Contents Replacement Value
CVP	Central Valley Project
CWPP	Community Wildfire Protection Plan
DAC	Disadvantaged Community
DFIRM	Digital Flood Insurance Rate Map
DMA	Disaster Mitigation Act of 2000
DOF	Department of Finance
DSOD	Division of Safety of Dams
EF	Enhanced Fujita
EOC	Emergency Operations Center
EPSS	Enhanced Powerline Safety Settings
ESPM	University of California, Berkeley's Department of Environmental Science, Policy, and Management
ETSU	Enhanced Treatment and Site Upgrade
F	Fujita
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance Program
FPA	Floodplain Administrator
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
FWS	US Fish and Wildlife Service
GFDL	Geophysical Fluid Dynamics Laboratory
GHG	Greenhouse Gases
GIS	Geographic Information Systems
GPH	Gallons per Hour
GRASP	Geospatial Research, Analysis & Services Program
HHPD	High Hazard Potential Dam
HI	Heat Index
HMGP	Hazard Mitigation Grant Program
HMPC	Hazard Mitigation Planning Committee
ICS	Incident Command System
IPCC	Intergovernmental Panel on Climate Change
IRWM	Integrated Regional Water Management
LHMP	Local Hazard Mitigation Plan

Acronym	Definition
LOMA	Letter of Map Amendment
LOMC	Letters of Map Change
LOMR	Letter of Map Revision
LRA	Local Responsibility Area
MHI	Median Household Income
MMI	Modified Mercalli Intensity Scale
MSL	Mean Sea Level
MW	Megawatt
NASA	National Aerospace and Science Agency
NAVD	North American Vertical Datum
NCDC	National Climactic Data Center
NDMC	National Drought Mitigation Center
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NIDIS	National Integrated Drought Information System
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NWS	National Weather Service
OHP	Office of Historic Preservation
PDM	Pre-Disaster Mitigation Program
PIT	Point-in-time Homeless Count
PM	Particulate Matter
PNAS	Proceedings of the National Academy of Sciences
PSPS	Public Safety Power Shutoff
RCP	Representative Concentration Pathway
RHNA	Regional Housing Need Allocation
SAC-SJ	Sacramento-San Joaquin Valley
SB	Senate Bill
SBA	Small Business Administration
SEMS	Standard Emergency Management System
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SHBC	State Historical Building Code
SRA	State Responsibility Area
SVI	Social Vulnerability Index
SWP	State Water Project
UAV	Unmanned Aerial Vehicle

Acronym	Definition
UBC	Uniform Building Code
UCERF	Uniform California Earthquake Rupture Forecast
UFMP	Urban Forest Management Plan
UHF	Ultra High Frequency
UNFCCC	United Nations Framework Convention on Climate Change
UPRR	Union Pacific Railroad
URM	Unreinforced Masonry
USACE	US Army Corp of Engineers
USD	Union Sanitary District
USDA	United States Department of Agriculture
USGS	United States Geologic Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
WCD	Water Control District
WRCC	Western Regional Climate Center
WSOC	Wildfire Safety Operations Center
WUI	Wildland Urban Interface
WWTP	Wastewater Treatment Plant