



SAN JOAQUIN
— COUNTY —

Greatness grows here.

San Joaquin Operational Area

Emergency Operations Plan Hazard Annex F: Extreme Temperatures

Extreme Heat Annex

May 2018

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Promulgation

The preservation of life, property, and the environment is an inherent responsibility of local, state, and Federal government. San Joaquin County, in cooperation with its cities, county agencies, and special districts have collaborated to prepare this Extreme Temperatures Heat Annex to ensure the most effective response to extreme heat emergencies in the county.

While no plan will completely prevent all issues caused by extreme weather, good plans carried out by well-trained personnel can and will minimize losses. This plan establishes the roles and responsibilities of city, county and non-government agencies for coordination of efforts using best practices over time and the elements of Standardized Emergency Management System.

This Extreme Heat Annex is an extension of the county Emergency Operations Plan's Hazard Annex F: Extreme Temperatures, and will be reviewed and exercised periodically, and revised as necessary to meet changing conditions. This plan supersedes any previous versions of the Extreme Heat Annex.

This letter promulgates the San Joaquin County Hazard Annex F: Extreme Temperatures, Extreme Heat Annex. This plan becomes effective upon signature and date.



Shiflie Lima, Director Emergency Operations
San Joaquin County Office of Emergency Services

5/22/2018

Date

Executive Summary

The Heat Appendix is one of two appendices of the Extreme Temperature Annex of the Emergency Operations Plan for San Joaquin County. The Heat Appendix is activated each May when pre-season preparations begin. The Emergency Management Committee, consisting of the Director of General Services, as the Director of Emergency Services, Deputy Director of Emergency Operations, Public Health Officer, and representatives of the cities, will meet to define roles and responsibilities. Departments and agencies which will potentially respond shall review the plan to familiarize themselves with their responsibilities. The plan describes Operational Area coordination during heat-related emergencies and provides guidance for San Joaquin County government, other governmental agencies, local businesses, community-based organizations, and faith-based organizations, in the preparation for, and response to, emergency incidents of extreme heat.

The plan recognizes the need for the San Joaquin County to:

1. Identify when the health of populations and/or subpopulations of local residents may be threatened by extreme heat conditions;
2. Communicate with the public to convey information about resources available for protection against extreme heat emergencies in time to allow for preparations to be made;
3. Communicate and coordinate with State and local agencies;
4. Mobilize resources and initiate actions to augment local resources as needed; and
5. Employ the Standardized Emergency Management System (SEMS)/National Incident Management System (NIMS) in organizing a response to an extreme heat emergency.

The plan recognizes three (3) phases of activation:

- I. Pre-Seasonal Readiness
- II. Excessive Heat Watch / Advisory
- III. Excessive Heat Warning

These phases are activated based on the severity of the risk of extreme heat temperatures to vulnerable populations, the general population, and animals. The direct involvement of local agencies to protect individuals increases with the severity of the risk.

The plan contains specific actions to be taken in each of the three phases and a checklist to guide actions. The specific action steps include the following.

- Review plan and confirm roles and responsibilities (Phase I)
- Coordinate among local agencies and the State (all phases)
- Disseminate information (all phases)
- Identify potential Cool Zones for cities and County (Phase I)
- Identify potential Cooling Centers (Phase II)
- Coordinate and publicizing Cool Zones (Phase II)

- Risk communication and monitoring at risk populations (Phases II and III)
- Determine need and benefit for activating Cooling Centers (Phases II and III)
- Assess transportation needs and capabilities (Phases II and III)
- Consider a Proclamation of Local Emergency (Phases II and III)

The plan contains the following:

- A description of the purpose and scope of the plan.
- Background information including the history of heat emergencies in the State of California and San Joaquin County.
- Descriptions of the conditions triggering each phase of the plan.
- The responsible local agencies and the actions those agencies will carry out during the different phases of the plan.
- Guidance for coordinating efforts during extreme temperature events.
- Appendices of supporting information.

Purpose

This Extreme Heat Annex is a supporting document of the San Joaquin County Emergency Operations Plan and outlines the actions that will be taken by the Operational Area and local government when an extreme heat event is anticipated, is in the process of occurring, or has occurred. This plan is designed to facilitate preparedness for and response to future excessive heat events. It also provides guidance for local government and non-governmental organizations in the preparation of their heat emergency response plans and other related activities.

Scope

The scope of this document identifies local agency actions and how resources in extreme temperature events will be made available for response efforts in accordance with SEMS/NIMS. In order to meet response objectives of this plan, both public and private agencies are assigned specific tasks.

General assignments are as follows:

- An Emergency Management Committee (EMC) will oversee extreme heat operations in coordination with the Operational Area (OA). This committee will be comprised of the Director of Emergency Services, Director of Emergency Operations, the San Joaquin County Health Officer, a representative of each county level agency with a role in response or mitigation during a heat event, and representatives of the cities.
- The EMC will appoint an Operations Section Chief. This person will have overall responsibility for implementing the Incident Action Plan (IAP).

- The Office of Emergency Services (OES) is responsible for general support and coordination of the response and will ensure proper notifications are made upon activation of this appendix. OES will activate the Emergency Operations Center (EOC) for planning, logistics, and finance needs as the situation dictates.
- County departments and other community organizations identified in the appendix are responsible for checking the welfare and/or providing services to those members of the vulnerable population that fall under their programs.

Community Based Organizations (CBOs) and private non-profits (PNPs) organized in the SJC Disaster Relief Coalition (DRC) may be requested to assist in extreme heat response operations.

Background

Weather emergencies are mild in San Joaquin County compared to other parts of the country. However, the County has experienced periods of extreme hot temperatures which were hazardous to health, crops, and animals.

Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly take the lives of vulnerable populations. Some of those most impacted may be at special risk because of their own functional and access needs, such as persons with disabilities; the elderly and the very young; medically fragile; socially isolated, homeless, etc.

Heat Sensitive and Vulnerable Populations

Heat commonly affects certain groups, typically identified as heat sensitive or heat vulnerable, or lower thresholds than other populations. Some of these groups include:

- The elderly and the very young;
- Those on certain medications and/or with preexisting conditions which make them sensitive to heat;
- Those working outdoors – especially new workers, temporary workers, or those returning to work after a week or more off;
- Those exercising or doing strenuous activities outdoors during the heat of the day;
- Those without a reliable source of cooling and/or hydration;
- Those not acclimated to the level of heat expected – especially those who are new to a much warmer climate;
- Some economic sectors are also affected by increasing levels of heat, such as energy and transportation.

Any individual, regardless of age, sex, or health status can develop heat stress if engaged in intense physical activity and/or exposed to environmental heat (and humidity). If heat exposure exceeds the

body's capacity to cool a range of heat-related symptoms and conditions can develop – from relatively minor treatable heat cramps to severe life threatening heat stroke, which is always an extreme medical emergency. Adequate hydration is critical to avoid development of heat-related illness.

Urban Heat Islands

San Joaquin County consists of a combination of urban and rural settings. During a heat emergency, urban areas can become Urban Heat Islands (UHI) with temperatures becoming significantly higher than in surrounding, less urbanized and more-vegetated areas, because pavement and building materials absorb sunlight and heat. Daytime temperatures in urban areas are on average 1-6° F higher than in rural areas, while nighttime temperatures can be as much as 22° F higher as the heat is gradually released from buildings and pavement.¹

The concentration of heat under Urban Heat Islands (UHI) conditions creates health risks both because of heat exposure and enhanced formation of air pollutants, especially ozone. The strong influence of UHI on nighttime temperatures limits the ability of people to cool down and recover before the heat of the next day, and therefore adds to the risk of illness and fatalities.

Agriculture

Livestock and poultry are also vulnerable during excessive heat emergencies and their demise may be an early indicator of a progressive heat incident. Monitoring local rendering facility operations can provide an early indicator as well. During the heat incident in July 2006, San Joaquin County lost over 4500 tons of livestock, mainly poultry and cows. The State's rendering system (six facilities Statewide) was overwhelmed and animals were not disposed of in a timely manner, leading to some animals being buried on site. An emergency waiver to dispose of the carcasses at the Fink Road Landfill was required by the California Integrated Waste Management Board. A local proclamation of emergency was prepared in advance with animal mortality being one of the triggers.

Authorities and References

Emergency Proclamations

Government Code Section (within the Emergency Services Act, Chapter 7, Division 1, Title 2):

- §8630(a): A local emergency may be proclaimed only by the governing body of a city, county, or city and county, or by an official designated by ordinance adopted by that governing body.

The local health officer may proclaim a local emergency if he or she has been specifically designated to do so by ordinance adopted by the governing body of the jurisdiction. (San Joaquin County Code of Ordinance 4-3010)

¹ U.S. Environmental Protection Agency, 2008, Reducing Urban Heat Islands: Compendium of strategies. <https://www.epa.gov/heat-islands/heat-island-compendium>

- §8558(c): “Local emergency” means the duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the territorial limits of a county, city and county, or city, caused by such conditions as air pollution, fire, flood, storm, epidemic, riot, drought, sudden and severe emergency shortage, 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 requires extraordinary measures beyond the authority vested in the California Public Utilities Commission.

It is possible to proclaim a local emergency for health-related reasons.

- §8625: Gives the Governor the authority to proclaim a “state of emergency” when requested by local jurisdiction or when he finds that local authority is inadequate to cope with the emergency.

Authority to take preventive measures during emergency

Health and Safety Code Section:

- §101040: Authority to take preventive measures during emergency. “The County Health Officer may take any preventive measure that may be necessary to protect and preserve the public health from any public health hazard during any ‘State of War Emergency,’ ‘State of Emergency,’ or ‘Local Emergency,’ as defined by Section §8558 of the Government Code, within his or her jurisdiction.”

“Preventive measure” means abatement, correction, removal or any other protective step that may be taken against any public health hazard that is caused by a disaster and affects the public health.

The County Health Officer, upon consent of the County Board of Supervisors or a city governing body, may certify any public health hazard resulting from any disaster condition if certification is required for any federal or state disaster relief program.

- §101475: Gives a city public health officer authority to take preventive measures to protect public health.

Government Code Section §8588.15: This government code requires the incorporation of the disability community into the California Standardized Emergency Management System (SEMS) via representatives on the SEMS specialist committees and technical group. It also addresses funding needs for expanded emergency alerting technology in order to ensure early alert and warning to all the

disability community, especially the blind and/or vision impaired population. Early emergency alert information in emergencies and/or disasters is critical to the disability community, for example, in the case of mandatory evacuations.

San Joaquin County Ordinance on Civil Defense and Disaster, Title 4 Div.3 Ch. 1, 4-3010 – Declaration of Local Health Emergency by County Health Officer: The County Health Officer may declare a local health emergency in the County or any area thereof affected by the threat to the public health. Whenever a local health emergency is declared by the County Health Officer pursuant to this section, the local health emergency shall not remain in effect for a period in excess of seven (7) days unless it has been ratified by the Board of Supervisors. The Board of Supervisors shall review, at least every fourteen (14) days until the local health emergency is terminated, the need for continuing the local health emergency and shall proclaim the termination of the local health emergency at the earliest possible date that conditions warrant the termination.

State of California Contingency Plan for Excessive Heat Emergencies (June 2014)

San Joaquin County Emergency Operations Plan (2015)

Standardized Emergency Management System

In an extreme heat emergency, as in all other disaster responses in California, statewide coordination of resource support to local government is carried out through the Standardized Emergency Management System (SEMS). SEMS incorporates the National Incident Management System (NIMS) and, for the use of this document, will be referred to as either SEMS or SEMS/NIMS. SEMS is the state's system required by Government Code Section 8607(a) for managing response to multi-agency and multi-jurisdictional emergencies in California. SEMS consists of five organizational levels which are activated as necessary:

1. Field response
2. Local government (Cities of Lodi, Stockton, Tracy, Escalon, Ripon, Manteca, and Lathrop; and Special Districts)
3. Operational Area (County and its political subdivisions)
4. California Office of Emergency Services (Cal OES), Mutual Aid Region IV (Inland)
5. State

When local resources are inadequate to meet the need, requests will be made to the next higher emergency response level until the resource need is met.

San Joaquin MAC Group

In a multiple jurisdiction event, such as a heat event, the need for collaboration and coordination between several entities throughout the San Joaquin Operational Area may be necessary. The use of the San Joaquin Multi-Agency Coordination Group (SJ MAC Group) may be necessary to develop or implement countywide policy-level decisions. The SJ MAC Group may be activated, in accordance with the San Joaquin Multi-Agency Coordination Group Plan, to evaluate threat conditions, determine incident priorities, maintain situational awareness, and/or to determine priorities related to the use of critical resources.

Assumptions

- The County has the primary responsibility to meet the needs of citizens living in the unincorporated areas during emergencies.
- The cities have primary responsibility to meet the needs of citizens in the incorporated boundaries during emergencies.
- Reimbursement of expenditures from the State during a proclaimed emergency is not guaranteed; all agencies involved must carefully track costs associated with a response.
- The San Joaquin County Operational Area will communicate and coordinate actions with local, regional and state government, as needed.
- Local Cities, Special Districts and agencies may have programs to address excessive heat. This plan does not restrict their operations as long as they are consistent with SEMS and NIMS.

The County must keep its plans and procedures in conformity with state plans to ensure it can effectively access and manage outside resources.

NWS Alerts and *HeatRisk*

The National Weather Service (NWS) issues Excessive Heat Watches, Excessive Heat Warnings, and Heat Advisories to warn of an extreme heat event (a “heat wave”) within the next 36 hours. If NWS forecasters predict an excessive heat event beyond 36 hours, then the NWS will issue messaging in the form of Special Weather Statement, partner emails, and social media that is based on how far in advance of the event they are making a prediction.

The NWS has developed the experimental *HeatRisk* forecast in an effort to provide a quick view of the heat risk potential for the following seven days using a color and numeric value.² This risk is assessed by comparing the official NWS temperature forecast to local thresholds which change through the year based on climatology. This location specific approach considers:

- How significantly above normal temperatures are;
- Time of year (e.g. early season vs. typical summer heat);
- Duration of unusual heat expected;
- If temperatures pose an elevated risk for heat complications;
- If overnight lows and humidity allow temporary relief or enhancement of the heat wave, and;
- The approximate role of humid air using well-known physical relationships of temperature to humidity.

All of these factors are used to create daily dynamic heat thresholds and then are matched to their appropriate *HeatRisk*. Information from both the overnight lows and daily highs are combined to create the final output - the experimental 24 hour *HeatRisk*.

² National Weather Service – Experimental Potential Heat Risks
<https://www.wrh.noaa.gov/wrh/heatrisk/?wfo=sto>

Heat Advisory
 A Heat Advisory will be tied to an event where the *HeatRisk* output is on the Orange/Red threshold (Orange will not always trigger an advisory).

Excessive Heat Watch / Warnings
 An Excessive Heat Watch / warning will be tied to the *HeatRisk* Red/Magenta output.

The NWS has assigned a specific color to each *HeatRisk* category to make it easier for people to understand quickly whether heat is reaching a high enough level to create heat concerns for their situation. Each *HeatRisk* category corresponds to a different level of potential heat concern. *HeatRisk* is divided into five categories from 0-4, with zero as the least concern. The following table provides a more detailed look at the color and numerical values.

HeatRisk Values	Risk of Heat Effects	Level of Heat Concern
When the HeatRisk value is:	...the risk of heat effects are:	...as symbolized by this color
0	Very Low	Green
1	Low	Yellow
2	Medium	Orange
3	High	Red
4	Very High	Magenta

Simply put, the higher the value, the greater the level of heat concern would be for that location. If both the overnight lows and daytime highs are exceptionally warm for that date at a given location over a period of at least 48 hours, at levels that pose an elevated risk for heat complications, the highest level of 4 for *HeatRisk* is achieved.

Essentially when *HeatRisk* values are 1 or greater, heat is considered to be of concern – at first for those who are extremely sensitive to heat, then for everyone as *HeatRisk* values get to the highest levels. For example, a *HeatRisk* value of 0 represents no elevated risk for heat concerns; a *HeatRisk* value of 2 represents a moderate potential risk for members of heat sensitive groups; while a *HeatRisk* value of 3 represents a high potential risk of heat effects for anyone without proper hydration and adequate cooling.

In the detailed table that follows the five levels of heat concern, meaning, risk to population and animals, and actions suggested at each level, are highlighted.

	Numerical Value	Meaning	Who/What is at Risk?	How Common is this Heat?	For those at risk, what actions can be taken?
GREEN	0	<ul style="list-style-type: none"> Level of heat poses little to no risk 	<ul style="list-style-type: none"> No elevated risk 	<ul style="list-style-type: none"> Very Common 	<ul style="list-style-type: none"> No preventative actions necessary
YELLOW	1	<ul style="list-style-type: none"> Heat of this type is tolerated by most; however there is a low risk for sensitive groups to experience health effects 	<ul style="list-style-type: none"> Primarily those who are extremely sensitive to heat 	<ul style="list-style-type: none"> Very Common 	<ul style="list-style-type: none"> Increase hydration Reduce time spent outdoors or stay in the shade when the sun is strongest Open windows at night and use fans to bring cooler air inside buildings
ORANGE	2	<ul style="list-style-type: none"> Moderate risk for members of heat sensitive groups to experience health effects Some risk for the general population who are exposed to the sun and are active For those without air conditioning, living spaces can become uncomfortable during the day, but should cool below dangerous levels at night 	<ul style="list-style-type: none"> Primarily heat sensitive groups, especially those without effective cooling or hydration Some transportation and utilities sectors 	<ul style="list-style-type: none"> Fairly common most locations Very common in southern regions of country 	<ul style="list-style-type: none"> Reduce time in the sun between 10 a.m. and 4 p.m. Stay hydrated Stay in a cool place during the heat of the day Move outdoor activities to cooler times of the day Open windows at night

	Numerical Value	Meaning	Who/What is at Risk?	How Common is this Heat?	For those at risk, what actions can be taken?
RED	3	<ul style="list-style-type: none"> • High Risk for much of the population who are 1) exposed to the sun and active or 2) are in a heat sensitive group • Dangerous to anyone without proper hydration or adequate cooling • Poor air quality is possible • Power interruptions may occur as electrical demands increase 	<ul style="list-style-type: none"> • Much of the population, especially people who are heat sensitive and those without effective cooling or hydration • Transportation and utilities sectors 	<ul style="list-style-type: none"> • Uncommon most locations • Fairly common in southern regions of country 	<ul style="list-style-type: none"> • Try to avoid being outdoors in the sun between 10 a.m. and 4 p.m. • Stay hydrated • Stay in a cool place especially during the heat of the day • If you have access to air conditioning, use it. Fans may not be adequate • Cancel outdoor activities during the heat of the day
MAGENTA	4	<ul style="list-style-type: none"> • Very High Risk for entire population • Very dangerous to anyone without proper hydration or adequate cooling. • This is a multi-day excessive heat event. A prolonged period of heat is dangerous for everyone not prepared. • Poor air quality is likely. • Power outages are increasingly likely as electrical demands may reach critical levels. 	<ul style="list-style-type: none"> • Entire population is at risk. • For heat sensitive groups, especially people without effective cooling, this level of heat can be deadly. • Most Transportation and utilities sectors 	<ul style="list-style-type: none"> • Rare most locations • Occurs up to a few times a year in southern regions of country, especially the Desert Southwest 	<ul style="list-style-type: none"> • Avoid being outdoors in the sun between 10 a.m. and 4 p.m. • Stay hydrated • Stay in a cool place, including overnight • If you have access to air conditioning, use it. Fans will not be adequate • Cancel outdoor activities during the heat of the day

Concept of Operations

San Joaquin County uses a three-phase approach to extreme temperature emergencies consistent with the State of California's contingency plans for excessive heat emergencies. These three phases are:

- Pre-Seasonal Readiness
- Excessive Heat Watch / Advisory
- Excessive Heat Warning

Beginning with phase 1, the Office of Emergency Services, Public Health Officer, Medical Health Operational Area Coordinator (MHOAC) and Agricultural Commissioner will monitor a series of extreme heat indicators. These indicators include:

- National Weather Service warnings and advisories
- Heat related illnesses/deaths above average
- Severe temperature accompanied by power outages/rolling black-outs
- Two or more jurisdictions declare heat related emergencies
- State declares a severe heat emergency

While National Weather Service (NWS) forecasts are an important indicator, the NWS is not the sole determinant of an extreme temperature event. For example, a single day of high heat may not trigger an emergency, but high temperatures and humidity in excess of three days could. See the additional information regarding the HeatRisk.

Local Response Phases

To prepare members of the public and government resources for extreme heat conditions, a series of three escalating response levels are referred to as Phase I, Phase II and Phase III activations, depending upon severity of the threat to public health as well as animals. Severity is determined by a number of factors, including the absolute degree of temperature deviation to the levels that threaten health, contributing factors such as humidity and diurnal (daily) variation, the expected duration of the extreme temperature event, the status of community infrastructure (e.g. utilities, transportation) to allow the public to mitigate the impact of the temperature extremes. The general criteria for gauging the severity of threat posed by a heat emergency are described in this section.

Phase I – Pre-Seasonal Readiness

Phase I actions are taken prior to hotter months (usually in April or early May) to prepare for and maintain a state of increased readiness. Pre-Seasonal Readiness will be initiated each year in April or early May by the Heat Specialist Group consisting of, but not limited to, representatives from San Joaquin County OES, Public Health, Ag Commissioner, Emergency Medical Services Agency, Community Services Agency, other County Departments, and Cities within San Joaquin County, Medical Response Agencies, and Non-Governmental Agencies (NGOs).

This includes the following actions:

- Review of existing plans, procedures, and resources with key stakeholders
- Verify list of Cool Zones with local government for publication with each agency
- Discuss transportation methods that may be utilized in Phase II and Phase III for Cool Zones and Cooling Centers
- Update and validate communication methods for response agencies
- Determine plan for public awareness outreach materials to include self-assessment and include a “watch out for your neighbor” campaign
- Identify and verify list of vulnerable populations and coordinating agencies
- Update information and risk communication processes for vulnerable populations
- Review communication, coordination and support capabilities and methods with local non-governmental and faith-based organizations
- Begin a public information campaign on extreme temperature (to begin on/near Memorial Day)

Phase II – Excessive Heat Watch / Excessive Heat Advisory

Benchmarks for Phase II are monitored by local government and include but are not limited to credible predictions by the National Weather Service (NWS) of excessive heat or of power outages during warmer than normal weather conditions in San Joaquin County. During this phase, contact with local agencies, stakeholders and coordination among State agencies increases.

Specific benchmarks include:

- A partner email from the National Weather Service, giving an outlook for an extended period of much above average temperatures
- An Excessive Heat Watch or Excessive Heat Warning is issued by the National Weather Service (NWS)
- Credible predictions of power outages, electrical blackouts, or rotating blackouts (e.g., CAISO Stages 1- 3 Electrical Emergencies) are issued during periods of high heat
- Abnormal animal mortality rates (poultry and livestock)

Phase II actions by local government may include the following:

- Participate in periodic or daily calls as needed with State agencies regarding weather and power updates
- Coordinate between San Joaquin County Office of Emergency Services (OES), cities, the Public Health Officer, Human Services Agency (HSA), Behavioral Health Services (BHS), Agriculture Commissioner, Emergency Medical Services (EMS), Environmental Health Department (EHD),

utilities, Community Based Organizations (CBOs), Faith Based Organizations (FBOs), and first responder agencies regarding potential activation of Multi-Agency Coordination for Emergency Operations Center (EOC) activation

- Activate the Joint Information Center (JIC) and increase public information efforts including Social Media and the SJC - OES website
- Release pre-scripted heat protective measures to all media sources
- Initiate or continue risk communication efforts to vulnerable populations as outlined in Phase I
- Monitor impacts to agriculture including animal mortality, rendering plant impacts and coordination with industry
- Initiate medical surveillance specific to heat impacts through the Medical Health Operational Area Coordinator (MHOAC), including long term care facilities, EMS ambulance runs and hospitals
- Confirm details of agency participation, staffing
- Ensure employees have updated heat emergency materials
- Coordinate with the managers and owners of any Cool Zones considered for publication
- Publicize and communicate Cool Zone locations
- Utilize WebEOC for County agency information sharing and development of an Incident Action Plan.
- Consider need for activating Cooling Centers
- Identify potential Cooling Center sites
- Develop a transportation working group consisting of public, private, volunteer and service organizations to identify and develop a transportation component and procedures to ensure vulnerable populations are provided transportation to Cooling Zones or Centers
- Coordinate with local utilities to assess power restrictions or limitations
- Track heat related fatalities
- Determine potential impacts to landfills due to heat related animal mortality

Phase III – Excessive Heat Warning

Phase III benchmarks include:

- National Weather Service warnings for more than three consecutive days.
- Abnormal animal mortality rates due to excessive heat
- Abnormal human medical emergencies and mortality due to excessive heat
- CAISO Stage 3 Electrical Emergency and /or extended power outages during expected excessive heat conditions

Phase III efforts include urgent and comprehensive actions to mitigate injury, damage and health threats during the most severe heat events. These actions may include:

- Continuing actions identified in Phase II
- Increasing coordinating calls with local, regional and State resources

- Determine need to activate the Emergency Operations Center (EOC) and/or the Department Operations Center (DOC) if not already activated
- Determine need for mutual aid resources
- Joint Information Center to increase and continue public information efforts
- Consider activating Cooling Centers
- Coordinate with local utilities to assess power restrictions or limitations
- Consider activating community information and public health call lines
- Consider providing wellness checks on vulnerable populations
- Conduct bed polling status of hospitals and monitor status of medical facilities
- Establish communication with local dialysis centers, skilled nursing facilities, and long-term care facilities to monitor for possible medical impacts if there is concern regarding potential, prolonged, or rolling power outages or blackouts
- Monitor rendering capacity statewide
- Consider local proclamation
- Ensure employees have updated heat emergency materials
- Coordinate with the local electric utility to identify and develop procedures for the operations of volunteered “Cooling Centers” that could be exempted from rotating blackouts
- Ensure pet and animal heat impacts are being addressed through special facilities or pet accommodations at Cooling Centers or other locations
- Track heat related fatalities and medical emergencies
- Monitor for possible medical impacts of prolonged power outages or rolling blackouts
- Monitor Cooling Centers providing regular updates on numbers of persons at each, access and functional related needs, support issues, and power availability
- Identify any regulatory or ordinance issues that may need to be suspended
- Identify transportation resources for Cooling Centers
- Continue use of WebEOC to track Cool Zones, Cooling Centers, Facility Status, and activity logs for information sharing

Roles and Responsibilities

Local preparedness efforts must be coordinated across levels of local government, within the SEMS/NIMS framework. The following table indicates the lead and support response agencies by emergency support function.

Lead and Support Response Agency Table

EMERGENCY SUPPORT FUNCTION AREA	LEAD AGENCIES	SUPPORT AGENCIES
ESF #1 – TRANSPORTATION	Office of Emergency Services	San Joaquin Regional Transit District
ESF #2 – COMMUNICATIONS	Information Systems Department	
ESF #3 – CONSTRUCTION AND ENGINEERING / PUBLIC WORKS AND ENGINEERING	Public Works Department	
ESF #5 – MANAGEMENT/ EMERGENCY MANAGEMENT	Office of Emergency Services	Board of Supervisors County Administrator’s Office General Services Department Public Health Officer Cities
ESF #6- CARE AND SHELTER/ MASS CARE, EMERGENCY ASSISTANCE, HOUSING AND HUMAN SERVICES	Human Services Agency	Office of Emergency Services Public Health Services American Red Cross Disaster Relief Coalition Environmental Health Department
ESF #7- RESOURCES / LOGISTICS MANAGEMENT AND RESOURCE SUPPORT	Office of Emergency Services	Purchasing Department
ESF #8 – PUBLIC HEALTH AND MEDICAL/ PUBLIC HEALTH AND MEDICAL SERVICES	Public Health Services/Health Officer	Emergency Medical Services Behavioral Health Services Environmental Health Department Health Care Services Medical and Health Operational Area Coordinator

Lead and Support Response Agency Table, continued.

EMERGENCY SUPPORT FUNCTION AREA	LEAD AGENCIES	SUPPORT AGENCIES
ESF #11- FOOD AND AGRICULTURE/ AGRICULTURE AND NATURAL RESOURCES	Agricultural Commissioner’s Office	Environmental Health Department UC Cooperative Extension
ESF # 12- UTILITIES/ ENERGY		PG&E National Weather Service-Sacramento CA Independent Service Operator
ESF #13- LAW ENFORCEMENT/ PUBLIC SAFETY AND SECURITY	Sheriff’s Office	
ESF #15- PUBLIC INFORMATION/ EXTERNAL AFFAIRS	Office of Emergency Services Joint Information Center / Joint Information System	Support Agencies Public Information Officers

Roles and Responsibilities Table

The following table specifies specific agency roles and responsibilities for each phase. The agencies are listed in the left column, and are broken down by emergency support function.

CRITERIA	PHASE 1	PHASE 2	PHASE 3
	Pre-Season Preparedness	NWS Heat Advisory	NWS Excessive Heat Watch/Warning
ESF#1 – TRANSPORTATION			
AGENCY	PHASE 1	PHASE 2	PHASE 3
San Joaquin Regional Transit District	<ul style="list-style-type: none"> Review Heat Appendix Review transportation plan 	<ul style="list-style-type: none"> Initiate transportation plan 	<ul style="list-style-type: none"> Implement transportation plan to Centers
Purchasing & Support Services	<ul style="list-style-type: none"> Review Heat Appendix Review transportation plan 		<ul style="list-style-type: none"> Implement transportation plan

ESF#2 –			
AGENCY	PHASE 1	PHASE	PHASE
Information Systems Division	<ul style="list-style-type: none"> Review Heat Appendix Prepare/post Heat OES page website 	<ul style="list-style-type: none"> Post information on website as provided by PIO 	<ul style="list-style-type: none"> Post information on website as provided by PIO
ESF#3 – CONSTRUCTION AND ENGINEERING/ PUBLIC WORKS AND ENGINEERING			
AGENCY	PHASE 1	PHASE	PHASE
Public Works (Solid Waste)	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Prepare to receive carcasses if needed 	<ul style="list-style-type: none"> Receive carcasses if needed
ESF #5 – MANAGEMENT/ EMERGENCY MANAGEMENT			
AGENCY	PHASE 1	PHASE	PHASE
OES	<ul style="list-style-type: none"> Emergency Management Committee Review Heat Appendix Coordinate with NWS and Cal ISO Update websites and social media 	<ul style="list-style-type: none"> Emergency Management Committee Activate EOC at Level 1 Assign Ops Section Chief Inform Cal OES Inland Region Implement JIC / PIO Issue heat awareness Stage critical resources Develop transportation plan 	<ul style="list-style-type: none"> Process mutual aid requests Submit reports to Inland Region Coordinate with power utilities Distribute heat-related information Participate in Cal OES and NWS briefings Request cooling centers to open Monitor usage of cooling centers
Emergency Management Committee	<ul style="list-style-type: none"> Review roles and responsibilities Review Briefing form for currency of critical 	<ul style="list-style-type: none"> Set objectives Share information Set funding policy Consider proclamations and orders 	<ul style="list-style-type: none"> Establish orders, policies, cost controls Monitor plan implementation Consider SJ MAC Group Activation needs
Cities	<ul style="list-style-type: none"> Review Heat Appendix Identify pet accommodations at Centers 	<ul style="list-style-type: none"> Open Cooling Centers as needed Notify OA EOC Assign PIO to JIC Locate vulnerable populations Provide transportation as needed 	<ul style="list-style-type: none"> Request/supply critical resources Request OA open additional Centers as needed Coordinate with County EOC, while activated

ESF #6 – CARE AND SHELTER / MASS CARE, EMERGENCY ASSISTANCE, HOUSING, AND HUMANS SERVICES			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Human Services Agency	<ul style="list-style-type: none"> Review Heat Appendix Update critical resource list Convene Housing/Shelter Working Group Review Cooling Center operation criteria 	<ul style="list-style-type: none"> Coordinate locating vulnerable populations with cities, PHS, EHD, BHS and DRC. Stage cooling fans for give-away program Activate Centers as needed Consider Care & Shelter Branch needs at County EOC 	<ul style="list-style-type: none"> Participate in meetings, etc. Survey Centers for accessibility Assess need for commodities Coordinate needs to provide wellness checks on vulnerable populations with cities, PHS, BHS, EHD and DRC Provide support to Care and Shelter Branch in EOC, as needed
American Red Cross	<ul style="list-style-type: none"> Member of Outreach Group Member of Shelter/Housing Working Group 	<ul style="list-style-type: none"> Activate facilities as Cooling Centers Coordinate with OA EOC 	<ul style="list-style-type: none"> Support ARC Centers with logistical resources Inspect ARC Centers for health/safety Coordinate with OA EOC
Disaster Relief Coalition	<ul style="list-style-type: none"> Member of Outreach Group Member of Shelter/Housing Working Group 	<ul style="list-style-type: none"> Support locating vulnerable populations with HAS, PHS, BHS, EHD and cities Stage cooling fans for give-away Activate facilities as cooling centers Stage critical resources at centers Coordinate with OA EOC 	<ul style="list-style-type: none"> Outreach with heat-injury materials Monitor use/effectives at DRC centers Coordinate with OA EOC Support notification of vulnerable populations with HSA, PHS, EHD, BHS, and cities.
ESF #7- RESOURCES/ LOGISTICS MANAGEMENT AND RESOURCE SUPPORT			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Purchasing & Support Services	<ul style="list-style-type: none"> Review Heat Appendix Review transportation plan 	<ul style="list-style-type: none"> Stage critical resources at cooling Centers, as needed 	<ul style="list-style-type: none"> Stage critical resources at cooling Centers, as needed Implement transportation plan

ESF #8 – PUBLIC HEALTH AND MEDICAL/ PUBLIC HEALTH AND MEDICAL SERVICES			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Public Health Services	<ul style="list-style-type: none"> Review Heat Appendix Develop outreach materials; templates should include media, public, and social media releases. 	<ul style="list-style-type: none"> Emergency Management Committee Prepare to declare a health emergency Assign PIO / Participate in JIC Consider tracking heat-related illnesses at hospital emergency departments Assign EOC Medical/health Branch Director 	<ul style="list-style-type: none"> Emergency Management Committee Possible Health Emergency Declaration Issue health advisories for outdoor activities Outreach to distribute heat injury materials Track heat-related fatalities Track heat-related illnesses at hospital emergency departments Support notification of vulnerable populations with HSA, BHS, EHD, DRC and cities Support OA EOC Medical/Health Branch
Emergency Medical Services	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Coordinate/Monitor medical facilities and health agencies of heat emergency Consider support needs of OA EOC at Medical/health Branch, as needed 	<ul style="list-style-type: none"> Monitor EMS system for heat-related illness Support OA EOC Medical/Health Branch
Behavioral Health Services	<ul style="list-style-type: none"> Review Heat Appendix Locate vulnerable BHS populations (mentally ill) To extent possible, assist in efforts to locate other vulnerable populations Assist with education materials 	<ul style="list-style-type: none"> Locate vulnerable populations (mental ill) Support locating other vulnerable populations with HSA, cities, EHD, PHS, and DRC. Provide information for protection to vulnerable target population and others, to extent possible Consider support needs at OA EOC in Medical/health Branch and/or Care & Shelter Branch 	<ul style="list-style-type: none"> Perform wellness checks on vulnerable BHS populations Coordinate with HSA, PHS, EHD, DRC and Cities wellness checks on vulnerable populations To extent possible, assist in efforts to provide wellness checks on other vulnerable populations Provide information on cooling centers to BHS target population Support OA EOC Medical/Health Branch or Care & Shelter Branch

ESF #8 – PUBLIC HEALTH AND MEDICAL/ PUBLIC HEALTH AND MEDICAL SERVICES - CONTINUED			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Environmental Health Department	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Assign agency representative to coordinate with EOC Coordinate with PHS, BHS, HSA, DRC, and cities on outreach activities 	<ul style="list-style-type: none"> Outreach to vulnerable populations, as needed Monitor small public water systems Monitor food facilities Support notification of vulnerable populations with HSA, PHS, BHS, DRC and cities Support OA EOC Medical/Health Branch or Care & Shelter Branch
ESF #11- FOOD AND AGRICULTURE/ AGRICULTURE AND NATURAL RESOURCES			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Ag Commissioner	<ul style="list-style-type: none"> Review Heat Appendix Review Rendering Plan Select education materials 	<ul style="list-style-type: none"> Emergency Management Committee Outreach to Ag community 	<ul style="list-style-type: none"> Emergency Management Committee Outreach to Ag community Monitor carcass collection; disposal activities
Environmental Health Department	<ul style="list-style-type: none"> Review Heat Appendix Review Rendering Plan 	<ul style="list-style-type: none"> Assign agency representative to coordinate with EOC Coordinate with Ag about animal fatalities monitoring 	<ul style="list-style-type: none"> Inspect Cooling Centers for safe food service Monitor carcass disposal activities Coordinate approval of alternative disposal sites
UC Cooperative Extension	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Outreach to agricultural community 	<ul style="list-style-type: none"> Outreach to agricultural community
ESF #12- UTILITIES/ ENERGY			
AGENCY	PHASE 1	PHASE 2	PHASE 3
National Weather Service-Sacramento	<ul style="list-style-type: none"> Issue definition of terms for heat emergency 	<ul style="list-style-type: none"> Issue/update expected weather conditions 	<ul style="list-style-type: none"> Update weather conditions
CA Independent Service Operator		<ul style="list-style-type: none"> Issue Stage 3 Electrical Emergency 	<ul style="list-style-type: none"> Update electrical emergency information

ESF #13- LAW ENFORCEMENT/ PUBLIC SAFETY AND SECURITY			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Sheriff's Coroner	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Monitor situation 	<ul style="list-style-type: none"> Report heat-related fatalities to Public Health
Sheriff's Animal Services	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Monitor County area for animal carcasses 	<ul style="list-style-type: none"> Monitor County area for animal carcasses Monitor HSA-operated Centers for pet accommodations
Sheriff's Communications	<ul style="list-style-type: none"> Review Heat Appendix 	<ul style="list-style-type: none"> Distribute any MACS Mode changes 	<ul style="list-style-type: none"> Distribute heat-related information to local jurisdictions
ESF #15- PUBLIC INFORMATION/ EXTERNAL AFFAIRS			
AGENCY	PHASE 1	PHASE 2	PHASE 3
Public Information Officer	<ul style="list-style-type: none"> Review Heat Appendix Develop/select educational material Prepare media releases of seasonal awareness 	<ul style="list-style-type: none"> Issue heat injury prevention advisories Post Cooling Center information on websites and social media Participate in JIC/JIS 	<ul style="list-style-type: none"> Distribute heat-related information Issue outdoor activity advisories Issue list of cooling Centers

Phase I - Action Checklists

These Action Checklists may be used when an Extreme Heat Incident is at Phase I –Pre-Season Readiness.

Office of Emergency Services (OES)

- ✓ Conduct pre-season meeting with stakeholders to review plan and confirm actions.
- ✓ Update and validate communication methodologies with stakeholders.
- ✓ Monitor heat indicators from the National Weather Service throughout the season.
- ✓ Use WebEOC to share information with other agencies.
- ✓ Update County OES public information web pages with pre-season heat information.
- ✓ Conduct pre-incident action planning meeting with response partners to develop a Countywide IAP for the season.

Cities

- ✓ Verify list of Cool Zones for cities
 - Name of Facility
 - Address
 - Hours of Operation
 - Will facility extend hours during a heat incident?
- ✓ Coordinate with managers and owners of Cool Zone facilities that their information may be publicized during a heat incident.
- ✓ Identify and discuss transportation methods that may be used in Phase II and Phase III for Cool Zones and Cooling Centers.
- ✓ Identify communication methodology for local vulnerable populations.

Human Services Agency (HSA)

- ✓ Verify list of locations that can be utilized as Cool Zones for County facilities.
 - Name of Facility
 - Address
 - Hours of Operation
 - Will facility extend hours during a heat incident?
- ✓ Coordinate with managers and owners of Cool Zone facilities in unincorporated areas that their information may be publicized during a heat incident.
- ✓ Identify communication methodologies with at risk clients.
- ✓ Determine methodologies for monitoring clients during a Phase II and Phase III heat incident.

Public Health

- ✓ Provide initial risk communication and public information that may be duplicated and that jurisdictions and agencies may share with vulnerable populations.
- ✓ Discuss developing and/or updating public outreach materials.
- ✓ Identify information that may be shared via social media.
- ✓ Identify and verify list of vulnerable populations (e.g. access and functional needs) and coordinating agencies.
- ✓ Maintain situational awareness in WebEOC, utilizing situation reporting boards and activity logs.

County Departments (Health Care Services, Behavioral Health, etc.)

- ✓ County departments whose clients include those in the risk category should identify communication methodologies with their clients.
- ✓ Determine methodologies for monitoring clients during a Phase II and Phase III heat incident.

Non-Governmental Organizations (i.e., American Red Cross, faith based organizations, etc.)

- ✓ Identify capabilities to support local government and communities during a heat incident.
- ✓ Identify communication and monitoring methods for at-risk populations that the NGO serves.
- ✓ Help identify other partner agencies.

Phase II - Action Checklists

These Action Checklists may be used when an Extreme Heat Incident has reached Phase II– Excessive Heat Watch/Advisory.

Office of Emergency Services/EOC Director

- ✓ Review EOC Director Position Checklist in Emergency Operations Center.
- ✓ Participate in periodic or daily calls as needed with State agencies regarding weather and power updates.
- ✓ Monitor situation by coordinating between the Public Health Officer, Health Services Agency, Health Care Services Agencies, Ag Commissioner, cities, and First Responder Agencies regarding potential activation support needs.
- ✓ Continue to share information in WebEOC. Consider creating a specific Heat related incident for countywide use to track the event.
- ✓ Consider need / level for EOC Activation.

San Joaquin MAC Group

- ✓ Review San Joaquin County MAC Policy.

Public Information Officer/Joint Information Center

- ✓ Review Public Information Officer Position Checklist in Emergency Operations Center.
- ✓ Activate the Joint Information Center (JIC) and increase public information efforts including Social Media and San Joaquin County Public facing Emergency Webpage.
- ✓ Consider methods to alert and warn vulnerable populations.
- ✓ Release pre-scripted heat protective measures to all media sources.
- ✓ Publicize and communicate Cool Zone locations and operational hours.
- ✓ Publicize that fans alone are insufficient for extended periods of excessive indoor heat.
- ✓ Publicize request for citizens and agencies to enhance checks on homebound individuals.
- ✓ Consider use of San Joaquin 2-1-1 System as public phone contact.
- ✓ Use WebEOC to share information as necessary.

Liaison

- ✓ Review Liaison Position Checklist in Emergency Operations Center.
- ✓ Ensure employees have updated heat emergency materials.
- ✓ Coordinate with local utilities to assess power restrictions or limitations.
- ✓ Establish communication with local Non-Governmental Organizations (NGOs).
- ✓ Establish communication with faith based organizations.
- ✓ Utilize WebEOC to share information as necessary.

Operations Section

- ✓ Review Operations Section Coordinator Position Checklist in Emergency Operations Center.
- ✓ Update WebEOC Incident with actions, and information. Share as necessary.

Medical Health Branch

- ✓ Review Medical Health Branch Position Checklist in Emergency Operations Center.
- ✓ Initiate or continue risk communication efforts to vulnerable populations as outlined in Phase I.

- ✓ Determine the need to Initiate medical surveillance specific to heat impacts through MHOAC including long-term care facilities, skilled nursing facilities, and dialysis centers
- ✓ Determine the need to track heat related fatalities, medical emergencies and ambulance runs.
- ✓ Advise at-risk medical facilities to monitor ambient indoor temperature.
- ✓ Monitor the potential for power loss to electrically dependent individuals using the Em-Power Data (<https://empowermap.hhs.gov/>) tool.
- ✓ Monitor and continue to update WebEOC boards, such as facility status reports, and activity logs.

Agriculture Branch

- ✓ Review Ag Branch Position Checklist in Emergency Operations Center.
- ✓ Monitor impacts to agriculture including animal mortality, rendering plant impacts, and coordination with industry.
- ✓ Determine potential impacts to landfills due to heat-related animal mortality.
- ✓ Update status in WebEOC activity log.

Care and Shelter Branch

- ✓ Review Care and Shelter Branch Position Checklist in Emergency Operations Center.
- ✓ Coordinate with the managers and owners of any Cool Zones being considered for publication.
- ✓ Consider need for activating Cooling Centers.
- ✓ Identify potential Cooling Center sites.
- ✓ Coordinate with Animal Services for care and shelter of pets.
- ✓ Coordinate with HSA, cities, PHS, EHD, BHS to compile vulnerable population lists
- ✓ Prepare staffing request to conduct welfare checks when needed
- ✓ Prepare HSA, PHS, EHD, BHS, and other available staff to possibility of cooling center coordination and support.
- ✓ Ensure WebEOC Shelter Board is current. Update status and activity log as necessary.

Logistics Section

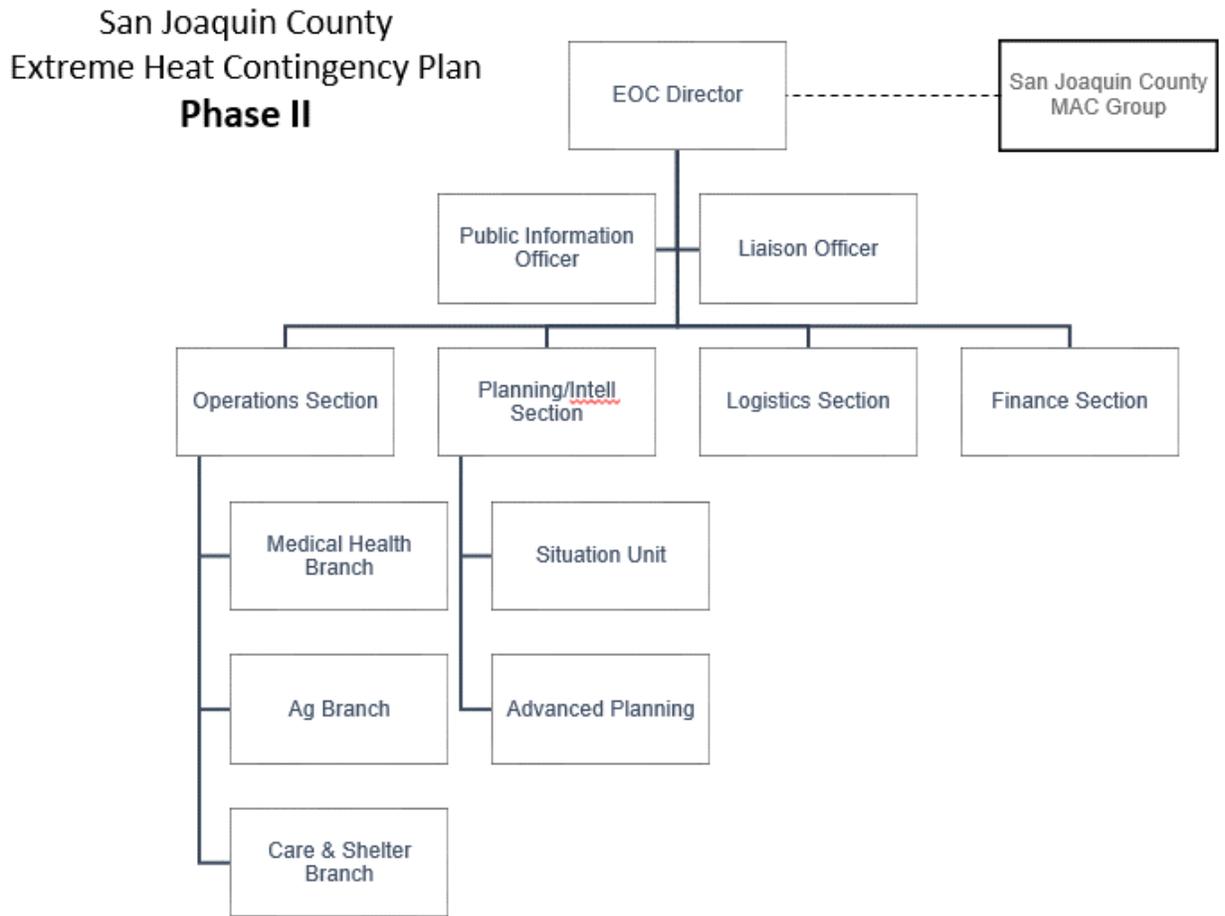
- ✓ Review Logistic Section Coordinator Position Checklist in Emergency Operations Center.
- ✓ Develop a transportation working group consisting of public, private, volunteer and service organizations to identify and develop a transportation component and procedures to ensure vulnerable populations are provided transportation to Cool Zones or Cooling Centers.
- ✓ Monitor and update WebEOC activity logs as necessary. Use the Resource Request and Deployment Module (RRDM) to coordinate resource requests.

Planning/Intelligence Section

- ✓ Review Planning/Intelligence Section Position Checklist in Emergency Operations Center.
- ✓ Confirm details of agency participation, staffing.
- ✓ Consider long-term planning needs including advanced planning for extended incident.
- ✓ Update WebEOC activity logs as necessary.
- ✓ Develop EOC Action Plan.

Phase II - EOC Organization Chart Example

Below is an example of a San Joaquin County Emergency Operations Center organization during a Phase II activation in response to an extreme heat event.



Phase III - Action Checklists

These Action Checklists may be used in addition to the Phase II Checklists when an Extreme Heat Incident has reached Phase III – Excessive Heat Warning.

OES/EOC Director

- ✓ Review EOC Director Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Increase coordinating calls with local, regional and State resources.
- ✓ Determine need to activate the Emergency Operations Center (EOC) and/or a Department Operations Center (DOC), if not already activated.
- ✓ Consider local proclamation.

San Joaquin MAC Group

- ✓ Review San Joaquin MAC Group Policy.
- ✓ Identify any regulatory or ordinance issues that may need to be suspended.

Public Information Officer/Joint Information Center

- ✓ Review Public Information Officer Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Increase and continue public information efforts.
- ✓ Consider use of San Joaquin 2-1-1 System as public phone contact.

Liaison

- ✓ Review Liaison Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Ensure employees have updated heat emergency materials.

Operations Section

- ✓ Review Operations Section Coordinator Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Determine need for mutual aid resources.

Medical Health Branch

- ✓ Review Medical Health Branch Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Conduct bed status of hospitals and skilled nursing facilities and monitor status of all medical facilities.
- ✓ Track heat related fatalities and morbidity.
- ✓ Establish communication with local dialysis centers if there is concern regarding potential power outages.
- ✓ Monitor for medical impacts of prolonged power outages or rolling blackouts.

Agriculture Branch

- ✓ Review Ag Branch Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Monitor rendering capacity statewide.

Care and Shelter Branch

- ✓ Review Care and Shelter Branch Position Checklist in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Consider activating Cooling Centers.
- ✓ Coordinate with American Red Cross to open Cooling Center(s).
- ✓ Coordinate with Animal Services to ensure pet and animal heat impacts are being addressed through special facilities or pet accommodations at Cooling Centers or other locations.
- ✓ Monitor open Cooling Centers and provide regular updates on numbers of persons at each, access and functional needs, support issues, and power availability.
- ✓ Keep Shelter board in WebEOC current.
- ✓ Ensure that Cooling Centers know the importance of maximizing fluid dissemination and minimizing food.
- ✓ Develop strategy for conducting wellness checks on vulnerable populations (access and functional needs).

Utilities

- ✓ Coordinate with local utilities to assess power restrictions or limitations.
- ✓ Coordinate with the local electric utility to identify and develop procedures for the operations of volunteered "Cooling Centers" that could be exempted from rotating blackouts.

Logistics Section

- ✓ Review Logistic Section Position Checklists in Emergency Operations Center.
- ✓ Review Phase II Checklist.
- ✓ Identify transportation resources for Cooling Centers.

Planning/Intelligence Section

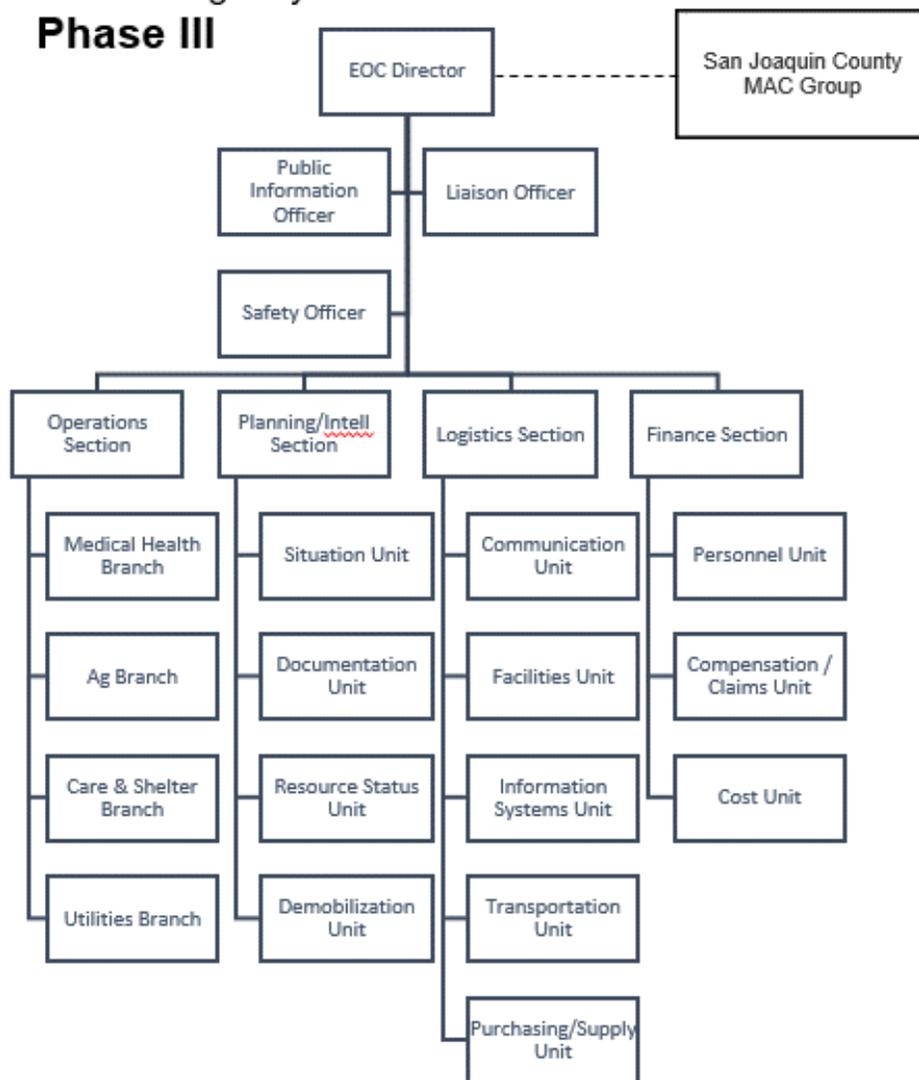
- ✓ Review Planning/Intelligence Section Checklists in Emergency Operations Center.
- ✓ Review Phase II Checklist
- ✓ Confirm details of agency participation, staffing.
- ✓ Consider GIS function for mapping heat related trends and/or fatalities.
- ✓ Develop EOC Action Plan.

Phase III - EOC Organization Chart Example

An example of a San Joaquin County Emergency Operations Center organization chart during Phase III activation in response to an extreme heat event is illustrated below.

**San Joaquin County
Extreme Heat Contingency Plan**

Phase III



Appendix A: National Weather Service Definitions

The following terms are specific as well as commonly accepted definitions to avoid confusion and misunderstanding. Some of the terms may have different meanings outside of the scope of this plan.

Partner Emails - are issued when the potential exists for a weather event, such as excessive heat, in the next 1-7 days. This email is a non-public product and is intended to assist our partners with making operational plans, based on potential weather events.

Heat Advisory – a heat event in the next 36 hours tied to *HeatRisk* Orange/Red output.

Excessive Heat Watch/Warning – a heat event in the next 36 hours tied to *HeatRisk* Red/Magenta output.

Appendix B: The Electrical Grid and CAL-ISO

Electric power capability and transmission grid is impacted by the increased loads resulting from heat events. The California Independent System Operator (CAL-ISO) manages the flow of electricity across the high-voltage, long-distance power lines that make up 80 percent of California's and a small part of Nevada's grid, except in areas serviced by municipal utilities. Locally, Pacific Gas and Electric (PG&E) and Lodi Electric are inside the Cal-ISO area.

Cal-ISO issues notification when operating reserves or transmission capacity limitations threaten the ability of the Cal-ISO to safely and reliably operate the grid. Three types of notifications are issued: Operational Notifications, Conservation Notifications, and Stage Emergency Notifications.

Operational Notifications are for generator operators and ensures that all grid assets are available for use to manage grid reliability during challenging grid conditions, such as heat waves.

Conservation Notifications include Flex Alerts and Warnings that are part of a consumer educational and alert program that encourages the public to better prepare for service interruptions and encourages emergency conservation that may help prevent blackouts from occurring. Warnings are a stronger conservation notification than Flex Alerts predicting grid operations will have to start using reserves. Warnings may be called before a Stage Emergency, only if time allows for voluntary conservation to have an impact in reducing demand.

Stage Emergency Notifications are triggered when immediate steps are required to protect the grid. A stage emergency can be issued in any order depending on events.

Stage 1 Emergency	Operating reserve shortfalls exist or are forecast to occur, and available resources are insufficient to maintain the operating reserve requirement. Strong request for conservation.
Stage 2 Emergency	Non-spinning reserve requirement cannot be maintained. Requires ISO intervention in the market.
Stage 3 Emergency	Spinning reserve is depleted or is anticipated to fall below minimum requirement. Issue notice of potential load interruptions to utilities.

Mandated under California Public Utilities Commission (CPUC) Decision 02-04-060, essential facilities who volunteer to use their facilities as a public "cooling station" are exempt from rotating power outages. This regulation only applies to communities that are serviced by utilities regulated by the CPUC such as Pacific Gas and Electric.

Undefined “cooling centers” are not covered by this rule and are not exempt from rotating power outages; however, Cal OES may request an exception from the utilities through the California Utilities Emergency Association (CUEA).

When the Cal-ISO calls a Flex Alert , take three simple actions:		
Turn off all unnecessary lights 	Postpone using major appliances until after 9:00 p.m. 	Set your air conditioning to 78° 

Appendix C: Extreme Heat: Human Vulnerabilities

Heat Cramps - Heat Cramps is not immediately dangerous but is a signal of significant stress on the body from heat. It occurs when the salts in the body fluids become out of balance as a result of sweating in an effort to maintain cooler temperatures during hot weather and inadequate fluid and salt replacement.

- Symptoms – Severe painful cramping of the muscles in the arms, legs or abdomen often accompanied by swelling of the legs and feet
- First Aid – Move to a cooler spot and drink electrolyte replacement fluids (juices, non-carbonated sports drinks without caffeine)
- Without intervention – It can lead to heat exhaustion and/or heatstroke

Heat Exhaustion - Heat Exhaustion is more serious and generally includes an elevated core body temperature up to 104⁰ F. It occurs when the body becomes dehydrated with a consequential imbalance of electrolytes (salts). This causes progressive compromise of the circulatory system.

- Symptoms -- Headache, nausea, dizziness, cool and clammy skin, pale face, cramps, weakness, profuse perspiration
- First Aid -- Move to a cooler spot, drink water with a small amount of salt added (one teaspoon per quart) or rehydration solution or sports drinks without caffeine
- Without Intervention -- It can lead to collapse and heat stroke within minutes or hours

Heat Stroke - Heat Stroke is the most serious illness and is a severe and life-threatening failure of the body's ability to cool. It occurs when natural cooling mechanisms are overwhelmed, including perspiration and circulatory reflexes. Brain and nerve functions begin to fail and the body temperature rises out of control.

- Symptoms – Severe mental status changes, seizures, loss of consciousness, kidney failure, abnormal cardiac rhythm, confusion, rapid pulse, hot and dry skin, shortness of breath, facial flushing with no perspiration, core body temperature over 104°F
- First Aid – Immediately call 9-1-1 for emergency medical assistance. Cool person immediately, move to shade or indoors, wrap in a cool, wet sheet
- Without Intervention -- it can lead to permanent neurological impairment, coma, and death

Children Vulnerabilities

Did you know there is no safe amount of time to leave any child in a car alone? Every 10 days in the U.S. a child dies when left alone in the car. Avoid heatstroke-related injury and death by never leaving your child alone in a car, not even for a minute. If you see a child alone in a car, call 911. Emergency personnel want you to call. One call could save a life.

The temperature in a car rises rapidly in the first 30 minutes, even on a cool day. Additionally, leaving the car windows open or cracking them open does not allow enough air into the vehicle.

Facts:

Car with window rolled down slightly + windows collecting light, trapping heat inside = pressure cooker effect.

Outside air = 85 degrees Fahrenheit

- After 10 minutes: inside car = 102 degrees Fahrenheit
- After 30 minutes: inside car = 120 degrees Fahrenheit

Outside air = 72 degrees Fahrenheit + humidity

- After 30 minutes: inside car = 104 degrees Fahrenheit After 60 minutes: inside car = 112 degrees Fahrenheit

Prevention:

- Never leave children in a car alone
- Call 9-1-1 immediately if you see a child alone in a car or in distress
- It takes only a body temp of 104 degrees Fahrenheit for heat stroke to occur. 107 degrees is usually fatal
- A child's body warms up 3-5 times faster than an adult's body
- Be alert for any sign of heat stress:
 - Agitation
 - Disorientation
 - Dizziness
 - Nausea
 - Rapid breathing
 - Seizure
 - Unconsciousness
 - Vomiting

Treatment:

- Bring your child to a cooler place indoors, an air-conditioned car, or shady area
- Remove your child's excess clothing
- Encourage your child to drink cool fluids containing salt and sugar, such as sports drinks
- Put a cool, wet cloth or cool water on your child's skin
- Call your doctor for advice

Appendix D: Extreme Heat: Animal Vulnerabilities

Pets

Dogs and cats are designed to conserve heat and are less efficient at cooling than humans. They are in danger of heat stroke at 110 degrees Fahrenheit. Sweat glands on pets are located on the nose and footpads, which are inadequate for cooling on hot days. Panting and drinking water help cooling, but if the air temperature is overheated, brain and organ damage can occur in 15 minutes. Risk factors to heat stress include body size, age (young and old), breed (short nosed breeds, such as bulldogs), obesity, and existing metabolic, cardiovascular, or respiratory disease.

Facts:

Car with window rolled down slightly + windows collecting light, trapping heat inside = pressure cooker effect.

Outside air = 85 degrees Fahrenheit

- After 10 minutes: inside car = 102 degrees Fahrenheit
- After 30 minutes: inside car = 120 degrees Fahrenheit
- Outside air = 72 degrees Fahrenheit + humidity
- After 30 minutes: inside car = 104 degrees Fahrenheit
- After 60 minutes: inside car = 112 degrees Fahrenheit

Prevention:

- Never leave pets in a car on warm days
- Call animal control or law enforcement immediately if an animal is in distress in a car
- Be alert for any sign of heat stress: heavy panting, glazed eyes, a rapid pulse, unsteadiness, a staggering gait, vomiting, deep red or purple tongue
- Never leave pets tied up without shade, air circulation, and fresh water
- Offer a cool place to rest when temperatures are uncomfortable
- If you are going to take advantage of a local cooling center and feel the need to bring your pet, always call ahead to find out if they are able accept pets and what preparations are necessary (i.e., leash for dog, cage for cats, etc.)

Treatment:

- Overheated pets must be cooled immediately
- Move pet to shade
- Apply cool water all over body
- Apply ice packs to neck and chest area
- Allow licking ice and small amount of water (large amount will cause vomiting)
- Take to veterinarian immediately for evaluation

Livestock and Poultry

Producers should assure that all livestock and poultry are provided adequate and accessible drinking water, shade, and fans and water-cooling, where feasible.

Many producers have back-up generators for their facilities, which should be inspected to ensure operational condition in the event of rolling or rotating blackouts or power failures. Emergency power should also be available for fans and well pumps. Misters, soakers, and fans should be checked to ensure they are operational. Shade structures (especially shade cloths) should be in good repair.

During an excessive heat emergency, dairy producers have used a variety of temporary cow-cooling methods. Fire hoses can be hooked up to water trucks and used to soak the cattle. Strings of cows can be cooled in sprinkler pens, if they are not in constant use for milking. Temporary soaking lines can be devised using flexible landscaping PVC hose and high volume emitters positioned over the cattle. Industrial fans have been rented to augment these water cooling methods. Temporary shade structures have been erected. In general, working cattle should be avoided except in the early morning.

If producers are experiencing difficulties or delays in having dead animals picked up by rendering companies, they should immediately contact the Ag Commissioner, OES, or Environmental Health Department and make them aware of the situation. Local officials are in a position to assist with alternate methods of disposal, including evaluating the need for a Proclamation of a Local Emergency.

Appendix E: Definitions

Community Based Organization or CBO means “a public or private nonprofit organization of demonstrated effectiveness that: Is representative of a community or segments of a community; and Provides educational or related services to individuals in the community”.

Contingency Plan - Refers to a subset of an existing emergency plan focused on addressing the particulars of a specific emergency scenario (i.e., earthquake, flood, etc.).

Cool Zones - A Cool Zone is a location to get out of the heat for a period of time to let your body cool down. Cool Zone facilities may include libraries, community centers, malls, and senior centers. During a heat event, community and senior centers may extend hours into the evening to give citizens a longer period of respite.

Cooling Centers - A Cooling Center is a temporary air-conditioned public space set up by local authorities to deal with the health effects of extreme heat over an extended period of time. Usually sited at several locations throughout a city, Cooling Centers are meant to prevent hyperthermia, especially among the elderly without air conditioning at home. Cooling Centers provide shade, water, and sometimes medical attention, along with referrals to social services.

Cooling Stations - Facilities that can be used for heat relief that are exempt from rotating power outages (mandated by CPUC Decision 02-04-060, 4/25/02). Typically these are facilities such as hospitals, skilled nursing facilities, etc.

Emergency Plans - As defined in Government Code §8560 (a) "Emergency Plans" means those official and approved documents which describe the principles and method to be applied in carrying out emergency operations or rendering mutual aid during emergencies. These plans include such elements as continuity of government, the emergency services of governmental agencies, mobilization of resources, mutual aid, and public information.

Faith Based Organization or FBO - means a religious-based organization that provides community services.

HeatRisk Output – Used by the National Weather Service as tool to determine Potential Heat Risks up to seven (7) days in advance. The Risk is assessed by comparing the official NWS temperature forecast to local thresholds which change through the year based on climatology. The approach considers: 1) how significant above high and low temperatures are at your location in a 24 hour period; 2) Time of year; 3) Duration of unusual heat expected; 4) If temperatures pose an elevated risk for heat complications and; 5) If overnight lows and humidity allow temporary relief or enhancement of the heat wave. *HeatRisk* is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale. Essentially, the higher the value, the greater the potential heat risk.

Heat Wave (Extreme / Excessive Heat Event) - When temperatures reach 10° or more above the average high temperature for the region, last, or predicted to last, for a prolonged period of time. A heat wave is often accompanied by high humidity.

Joint Information Center - A centralized facility for coordinating an organized, integrated, release of critical emergency information, crisis communications and public affairs functions, which is timely, accurate, and consistent.

Local Government - As defined in SEMS regulations §2402 (m), " . . . means local agencies as defined in Government Code §8680.2 and special districts defined in California Code of Regulations, Title 19, §2900(y)."

National Weather Service (NWS) Information - Using the climate-region-specific criteria, if NWS forecasters predict for a given region an extreme temperature event, then the NWS will issue alerts in the form of a Special Weather Statement that is based on several criteria, including how far in advance of the event they are making the prediction.

Operational Area - As defined in Government Code §8559 (b), "An 'Operational Area' is an intermediate level of the state emergency services organization, consisting of a county and all political subdivisions within the county area."

Rotating Blackout - A process of cutting off service to selected customers for a predetermined period (usually not more than two hours) in order to retain the integrity of the power grid.

Standardized Emergency Management System (SEMS) - As defined in California Code of Regulations §2401, " . . . based upon the Incident Management System (ICS) adapted from the system originally developed by Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) program including those currently in use by state agencies, the Multi-Agency Coordination System (MACs) as developed by FIRESCOPE program, the operational area concept, and the Master Mutual Aid Agreement and related mutual aid systems."

WebEOC – Software tool used by emergency managers to track an incident or events. Initial rollout includes San Joaquin County Healthcare Coalition agencies, Office of Emergency Services and County Fire Districts. Plans to rollout to additional agencies are forthcoming.

Appendix F: Acronyms

Acronyms used throughout this plan and their full names are listed below in alphabetical order by their acronyms.

ADA - American Disabilities Act
BHS - Behavioral Health Services
BOS - Board of Supervisors
CAL-ISO - California Independent System Operator
Cal OES - California Office of Emergency Services
CAO - County Administrative Officer
CBO - Community Based Organization
CPUC - California Public Utility Commission
EHD - Environmental Health Department
EMC – Emergency Management Committee
EMS - Emergency Medical Services
EOC - Emergency Operations Center
FBO - Faith Based Organization
HSA - Human Services Agency
IAP – Incident Action Plan
ICS - Incident Command System
JIC - Joint Information Center
MHOAC - Medical Health Operational Area Coordinator
NGO - Non-Governmental Organization
NIMS - National Incident Management System
NOAA - National Oceanic and Atmospheric Administration
NWS - National Weather Service
OA - Operational Area
OES - Office of Emergency Services (County)
PG&E - Pacific Gas and Electric
PHS - Public Health Services
PHO – Public Health Officer
PNP – Private Non-Profit
PIO - Public Information Officer
REOC, Cal OES - Regional Emergency Operations Center (Coastal, Inland, Southern)
SEMS - Standardized Emergency Management System
UHI - Urban Heat Island
WebEOC – Software tool used by emergency managers to track an incident or events