



Sonoma County Operational Area Emergency Operations Plan Annex

Extreme Temperature Incidents

DEPARTMENT OF EMERGENCY MANAGEMENT



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**EMERGENCY
MANAGEMENT**
SONOMA COUNTY

This document is an Annex to the Sonoma County Emergency Operations Plan.
This document is subject to revision at any time.

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I. INTRODUCTION

Purpose

This Annex outlines procedures that guide a collaborative response by local governments, special districts, and allied agencies in the Sonoma County Operational Area (Op Area) to extreme temperature incidents. This is a supporting annex to the Sonoma County Operational Area Emergency Operations Plan (EOP).

The Annex provides direction for Operational Area stakeholder organizations including County departments, cities, special districts, community groups, and others, ensuring interagency coordination in accordance with the County's EOP, California Emergency Services Act, Standardized Emergency Management System (SEMS), and National Incident Management System (NIMS).

This Annex accomplishes the following:

- Provide an overview of the threat that extreme temperature incidents pose to the Operational Area and describe the potential scope of impacts; and
- Define a concept of operations to guide a coordinated response to extreme temperature incidents; and
- Identify County departments and Operational Area agencies responsible in the coordination and response to extreme temperature incidents and define each agency's role and responsibilities.

Scope

In keeping with the EOP's "all-hazards" approach for local emergency management, the response policies and protocols for an extreme temperature incident will align with those established in the EOP.

This Annex does not alter existing County department or other Operational Area jurisdiction emergency response standard operating procedures (SOPs), processes, or resources. Emergency response agencies (such as law enforcement, emergency medical services (EMS) and fire) will adhere to existing department SOPs in accordance with all legal requirements.

This annex identifies groups most likely to experience health impacts from extreme temperature incidents, as well as heat-related and cold-related health conditions. This annex also defines levels of response utilizing the National Weather Service's alerts and products.

The scale and scope of the response will depend on the intensity and duration of the extreme temperature incident, which could be a few days to several weeks. The County's response and the actions outlined in this plan are intended for use in extreme and severe temperature incidents. For shorter and less severe incidents (those that do not meet implementation criteria), pre-established and targeted outreach to vulnerable populations is anticipated. A small extreme temperature incident may also only require activation of a public health and public information response. For complex and/or larger extreme temperature emergencies that affect many people, coordination of local, regional, state, and federal agencies may be required as outlined in this annex.

Preparing and Responding with the Whole Community Strategy

The County of Sonoma strives to incorporate the Whole Community¹ perspective in its emergency planning. By planning with the Whole Community, the County of Sonoma planning strategy incorporates the complexities in the diversity in Sonoma County.

Sonoma County defines disabilities and those with access and/or functional needs as:

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

The County and Operational Area are committed to maximizing compliance with the Americans with Disabilities Act and providing the best service to Sonoma County residents and visitors. As such, the County adheres to the guidelines outlined below:

- County services and facilities are equally accessible and available to all persons.
- All the benefits offered by the County are accessible and available to persons with disabilities and others with access and functional needs.
- The County will accommodate people with disabilities and those with access and/or functional needs in the most integrated setting possible.

¹ Whole Community is defined by FEMA as "a means by which residents, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities, and interests." FEMA, A Whole Community Approach to Emergency Management, 2011.

- During all phases of disaster response, the County will make reasonable modifications to policies, practices, and procedures, if necessary, to ensure programmatic and architectural access to all.
- The County will ensure that its shelters and related centers are accessible, both physically and programmatically, to afford people with disabilities and others with access and functional needs the opportunity to access resources in the most integrated setting possible.

II. SITUATION AND PLANNING ASSUMPTIONS

The severity and frequency of extreme temperature and weather events are increasing globally. Changes in climate, such as warmer or colder temperatures than historically recorded, have serious implications for Sonoma County and its residents. Extreme temperatures can pose a direct and immediate threat to public health. In 2021, heat incidents were the leading cause of weather fatalities in the United States. Combined with cold incident fatalities, temperature-related deaths were more than double any other weather event fatalities in that year.²

Extreme temperatures can pose a significant public health threat to residents in the County, especially for temperature sensitive groups such as children, the elderly, the unhoused, and people with respiratory conditions. Geographic differences in climate, and environmental and socioeconomic factors can also shape how extreme temperatures affect County residents. Heat waves and cold temperatures may lead to illness and death in vulnerable populations. Additionally, prolonged exposure to excessive heat and cold can damage crops and injure or kill livestock. Extreme heat can lead to power outages as heavy demands for air conditioning strain the grid, while extremely cold weather increases the need for heating fuel.

Response to extreme temperature incidents should be determined on a local level due to differing climates and the population's capacity to adapt to different temperatures. California's diverse geography means weather conditions will often vary greatly from one region to another and people can become acclimatized to the usual weather conditions in their climate zone. Comparisons made purely on temperature cannot be done; those who live in a coastal climate will tolerate heat or cold much differently than those in a desert climate. People who are adapted to California's traditionally dry daytime heat and nighttime cooling are less able to recover from extreme heat, especially when

² Weather Related Fatality and Injury Statistics, 2021, <https://www.weather.gov/hazstat/>

humidity levels are high³. Conversely, those adapted to non-freezing winter temperatures, will be less prepared for colder and wetter winter conditions. The health risks associated with specific temperatures both for extreme heat and extreme cold, however, should still be considered for acclimatized populations and not disregarded.

As the frequency of extreme weather grows, the potential need to respond to annual extreme temperature incidents also increases. The accelerating rate of climate change reveals that the state's 117 years of weather-related record-keeping can lead to significant underestimates as predictors of future weather-related events⁴. A recent study by the Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) shows the increase of heat waves increasing steadily each decade across the country from an average of two per year to six per year.⁵ Average annual temperature increases experienced over most of California have already exceeded 1°F, with some areas exceeding 2°F, when comparing the average from 1901-1960 to 1986-2016. The daily maximum average temperature, an indicator of extreme temperature shifts, is expected to rise 4.4°F – 5.8°F by 2050 and 5.6°F – 8.8°F by 2100.⁶

Sonoma County's most recent heat wave from September 2 – September 8, 2022, delivered record setting temperatures across the County, reaching 114 degrees with little relief in overnight temperatures.

Similarly, recent cold incidents across Sonoma County have necessitated a local response both from incorporated cities and the County. A cold front with below freezing temperatures, along with wind, rain, and snow impacted the County for multiple weeks in March 2023.

Planning Assumptions

- Extreme temperature incidents may pose serious threats to public health, life safety, property, the environment, infrastructure, and the local economy.

³ California Environmental Protection Agency, Heat-Related Mortality and Morbidity, 2018, https://oehha.ca.gov/media/epic/downloads/ibs_hrmm2018.pdf

⁴ Verification of extreme event attribution, 2020, <https://www.science.org/doi/10.1126/sciadv.aay2368>

⁵ Climate Change Indicators: Heat Waves, 2022, <https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves>

⁶ Bedsworth, L., D. Cayan, G. Franco, L. Fisher, S. Ziaja. 2018. Statewide Summary Report, California's Fourth Climate Change Assessment. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

- Weather indicators issued by the National Weather Service (NWS) will provide enough lead time to coordinate with Operational Area partners and develop Public Information and response efforts.
- Access and Functional Needs (AFN)⁷ populations may be disproportionately impacted by extreme temperature incidents.
- The demand for emergency public information will be immediate and sustained. Social and traditional media coverage will be extensive.
- Each jurisdiction (ex. city) may have their own extreme temperature plan, procedures, and implementation criteria. Each jurisdiction is responsible for their own coordinated response to an extreme temperature incident in their area of responsibility. The County has responsibility for the unincorporated areas.
- Social or healthcare support workers who have provided care to vulnerable and medically fragile residents will generally be able to continue to provide care to their clients.
- As per the EOP, response efforts will utilize County department response protocols and the Incident Command System (ICS). This may include establishing a unified command among law enforcement, fire, EMS, state, and federal response agencies. The County/Operational Area Emergency Operations Center (EOC) may be activated to coordinate incident support.
- Additional fire/EMS and law enforcement resources may be needed to respond to increased call for service, maintain public order, and/or provide security.
- Extreme temperature incidents may occur concurrently with PG&E Public Safety Power Shutoffs (PSPS), rotating outages, significant wildfires, and/or periods of degraded air quality (ex. wildfire smoke).
- For shorter and less severe incidents (those that do not meet implementation criteria established in this plan), pre-existing and targeted outreach to vulnerable populations will be conducted by existing service organizations and jurisdictions.

III. HEALTH EFFECTS

While anyone is at risk of developing heat or cold-related illness, certain populations including infants, elderly, medically vulnerable, and people experiencing homelessness

⁷ California Statute § 8593.3 defines AFN as “the ‘access and functional needs population’ consists of individuals who have developmental or intellectual disabilities, physical disabilities, chronic conditions, injuries, limited English proficiency or who are non-English speaking, older adults, children, people living in institutionalized settings, or those who are low income, homeless, or transportation disadvantaged, including, but not limited to, those who are dependent on public transit or those who are pregnant.”

are at greater risk for experiencing heat or cold-related adverse health outcomes. This annex was developed using historical data, best practices, and with the intention of providing support to as many community members as possible. However, illness could occur at temperatures other than those indicated in this annex based on multiple factors including age, health, and lifestyle choices or unique circumstances. Individuals possessing any combination of the following characteristics or conditions are at greater risk for experiencing an extreme temperature-attributable adverse health outcome:

- Age and underlying conditions: This at-risk group includes infants and older people (age 65 and older) who may be more susceptible to the effects of extreme temperature due to their physiology and state of health and/or may be unable to express signs or recognizable symptoms of excess temperature exposure. It also includes people with underlying medical conditions (e.g., heart disease, diabetes, asthma) that may be exacerbated during periods of extreme temperatures.
- Mobility constraints: People with mobility constraints are at higher risk during extreme temperature emergencies if those constraints limit their ability to access appropriately cooled/heated locations. This group includes the very young, the elderly, the very obese, the bedridden, and those with other access and functional needs that may affect mobility.
- Cognitive impairments: People with mental illnesses, with cognitive disorders, or under the influence of drugs or alcohol may be unable to make rational decisions that would help limit their exposure to extreme heat or cold or to recognize symptoms of extreme heat or cold exposure.
- Economic constraints: People with economic disadvantages may be disproportionately at risk during extreme temperature emergencies if their homes lack air conditioning or heating, or if they are less likely to use available utilities because of the cost. In addition, for individuals who reside in high-crime areas, fear of crime can increase their risks by hindering their willingness to take appropriate responses [e.g., opening doors and windows for circulation, visiting cooling/warming centers]. People without permanent housing may be at very high risk for an adverse health outcome because of their unprotected exposure to the extremes of temperature and lack of resources to limit the exposure or to seek medical care if needed.
- Social isolation: Socially isolated individuals are less likely to recognize symptoms of extreme heat or cold exposure. This can delay or prevent treatment and result in more serious health outcomes. Members of this group, which includes the homeless and those living alone, may also be less willing or able to reach out to others for help.

In addition, residents of the County who live in the areas with historically moderate temperature variations and milder climate, such as those residents living in South County,

may be less adapted to extreme temperatures, and often have limited access to air-conditioned spaces during extreme heat incidents.

Heat and Cold-Related Health Conditions

Appendix A: Extreme Temperature Health Risks summarizes the typical progression of medical conditions and associated symptoms, over the course of sustained exposure to extreme heat or extreme cold. These symptoms can progress rapidly, especially in persons who are sensitive to extreme temperatures. Heat stroke and hypothermia, at the upper end of the progression, constitute medical emergencies and can be life threatening. And while the primary health related conditions are listed in Appendix A, it's also important to note that temperature-related health impacts are often underestimated because only conditions like heat stroke and hypothermia can be coded as temperature-related.⁸

IV. CONCEPT OF OPERATIONS

The Extreme Temperature Incident concept of operations will focus on providing essential public information using a variety of different notification tools including press releases, websites, social media, and additional mechanisms. Additionally, targeted outreach to temperature sensitive populations will be utilized through Sonoma County's In-Home Support Services as well as DHS-Ending Homelessness service providers. Further, dependent on the phase outlined in this plan, cooling or warming center locations may be made available to community members.

Implementation criteria for each phase's extreme temperature related activities is based on information including historical data, predicted outlook data, best practices from the region, and input from the County Health Officer and the National Weather Service.

National Weather Service Alerts and Products

Sonoma County's weather forecasts are provided by the NWS Bay Area Weather Forecast Office (NWS- Bay Area). NWS- Bay Area issues written products when unusually hot or cold weather is expected to occur in Sonoma County. NWS staff also attend Sonoma County's Operational Area Weekly Coordination Calls to give weather briefings for the upcoming week. Both resources are intended to assist local officials with decision-

⁸ Assessment of extreme heat and hospitalizations to inform early warning systems, PNAS, March 2019. <https://www.pnas.org/doi/10.1073/pnas.1806393116#sec-1>

making responsibilities related to extreme temperature incidents, and in doing so raise public awareness to prevent weather-related illness.

The different weather products used by NWS- Bay Area are described below:

- A **Partner E-mail** is issued when the potential exists for an excessive weather incident in the next 3-7 days. It's designed to provide a summary of areas where people may need to take precautions.
- **Watches** (Excessive Heat or Freeze) are usually issued 36-48 hours before expected onset of the incident. A watch is used when the risk of the incident has increased but its occurrence and timing is still uncertain.
- **Advisories** may be issued for Frost and Heat. Advisories are for incidents that may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.
 - Frost advisories are typically issued within 12 hours of the incident. The frequency of frost advisories may vary depending on the season (primarily issued at the beginning or end of growing season when crops are vulnerable to damage).
 - Heat advisories are typically issued within 12 hours of the onset of extremely dangerous heat conditions.
- **Warnings** (Excessive Heat or Freeze) indicate a high degree of confidence that the incident will occur as described and are typically issued within 24 hours of the incident. A warning is used for conditions posing a threat to life or property.

NWS HeatRisk Tool

The NWS HeatRisk forecast provides a color and numeric value that places forecast heat for a specific location into an appropriate level of heat concern, along with identifying groups potentially most at risk at that level. Currently, HeatRisk is being used in conjunction with NWS's official heat watches, advisories, and warnings. HeatRisk, unlike other NWS official heat products (Heat Index, WetBulb Globe Temperature), identifies unusual heat specifically for that particular date and location, rather than just using a single threshold value applied across a large area. This allows the approach to better account for acclimation and that variation in climatology that exists across most regions in the United States.

The HeatRisk prototype takes into consideration⁹:

⁹ NWS HeatRisk Prototype, <https://www.wrh.noaa.gov/wrh/heatrisk/?wfo=sto>

1. How significantly above normal the temperatures are at your location.
2. The time of the year (for example, is this early season heat that you likely haven't become used to, or late season heat that you have become more used to).
3. The duration of unusual heat (for example, are temperatures overnight at levels that would lower heat stress or will warm overnight low temperatures continue to add to heat stress into the next day).
4. If those temperatures are at levels that pose an elevated risk for heat complications, such as heat stress, based on peer reviewed science and heat-health thresholds supported by the Centers for Disease Control and Prevention (CDC) national data.

NWS HeatRisk Categories and Meaning

Category	Level	Meaning
Green	0	No Elevated Risk
Yellow	1	Low Risk for those extremely sensitive to heat, especially those without effective cooling and/or adequate hydration
Orange	2	Moderate Risk for those who are sensitive to heat, especially those without effective cooling and/or adequate hydration
Red	3	High Risk for much of the population, especially those who are heat sensitive and those without effective cooling and/or adequate hydration
Magenta	4	Very High Risk for entire population due to long duration heat, with little to no relief overnight

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Appendix B: National Weather Service HeatRisk Forecast Tool provides a more detailed look at NWS Heat Risk Levels and Concerns.

¹⁰ NWS HeatRisk Prototype, <https://www.wrh.noaa.gov/wrh/heatrisk/?wfo=sto>

Seasonal Preparedness

Seasonal preparedness measures are actions taken prior to hotter and cooler months (March and April for hot weather, September and October for cold weather) to prepare for and maintain a state of increased readiness.

These measures include:

- Review and exercising of existing plans, procedures, and resources with key stakeholders
- Confirming contact information and notification methods for key stakeholders
- Verification of use/availability of key facilities, if applicable
- Preparing to initiate awareness campaigns
- Increase public awareness by providing general information about measures to reduce extreme temperature related risks and promote preparation efforts and standardized resources available during extreme temperature incidents
- Update information and risk communication processes for vulnerable populations

Response Phases

The Sonoma County Operational Area uses a three- phase approach to extreme-temperature incidents. Pre-determined actions and responses have been established for each phase to ensure an effective and timely response. Specific information regarding each action is described later in this Annex and in Appendix C: Implementation Criteria and Agency Actions by Phase (Checklists).

The three phases are based on the risk and impact to vulnerable populations and the general population. The three phases are:

Phase I: Readiness

Phase II: Cold/Heat Alert

Phase III: Cold/Freeze/Heat Warning

When an extreme temperature incident is projected, an extreme temperature internal County coordination meeting will be held by the Department of Emergency Management (DEM). Appendix D: County Internal Extreme Temperature Coordination Call Agenda contains a draft agenda for this meeting. Monitoring of potential extreme temperature incidents is the joint responsibility of the Department of Health Services (DHS) and DEM.

When response demand exceeds the capabilities of County departments and cities, County Department Operations Centers (DOCs) and the Operational Area Emergency Operations Center (EOC) may be activated.

During all phases, a series of extreme temperature indicators will be monitored including temperature, concurrent weather hazards, increase in temperature-related illnesses or medical calls, power outages, and local or regional proclaimed emergencies.

While NWS forecasts are an important indicator for each phase of operation, the NWS alerts and forecasts are not the sole determinant of an extreme temperature incident. Concurrent hazards may expand the anticipated impact of the extreme temperatures and the County Public Health Officer may also determine whether circumstances constitute a potential or actual extreme temperature emergency.

Phase I: Readiness – Heat or Cold

Phase I readiness actions are taken when the National Weather Service issues a partner email or delivers an operational area briefing that indicates an extreme temperature incident is possible (or that temperatures may meet implementation criteria in the **next 7 days**).

Implementation Criteria

An NWS Partner email issues, or situational briefing includes:

- Hot weather threshold indicators
 - Temperature forecasts with number of heat days
 - Overnight recovery temperatures
 - HeatRisk tool forecast
 - Forecast areas affected

- Cold weather threshold indicators
 - Temperature forecast with the number of cold/freezing days
 - Daytime recovery temperatures
 - Accompanying hazardous conditions (rain preceding/following cold temperatures, flash flood watch/warning potentials, wind chills or extreme temperature fluctuations)
 - Forecast areas affected

Phase II: Alert – Heat or Cold

Phase II is activated when DHS and DEM determine that an extreme temperature incident is likely to occur **within 3 days**, based on an assessment of extreme temperature indicators or notification of a potential incident.

Implementation Criteria - Heat

A single or combination of the below conditions may prompt activation of this phase:

- NWS HeatRisk Forecast at Level 3 or greater for at least 3 consecutive days **and**;
- NWS issuance of Excessive Heat Watch or Warning¹¹ and/or;
- Forecast high daytime temperatures are accompanied with overnight low temperature of at least 75°F or higher and/or;
- California Independent System Operator (CAISO) issues an Energy Emergency Alert 2 electrical emergency and/or;
- Pacific Gas and Electric (PG&E) forecasts significant PSPS incidents and/or;
- Department of Health Services issues a Heat Alert

Implementation Criteria - Cold

A single or combination of the below conditions may prompt activation of this phase:

- Forecast overnight temperatures are expected to drop below 28 degrees, and conditions are projected for a minimum of 2 consecutive days, or;
- Forecast overnight temperatures are expected to drop below 32 degrees, and conditions are projected for a minimum of 3 consecutive days, or;
- Forecast temperatures to drop below an average nighttime low of 37 degrees for two consecutive days with accompanying hazardous conditions (e.g., greater than 1" rain, predicted snowfall, flash flood watch/warning, wind chills or extreme temperature fluctuations) **and**;
- NWS issues a Frost Advisory and/or;
- NWS issues a Freeze Watch and/or;
- Forecast overnight low temperatures are accompanied with daytime temperatures of 40°F or lower and/or;
- Department of Health Services issues a Cold or Freeze Alert

¹¹ Note: During Heat Events, there is likely potential for increased fire weather conditions. Additional considerations concurrent response on cooling operations and potential for sheltering for fire will need to be taken.

Phase III: Warning - Heat or Cold

Phase III is activated when DHS and DEM determine that an extreme temperature incident is likely to occur **within 24 hours or is occurring**, based on an assessment of extreme temperature indicators.

Implementation Criteria- Heat

A single or combination of the below conditions may prompt activation of this phase:

- NWS HeatRisk Level of Level 3 or greater for at least 3 consecutive days **and**;
- NWS issuance of Excessive Heat Warning and/or;
- Forecast high daytime temperatures are accompanied with overnight low temperature of at least 75°F or higher and/or;
- CAISO issues an Energy Emergency Alert 2 or 3 electrical emergency or is implementing Energy Emergency Alert 3- Firm Load Interruption rotating outages concurrent to the extreme heat incident and includes a significant portion of Sonoma County and/or;
- Pacific Gas and Electric (PG&E) declares PSPS Warning for outage incidents and/or;
- Unanticipated power outages are occurring affecting a significant number of customers and/or;
- Increase in EMS calls for service and/or emergency room visits compared to the average number for the 7-day period prior and/or;
- Department of Health Services issues a Health Emergency related to Heat and/or a Public Health Order related to Heat

Implementation Criteria - Cold

A single or combination of the below conditions may prompt activation of this phase:

- Forecast overnight temperatures are expected to drop below 28 degrees, and conditions are projected for a minimum of 2 consecutive days, or;
- Forecast overnight temperatures are expected to drop below 32 degrees, and conditions are projected for a minimum of 3 consecutive days, or;
- Forecast temperatures to drop below an average nighttime low of 37 degrees for two consecutive days with accompanying hazardous conditions (e.g., greater than 1" rain, predicted snowfall, flash flood watch/warning, wind chills or extreme temperature fluctuations) **and**;

- NWS issues cold-related Warnings (Freeze, Cold, Frost, etc.) and/or;
- Forecast overnight low temperatures are accompanied with daytime temperatures of 40°F or lower and/or;
- Unanticipated power outages are occurring affecting a significant number of customers and/or;
- Department of Health Services issues a Health Emergency related to Cold and/or a Public Health Order related to Cold

Proclamation of Local Emergency

While unlikely, prolonged and severe extreme temperature incidents (with or without concurrent hazards) may prompt proclamations of a local emergency. The Public Health Officer may proclaim a local Health Emergency or issue a Public Health Order. DEM staff may also recommend that the County proclaim a local emergency. Cities and special districts may also consider proclamations as warranted.

Notifications

Initial Operational Area Notification

If Phase I implementation criteria are met, County DEM will notify local governments, County departments, and public safety agencies utilizing DEM Staff Duty Officer (SDO) notification procedures.

Operational Area Emergency Conference Calls

If Phase 2 implementation criteria are met, County DEM staff will convene an Operational Area Emergency Conference Call and establish a schedule for follow-up calls. DEM staff will invite potential participants and lead the call to conduct cross-level situational awareness; address resource needs, integrate response activities, and coordinate public information efforts. An Extreme Temperature Operational Coordination Call Agenda can be found in Appendix E.

Status Reporting

As the incident develops, Sonoma County DEM staff will monitor and report the status of the Op Area to CalOES and Op Area stakeholders. As time permits, DEM shall contact jurisdictions/county agencies to check their status and/or continue to convene Op Area Conference Calls. Each agency/organization will be asked to provide the following information:

- Current situation (increased public safety stature, response activities, etc.)
- EOC/DOC/ICP activations
- Increased readiness activities (upstaffing, pre-deployment/staging of resources)
- Warming/Cooling Centers, support and public warning operations
- Impacts to transportation, communications, utilities and other critical infrastructure
- Critical issues
- PIO (name and contact information)
- Forecast of major actions and potential needs

Sonoma County Emergency Management will represent the Operational Area in regional NWS and Cal OES conference calls.

Public Information

Public messaging and dissemination will be crucial during extreme temperature incidents. The nature and potential scope of information that may need to be provided to County residents can be found at the California Department of Public Health Emergency Preparedness Office.¹² Public information may vary depending on the duration and severity of the incident, but will focus on:

- Raising public awareness of the potential risks associated with the extreme temperatures.
- Warning of the imminent hazard and providing specific information on how to reduce the risk of injury and illness.
- Providing messages on both prevention and immediate treatment of potential injuries and illnesses.
- Response actions being taken by the County and allied stakeholder agencies.
- Information on how the public can access government services (locations of warming or cooling centers, when to use 911, transportation services etc.)

Public Health Alerts

Public Health alerts may be issued at any phase during an extreme temperature incident, and do not require all implementation criteria in a specific phase to be met in order to

¹² <https://www.cdph.ca.gov/programs/EPO/Pages/Program-Landing1.aspx>

be released. For small or short duration extreme temperature incidents, activation of public health and a public information response may be the only required actions.

Warming and Cooling Centers

A warming or cooling center is a location where individuals can go to get out of the elements during either an extreme cold or heat incident. These centers may be established at various facilities and the requirements for these centers will vary depending on each facility, local jurisdiction, and operator.

Warming and cooling centers may be designated at locations that are operating during their normal business hours such as year-round shelters, community centers, senior centers, libraries, local government buildings or public locations such as malls. These pre-established locations may extend their services to support the community during extreme temperature incidents or may only be available during their standard business hours. As needed, additional locations may be established as temporary warming or cooling centers for the public.

When establishing warming and cooling center locations, jurisdictions and operators must consider the financial cost of expanding pre-established locations hours and services and opening additional locations (especially for overnight operations, holiday facility uses, and staffing considerations). Partnerships with organizations such as the Community Organizations Active in Disaster (COAD) are crucial during these incidents. Faith-based and other non-profit organizations may be of assistance- and may already be supporting or operating year-round shelters. Jurisdictions are also encouraged to form agreements between each other to increase their capacity to effectively serve their residents by sharing the costs and logistical resources of operating centers.

A list of potential County-supported warming and cooling center locations can be found in Appendix I. This list of locations will be established through pre-authorized memorandums of understanding (MOUs) and used as contingency locations when there are gaps in service across the Operational Area.

There are no established requirements for what a location or facility needs in order to qualify as a warming or cooling center and each establishment may have their own requirements across the Operational Area. However, the California Office of Emergency Services (Cal OES) Extreme Temperature Response Plan provides guidance on what each location's capabilities should be minimally, including:

- Accommodations for people with disabilities and those with access and/or functional needs

- Accommodations for service animals and domestic pets
- Generator capabilities

Appendix F: Cooling and Warming Center Guidelines is a quick reference guide for identifying potential warming and cooling center locations. For County-run warming and cooling centers, a Warming and Cooling Center Operations Guide is also available and may be shared and utilized by local jurisdictions as needed.

Implementation of County Operated or County Supported Centers

Sonoma County's approach to warming and cooling center implementation is to prioritize the support of pre-established facilities and the expansion of their services before opening new temporary warming or cooling centers.

The threshold for the County operating a warming or cooling center will follow the phases outlined in this plan. As the weather and public health indicators in phases two and three are forecasted to be met, DEM and DHS will begin outreach to local jurisdictions and service providers to track the anticipated delivery of service across the Operational Area.

The implementation of warming or cooling centers may vary across the Operational Area due to local jurisdictions policies and criteria for implementation, as well as variance in temperature and hazards. The County will analyze the need for centers in the County unincorporated areas based on social vulnerability of residents in those areas and the proximity of centers and services available to those residents in both incorporated and unincorporated jurisdictions.

Social vulnerability of residents will be analyzed through reporting from DHS- Ending Homelessness and their service providers, HSD - In Home Support Services (IHSS) and their temperature sensitive clients, and through a social vulnerability index developed in 2019 in support of Listos California¹³. The Sonoma County Social Vulnerability Map in Appendix H, shows the geographic distribution of social vulnerability of residents throughout the Operational Area from low to high based on weighted variables seen in the table below:

Social Vulnerability Index Variables	
Variable Name	Variable Weight

¹³ Hazard Map Reports, Sonoma County, <https://www.listoscalifornia.org/about/research/hazard-map-reports-english/>

Median Housing Costs as a Percent of Income	0.190
No High School Diploma	0.093
Female	0.043
Renter Occupied Housing Units	0.054
Modified Retail Food Environment Index (mRFEI)	0.105
Limited English	0.090
Non-White or Hispanic	0.071
Disability	0.126
Long-Term Care Facility Beds	0.069
Sensitive Age Groups	0.072
Households with No Vehicle Available	0.087

The County will open a temporary warming or cooling center and/or support the expansion of services at a standing location (staffing, facilities, equipment etc.) if there are significant gaps in service for residents located in the county unincorporated areas.

In order to assess gaps in service and potential need, the following criteria will be evaluated:

- Implementation criteria from phases 2 and 3 are forecasted to be met or are occurring.
- No warming or cooling center location is planned to be available near residents in the top two highest social vulnerability categories in the County unincorporated areas.
 - Additionally, there is limited public transit available to transit to a warming/cooling center for those residents.
- A significant portion of residents in the top two highest social vulnerability categories are not already being served through DHS-Ending Homelessness service providers or HSD- In Home Support Services.

The location of any County operated warming or cooling centers will be determined based on the gaps in service identified in the criteria above and available facilities.

Additionally, the County may create independent agreements with local jurisdictions to provide warming and cooling center locations, equipment, staffing, and management that serve both incorporated and unincorporated residents in that area.

V. ROLES AND RESPONSIBILITIES

County Department of Emergency Management (DEM)

- Receive and distribute NWS forecasts and weather products.
- Assess potential impacts of forecasted incidents and/or concurrent hazards.
- Monitor power and utility impacts and respond to concurrent hazards as needed (rotating outages or significant power outages, PSPS, wildfires etc.)
- Notify potentially impacted jurisdictions. Distribute Staff Duty Officer situation updates and conduct Operational Area conference calls with partner agencies.
- Coordinate internal County agency communications through internal County Temperature Coordination Calls.
- Conduct status reporting.
- Support Public Information coordination.
- As needed:
 - Activate EOC as directed.
 - Conduct public alert & warning messaging.
 - Activate Auxiliary Communications System (ACS) staff to support intelligence gathering, 9-1-1 reporting, and emergency communications.
- Support the implementation of warming and cooling centers.

County Department of Health Services (DHS)

- Develop and integrate public health messaging, including Public Health Alerts; disseminate Public Information messaging.
- Coordinate with homeless service providers
- Assess the need for and make recommendations regarding a Proclamation of Local Health Emergency.
- As needed:
 - Alert and coordinate efforts of Health Care Coalition (HCC) partner agencies. Conduct conference calls and distribute information.
 - Activate the Medical/Health Operational Area Coordinator (MHOAC) program.

- Assess potential impacts to medical/health care provider organizations, facilities, and systems.
- Survey and assess potential impacts to local healthcare and medical systems, residential care facilities and pharmacies. Assist in ensuring emergency power systems are operational.
- Activate EOC/DOC staff
- Monitor and report out on increased temperature related deaths and/or injuries through EMS patient data or coordinated through the Coroner.

County/Operational Area Public Information Officer (PIO)

- Coordinate press releases, updates to SoCoEmergency.org (English and Spanish), and conduct social media monitoring.
- Coordinate public information with impacted local jurisdictions.
- Evaluate the need for a JIC or JIS.
- Coordinate with 2-1-1.
- Ensure all efforts support communications with the Whole Community.

County Human Services Department (HSD)

- Assess potential impact of hazards on temperature sensitive clients.
- As needed:
 - Participate in Operational Area conference calls. Staff the Care & Shelter Branch in Operational Area EOC.
 - Designate and alert shelter support staff. Support shelters if needed including Functional Assessment Service Teams (FAST).
 - Implement the In-Home Supportive Services (IHSS) Disaster Preparedness Action Plan and prioritize outreach based on IHSS Disaster Preparedness Coding. Provide current disaster preparedness client list to DEM/GIS.

County Public Infrastructure (PI)

- Prepare facilities and building systems for extreme temperatures and potential power loss.
- Maximize readiness of vehicle fleets including fueling.
- As needed:

- Manage and maintain building emergency power systems including UPS, generators, and fuel re-supply.
- Evaluate building safety upon loss of power.
- Provide alternative facilities in support of continuity of operations efforts.

Warming/Cooling Center – Human Services Department (HSD)

- Identify potential warming/cooling center locations.
- Determine type of support needed for County warming/cooling centers (expansion of services, temporary centers, and/or both).
- Consider increasing staffing, cancellation of leave, and adoption of maximum staffing schedules as needed.
- Coordinate with DHS on medical support for warming/cooling centers, as needed.
- Confirm warming/cooling center location, dates, and hours of operation, staffing plan, and resources offered. Activate MOUs as needed.
- Coordinate security services for warming/cooling center operations.
- Set up the warming/cooling center, dependent on need and capacity (refer to Warming and Cooling Centers Operations Guide).
- Provide support for care of pets at warming and cooling centers.

Cities, Tribal Governments, and Special Districts

- As needed:
 - Participate in Operational Area conference calls.
 - Report on any response activities.
 - Open warming/cooling centers.
 - Coordinate public information.
 - Conduct public alert & warning messaging.
 - Open local EOC.
 - Respond to increased medical aid and law enforcement calls for service.
 - Conduct wellness checks.

Sheriff / Municipal Law Enforcement

- As needed:

- Activate Nixle to support extreme temperature incident notifications and/or alerts and warnings.
- Participate in Operational Area conference calls.
- Staff Law Enforcement Branch in Operational Area EOC.

Fire

- As needed:
 - Participate in Operational Area conference calls.
 - Staff Fire Mutual Aid Coordinator in Operational Area EOC.
 - Assess potential impacts to fire detection/reporting and response capabilities.
 - Assist in wellfare checks.

Schools

- As needed:
 - Participate in Operational Area conference calls.
 - Assess potential impacts to school facilities and systems.
 - Communicate status of school closures or restricted operations.
 - Communicate status with parents and partner agencies.

Community Organizations Active in Disaster (COAD)

- As needed:
 - Participate in Operational Area conference calls. Staff the COAD Liaison in Operational Area EOC.
 - Survey member agencies as to status and issues.
 - Be prepared to outreach to members/clients, check on their status, and provide expanded or enhanced services.

Pacific Gas & Electric (PG&E)

- Participate in Operational Area conference calls. Provide system status updates and forecasts.
- Coordinate with the Operational Area regarding potential/forecast PSPS incidents or CAISO emergency actions.

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- Provide a representative to the Operational Area EOC upon request.

VI. PLAN DEVELOPMENT AND MAINTENANCE

The Extreme Temperature Response Annex is considered a working document that will evolve in response to ever-changing threats. Ongoing maintenance, training, and exercising of this Annex will ensure new hazards and changes in communities can be accommodated. A well-developed training and exercise program is vital to ensuring overall readiness and preparedness. Training ensures personnel are prepared for their roles and responsibilities. Emergency exercises test the capabilities, resources, and working relationships of responding agencies.

The Extreme Temperature Response Annex will be reviewed and revised as necessary. The Department of Emergency Management will lead the responsible departments in reviewing and updating their portions of the Annex based on identified deficiencies experienced in exercises or actual occurrences. DEM is also responsible for making revisions to this Annex to enhance the conduct of operations and will prepare, coordinate, publish and distribute any necessary changes to the Annex to all entities.

VII. REFERENCES

- Sonoma County Operational Area Emergency Operations Plan, March 2022.
- Sonoma County In-Home Supportive Services (IHSS) Disaster Preparedness Action Plan, July 2019.
- Sonoma County Cooling Center Operations Guide, 2021.
- U.S. Environmental Protection Agency, Excessive Heat Events Handbook, March 2016.
- California Office of Emergency Services Extreme Temperature Response Plan, 2022
- A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action, 2011
- California Environmental Protection Agency, Heat-Related Mortality and Morbidity, 2018
- Listos California Hazard Map Reports- Sonoma County, 2019

VIII. APPENDICES

Appendix A: Extreme Temperature Health Risks

Heat- Related Illnesses¹⁴

Symptoms	Responses
HEAT STROKE	
<ul style="list-style-type: none"> • High body temperature (103° F or higher) • Hot, red, dry or damp skin • Fast, strong pulse • Headache • Dizziness • Nausea • Confusion • Losing consciousness (passing out) 	<ul style="list-style-type: none"> • Call 911 right away- heat stroke is a medical emergency • Move the person to a cooler place • Help lower the person's temperature with cool cloths or a cool bath • Do not give the person anything to drink
HEAT EXHAUSTION	
<ul style="list-style-type: none"> • Heavy sweating • Cold, pale, and clammy skin • Fast, weak pulse • Nausea or vomiting • Muscle cramps • Tiredness or weakness • Dizziness • Headache • Fainting (passing out) 	<ul style="list-style-type: none"> • Move to a cool place • Loosen your clothes • Put cool, wet cloths on your body or take a cool bath • Sip water <p>Get medical help right away if:</p> <ul style="list-style-type: none"> • You are throwing up • Your symptoms get worse • Your symptoms last longer than 1 hour
HEAT CRAMPS	
<ul style="list-style-type: none"> • Heavy sweating during intense exercise • Muscle pain or spasms 	<ul style="list-style-type: none"> • Gently stretch and massage affected muscle groups • Stop all activity and sit in a cool place. Drink clear juice or a sports beverage. Consult with a clinician or physician if individual has

¹⁴ CDC Extreme Heat, <https://www.cdc.gov/disasters/extremeheat/index.html>

	cardiac problems or cramps do not subside within one hour
HEAT RASH	
<ul style="list-style-type: none"> Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases) 	<ul style="list-style-type: none"> Stay in a cool, dry place Keep the rash dry Use powder to soothe the rash

Cold- Related Illnesses¹⁵

Symptoms	Responses
HYPOTHERMIA	
<p>Adults: shivering, exhaustion, confusion, fumbling hands, memory loss, slurred speech, drowsiness</p> <p>Infants: bright red, cold skin, very low energy</p>	<ul style="list-style-type: none"> Take the person's temperature. If below 95°, get medical attention immediately Get the victim to a warm room or shelter Remove any wet clothing Warm the center of the body first (chest, neck, head and groin) using an electric blanket, if available, or skin-to-skin contact under loose, dry layers of blankets Warm beverages can help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person After body temperature has increased, keep the person dry and wrapped in a warm blanket
FROSTBITE	
White or grayish-yellow skin area, skin that feels unusually firm or waxy, numbness	<ul style="list-style-type: none"> Get into a warm room as soon as possible

¹⁵ CDC Prevent Hypothermia & Frostbite, <https://www.cdc.gov/disasters/winter/staysafe/hypothermia.html>

	<ul style="list-style-type: none">• Immerse the affected area in warm- not hot- water or warm the affected area using body heat• Do not rub the frostbitten area with snow or massage it at all. This can cause more damage• Don't use a heating pad, hat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.
CARBON MONOXIDE POISONING	
The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and altered mental status	<ul style="list-style-type: none">• Consult a health care professional immediately• Healthcare professional will administer 100% oxygen until the patient is symptom-free, usually about 4-5 hours

Appendix B: National Weather Service HeatRisk Forecast Tool

According to historical weather and mortality data gathered by the National Weather Service (NWS) and the California Department of Public Health, there appears to be a significant increase in health risk (particularly to heat sensitive groups) when temperatures spike for two or more consecutive days without an adequate drop in nighttime temperature to cool the outdoor and indoor environments.

Forecasting the development and characteristics of an extreme heat incident is a critical element of risk assessment, notification, and response. To better address heat risk and afford local authorities' opportunities to prepare for upcoming heat events, the NWS has developed the Heat Risk Forecast Tool¹⁶, which measures the deviation of forecasted daily temperature values from historic climatological norms. The Tool addresses seasonal variations as it captures resiliency of communities to heat based on how well they adapt to the heat of the season.

The Heat Risk Tool provides a forecast comprised of a color and numeric value that identifies heat potential for specific geographic areas as well as levels of heat concern and recommended protective action messages. A daily heat risk value is calculated for each geographic area from with current data with predictions for seven days into the future. At this time, the Heat Risk Forecast Tool is being used to influence the issuance of, and add value to, the NWS' official heat advisories and warnings.

Heat risk is portrayed using a numeric format (0-4) and color (green/yellow/orange/red/magenta) scale. It provides one value each day that indicates the approximate level of heat risk concern for any geographic area along with identified groups most at risk. The heat risk forecast is divided into five categories; the higher the value, the greater the level of heat concern is for a geographic location. See Tables 2 and 3 below.

Table 2: Heat Risk Values, Associated Risks, and Levels of Concern

	0	1	2	3	4
HEAT RISK VALUES When the Heat Risk value is:					
RISK OF HEAT EFFECTS ...the risk of heat effects are:	Very Low	Low	Medium	High	Very High
LEVEL OF HEAT CONCERN ...as symbolized by this color:	Green	Yellow	Orange	Red	Magenta

¹⁶ NWS HeatRisk Prototype, <https://www.wrh.noaa.gov/wrh/heatrisk/?wfo=mtr#>

Table 3: NWS Heat Risk Levels and Concerns

Numerical Value	Meaning	Who/What is at Risk?	For those at risk, what actions can be taken?
0	Level of heat poses little to no risk	No elevated risk	No preventative actions necessary
1	Heat of this type is tolerated by most ; however there is a low risk for sensitive groups to experience health effects	Primarily those who are extremely sensitive to heat	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
2	Moderate risk for members of heat sensitive groups for 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 danger at night	Primarily heat sensitive groups, especially those without effective cooling or hydration Some transportation and utilities sectors	Reduce time in the sun between 10 a.m. and 4 p.m. Stay hydrated Stay in a cool place during heat of day Move outdoor activities to cooler times of the day Open windows at night
3	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	Much of the population, especially people who are heat sensitive and those without effective cooling or hydration Transportation and utilities sectors	Try to avoid being outdoors in the sun 10 a.m. - 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

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	Power interruptions may occur as electrical demands increase		
4	<p>Very High Risk for entire population</p> <p>Very dangerous to anyone without proper hydration or adequate cooling.</p> <p>This is a multi-day extreme heat incident. A prolonged period of heat is dangerous for everyone not prepared.</p> <p>Poor air quality is likely.</p> <p>Power outages are increasingly likely as electrical demands may reach critical levels.</p>	<p>Entire population is at risk.</p> <p>For heat sensitive groups, especially people without effective cooling, this level of heat can be deadly.</p> <p>Most Transportation and utilities sectors</p>	<p>Avoid being outdoors in the sun between 10 a.m. and 4 p.m.</p> <p>Stay hydrated</p> <p>Stay in a cool place, including overnight</p> <p>If you have access to air conditioning, use it. Fans will not be adequate</p> <p>Cancel outdoor activities during the heat of the day</p>

Appendix C: Implementation Criteria and Agency Actions by Phase (Checklists)

Phase 1: Readiness – Heat or Cold	
Implementation Criteria:	<p>Readiness actions are taken when the National Weather Service (NWS) issues a partner email or delivers an operational area briefing that indicates an extreme temperature incident is possible (or that temperatures may meet implementation criteria in the next 7 days).</p> <p>An NWS Partner email issued, or situational briefing includes:</p> <ul style="list-style-type: none"> • Hot weather threshold indicators <ul style="list-style-type: none"> ○ Temperature forecasts with number of heat days ○ Overnight recovery temperatures ○ HeatRisk tool forecast ○ Forecast areas affected • Cold weather threshold indicators <ul style="list-style-type: none"> ○ Temperature forecast with the number of cold/freezing days ○ Daytime temperatures (recovery) ○ Accompanying hazardous conditions (rain preceding/following cold temps, snow, flash flood watch/warning potentials, wind chills or extreme temperature fluctuations) ○ Forecast areas affected
Responsible Agency/Jurisdiction	Actions
County Department of Emergency Management (DEM)	<ul style="list-style-type: none"> ➤ Monitor weather forecast updates ➤ Monitor CAISO and any other utilities to determine power availability ➤ Monitor the PG&E 7-day PSPS forecast ➤ Review Extreme Temperature Annex ➤ Assess potential impacts of forecasted incident and/or concurrent hazards ➤ Notify Operational Area Partners ➤ Hold internal County Temperature Coordination Call with DHS (PHO, PHP, EMS, Ending Homelessness), County Communications, HSD- IHSS, and Public Infrastructure. Call agenda located in Appendix B. ➤ Conduct status reporting

	<ul style="list-style-type: none"> ➤ Communicate any NWS alerts with Public Health
County Department of Health Services (DHS)	<ul style="list-style-type: none"> ➤ Assess potential impacts to medical/health provider organizations, facilities, and systems
DHS – Public Health Officers	<ul style="list-style-type: none"> ➤ Monitor weather information provided by DEM ➤ Determine plan of action for public health messaging and alerts ➤ Prepare press release template for potential use
DHS- Emergency Medical Services (EMS)	<ul style="list-style-type: none"> ➤ Reach out to hospitals and providers for situational awareness
DHS- Ending Homelessness	<ul style="list-style-type: none"> ➤ Begin to poll homeless service providers to understand current capacity, expansion capacity, and any unmet needs
County Communications – PIO	<ul style="list-style-type: none"> ➤ Prepare communications team and web team for messaging and any updates needed for SoCoEmergency.org
County Human Services Department (HSD) - In Home Supportive Services (IHSS)	<ul style="list-style-type: none"> ➤ Review potential impact on temperature sensitive clients
County Public Infrastructure	<ul style="list-style-type: none"> ➤ Create plan to prepare facilities and building systems for extreme temperatures (and potential power loss) if needed
Warming/Cooling Center Mission - Human Services	<ul style="list-style-type: none"> ➤ Verify data on standing warming/cooling center facilities ➤ Identify potential warming/cooling center locations
Cities, Tribal Governments, and Special Districts	<ul style="list-style-type: none"> ➤ Report on any planned response activities
Community Organizations Active in Disaster (COAD)	<ul style="list-style-type: none"> ➤ Begin outreach and polling with members to increase situational awareness, capacity, and anticipated unmet needs

Phase 2: Alert – Heat or Cold

Implementation Criteria:	<p>Based on an assessment of extreme temperature indicators or notification of a potential heat incident, DHS and DEM determine that an extreme heat emergency is likely to occur within 3 days. A single or combination of the below conditions may prompt activation of this phase:</p> <ul style="list-style-type: none"> • NWS Heat Risk Forecast at Level 3 or greater for at least 3 consecutive days and; • NWS issuance of Excessive Heat Watch or Warning⁸ and/or; • Forecast high daytime temperatures are accompanied with overnight low temperatures of at least 75°F or higher and/or; • California Independent System Operator (CAISO) issues an Energy Emergency Alert 2 electrical emergency and/or; • Pacific Gas & Electric (PG&E) forecasts significant PSPS incidents and/or; • Department of Health Services issues a Heat Alert <p>Alternately, for colder temperatures, based on an assessment of extreme temperatures indicators or notification of a potential cold incident, DHS and DEM determine that an extreme cold emergency is likely to occur within 3 days. A single or combination of the below conditions may prompt activation of this phase:</p> <ul style="list-style-type: none"> • Forecast overnight temperatures are expected to drop below 28 degrees, and conditions are projected for a minimum of 2 consecutive days, or; • Forecast overnight temperatures are expected to drop below 32 degrees, and conditions are projected for a minimum of 3 consecutive days, or; • Forecast temperatures to drop below an average nighttime low of 37 degrees for two consecutive days with accompanying hazardous conditions (e.g., greater than 1" rain, predicted snowfall, flash flood watch/warning, wind chills or extreme temperature fluctuations) and; • NWS issues a Frost Advisory and/or; • NWS issues a Freeze Watch and/or;
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	<ul style="list-style-type: none"> • Forecast overnight low temperatures are accompanied with daytime temperatures of 40°F or lower and/or; • Department of Health Services issues a Cold or Freeze Alert and/or;
Responsible Agency/Jurisdiction	Actions
County Department of Emergency Management (DEM)	<ul style="list-style-type: none"> ➤ Continue to monitor weather forecast ➤ Determine activation of 2nd Duty Officer ➤ Monitor CAISO and any other utilities to determine power availability and potential for rotating outages ➤ Monitor the PG&E 7-day PSPS forecast ➤ Generate Operational Area Situation Report(s) ➤ Conduct Operational Area Conference Call ➤ Hold additional internal County Temperature Coordination Call if needed ➤ Communicate any NWS alerts with Public Health ➤ Conduct status reporting ➤ Consider activation of Operational Area EOC ➤ Support Public Information coordination ➤ Implement Continuity of Operations Plans (COOPs) as needed
County Department of Health Services (DHS)	<ul style="list-style-type: none"> ➤ Alert and coordinate efforts of Health Care Coalition (HCC) partner agencies and conduct conference calls and distribute information as needed. ➤ Survey and assess potential impacts to local healthcare and medical systems, residential care facilities and pharmacies. Assist in ensuring emergency power systems are operational. ➤ Develop and integrate public health messaging; coordinate public information messaging with County Communications. ➤ Consider activation of DHS DOC ➤ Assess and consider implementing public health measures including closing at-risk facilities and/or curtailing outdoor activities.
DHS – Public Health Officers	<ul style="list-style-type: none"> ➤ Issue Public Health alert ➤ Coordinate any press releases needed with County Communications
DHS- Emergency Medical Services (EMS)	<ul style="list-style-type: none"> ➤ Increase surveillance planning efforts pertaining to temperature-related deaths and injuries, using web-

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	<p>based monitoring tools, Computer Aided Dispatch, area hospital emergency room statistics, and Reddinet.</p> <ul style="list-style-type: none"> ➤ Update area hospitals and providers of any advisory, watch or warnings.
DHS- Ending Homelessness	<ul style="list-style-type: none"> ➤ Coordination with County providers on capacity, expansion capacity, unmet needs, and center information (location, hours, POC, resources)
County Communications – PIO	<ul style="list-style-type: none"> ➤ Coordinate press releases, updates to SoCoEmergency.org (English and Spanish), and conduct social media monitoring
County Human Services Department (HSD)	<ul style="list-style-type: none"> ➤ If requested, designate and alert shelter support staff
HSD- In Home Supportive Services (IHSS)	<ul style="list-style-type: none"> ➤ Implement the In-Home Support Services (IHSS) Disaster Preparedness Action Plan and prioritize outreach based on IHSS Disaster Preparedness Coding ➤ Provide current disaster preparedness client list to DEM/GIS
County Public Infrastructure	<ul style="list-style-type: none"> ➤ Prepare facilities and building systems for extreme temperatures and potential power loss ➤ Maximize readiness of vehicle fleets including fueling
Warming/Cooling Center Mission - Human Services	<ul style="list-style-type: none"> ➤ Determine type of support needed for County warming/cooling centers (expansion of services, temporary centers, and/or both) ➤ Identify potential staffing plan for warming/cooling center operations ➤ Consider increasing staffing, cancellation of leave, and adoption of maximum staffing schedules as needed ➤ Review Warming and Cooling Centers Operations Guide ➤ Review potential warming/cooling center locations and equipment and/or supply needs ➤ Prepare to mobilize equipment and supplies needed for potential warming/cooling center(s) ➤ Deploy and/or increase testing of critical equipment ➤ Coordinate staging necessary equipment, if needed ➤ Analyze potential scope of center based on capacity and need ➤ Coordinate with DHS on medical support personnel for warming/cooling centers

	<ul style="list-style-type: none"> ➤ Coordinate potential available security services for warming/cooling center operations
Cities, Tribal Governments, and Special Districts	<ul style="list-style-type: none"> ➤ Report on any planned response activities ➤ Participate in Operational Area conference calls ➤ Coordinate public information
Schools	<ul style="list-style-type: none"> ➤ Assess potential impacts to school facilities and systems ➤ Communicate status of school closures or restricted operations ➤ Communicate status with parents and partner agencies ➤ Participate in Operational Area conference calls
Community Organizations Active in Disaster (COAD)	<ul style="list-style-type: none"> ➤ Survey member agencies as to status and issues ➤ Outreach to members/clients, check on their status, and prepare to coordinate expanded or enhanced services among members
Pacific Gas & Electric (PG&E)	<ul style="list-style-type: none"> ➤ Participate in Operational Area conference calls ➤ Provide system status updates and forecasts ➤ Coordinate with the Operational Area regarding potential/forecasted PSPS incidents or CAISO emergency actions

Phase 3: Warning– Heat or Cold	
Implementation Criteria:	<p>Based on an assessment of extreme temperature indicators, DHS and DEM determine that an extreme temperature (cold/freeze or heat) emergency is likely to occur within 24 hours or is occurring. A single or combination of the below conditions may prompt activation of this phase:</p> <p>Heat incident Indicators may include the following:</p> <ul style="list-style-type: none"> • NWS Heat Risk Level of Level 3 or greater for at least 3 consecutive days, and; • NWS has issued an Excessive Heat Warning, and/or; • Forecast high daytime temperatures are accompanied with overnight low temperature of at least 75°F or higher and/or; • CAISO issues an Energy Emergency Alert 2 or 3 electrical emergency or is implementing Energy Emergency Alert 3 – Firm Load Interruption rotating outages concurrent

	<p>to the extreme heat incident and includes a significant portion of Sonoma County, and/or;</p> <ul style="list-style-type: none"> • Pacific Gas & Electric (PG&E) declares PSPS Warning for outage incidents and/or; • Unanticipated power outages are occurring affecting a significant number of customers and/or; • Increase in EMS calls for service and/or emergency room visits compared to the average number for the 7-day period prior and/or; • Department of Health Services issues a Health Emergency related to Heat and/or a Public Health Order related to Heat <p>Cold incident indicators may include the following:</p> <ul style="list-style-type: none"> • Forecast overnight temperatures are expected to drop below 28 degrees, and conditions are projected for a minimum of 2 consecutive days, or; • Forecast overnight temperatures are expected to drop below 32 degrees, and conditions are projected for a minimum of 3 consecutive days, or; • Forecast temperatures to drop below an average nighttime low of 37 degrees for two consecutive days with accompanying hazardous conditions (e.g., greater than 1" rain, predicted snowfall, flash flood watch/warning, wind chills or extreme temperature fluctuations) and; • NWS issues cold-related Warnings (Freeze, Cold, Frost, etc.) or; • Forecast overnight low temperatures are accompanied with daytime temperatures of 40°F or lower and/or; • Unanticipated power outages are occurring affecting a significant number of customers and/or; • Department of Health Services issues a Health Emergency related to Cold and/or a Public Health Order related to Cold
Responsible Agency/Jurisdiction	Actions
County Department of Emergency Management (DEM)	<ul style="list-style-type: none"> ➤ Continue to monitor weather forecast ➤ Activate a second DEM Duty Officer

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	<ul style="list-style-type: none"> ➤ Continue to monitor CAISO and any other utilities to determine power availability and potential for rotating outages ➤ Continue to monitor any reported PG&E outages ➤ Generate Operational Area Situation Report(s) ➤ Conduct Operational Area Conference Call ➤ Hold additional internal County Temperature Coordination Call if needed ➤ Communicate any NWS alerts with Public Health ➤ Continue to conduct status reporting ➤ Support warming/cooling center implementation ➤ Consider activation of Operational Area EOC, including increasing staffing, cancellation of leave, and adoption of maximum staffing schedules for EOC staff ➤ Conduct public alert and warning messaging, if needed
<p>County Department of Health Services (DHS)</p>	<ul style="list-style-type: none"> ➤ Activate the Medical/Health Operational Area Coordinator (MHOAC) program, as needed. ➤ Activate EOC/DOC staff, if needed. ➤ As needed, coordinate with the Coroner in order to monitor and report out on increased temperature related deaths or injuries
<p>DHS – Public Health Officers</p>	<ul style="list-style-type: none"> ➤ Monitor weather information provided by DEM ➤ Coordinate with County Communications on any updated messaging (Public Health alerts, additional press releases etc.)
<p>DHS- Emergency Medical Services (EMS)</p>	<ul style="list-style-type: none"> ➤ Monitor and report out on increased temperature related deaths or injuries from EMS patient data ➤ Continue to inform area hospitals and providers with any updated alerts ➤ Respond to increased calls for medical aid
<p>DHS- Ending Homelessness</p>	<ul style="list-style-type: none"> ➤ Continue coordination with County providers on capacity, expansion capacity, unmet needs, and center information (location, hours, POC, resources)
<p>County Communications – PIO</p>	<ul style="list-style-type: none"> ➤ Coordinate public information with impacted local jurisdictions ➤ Evaluate need for a JIC or JIS ➤ Post updates to SoCoEmergency.org ➤ Coordinate with 2-1-1

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County Human Services Department (HSD)	<ul style="list-style-type: none"> ➤ If requested, designate and alert shelter support staff
HSD- In Home Supportive Services (IHSS)	<ul style="list-style-type: none"> ➤ Report out on unmet needs of temperature sensitive clients
County Public Infrastructure	<ul style="list-style-type: none"> ➤ Manage and maintain building emergency power systems including UPS, generators, and fuel re-supply ➤ Evaluate building safety upon loss of power ➤ Provide alternative facilities in support of continuity of operations efforts
Warming/Cooling Center Mission - Human Services	<ul style="list-style-type: none"> ➤ Notify warming/cooling center staff ➤ Confirm warming/cooling center location, dates and hours of operation, and resources offered. Activate MOUs as needed. ➤ Coordinate security services for warming/cooling center operations ➤ Set up the warming/cooling center, dependent on need and capacity (refer to Warming and Cooling Centers Operations Guide) ➤ Notify DEM and PIO when center is operational ➤ Provide support for care of pets at warming and cooling centers
Cities, Tribal Governments, and Special Districts	<ul style="list-style-type: none"> ➤ Report on any planned response activities ➤ Participate in Operational Area conference calls ➤ Coordinate public information ➤ Open warming/cooling centers ➤ Conduct public alert and warning messaging, if needed ➤ Open local EOCs, if needed ➤ Respond to increased medical aid and law enforcement calls for service ➤ Conduct wellness checks
Sheriff's Office	<ul style="list-style-type: none"> ➤ Activate Nixle to support temperature incident notifications and/or alerts and warnings, if needed ➤ Participate in Operational Area conference calls
Fire	<ul style="list-style-type: none"> ➤ Assess potential impacts to fire detection/reporting and response capabilities ➤ Assist in welfare checks ➤ Participate in Operational Area conference calls

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Schools	<ul style="list-style-type: none"> ➤ Assess and respond to reported impacts to school facilities and systems ➤ Communicate status of school closures or restricted operations ➤ Communicate status with parents and partner agencies ➤ Participate in Operational Area conference calls
Community Organizations Active in Disaster (COAD)	<ul style="list-style-type: none"> ➤ Outreach to members/clients, check on their status, and coordinate expanded or enhanced services, as needed ➤ Participate in Operational Area conference calls
Pacific Gas & Electric (PG&E)	<ul style="list-style-type: none"> ➤ Provide system status updates and forecasts ➤ Coordinate with the Operational Area regarding PSPS incidents or CAISO emergency actions ➤ Participate in Operational Area conference calls

Appendix D: County Internal Extreme Temperature Coordination Call Agenda

Attendees:

County Department of Emergency Management (DEM)

County Department of Health Services (DHS)

- Public Health Preparedness
- Health Officer(s)
- Emergency Medical Services (EMS)
- Ending Homelessness

County Communications

County Human Services Department (HSD)

- In Home Supportive Services (IHSS)

County Public Infrastructure

Agenda:

Situation update (DEM)

- Weather briefing
- Any concurrent hazards
- Review of roles and responsibilities for predicted conditions based on implementation criteria
- Any reported response actions from Operational Area

Public Health Messaging (DHS – Health Officer(s))

- Issuance and/or preparation of messaging (advisories, warnings, safety, etc.)

Homeless Service Providers (DHS- Ending Homelessness)

- Report out on homeless services providers on capacity, expansion capacity, unmet needs, and center information (location, hours, POC, resources)

IHSS Outreach (HSD- IHSS)

- Review potential or reported impact on temperature sensitive clients
- Provide current disaster preparedness client list

County Communications

- POC for SoCoEmergency.org updates and other public information messaging

County Public Infrastructure

- Report out on potential or reported impact on facilities and building systems and any preparatory or response action needed to support

Appendix E: Operational Area Extreme Temperature Coordination Call Agenda

Attendees:

Operational Area Partners

Agenda:

National Weather Service (NWS) or forecast

- Conditions summary
- Timing and location of greatest impacts

Concurrent Hazards (Red Flag, PG&E Power Shutoffs, CAISO Alerts)

Health Assessment of Potential Impacts

County Reponse Actions and Potential Response Strategies

- Cooling centers
- Public safety operations adjustments

Jurisdiction/agency status

- Preparedness/response activities
- EOC activations
- Warming/Cooling centers

Communications systems status/issues

Time/date of next coordination call

Appendix F: Warming and Cooling Center Guidelines

There are no established criteria for warming and cooling centers. Facilities used as warming and cooling centers are not exempt from rotating outages or power shutoff incidents. Listed below are recommendations for consideration when selecting facilities to serve as warming or cooling centers:

Recommended:

- Heat: Air conditioning or equivalent (temperature maintained at 79°F)
- Cold: Heating or equivalent (temperature maintained at a minimum of 68°F)
- Accessible to people with disabilities / ADA compliant
- Ample seating appropriate to the jurisdiction
- Public restrooms accessible to people with disabilities and those with access and/or functional needs
- Access to potable water (drinking fountain, etc.)
- Publicly advertised
- Parking access
- Proximity to public transit

Suggested:

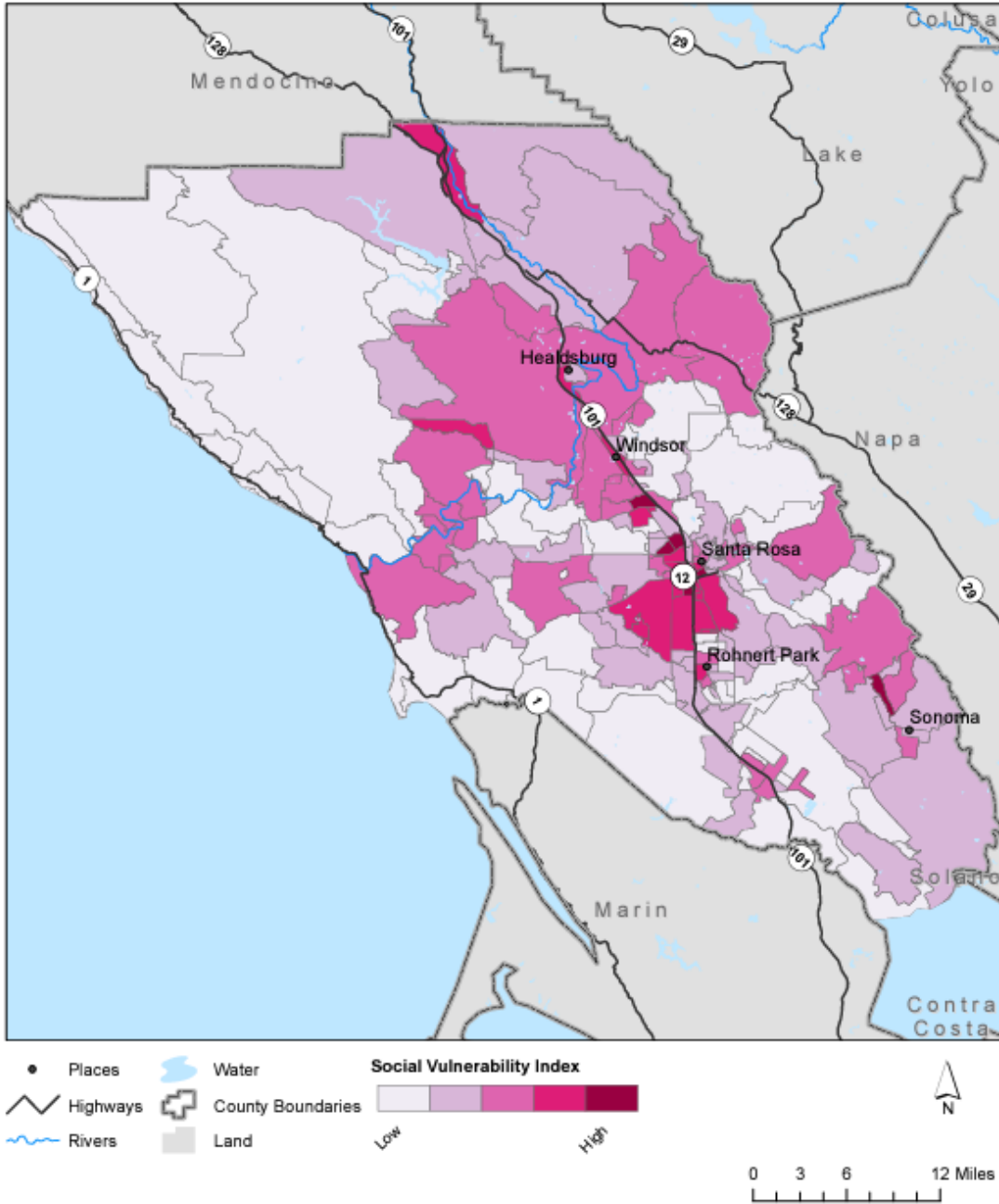
- Backup generators or alternative power sources
- On-site security
- Communications: phone (including TDD/TTY/video capabilities), internet access, sign-language interpreters
- Child-friendly with materials for children to play with while at the center
- Medical personnel such as nurses and/or aides
- Seven-day-a-week operation
- Personal assistance services for people with disabilities and those with access and/or functional needs
- Available televisions, books, games
- Transportation for those in need, including wheelchair-accessible services
- Follow-up procedures and additional services (health care, social services, etc.)
- Area for pets
- Veterinary resources available if needed

See also the **Sonoma Operational Area Cooling Center Operations Guide, 2021**.¹⁷

¹⁷
management/plans

<https://sonomacounty.ca.gov/administrative-support-and-fiscal-services/emergency->

Appendix G: Sonoma County Social Vulnerability Map¹⁸



¹⁸ Listos California Emergency Preparedness Campaign, Vulnerability Profile for Sonoma County. 2019. <https://www.listoscalifornia.org/wp-content/uploads/2020/10/Sonoma-County-Vulnerability-Profile.pdf>

Appendix H: Cal OES Regional Essential Elements of Information (EEl)s- Severe Temperatures

	Low Level/Emerging Event/Incident	All initial incident notifications will go through the Warning Center. If any incident is being reported, please send all available EEl's to the Warning Center for dissemination. All EEl's should be time stamped and information source identified.				
	Escalating Event/Incident					
	Major Incident					
Severe Temperatures Essential Elements of Information						
Incident Severity	Information Element	Primary Party Responsible for Gathering/ Verifying Information	Secondary Parties for Gathering/ Verifying Information	Possible Information Source(s)	Distribute EEl to	Notes
	Local EOC Activation Status. Level of activation and hours of operation. DOC Activations?	Cal OES Regions	Cal OES Fire/Law, CSWC	OA EOCs, local EMs	Executive Duty Officer, CSWC, Sit Cell	
	Description of local impacts	Cal OES Situation Cell	All CA-ESFs, Cal OES Fire/Law/Regions	OA EOCs, local EMs	Executive Duty Officer, CSWC, Sit Cell	
	Public Information/WEA or Alerts Issued/Media needs and activities	CA-ESF 15, CSWC	Cal OES Regions	Monitoring tools, JIC/JIS, OA EOCs, local EMs	Executive Duty Officer, CSWC, Sit Cell, SOC/REO C Sit Unit	
	Shortfalls, gaps, limiting factors OAs are addressing	Cal OES Regions	All CA-ESFs, Cal OES Fire/Law	OA EOCs, local EMs, local public safety	Sit Cell, SOC/REO C Sit Unit, CSWC	
	Are any warming/cooling centers open? If so what address, hours of operation, any special services being offered	Cal OES Regions	Cal OES, OAFN, CA-ESF 6	OA Mass Care and Shelter Coord, OA EOCs, local EMs, Red Cross	Sit Cell, SOC/REO C Sit Unit, CSWC	

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	besides just a cooling/warming area?					
	Any special population characteristics or considerations for the affected population?	Cal OES Regions	Cal OES Fire/Law, Cal OES OAFN	OA EOCs, local EMS, local public safety	Executive Duty Officer, CSWC, Sit Cell	
	Response actions/activities underway	Cal OES Fire/Law/Regions, All CA-ESFs	CSWC, Situation Cell	OA EOCs, local EMS, local public safety	Executive Duty Officer, CSWC, Sit Cell, SOC/REOC Sit Unit	
	Access and Functional Needs concerns?	Cal OES OAFN	All CA-ESFs, Cal OES Fire/Law/Regions	OA EOCs, local EMS, local public safety, NGOs	Sit Cell, SOC/REOC Sit Unit, CSWC	
	Tribal Nation Impacts?	Cal OES Office of Tribal Coordination	Cal OES Regions	OA EOCs, local EMS, local public safety	Executive Duty Officer, CSWC, Sit Cell, SOC/REOC Sit Unit	
	Is there a continuity plan for utility outages/interruptions?	Cal OES Regions	Cal OES OAFN, CA-ESF 12	IOUS, OA EOC, Local EMS, OA Social Services	Executive Duty Officer, CSWC, Sit Cell, SOC/REOC Sit Unit	
	Significant transportation interruptions/lifeline closures?	CA-ESF 1	Cal OES Law, Cal OES Regions	OA EOCs, local EMS, local public safety, local public works, Caltrans	Executive Duty Officer, CSWC, Sit Cell, SOC/REOC Sit Unit	
	Is there a transportation plan to transport members of the public to warming/cooling centers?	CA-ESF 1	Cal OES OAFN, Cal OES Regions	OA EOCs, local EMS, local public safety, local public works, Caltrans	Executive Duty Officer, CSWC, Sit Cell, SOC/REOC Sit Unit	

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	Any proclamation of local emergency? (OA/City)	Cal OES Regions	CSWC, Cal OES Recovery	OA EOCs, local EMs	Executive Duty Officer, CSWC, Sit Cell, SOC/REO C Sit Unit	
	State emergency declaration or CDAA requested by local government? Request for Federal Declaration?	Cal OES Regions	CSWC, Cal OES Recovery	OA EOCs, local EMs	Sit Cell, SOC/REO C Sit Unit, CSWC	
	Request for state or federal assistance?	Cal OES Fire/Law/Regions, All CA-ESFs	CSWC, Cal OES Recovery	OA EOCs, local EMs, local public safety	Sit Cell, SOC/REO C Sit Unit, CSWC	
	Are any overnight shelters open?	CA-ESF 6	Cal OES Regions	OA Mass Care and Shelter Coord, OA EOCs, local EMs, Red Cross	Sit Cell, SOC/REO C Sit Unit, CSWC	
	Utility Impacts?	CA-ESF 12, CA-ESF 2	Cal OES Regions	CUEA, utilities, OA EOCs, local EMs, local public safety	Sit Cell, SOC/REO C Sit Unit, CSWC	
	School Impacts or closures?	CDE	Cal OES Regions	OA EOCs, local EMs, County Office of Education	Sit Cell, SOC/REO C Sit Unit, CSWC	
	Any unmet needs?	Cal OES Fire/Law/Regions, All CA-ESFs	CSWC, Situation Cell	OA EOCs, local EMs, local public safety	Executive Duty Officer, CSWC, Sit Cell, SOC/REO C Sit Unit	
	Emergency Management Mutual Aid (EMMA) System activated? What open requests exist?	Cal OES Regions	Cal OES State EMMA Coordinator	OA EOCs, local EMs	Sit Cell, SOC/REO C Sit Unit, CSWC	

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	Critical Infrastructure impacts (<i>damage or impacts to transportation, ports/harbors, utilities, dams, fuel transportation, etc.</i>)	CA-ESF 1, Cal OES CIPP, CA-ESF 3	Cal OES Regions, All CA-ESFs	OA EOCs, local EMs, local public safety, CIPP data	Sit Cell, SOC/REO C Sit Unit, CSWC	
	On-going count of number of injured	CA-ESF 8	Cal OES Regions	RDMHS, MHOAC, LEMSA, OA EOCs, local EMs, local public safety	Sit Cell, SOC/REO C Sit Unit, CSWC	ESF-8 is the primary discipline for this information. All information gathered by other disciplines should be provided to ESF-8 for vetting and validation.
	On-going count of number of fatalities	Cal OES Law	Cal OES Regions	County Sheriff, OA EOCs, local EMs, local public safety	Sit Cell, SOC/REO C Sit Unit, CSWC	Cal OES Law Enforcement is the primary discipline for this information. All information gathered by other disciplines should be provided to law enforcement for vetting and validation.

Appendix I: Contingency Warming and Cooling Center Locations

Below is a list of pre-authorized warming and cooling center locations and services, that may be used by the County during extreme temperature incidents.