



Stanislaus County Extreme Heat Contingency Plan 2018

A Supporting Document to the Stanislaus County Emergency Operations Plan

This document was prepared under a grant from FEMA's Grant Program Directorate, U.S. Department of Homeland Security. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of FEMA's Grant Programs Directorate or the U.S. Department of Homeland Security.

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Stanislaus County Office of Emergency Services

Extreme Heat Contingency Plan Annex

The Stanislaus Extreme Heat Contingency Plan Annex is available at www.stanoes.com. If needed, this document is available in alternate formats upon request. Please contact the Stanislaus County Office of Emergency Services at 1-209-552-3600.

You may also call California Relay 711: English/Spanish, all modalities, or call one of the following numbers:

TTY/VCO/HCO: English: 1-800-735-2929 or Spanish: 1-800-855-3000
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Voice: English: 1-800-735-2922 or Spanish: 1-800-855-3000

ACKNOWLEDGEMENTS

A special thank you to the Planning Teams who contributed their time, effort, insight and resources toward the completion of this version of the Stanislaus Extreme Heat Contingency Plan Annex.

Edited and Printed

Stanislaus County Office of Emergency Services
3705 Oakdale Road, Modesto CA 95357

Original Publication Date:	2014
Revised	2015
Revised	2017
Revised	2018



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Executive Summary

This contingency plan is a supporting document to the Stanislaus County Emergency Operations Plan and the State of California Contingency Plan for Excessive Heat Emergencies.

The plan describes Operational Area coordination during heat-related emergencies and provides guidance for Stanislaus 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 County of Stanislaus 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:

- Coordinating among local agencies and the State (all phases)
- Disseminating information (all phases)
- Identify potential Cool Zones for cities and County (Phase I)
- Review Plan and confirm roles and responsibilities (Phase I)



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- Identifying potential Cooling Centers (Phase II)
- Coordinating 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)
- Transportation assessment ((Phases II and III)
- Local Government consideration for a Proclamation (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 Stanislaus 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 Contingency Plan is a supporting document of the Stanislaus 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 county departments and agency actions and how resources in extreme temperature events will be made available for response efforts in accordance with the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).



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Situation Overview

Heat waves and emergencies do not cause damage or elicit the immediate response of floods, fires, earthquakes, or other more “typical” disaster scenarios. While heat waves are obviously less dramatic, they are potentially more deadly. The worst single heat wave event in California occurred in Southern California in 1955, when an eight-day heat wave resulted in 946 deaths.

Heat emergencies have claimed more lives over the past 16 years than all other declared disaster events combined. The 1989 Loma Prieta earthquake resulted in 63 deaths; the 1994 Northridge earthquake was responsible for the loss of 55 lives; and the catastrophic 2003 Southern California Firestorms resulted in 24 deaths. While typical summer temperatures in California contribute to the untimely demise of 20 people on an average year, the heat wave experienced in California in July 2006 caused the death of at least 140 people over a 13-day period. Twenty three of those deaths occurred in Stanislaus County.

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 (e.g. physical disabilities, the elderly, medically fragile populations, socially isolated, homeless, etc.).

In 2013, Stanislaus County once again faced the possibility of an extreme heat event and activated the Stanislaus County Multi-Agency Coordination Group (StanMAC) and Joint Information Center for the purpose of identifying vulnerable populations as well as disseminating critical information on staying cool, including locations of cooling zones. The Emergency Operations Center did not activate.

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;



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- 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.

Health Indicators in Urban Heat Islands

Stanislaus 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 (U.S. EPS, 2008).

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 Indicators

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, Stanislaus County lost over 3,455 tons of chickens, and over 1,187 tons of 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.



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Planning Assumptions

- It is the responsibility and authority of the Stanislaus County Director of Emergency Services to ensure that the governmental response to events of excessive heat is appropriate.
- The Stanislaus County Operational Area will communicate and coordinate actions with local, region and state government, as needed.
- Local Cities, Special Districts and agencies may have programs to address excessive heat and this plan does not restrict their operations as long as they are consistent with SEMS and NIMS.

Concept of Operation

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 Stanislaus County OES, Public Health, Ag Commissioner, Community Services Agency, other County Departments, Cities within Stanislaus 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



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- Develop a plan for public awareness including outreach materials that outline steps on how to prepare before extreme heat, what to do during extreme heat and includes web links and phone numbers for more information. 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

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 Stanislaus 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)
- Increased EMS calls
- Increased Emergency Department visits
- 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 Stanislaus County Office of Emergency Services (OES), cities, the Public Health Officer, Community Services Agency (CSA), Behavioral Health and Recovery Services (BHRS), Ag Commissioner, Department of Environmental Services (DER), Area Agency for the Aging, Utilities, Community Based Organizations (CBOs), Faith Based Organizations (FBOs), and First Responder Agencies regarding potential activation of StanMAC to consider response actions
- Determine need for Emergency Operations Center (EOC) activation



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- Activate the Joint Information Center (JIC) and increase public information efforts including Social Media and Stanemergency.com
- Release pre-scripted heat protective measures to all media sources
- Initiate or continue risk communication efforts to vulnerable populations as outlined in Phase I
- 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
- Track Emergency Department visits and hospital admissions
- 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
- 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
- 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



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Phase III – Excessive Heat Warning

Phase III benchmarks include:

- National Weather Service warnings for more than three consecutive days.
- Increased Emergency Department visits
- Increased EMS calls
- Abnormal human medical emergencies and mortality due to excessive heat
- Abnormal animal mortality rates 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
- 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



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- 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
- 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.
- Ensure pet and animal heat impacts are being addressed through special facilities or pet accommodations at Cooling Centers or other locations.



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Organization and Assignment of Responsibilities

Role of the Private Sector

Residents

The residents of Stanislaus County play an important role in managing an extreme heat event by ensuring that they and their families are prepared before an event takes place and knowing what to do during an extreme heat event. Resources on how to stay safe when extreme heat threatens is available at stanemergency.com, stanoes.com and ready.gov/heat.

Businesses

An extreme heat event may negatively impact service provision by businesses as well as affect the health of employees. Preparing the workforce, building safe facilities, investing in supplier relationships, and connecting to the community are essential to building business community resilience. Businesses within Stanislaus County are encouraged to develop and maintain comprehensive business emergency response plans which include a business impact analysis, business continuity plan and a training and exercise schedule to evaluate the recovery strategies and the plan. Information for developing a Business Emergency Response Plan can be found at ready.gov/business/implementation/emergency.

Role of Local Government and Coordinating Agencies

Local preparedness efforts must be coordinated across levels of local government, within the SEMS/NIMS framework. The following pages include Action Checklists for each Phase and examples of Emergency Operations Center organization charts for Phase II and Phase III.

Phase I - Action Checklists

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

OES

- Conduct pre-season meeting with stakeholders to review plan and confirm actions.
- Update and validate communication methodologies with stakeholders.
- Monitor *HeatRisk* from the National Weather Service throughout the season.
- Coordinate Public Information campaign including updating websites, county-wide social media messages, and preparing handouts for County Departments to distribute.



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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 and transportation methods for local vulnerable populations.
- Participate in providing consistent media campaign messages via webpage, fliers, and social media platforms.

Community Services Agency (CSA)

- Verify list of 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 that their information may be publicized during a heat incident.
- Coordinate with agencies that service people with disabilities and access and functional needs.

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 medically fragile and vulnerable populations (e.g. socially isolated individuals, elderly, outside laborers) and coordinating agencies.
- Coordinate with County Departments that provide services to medically fragile and vulnerable populations.



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County Departments

- County departments whose clients include those in the risk category identify communication methodologies with their clients.

- Determine methodologies for monitoring clients during a Phase II and Phase III heat incident.

Non-Governmental Organizations (including but not limited to: Advancing Vibrant Communities, Salvation Army, American Red Cross, Latino Emergency Council and Catholic Charities)

- 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 - EOC Organization Chart Example

Below is an example of a Stanislaus County Emergency Operations Center organization during a Phase II activation in response to an extreme heat event. Action Checklists for a Phase II activation follow.

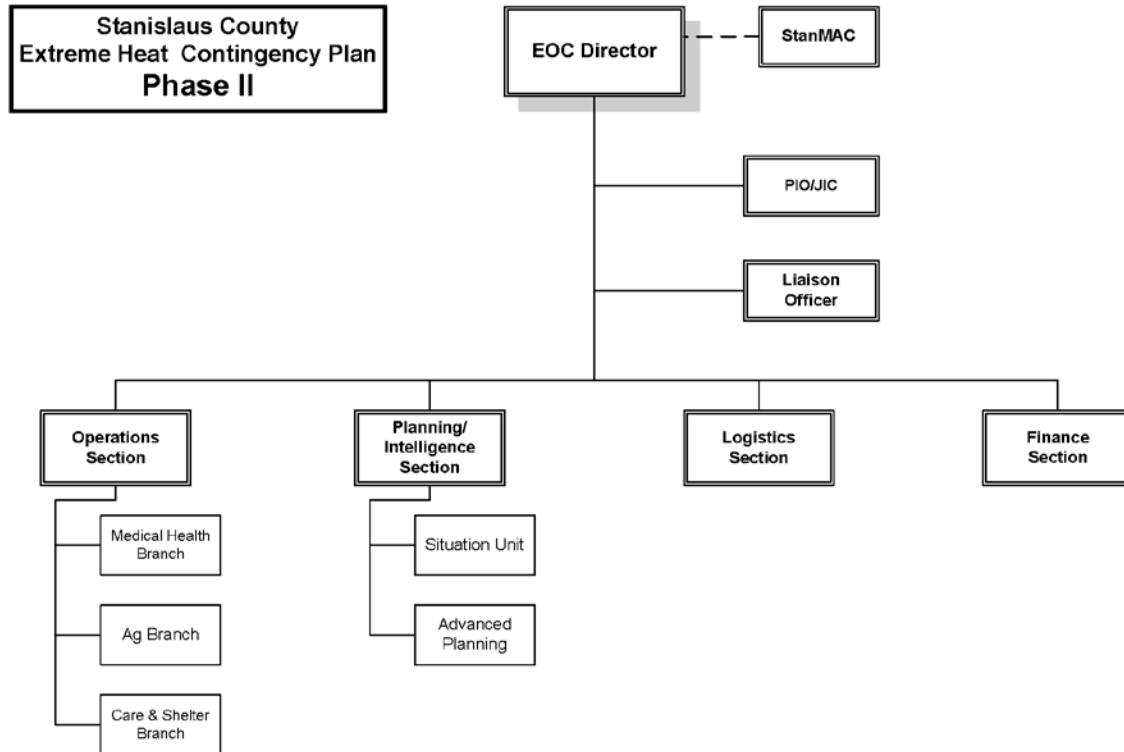


Figure 1 – Extreme Heat Contingency Plan Phase II Organization Chart



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Phase II - Action Checklists

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

OES/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.
- Coordinate between Stanislaus County OES, cities, the Public Health Officer, Community Services Agency (CSA), Behavior Health and Recovery Services (BHRS), Ag Commissioner, Community Based Organizations (CBOs), Faith Based Organizations (FBOs), and First Responder Agencies regarding potential activation of StanMAC to consider response actions.

StanMAC

- Review Stanislaus County StanMAC Policy.
- Conduct Threat Assessment Group (TAG).
- Determine need / level for EOC Activation.

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 Stanemergency.com.
- Consider methods to alert and warn vulnerable populations.
- Release pre-scripted heat protective measures to all media sources.
- Publicize and communicate Cool Zone locations.
- 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 2-1-1 (United Way) for public phone contact.
- Consider use of Medical Reserve Corp for public hotline or door-to-door contact.

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.



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Operations Section

- Review Operations Section Coordinator Position Checklist in Emergency Operations Center.

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.
- Initiate medical surveillance specific to heat impacts through MHOAC including long-term care facilities, skilled nursing facilities, and dialysis centers.
- Track Emergency Department visits and EMS calls.

- Track heat related fatalities, medical emergencies and ambulance runs.
- Advise at-risk medical facilities to monitor ambient indoor temperature.
- Prepare Public Health staff for possibility of Cooling Center coordination and support.
- Monitor the potential for power loss to electrically dependent individuals using the <https://empowermap.hhs.gov/> tool.

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.

Care and Shelter Branch

- Review Care and Shelter Branch Position Checklist in Emergency Operations Center.
- Coordinate with the managers and owners of any Cools Zones being considered for publication.
- Consider need for activating Cooling Centers.
- Identify potential Cooling Center sites, needed staffing, ADA compliance.
- Coordinate with Animal Services for care and shelter of pets.
- Coordinate with agencies that service people with disabilities and access and functional needs.

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.



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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.
- Develop EOC Action Plan.

Phase III - EOC Organization Chart Example

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

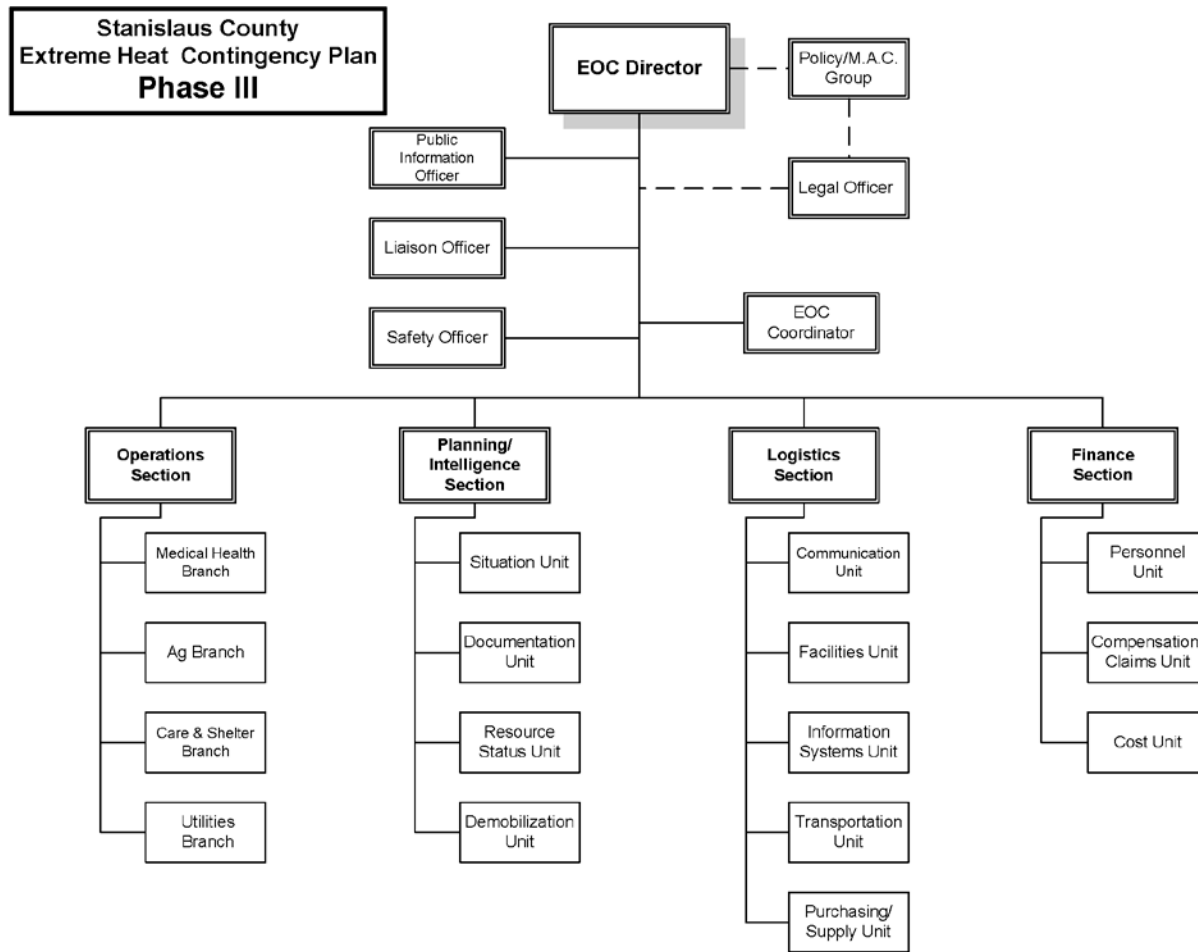


Figure 2 – Extreme Heat Contingency Plan Phase III Organization Chart



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Phase III - Action Checklists

These Action Checklists may be used in addition to the Phase II Checklist 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.

StanMAC

- Review Stanislaus County StanMAC Policy.
- Conduct Threat Assessment Group (TAG).
- Determine need to activate the Emergency Operations Center (EOC) and/or the Department Operations Center (DOC) if not already activated.
- Consider local proclamation.
- 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 activating community information and public health call lines. (2-1-1 United Way Call Center)

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.



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Medical Health Branch

- Review Medical Health Branch Position Checklist in Emergency Operations Center.
- Review Phase II Checklist.
- Conduct bed polling status of hospitals and skilled nursing facilities and monitor status of all medical facilities.
- Track Emergency Department Visits and EMS calls.

- 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 Centers.
- 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 Cooling Centers and provide regular updates on numbers of persons at each, access and functional needs, support issues, and power availability.
- Ensure that Cooling Centers know the importance of maximizing fluid dissemination and minimizing food.
- Develop process to check on shut-in or at-risk populations.

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.



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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.



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Direction, Control, and Coordination

Standardized Emergency Management System (SEMS)

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 (Stanislaus County, the 9 cities, and Special Districts)
3. Operational Area (Stanislaus County)
4. California Office of Emergency Services (Cal OES), Region IV (Inland)
5. State

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



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Information, Collection, Analysis, and Dissemination

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 a Special Weather Statement, Partner Emails and Social Media, between the 3-7 day time frame. The NWS will use Potential HeatRisk output to determine if an Excessive Heat Watch/Warning or Heat Advisory is warranted to when an extreme heat event (a “heat wave”) is expected within the next 36 hours.

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.

In 2017, the NWS transitioned to utilizing NWS Experimental Potential *HeatRisk* output to issue NWS’s official heat watches, warnings and advisories. The on-line tool provides daily guidance on potential heat risks out to 7 days. This risk is assessed by comparing the official NWS temperature forecast to local thresholds which change through the year based on climatology. This approach considers:

- How significantly above normal temperatures are at your location;
- Time of year (i.e. 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.



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

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. The chart on the following page shows the five levels of *HeatRisk*.

To access the NWS *HeatRisk* Tool (Map) on-line go to <https://www.wrh.noaa.gov/wrh/heatrisk/>

Additional weather information can be found at www.weather.gov/

The five levels of HeatRisk are shown below:

Numerical Value	Meaning	Who/What is at Risk?	How Common is this Heat?	For those at risk, what actions can be taken?
0	<ul style="list-style-type: none"> Level of heat poses little to no risk 	<ul style="list-style-type: none"> No elevated risk 	Very Common	<ul style="list-style-type: none"> No additional preventative actions should be necessary.
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 	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
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 and use fans to bring cooler air inside buildings and circulate air
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 those who are heat sensitive and anyone without effective cooling or hydration Most transportation and utilities sectors 	<ul style="list-style-type: none"> Uncommon most northern 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
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. Prolonged heat is dangerous to anyone 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

Figure 3 - Five Levels of Heat Risk



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Communications

Emergency Public Information

During or immediately following a public emergency, critical information may be disseminated by the Public Information Officer (PIO) or Joint Information Center (JIC) or the Incident Commander through a variety of methods including, but not limited to:

- Press Conferences
- Press Releases
- Operational Area Briefings
- Partner E-mails
- Conference Calls
- Mass Notifications
- Stanemergency.com website
- Phone banks
- Facebook
- Twitter



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Authorities and References

A. Emergency Proclamations

1. 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.
 - §8630(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.
2. 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.

B. Authority to take preventive measures during emergency

1. 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



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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.

- C. Stanislaus County Ordinance on Civil Defense and Disaster Council (Chapter 2.52)
- D. State of California Contingency Plan for Excessive Heat Emergencies (June 2014)
- E. Stanislaus County Emergency Operations Plan (2015)



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

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.

Excessive Heat Watch

An Excessive Heat Watch is issued when there is a potential for a prolonged period of high heat, *HeatRisk* of Red/Magenta, within the next 24-48 hours. A heat watch provides information to those who need time to prepare for the event, such as public utilities, emergency management, agriculture and livestock interests and public health officials.

Excessive Heat Warning

An Excessive Heat Warning is issued with the *HeatRisk* is Red/Magenta within the next 12-36 hours.

Heat Advisory

A Heat Advisory is issued when the *HeatRisk* is Orange/Red within the next 12-36 hours.

To access the NWS HeatRisk Tool on-line go to:

<https://www.wrh.noaa.gov/wrh/heatrisk/>

For additional weather information, go to:

www.weather.gov



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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) is inside the Cal-ISO area but Modesto Irrigation District and Turlock Irrigation District are not part of the Cal-ISO.

Locally, Pacific Gas and Electric (PG&E) is inside the Cal-ISO area. Modesto Irrigation District (MID) and Turlock Irrigation District (TID) are not part of the Cal-ISO.

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.

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° or

Figure 4 – Cal-ISO Flex Alert Actions



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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

Figure 5 – Stage Emergency Notifications Graphic

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).



Appendix C: Extreme Heat: Human Vulnerabilities

Heat Cramps

Heat Cramps are 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 heat stroke

Heat Exhaustion

Heat Exhaustion is more serious and generally includes an elevated core body temperature up to 104°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



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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



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- 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



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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.)



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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: Mosquitos and Related Health Threats

Elevated heat causes mosquitoes to develop faster and allows infectious agents, such as viruses, to incubate faster. Faster development times means there is less time to control mosquitoes before going egg to adult and may lead to dramatically increased mosquito populations if standing water is present. Normally, Stanislaus County would be very dry during summers, but water used for irrigation purposes provides plenty of mosquito breeding habitat. Mosquito abatement districts are not notified when someone irrigates, so the faster development times mean there is less time to find breeding sources before adult mosquitoes hatch off. The faster virus incubation in birds means that more mosquitoes will become infected in a shorter period of time leading to an increased probability that a human will become infected.

Summer temperatures are a primary variable that is used in scientific models used to predict and track mosquito-borne disease transmission. Each year in Stanislaus County, there are temperatures that would support possible epidemic level transmission of West Nile virus. The longer this extreme heat lasts, the more likely epidemic levels of transmission will be observed in local communities.

The increased global temperatures been seen are allowing invasive mosquitoes such as *Aedes albopictus* and *Aedes aegypti* to enter California and remain. Diseases caused by Zika, Dengue fever or chikungunya viruses are now expanding their historical range due to these increased temperatures. It is very important for the public to limit their exposure to mosquitoes as much as possible. In cases where exposure is unavoidable, the use of repellent is critical during hot summer months.



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Appendix F: Cooling Center Checklist

The following is a partial list of suggested criteria for setting up a Cooling Center. There are no established criteria for Cooling Centers. Additionally, unless a special exemption has been given by the local utilities, facilities used as Cooling Centers are not exempt from rotating blackouts.

Important Criteria

Cooling Center should be a pre-identified American Red Cross shelter site

Cooling or equivalent (temperature maintained at a minimum of 68°)

Accessible to people with disabilities/ADA compliant

Ample seating appropriate to the jurisdiction

Public restrooms accessible to people with disabilities

Access to potable water (drinking fountain, etc.)

Access to 911 services (phone or payphone)

Publicly advertised

Parking access

Proximity to public transit

Need for Security

Suggested Criteria

Back-up generators

Area for pets

Secure, facility has security service

Communications, phone (including TDD/TTY), internet access, sign-language interpreters

Child friendly with materials for children to play with while at the Cooling Center

Medical personnel such as nurses and/or aides

24-hour, 7 days a week operation

Large capacity



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Personnel assistance services for people with disabilities

Available televisions, books, games

Transportation for those lacking their own, including wheelchair accessible services

Follow-up procedures for those in need of additional services (health care, social services)

Adjacent pet housing resources available if needed



Appendix G: Definitions

Agriculture Indicators: An early indicator of an excessive heat incident may be the increased demise of livestock and poultry.

Community Based Organization: or CBO means “a public or private nonprofit organization of demonstrated effectiveness that:

- a. Is representative of a community or segments of a community; and
- b. 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: A religious-based organization that provides community services.

Heat Index (also referred to as the "apparent temperature"): A factor used to determine how hot it feels based on temperature and relative humidity. Heat index values can be up to fifteen degrees higher with exposure to direct sunlight. Heat index values assume calm wind conditions. Hot dry winds can also increase heat index factors.

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.



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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."

Urban Heat Island: An urban area having higher average temperature than its rural surroundings owing to the greater absorption, retention, and generation of heat by its buildings, pavements, and human activities



Appendix H: Acronyms

Acronyms used throughout this plan and their full names are listed below as they appear in the document:

ADA	American Disabilities Act
BOS	Board of Supervisors
CAL-ISO	California Independent System Operator (for the electrical power grid)
Cal OES	California Office of Emergency Services
CEO	Chief Executive Officer
CBO	Community Based Organization
CPUC	California Public Utility Commission
CSA	Community Services Agency (County)
DOC	Department Operations Center
EOC	Emergency Operations Center
FBO	Faith Based Organization
HSA	Health Services Agency/Public Health (County)
ICS	Incident Command System
JIC	Joint Information Center
MHOAC	Medical Health Operational Area Coordinator
MID	Modesto Irrigation District
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
OA	Operational Area
OID	Oakdale Irrigation District



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- OES Office of Emergency Services (County)
- PG&E Pacific Gas and Electric
- PIO Public Information Office (Officer)
- REOC Cal OES Regional Emergency Operations Center (Coastal, Inland, Southern)
- SEMS Standardized Emergency Management System
- StanMAC Stanislaus Multi-Agency Coordination
- TID Turlock Irrigation District
- UHI Urban Heat Island