This document outlines the response expectations of Yolo County due to Severe Weather and serves as a Hazard Annex to the Yolo County Emergency Operations Plan

Yolo County Severe Weather Hazard Annex

Annex to the Yolo County Emergency Operations Plan

Version 1.0 Revised: December 2014

HANDLING INSTRUCTIONS

1. The title of this document is the *Yolo County Severe Weather Hazard Annex*
2. The information gathered herein is to be used for training and reference purposes within Yolo County. Reproduction of this document, in whole or in part, without prior approval from the Yolo County Office of Emergency Services is prohibited.
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INTRODUCTION

OVERVIEW

This annex is a supporting document to the Yolo County Emergency Operations Plan (EOP). The annex describes operations during severe weather conditions; specifically extreme heat and cold temperature events. Additionally, the annex provides some recommendations for local government, non-governmental organizations (NGO), faith-based organizations (FBO) and the private sector in their severe weather emergency response planning and other related activities. Local agencies are advised to develop their own plans and prepare agreements for support in the response to any emergency situation.

This guidance recognizes the need for the Operational Area to:

1. Communicate and coordinate with local agencies through the Yolo County Office of Emergency Services (OES)
2. Mobilize resources and initiate actions, if necessary
3. Support local agencies' actions according to the Standardized Emergency Management System (SEMS)

The guidance is broken down into four phases, which include education, planning, preparedness and activation:

Phase	Category	Suggested Criteria	Critical Criteria
I	**Seasonal Readiness**	On-set of summer and winter	Cooler months: Nov-Feb Warmer months: Jun-Aug
II	**Increased Readiness**	Credible weather predictions i.e., NWS (National Weather Service[1])	Potential for prolonged abnormal weather conditions and possibility of weather related power outages
III	**Severe Weather Alert**	Credible forecasts of: • Excessive heat • Excessive cold • High winds	**Heat:** daytime heat index of over 105°F for more than 3 days, accompanied by night temps of 75°F or more **Cold:** extreme cold/freeze or wind chill for more than 3 days (low daytime temps) accompanied by night temps of 32°F or less **Wind:** sustained winds 31 to 39 mph for at least 1 hour or any gusts 46 to 57 mph
IV	**Severe Weather Emergency**	Sustained extreme weather conditions that could potentially have a life-threatening impact on the population, animals and agriculture	Can be a result of extended Phase 3 events or may result from Advisories or Warnings issued from NWS (tornado, gale, etc.)

[1] See Appendix A for descriptions of NWS predictions

Phase I is designed to review/update internal plans related to severe weather and materials to notify the public of the effects of severe weather and how to plan and prepare for related emergencies.

Phases II and III are designed to inform and alert the public of the possibility for severe weather conditions and associated risks, particularly populations with access and functional needs (including the isolated and/or homebound) and the homeless.

Phase IV is the emergency response phase directly involving local government, non-government agencies and other agencies to provide for the safety and protection of the lives of individuals, animal welfare and agriculture from risks associated with the severe weather event.

This guidance identifies specific actions to be taken by Yolo County in each of the four phases listed above, as well as a checklist to guide departmental actions. The *Severe Weather Guidance* is designed to facilitate preparedness for, and response to, extreme or severe weather events according to SEMS.

PURPOSE

The purpose of this annex is to identify actions that may need to be taken during Phases I through IV to address the needs of populations in an extreme or severe weather emergency. This annex is for immediate use and is designed to provide agencies within Yolo County with specific roles and responsibilities related to the implementation of a severe weather response. The Yolo County Office of Emergency Services (OES), in coordination with county departments and affected cities, will direct implementation of this guidance.

Response operations will be based on the National Incident Management System/Standardized Emergency Management System (NIMS/SEMS) and are consistent with actions described in the Yolo County Emergency Operations Plan (EOP). For the purpose of this document, the term "severe weather" pertains to any adverse weather event affecting Yolo County as identified through credible weather watches, advisories and warnings.

ASSUMPTIONS

- Yolo County is not generally considered the most threatened area for severe weather conditions.
- Based on worst case scenario planning, the following could occur depending upon the size and scope of the event:
    - The Yolo Emergency Operations Center (EOC) could be activated if the event were significant enough to trigger a severe weather emergency condition of potentially dangerous proportion (Phase IV)
    - Numerous populated communities may be impacted
    - Large-scale movement of at-risk populations may be necessary, causing otherwise non-impacted jurisdictions to become "host" to displaced populations
    - Transportation routes may be damaged/disrupted or impassable
    - Power outages may occur and communication systems may be damaged
    - Food and water may be contaminated

- The State may initiate specified actions independently, but will communicate and coordinate those actions with local government

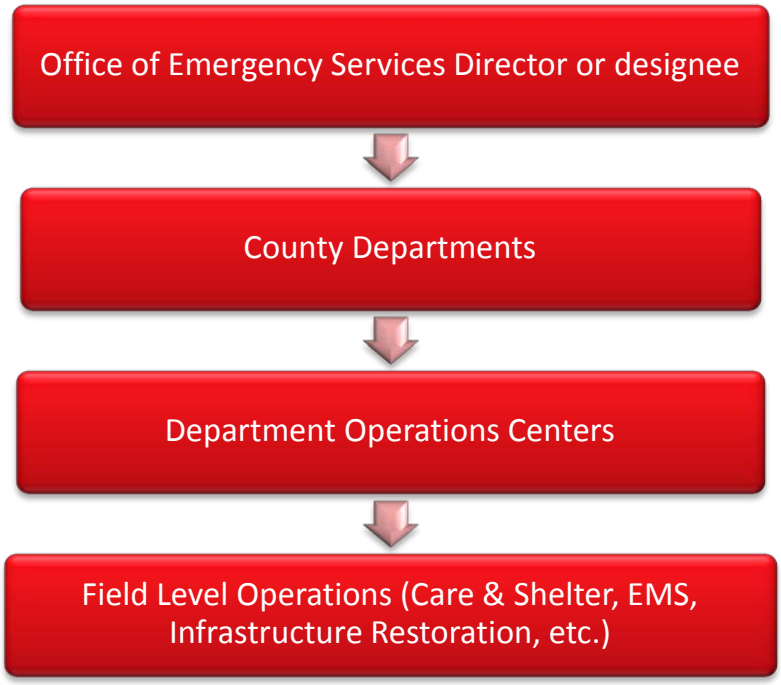
Roles & Responsibilities

The roles and responsibilities are consistent with those identified in the Yolo Emergency Operations Plan (EOP). The level at which the Emergency Operations Center (EOC) is activated will be based on the situation and the need for a coordinated response to the emergency event[2].

Emergency Support Function	Lead Coordinating Agency for Yolo County	Specific Responsibilities during severe weather events
ESF #1 – Transportation	Yolo County Transportation District	Transportation of people and materials into and out of affected areas
ESF #2 – Communications	Yolo Emergency Communications Agency	Emergency communications and public alert & warning
ESF #3 – Public Works & Engineering	Yolo County Public Works Department	Restoration of roadways, debris management, and localized flooding response within the unincorporated areas of Yolo County (works with Reclamation Districts for Flood Fight in local levee system areas)
ESF #4 – Firefighting	Yolo County unincorporated fire jurisdictions (led by the OA Fire Coordinator)	Assist with distribution of public information and possible response assets within unincorporated areas
ESF #5 – Emergency Management	Yolo County Office of Emergency Services	Coordination, communication, and emergency management
ESF #6 – Mass Care	Yolo County Department of Employment and Social Services	Care and shelter coordination with volunteers, non-profit organizations, and vulnerable populations representatives (works with partners for pet/animal mass care issues)
ESF #7 – Logistics & Resource Management	Yolo County General Services	Locates and processes resource requests, tracks resources, and provides logistical support for response
ESF #8 – Public Health & Medical	Yolo County Health Services	Public health emergency preparedness and response and monitoring of the Emergency Medical System influx
ESF #12 – Energy	Pacific Gas & Electric	Coordination of gas and electrical restoration throughout the unincorporated areas of Yolo County
ESF #15 – External Affairs	County Administrator or designee Public Information Officer (PIO)	Public information coordination with all involved departments, agencies, PIOs and 2-1-1 on public messages through postings, press releases, contact with the media and emergency notification

[2] EOC activation triggers are discussed in the County Emergency Operations Plan (EOP).

The diagram below details the communication reporting structure during severe weather events



During times when the Emergency Operations Center is NOT activated the Office of Emergency Services (OES) will be the contacting agency for:

- Cities and other jurisdictions within the Operational Area (OA) requesting support
- State inquiries or assistance

Once activated, the Emergency Operations Center (EOC) will become the centralized point of communication for all County/Operational Area specific actions to the agencies listed above[3].

[3] Both the OES and EOC are located in the same location and are contacted using either (530) 406-4930, (530) 406-4931, (530) 406-4932, (530) 406-4933 or oes@yolocounty.org

RESPONSE PHASES

INDICATORS

The issuance of a forecast of severe weather by the National Weather Services (NWS) will be the key indicator regarding the event type. The County Emergency Services Director, or designee will determine the need to implement this guidance upon receipt of a forecast indicating such conditions will prevail.

ACTION TABLES

The action tables presented in each phase represent actions that should assist in response efforts associated with severe weather conditions or emergencies. The action items listed are not inclusive. Departments or agencies may need to make additions or changes to these actions as determined by the situation. Departments responding to the event will:

- Issue alerts – internally and externally (as appropriate)
- Issue health information – to educate and inform the public on steps to mitigate or to respond to severe weather-related incidents (as appropriate)
- Provide a single source contact for inquiries regarding severe weather-related incidents or actions to the Office of Emergency Services/Emergency Operations Center (OES/EOC)
- Coordinate the activation and implementation of the Severe Weather Guidance with OES/EOC
- Provide updates, as necessary, to the County Emergency Services Director, or designee
- Determine the roles of personnel for their department's response
- Develop department-specific severe weather operational guidelines

Severe weather emergency response will be carried out in consultation and coordination using the following phases as guidelines to determine the most appropriate level of response.

PHASE I: SEASONAL READINESS (PREPAREDNESS)

Seasonal readiness typically occurs during the months of November through February (colder months) and June through August (hotter months) in order to prepare for and maintain a state of increased readiness and awareness. Phase I actions include:

- Establish plan for initial notification of key stakeholders
- Review plans, procedures and resources, and provide orientation/training/exercise as needed
- Verify use/availability of key facilities, if applicable
- Update/validate notification processes
- Prepare to initiate awareness campaigns

Activity	Department/ Agency	Completed
Planning: • Establish working group consisting of those agencies/ departments, private sector, volunteer and service organizations to identify vulnerable populations and develop a strategy for notification and emergency actions • Determine local activation levels of a severe weather emergency plan utilizing the phases and activation levels indicated in this document, taking into consideration local weather conditions and climatic variations • Conduct emergency preparedness presentations to include severe weather emergency planning • Advise all employees review and update their home emergency plans	OES	
Planning: • Identify facilities that can be used for warming centers/cooling centers/shelters that are ADA compliant or with appropriate measures taken (i.e., accessible portable restroom) and contact facility owners • Provide points of contact for initiating warming center/cooling center/shelter operations if necessary • Develop public health criteria for center facilities with consideration of accommodations for pets and possible 24-hour operations • Develop a transportation component and procedures to ensure vulnerable populations are provided transportation to warming centers/cooling centers/shelters, including wheelchair accessible transportation	Social Services Animal Services Health Services Transportation District	
Information Sharing & Coordination: • Identify volunteer and service organizations, private sector, faith-based organizations, medical and care facilities, schools representatives, law enforcement, fire personnel and other representatives to determine the locations of vulnerable populations and determine needs • Local agency collaboration to identify any anticipated needs or problems • Coordinate with county programs serving people with disabilities to ensure needs are addressed • Develop public safety materials (posters, flyers and public media announcements) that include information for people with disabilities regarding how to obtain paratransit/ transportation in emergency/disaster situations • Consider utilizing 2-1-1 capability and alert & warning systems with TTY/TDD capabilities to contact persons with disabilities, including text paging for people with hearing impairments and audible messaging for people with sight impairments	Health Services Social Services Law Fire PIO	

PHASE II: INCREASED READINESS (AWARENESS)

Phase I actions continue during this phase as contact with local agencies and coordination among county departments increases in anticipation of activating Phase III or Phase IV of this guidance.

Triggers

Phase II actions may be initiated when one or more of the following conditions exist:

- The National Weather Service (NWS) issues a "weather watch" indicating abnormal weather conditions
- Abnormal weather conditions accompanied by electrical blackouts, rotating blackouts or power outages, e.g., California Independent System Operator (CALISO) Stage 3 Electrical Emergency during periods of cold weather or extreme heat
- Abnormal animal mortality rates or loss of agricultural crops associated with abnormal weather conditions

Phase II actions include:

- Increase public awareness by providing general information about measures to reduce weather-related risks and prepare for severe weather
- Health Officer may issue a Health Advisory indicating measures to take to protect oneself during severe weather conditions
- Confirm details of agency or department participation (e.g., Social Services outreach to homeless providers, Health outreach to vulnerable populations such as those in medical and care facilities)
- OES will coordinate with PIO on media notifications, updates to appropriate websites and postings, etc., regarding protection from the elements

Activity	Department/ Agency	Completed
Information Sharing & Coordination: • Health Officer may issue a Health Advisory • Volunteer and service organizations, private sector, faith-based organizations, medical and care facilities, schools representatives, law enforcement, fire personnel, and other representatives are put on notice to be prepared for possible response • Local agencies collaborate to identify any unanticipated needs or problems • Develop additional public safety materials (in various accessible formats) that include posters, flyers, e-mail alerts, public media announcements and social media postings • Disseminate severe weather emergency advice to populations with access and functional needs in a timely manner through service groups, food banks, CERTs, disability organizations, care providers, medical and health facilities, workplaces, schools, public facilities	OES Health Services Social Services Law Fire PIO	

Activity	Department/ Agency	Completed
and private industries, for persons with hearing impairments via captioning or sign language interpretation for all emergency messages • Consider utilizing 2-1-1 capability and alert & warning systems with TTY/TDD capabilities to contact persons with disabilities, including test paging for people with hearing impairments and audible messaging for people with sight impairments		

Response:
• Identify emergency actions that will require emergency regulations or ordinances
• Confirm points of contact are up-to-date for:
  • warming centers/cooling centers/shelter operations
  • medical facilities
  • utility restoration
  • public messaging points
• Identify/stockpile/inventory key resources (generators, water, road maintenance supplies, etc.)
• Staff up and activate on-call procedures for road crews and debris removal crews
• Ensure the majority of response fleet which may be placed into service is ready
	OES
	
	Social Services
	
	Animal Services
	
	Health Services
	
	General Services
	
	Planning, Public Works & Environmental Services
	
	PG&E	

PHASE III: SEVERE WEATHER ALERT

Triggers

Phase III actions may be initiated when one or more of the following exists:

- Notification to/from OES that local jurisdictions have issued a special notice (warning, alert, etc.)
- Credible weather forecasts from the NWS of excessively hot weather conditions for three consecutive days, accompanied by night temperatures of 75°F or more[4]
- Credible weather forecasts from the NWS of extremely cold/freezing weather for three consecutive days accompanied by night temperatures of 32°F or less[5]
- CALISO Stage 3 Electrical emergency and/or extended power outages due to severe weather conditions

[4] See heat index chart in Appendix B
[5] See windchill factor chart in Appendix B

- Severe weather accompanied by electrical blackouts or rotating blackouts
- Abnormal human medical emergencies and mortality due to severe weather
- Abnormal animal mortality due to severe weather

Phase III actions include:

- OES Duty Officer will make appropriate internal OES notifications
- Health Officer may issue a Health Alert
- Disseminate information to the Operational Area (OA) Emergency Management partners
- Coordinate OES calls with key agencies to provide/gather weather and power updates
- Collaborate to identify anticipated needs or problems
- Coordinate to determine the readiness and availability of resources
- Coordinate with PIO to issue press releases/postings about severe weather risks for vulnerable populations and the general public
- Release critical pre-scripted and event-related public safety information

Activity	Department/ Agency	Completed
Information Sharing & Coordination: • Coordinate and brief all emergency responders on actions to be undertaken and responsible parties, as appropriate • Activate Severe Weather Guidance, Emergency Operations Plan (EOP), if applicable • Send severe weather notifications to CA State Warning Center • Coordinate with local utilities to assess power restrictions, outages, or limitations • Consider activation of the Emergency Operations Center • Establish regular official briefings to include weather updates and actions taken and planned	OES	
Information Sharing & Coordination: • Notify OES of distribution of pre-scripted educational materials specific to the severe weather event at hand • Distribute information specific to the event at hand to local jurisdictions, 2-1-1, websites and other outreach avenues • Release pre-scripted severe weather protective measures to all media sources • Notify public through postings and media of warming center/cooling center/shelter locations and hours of operation • Establish regular media releases • Issue targeted weather advisories to vulnerable populations through all sources • Health Officer may issue a Health Alert	PIO Health Services 2-1-1	

Activity	Department/ Agency	Completed
Response: • Activate heating centers/cooling centers/shelters (where appropriate) • Activate road crews and debris management crews (as necessary) • Monitor status of drinking water systems and medical facilities during power outage events • Advise public service buildings to provide facilities to those in need as appropriate (i.e., libraries, homeless providers, etc.) • Implement a method to track severe weather-related deaths and medical emergencies associated with the event • Consider reduction in energy usage in local jurisdiction public buildings and reduced hours of operations that would not impact the potential response operations • Consider activation of County Disaster Service Workers • Restore power to prioritized grids (those grids that contain critical infrastructure) • Ensure all fleet vehicles and facility generator fuel tanks have ample fuel in the event of power failure • Ensure pet and animal severe weather emergency impacts are being addressed through animal facilities or pet accommodations at centers • Notify ambulance providers and hospitals to expect and prepare for surge in severe weather-related illnesses	OES Social Services Animal Services Health Services General Services Planning, Public Works & Environmental Services County Coroner Sheriff's Office PG&E	

PHASE IV: SEVERE WEATHER EMERGENCY

Triggers

Phase IV actions may be taken when Phase III triggers worsen or an advisory or alert indicates a severe threat to the population.

Phase IV efforts include all efforts from previous Phases in addition to urgent and comprehensive actions to complement and support local actions during the most severe weather conditions. The actions expand Phase III activities and include additional efforts. Phase IV actions include:

- Increased coordination calls amongst OES and responding departments and/or agencies
- Health Officer may issue a Public Health Emergency
- Emergency Operations Center (EOC) activation, as needed to support response activities
- Request for Local Emergency Proclamation, if applicable
- Increase press releases and public outreach informing public of center locations and steps to take to alleviate risks of health impacts associated with severe weather conditions
- Requests for mutual aid may occur

Activity	Department/ Agency	Completed
Response: • Activate EOC to extent necessary • Coordinate activities with OA and neighboring jurisdictions. If OA, coordinate with CalOES providing situational status reports, initial damage estimates, resource assessments and mutual aid requests • Coordinate with local utilities to assess power restrictions, outages, or limitations • Determine whether or not to proclaim a local emergency (or declare a public health emergency) based on conditions or projected conditions • Request mutual aid through SEMS process, as needed • Issue targeted weather advisories to vulnerable populations through all sources • Health Officer may issue a Public Health Emergency • Monitor center facilities providing regular reports and updates on numbers of persons at each, disability-related needs, support issues and power availability • Maintain regular reports	All Departments and support agencies coordinated through the EOC	

RECOVERY OPERATIONS

A Phase IV - Severe Weather Emergency may trigger the opening of shelters beyond normal duty hours. These actions will be coordinated through the Yolo County Emergency Operations Center (EOC). All Departments should be aware that no provision exists for funding warming centers, cooling centers or shelters outside of the provisions set forth by the California Disaster Assistance Act.

Emergency costs incurred by local governments, departments and/or agencies in response to severe weather conditions relating to the safety and protection of human life may be recovered under the California Disaster Assistance Act when the Governor has proclaimed a State of Emergency. Eligible costs may include the extra costs of establishing cooling centers, staffing the EOC, renting generators and air conditioners for emergency sheltering efforts, emergency public information costs, severe weather-related morgue costs and overtime costs for activities related to the severe weather event.

AFTER ACTION REPORTS

The purpose of after action reporting is to provide a mechanism where shortfalls and limiting factors can be captured and documented. They can then be improved on as part of an ongoing improvement effort. OES and responding departments are responsible for compiling and developing the After Action Report (AAR). Individuals assigned to the event will assist in the effort by providing input and attending debriefing sessions. All After Action Reports are due within 90 days of the end of the event.

APPENDIX A: NATIONAL WEATHER SERVICE

The National Weather Service (NWS) has developed a multi-tier concept for forecasting all types of hazardous weather. These are:

1. **Outlook** - A hazardous weather outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next 7 days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.
2. **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for later information and possible warnings especially when planning travel or outdoor activities.
3. **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. Advisories are for less serious conditions than warnings that cause significant inconvenience and if caution is not exercised, could lead to situations that may threaten life or property.
4. **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action.

Additional NWS Terms and Definitions are provided below:

- **Advisory** - Advisories are issued for weather situations that cause significant inconveniences but do not meet warning criteria and, if caution is not exercised, could lead to life-threatening situations. Advisories are issued for significant events that are occurring, are imminent, or have a very high probability of occurrence.
- **Climate** - The prevalent long term weather conditions in a particular area. Climatic elements include precipitation, temperature, humidity, sunshine and wind velocity and phenomena such as fog, frost, and hail storms. Climate cannot be considered a satisfactory indicator of actual conditions since it is based upon a vast number of elements taken as an average.
- **Climate Change** - This strictly refers to all forms of climatic inconsistency. But it is often used in a more restricted sense to imply a significant change. Within the media, climate change has been used synonymously with global warming. Scientists, however, use the term in a wider sense to include past climate changes also.
- **Climate Normals** - Averages of temperatures, precipitation, snowfall, etc. made over standard 30 year periods. These normals span across 3 decades and are re-derived every 10 years.

- **Excessive Heat Warning** - Issued within 12 hours of the onset of the following conditions: heat index of at least 105°F for more than 3 hours per day for 2 consecutive days or heat index more than 115°F for any period of time.
- **Excessive Heat Watch** - Issued for the potential of the following conditions within 12 to 36 hours: heat index of at least 105°F for more than 3 hours per day for 2 consecutive days or heat index more than 115°F for any period of time.
- **Forecast** - A forecast provides a description of the most significant weather conditions expected during the current and following days. The exact content depends upon the intended user, such as the Public or Marine forecast audiences.
- **Freeze** - Occurs when the surface air temperature is expected to be 32°F or below over a widespread area for a significant period of time.
- **Freeze Warning** - Issued during the growing season when surface temperatures are expected to drop below freezing over a large area for an extended period of time, regardless if frost develops or not.
- **Freezing** - The change in a substance from a liquid to a solid state.
- **Freezing Level** - The altitude in the atmosphere where the temperature drops to 32°F.
- **Freezing Rain** - Rain that freezes on objects such as trees, cars and roads, forming a coating or glaze of ice. Temperatures at higher levels are warm enough for rain to form, but surface temperatures are below 32°F, causing the rain to freeze on impact.
- **Frost** - The formation of thin ice crystals on the ground or other surfaces. Frost develops when the temperature of the exposed surface falls below 32°F and water vapor is deposited as a solid.
- **Frost Advisory** - Issued during the growing season when widespread frost formation is expected over an extensive area. Surface temperatures are usually in the mid 30s°F.
- **Hard Freeze** - freeze where vegetation is killed and the ground surface is frozen solid.
- **Heat Advisory** - Issued within 12 hours of the onset of the following conditions: heat index of at least 105°F but less than 115°F for less than 3 hours per day. Nighttime lows remain above 80°F for 2 consecutive days.
- **Heat Index** - An index that combines air temperature and humidity to give an apparent temperature (how hot it feels). The apparent temperature that describes the combined effect of high temperatures and high levels of humidity, which reduces the body's ability to cool itself.
- **Other Hazards** - Weather hazards not directly associated with thunderstorms or winter storms including extreme heat or cold, dense fog, high winds, river flooding and lakeshore flooding.
- **Severe Local Storms** - These are short-fused, small scale hazardous weather or hydrologic events produced by thunderstorms, including large hail, damaging winds, tornadoes, and flash floods.

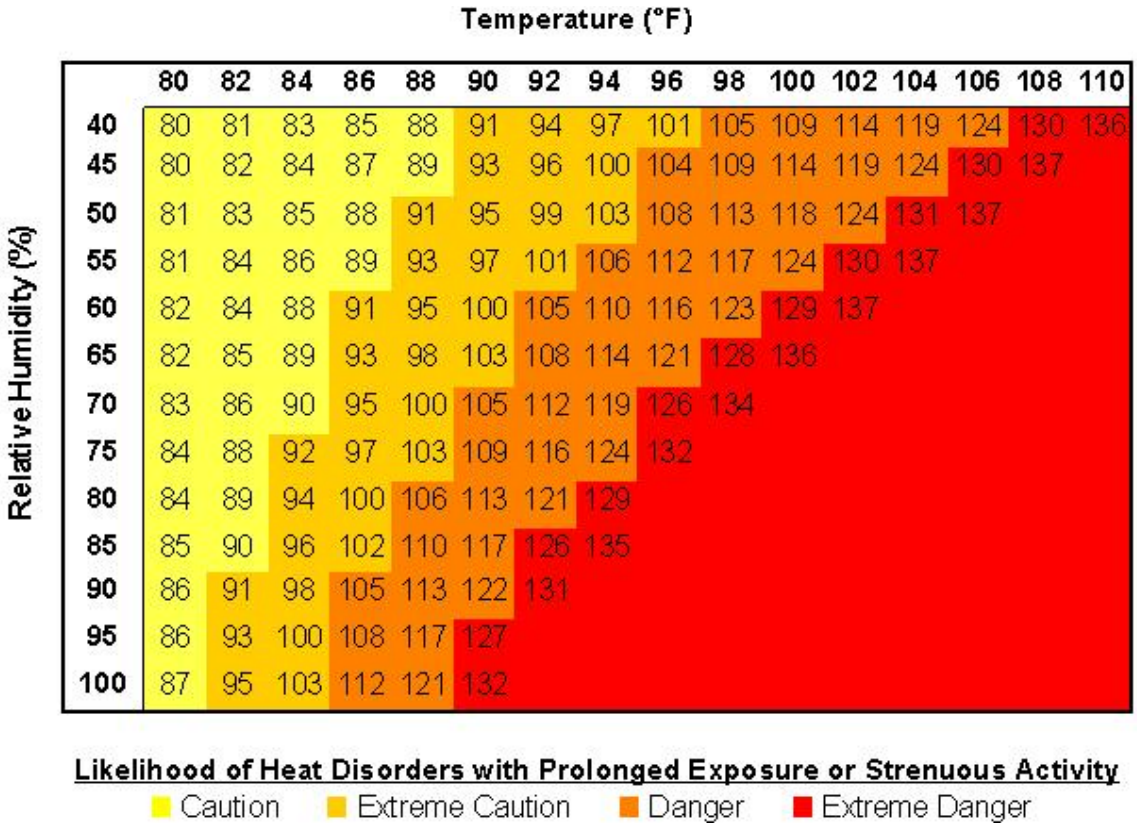
- **Severe Thunderstorm** - A strong thunderstorm with wind gusts in excess of 58 mph (50 knots) and/or hail with a diameter of 3/4" or more.
- **Severe Thunderstorm Warning** - Issued when thunderstorms are expected to have wind gusts to 58 mph or above or hail 3/4 inch or more in diameter. A severe thunderstorm is indicated by Doppler radar or sighted by sky-warn spotters. A severe thunderstorm contains large damaging hail, 1 inch diameter or larger, and/or damaging winds of around 60 mph or greater.
- **Severe Thunderstorm Watch** - Issued when conditions are favorable for the development of severe thunderstorms in and close to a defined area.
- **Warning** - Forecast issued when a particular weather or flood hazard is "imminent" or already occurring (e.g., tornado warning, flash flood warning). A warning is used for conditions posing a threat to life or property.
- **Warning Stage** - The level of a river or stream which may cause minor flooding, and at which concerned interests should take action.
- **Watch** - Forecast issued well in advance to alert the public of the possibility of a particular weather related hazard (e.g. tornado watch, flash flood watch). The occurrence, location and timing may still be uncertain.
- **Weather** - State of the atmosphere with respect to heat or cold, wetness or dryness, calm or storm, clearness or cloudiness. Also, weather is the meteorological day-to-day variations of the atmosphere and their effects on life and human activity. It includes temperature, pressure, humidity, clouds, wind, precipitation and fog.
- **Wind Advisory** - Issued for sustained winds 31 to 39 mph for at least 1 hour or any gusts 46 to 57 mph. However, winds of this magnitude occurring over an area that frequently experiences such winds would not require the issuance a wind advisory.
- **Wind Chill** - The additional cooling effect resulting from wind blowing on bare skin. The wind chill is based on the rate of heat loss from exposed skin caused by the combined effects of wind and cold. The (equivalent) wind chill temperature is the temperature the body "feels" for a certain combination of wind and air temperature.
- **Wind Chill Factor** - The apparent temperature which describes the cooling effect on exposed skin by the combination of temperature and wind, expressed as the loss of body heat. Increased wind speed will accelerate the loss of body heat. The formula to calculate wind chill is: WC=.0817(3.71 V^.5 + 5.81 - .25 v)(T-91.4)+91.4 where V=wind speed in MPH and T=temperature F.
- **Wind Chill Advisory** - Issued when the wind chill index is expected to be between -25°F and -39°F for at least 3 hours. This is using the wind chill of the sustained wind, not gusts.
- **Wind Chill Warning** - Issued when life-threatening wind chills of -40°F or colder are expected for at least 3 hours. This is using the wind chill of the sustained wind, not gusts.

- **Winter Storms** - These are weather hazards associated with freezing or frozen precipitation (freezing rain, sleet, snow) or combined effects of winter precipitation and strong winds.
- **Winter Storm Watch** - A significant winter storm may affect your area, but its occurrence, location and timing are still uncertain. A winter storm watch is issued to provide 12 to 36 hours notice of the possibility of severe winter weather. A watch will often be issued when neither the path of a developing winter storm nor the consequences of the weather event are as yet well defined. Ideally, the winter storm watch will eventually be upgraded to a warning when the nature and location of the developing weather event becomes more apparent. A winter storm watch is intended to provide enough lead time so those who need to set plans in motion can do so.
- **Winter Storm Warning** - Issued when 7 or more inches of snow or sleet is expected in the next 24 hours, or 1/2 inch or more of accretion of freezing rain is expected. A warning is used for winter weather conditions posing a threat to life and property.
- **Winter Weather Advisory** - Hazardous winter weather conditions are occurring, imminent or likely. Conditions will cause a significant inconvenience and if caution is not exercised, will result in a potential threat to life and/or property. The generic term, winter weather advisory, is used for a combination of two or more of the following events: Issued when 4, 5, or 6 inches of snow or sleet is expected in 24 hours; or any accretion of freezing rain or freezing drizzle is expected on road surfaces; or when blowing or drifting snow is expected to occasionally reduce visibility to 1/4 mile or less.

National Weather Service Terms and Acronyms (http://www.crh.noaa.gov/lot/?n=wxterms)

APPENDIX B: TEMPERATURE REFERENCES

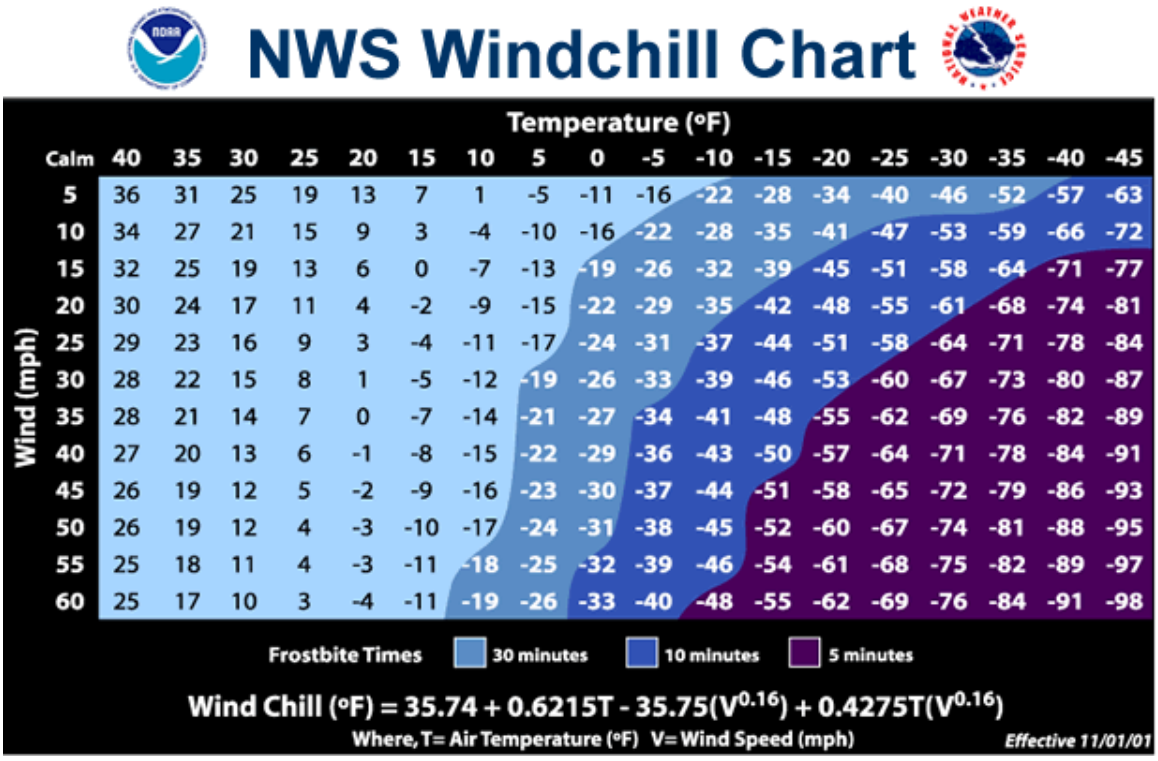
The heat index, given in degrees Fahrenheit, is an accurate measure of how hot it really feels when relative humidity is added to the actual air temperature. Exposure to full sunshine can increase Heat index values by up to 15%. This information, including the chart is from the NWS website, www.weather.gov.



The NWS has also developed the following correlation between heat index values and possible heat disorders for people in high risk groups.

Heat Index	Possible heat disorders for people in high risk groups
130° F or higher	Heatstroke/sunstroke highly likely with continued exposure.
105° – 129° F	Sunstroke, heat cramps, or heat exhaustion likely, and heatstroke possible, with prolonged exposure and/or physical activity.
90° – 105° F	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity.
80° – 90° F	Fatigue possible with prolonged exposure and/or physical activity.

Windchill temperature is how cold people and animals feel when outside. It is only defined for temperatures at or below 50 degrees Fahrenheit and wind speeds above 3 mph. Bright sunshine may increase the windchill temperature by 10 to 18 degrees Fahrenheit. Windchill temperature is used for calculating the dangers from winter winds and freezing temperatures. Use the chart as a starting point and be even more cautious with children, seniors, and persons with compromised health. This information, including the chart is from the NWS website www.weather.gov.



APPENDIX C: VERSION HISTORY

Change Number	Section	Date of Change	Individual Making Change	Description of Change
0.1	All	06/29/2007	Yolo OES	Initial draft of Extreme Temperature Plan
0.2	All	06/28/2013	Howell Consulting	Updated to become a Severe Weather Annex
1.0	All	12/08/2014	Yolo OES	Revised