



Extreme Heat Community Preparedness





Learning Objectives



Define Extreme Heat



Health Effects of
Extreme Heat



Overview of Extreme
Heat Toolkit



Extreme Heat Defined

- High Heat and Humidity, Above 90°F More Than 2 Days

Or

- A Temperature That Is Much Hotter and/or Humid Than Regional Average
- Heat Wave



Types of Heat Related Illness



High Risk Groups

- People with Asthma
 - *Epecially Children*
- People with Heart Disease
- Pregnant Women
- People over 65 years of Age
- People Working Outdoors
- Infants and Young Children

Extreme Heat as a Public Health Threat

Extreme heat ranks among the deadliest of natural hazards and claims many more lives when compared to other disasters

Increasing Frequency of Extreme Heat Events

- 2024 was hottest year on record
- The 2021 Pacific Northwest heat dome claimed an estimated 1,200 lives in Oregon, Washington and British Columbia.
- The 2022 California heat wave caused a 5% increase in deaths in the state. This translates into 395 more deaths than what would normally be expected during that timeframe.

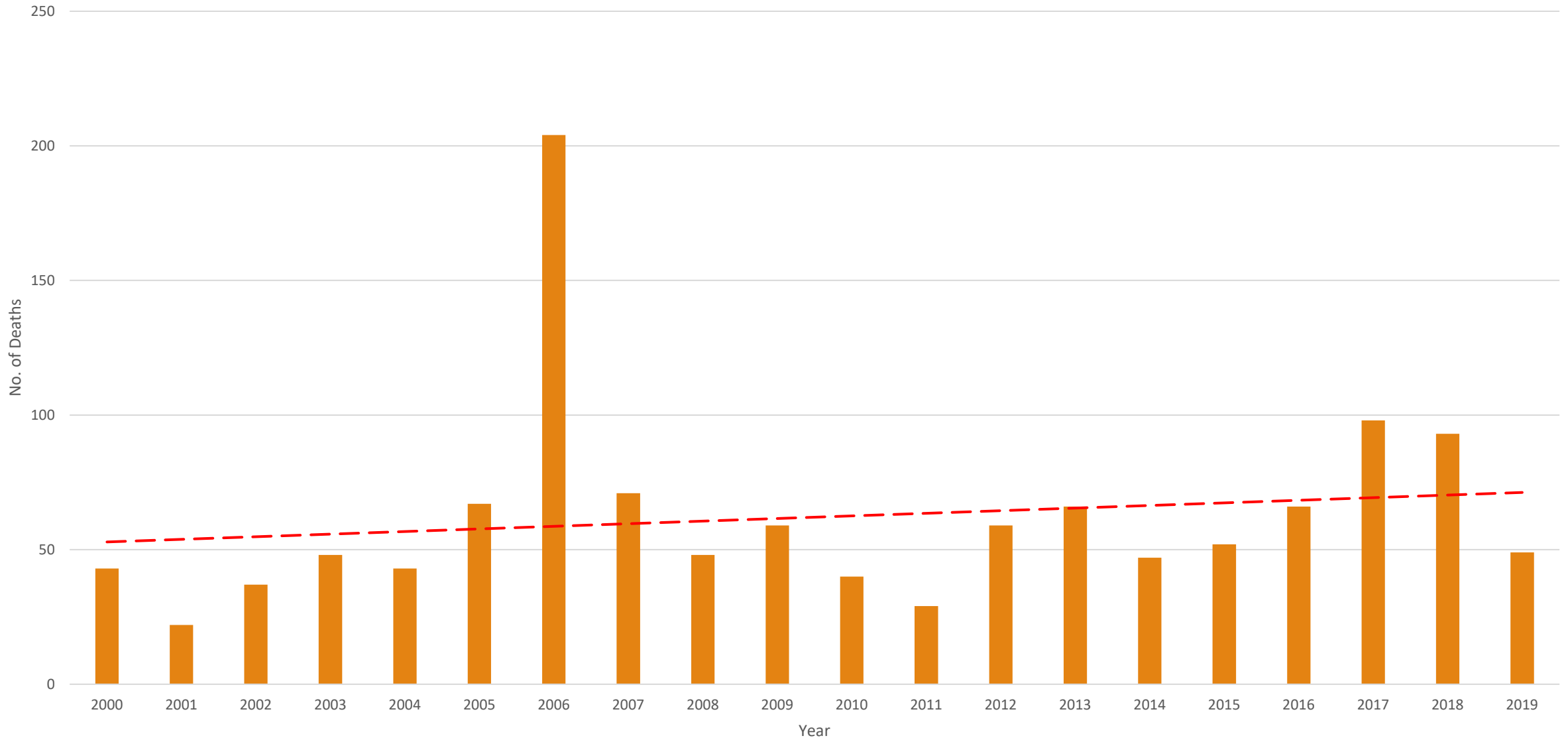
Emergency Department Visits

- 119,000 in 2023 in US
 - *Compared to prior average of 60,000-80,000 annually*
- 8,886 in 2024 in California
 - *Compared to 5,177 in 2021 and 5,374 in 2016 in California*

Deaths

1,714 deaths in 2022 in US
Compared to 1,600 in 2021
395 in 2022 in California
Compared to 139 in 2021 in California

California Heat Related Deaths 2000 - 2019





Community Impacts

- Infrastructure
 - Increase demand on Electrical grid--rolling blackouts
 - Damage to roadways and railway tracks
- Natural Resources
 - Increases risk of wildfire
 - Increases demand on water resources
- Agriculture
 - Stunt or kill crops
 - Distress livestock

California Area Extreme Heat Toolkit

Helps to Increase Tribal Resiliency:

- Walks through step by step the Extreme Heat Planning Process
- Provides Tools Needed to Develop a Community Extreme Heat Response Plan
- Provides Templates for Extreme Heat Education and Communication Materials
- Provides Guidance for setting up a Community Cooling Shelter

References Used to develop the Extreme Heat Toolkit

[CalOES Extreme Temperature Response Plan 2022](#)

[CDPH Interim Guide to Health Equity-Centered Local Heat Planning 2023](#)

[CDPH Guidance for Cooling Centers 2023](#)

[Sacramento County Extreme Heat Emergency Hazard Annex 2022](#)

[Minnesota Department of Health Extreme Heat Toolkit 2012](#)

6 Steps: Tribal Extreme Heat Response Planning

1. Assemble a Team: engage Tribal departments/agencies and partner organizations in the process
2. Complete a Heat Risk Hazard Vulnerability Assessment (HVA)
3. Develop an Extreme Heat Response Plan
4. Develop an Extreme Heat Communication Plan
5. Finalize Plans for Implementation
6. Evaluate Plans after real world heat events

Step 1: Assemble Your Team

Identify a Lead Organization/Entity for the Extreme Heat Planning Process

Suggested Entities: Tribal Health Director, Tribal Public Health Officer, Tribal Incident Commander, Tribal Chairperson, Tribal Emergency Manager

Suggested Partners to include in Extreme Heat Response Planning Process:

Tribal Emergency Management Office	Tribal Incident Command Structure	Tribal Public Health, Social Services and Community Health Departments
Tribal Clinic/Hospital/ EMS	Tribal Dialysis Center/Skilled Nursing/Assisted Living Facility	Tribal OSHA
Tribal Public Relations	Tribal Finance Department	Tribal Facility Maintenance
Tribal Transportation (Gaming/School)	Tribal Community/Senior/Youth Center(s)	Tribal Schools/Daycare/ Head Start
Tribal Housing	Tribal Youth Organized Sport Organizations	Red Cross/Local Churches



Step 2: Complete a HVA for your Community

Hazard Vulnerability Assessment Steps:

1. Characterize the risk of an extreme heat event in your community using a basic scoring process
2. Assess the impacts of an extreme heat event to vulnerable groups and identify associated mitigation strategies
3. Prioritize mitigation strategies

Tribal Health Programs play a core role in the HVA process:

- Identifying vulnerable groups
- Identifying public health impacts
- Identifying mitigation strategies

HVA Risk Characterization

Excerpt from the Hazard Vulnerability Assessment Risk Characterization Worksheet

Threat	Probability Likelihood this will occur	Human Impact Possibility of death or injury	Property Impact Physical losses and damages	Service Impact Interruption of services	Preparedness Preplanning	Internal/External Response Time, effectiveness, resources, Community/Mutual Aid staff and supplies	Risk 0-100%
SCORE	0=N/A 1=Low 2=Moderate 3=High	0=N/A 1=Low 2=Moderate 3=High	0=N/A 1=Low 2=Moderate 3=High	0=N/A 1=Low 2=Moderate 3=High	0=N/A 1=High 2=Moderate 3=Low or none	0=N/A 1=High 2=Moderate 3=Low or none	

Extreme Heat

Power
Interruption &
Heat

Wildfire smoke
& Heat

HVA Impact Assessment Worksheet

Excerpt from the HVA Impact Assessment Worksheet

Threat/Hazard	Public Health/Business Impact	Impacted Group	Mitigation Strategy
Extreme Heat	- Heat related illness - Death	Children	- Public Health Outreach - Surveillance for heat related illness and death in community - Suspend outdoor activities - Provide water - Access to air conditioning
Extreme Heat	- Heat related illness - Death	Construction Worker	- Public Health Outreach - Surveillance for heat related illness and death - Provide access to shade - Provide access to water - Work shifts scheduled for cooler parts of the day

Some Examples of Community Extreme Heat Mitigation Strategies*



Opening Cooling Centers

Providing Transportation to Cooling Centers

Encourage Child Environments to prepare for Extreme Heat Events

- Develop policies to initiate and guide response to extreme heat events

Facilities Restrict Outdoor Activities

- Child Environments*
- Organized Sports
- Outdoor Laborers

Educate the Community on the risks of extreme heat, heat related illnesses and ways to prevent

Ensure Continuous Power through agreements with local utilities

Conduct Wellness Checks to vulnerable individuals

Offer Motel Vouchers to Vulnerable Community Members

Distribute Mitigation Supplies and Equipment to vulnerable groups

- Bottled Water
- Box Fans
- Portable Air Conditioning Units

Assist Vulnerable Patients with applying for energy assistance programs such as LIHEAP to offset energy costs

**items highlighted yellow might be activities assigned to tribal health programs*

HVA Prioritize Mitigation Strategies Worksheet

Excerpt from the Prioritizing Mitigation Strategies Worksheet

Mitigation Strategy	Magnitude	Magnitude	Investment/ Cost	Score
	% vulnerable community members served	% community members served	Staffing and Assets	Sum of Scores
Score	0=N/A 1=0-25% 2=26-50% 3=>50%	0=N/A 1=0-25% 2=26-50% 3=>50%	0=N/A 1=High 2=Moderate 3=Low	
Provide shade and water for construction workers				
Increase Breaks/Change Work shifts for construction workers				
Tribal Cooling Center				
Provide Motel Vouchers to Vulnerable Community Members				

*See speaker notes for details

Step 3: Extreme Heat Response Plan Template

Team edits template for its high scoring impacts and associated resources available

Appoints lead agency/individual for the Tribe's response to an extreme heat event

Appoints lead agency to monitor extreme heat indicators

Defines the specific conditions that trigger the activation of each response phase of the extreme heat response plan

Incorporates the mitigation strategies to be enacted with each response phase of the plan.

Assigns the response actions to specific tribal departments/individuals

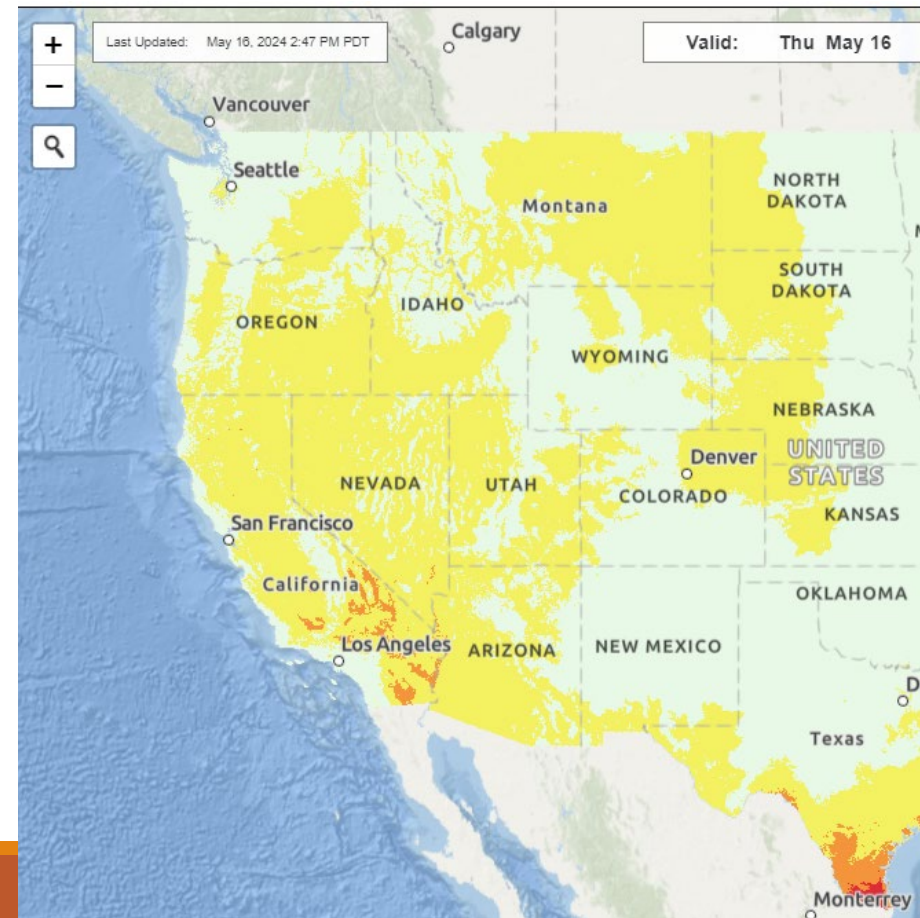
Includes section with procedures for Community Surveillance of Heat Related Illness and Death

Extreme Heat Response Plan 3 Phases

- Phase I: Seasonal Preparedness
 - Initiated in April/May before prior to the hotter months
- Phase II: Heat Watch
 - Initiated when credible predictions are issued such as an extreme heat watch issued by the National Weather Service (NWS), CalHeatScore predicted to be 3 or higher, or a power outage (PSPS) issued by a local utility during warmer than normal weather conditions for the Reservation
- Phase III: Heat Warning
 - Initiated when conditions pose a severe threat to the community such as NWS issues an extreme heat warning, NWS [HeatRisk Map](#) showing Magenta (Level 4) for the reservation or CalHeatScore will be 3 or higher

NWS HeatRisk

Identifying Potential Heat Risks in the Seven Day Forecast



Phase I: Seasonal Preparedness

Appoint Lead Agency or Entity to Monitor for Extreme Heat Indicators Defined in the Plan

Recommended Tools to Monitor Indicators:

- [NWS HeatRisk Tool](#)
 - Interactive map with color-numeric-based index that provides a forecast risk of heat-related impacts to occur over a **24-hour period**
- [CDC HeatRisk Tool](#)
 - Based on the NWS HeatRisk Tool
 - Can find the Heat Risk Category for your area using zip code
- [CalHeatScore Tool](#)
 - Uses weather, local population health status and geographic characteristics to develop a score specific to your community
 - Localized: can find predictions using your area's zip code
- Warnings and Advisories issued by NWS
- Reports of heat related illness/deaths in your community
- Extreme temperature combined with power outage or blackouts
- 2 or more neighboring jurisdictions declared a heat related emergency

GEROUS HEAT NO POWER?

nds closed to prevent
from heating the indoors

body temperature by
cool shower/bath, or
ands/feet in cool water

rated and wear lightweight,
ored clothing

l cooling centers:
ty centers, libraries, movie theaters, et

Always monitor yourself and
Call 911 in the e

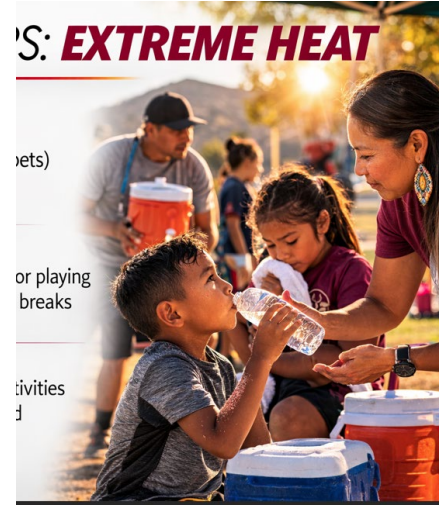


S: **EXTREME HEAT**

(ets)

or playing
breaks

tivities
d



Phase I: Seasonal Preparedness

Implement Communication
Plan and Educate the
Community about the Dangers
of Extreme Heat

No Power?



TECT YOURSELF OM HEAT & SUN

nk plenty of water and avoid
ohol. Beveeages with electrolytes
h as Gatorade can help protect
inst heat stress.

oly sunscreen (SPF 30 or higher)
ry 2 hours.

ar lightweight, loose fitting and
t col-ored clothing.

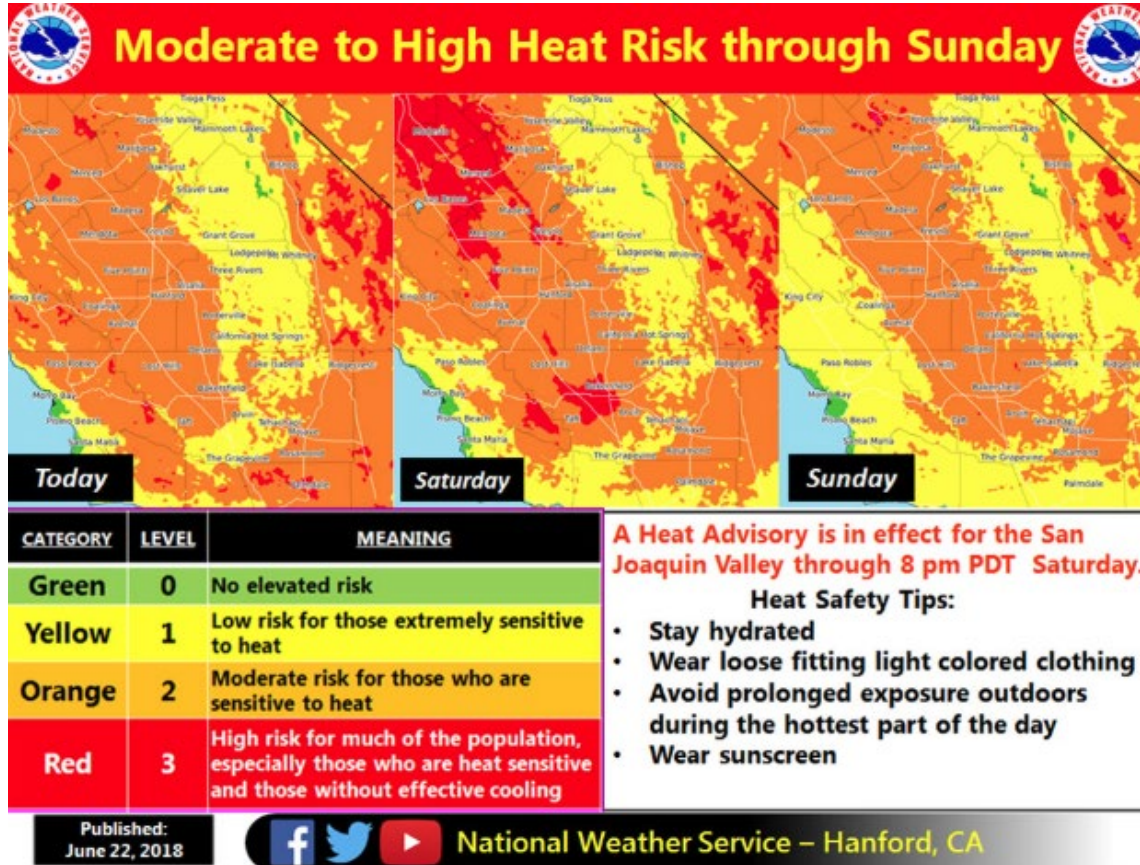
re regular breaks in the shade
en working and playing
doors.



Plan Template Phase II: Heat Watch

This section of the plan:

- Defines what indicators will initiate the transition to Phase II
 - Plan template provides recommended indicators
- Defines what Response Actions will be taken in Phase II
 - Examples of Response Actions suggested in template during phase II:
 1. Activate the Tribe's ICS
 2. Initiate Phase II of the Extreme Heat Communication Plan
 3. Review Cooling Center Checklist with Tribal Cooling Center Coordinator



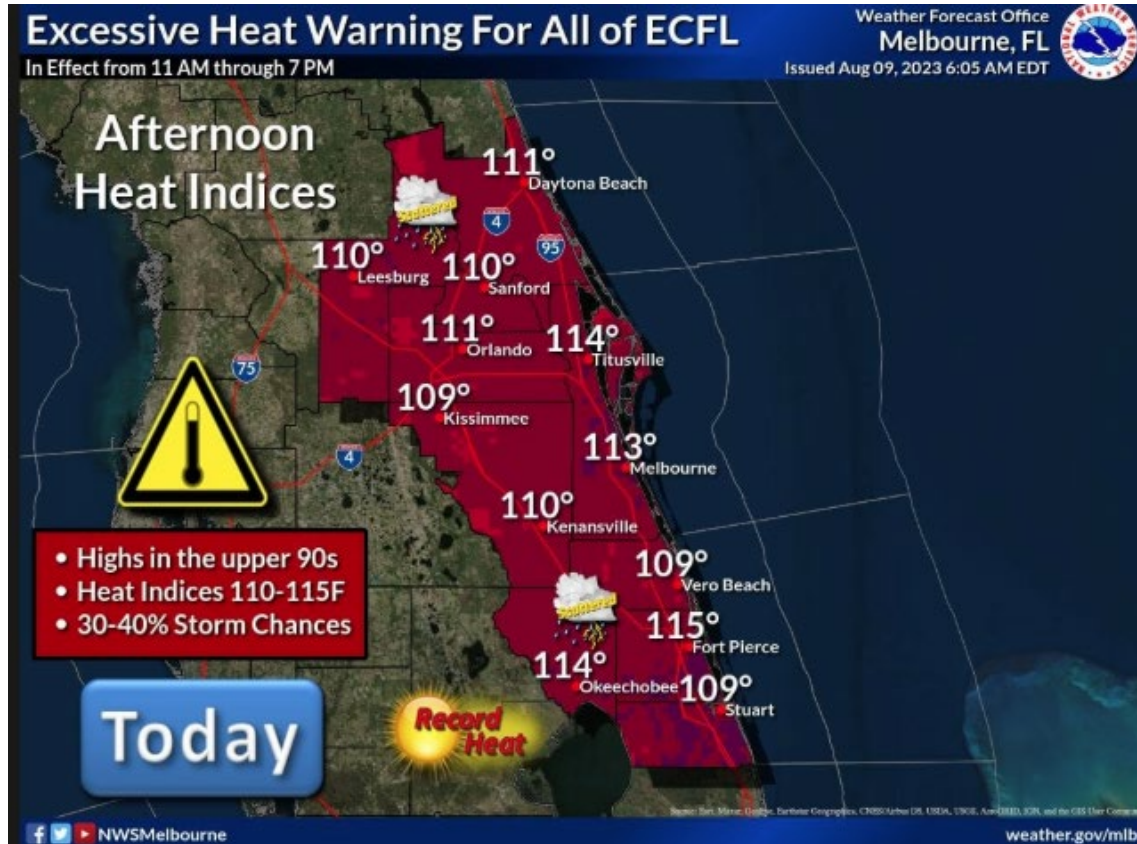
Plan Template Phase III: Heat Warning

Transition to Phase III is initiated by the issuance of a Heat Warning by the NWS

- Plan template includes additional indicators which also should trigger Phase III

Define what actions will be taken in Phase III

- List All Actions necessary to implement mitigation strategies selected through your completed HVA
- Plan Template provides a thorough list of recommended action items for Phase III



Extreme Heat Response Plan: Roles and Responsibilities Section

The Template includes a table response action items are assigned. Summary of the response activities and associated lead entity. Example of activities typically assigned to THP:

Emergency Support Function	Lead Department/Agency <suggested entity>	Specific Responsibility During Extreme Heat Event
Public Health & Medical	<tribal health department/public health officer>	• Review Cooling Center Checklist with Tribal Cooling Center(s) coordinator • Distribute weather respite motel vouchers to vulnerable patients • Monitor heat related illness and death reports • Coordinate welfare checks of vulnerable community members • Notify community centers/schools/childcare/organized sports organizations/construction companies/assisted living facilities of impending extreme heat event • Assemble triage service needs (ice packs, cool water, IV fluids to treat HRI)
Communication	<tribal health department/public health officer>	• Develop and implement a communication plan that provides emergency communication and public alert and warning • Prepare and issue health advisory/alert • Issue health advisory and prevention of heat related illness information about outdoor activities to Tribal programs to include daycare, Head Start, schools, organized sport organizations, Tribal construction, Tribal maintenance, assisted living/dialysis centers, etc. • Update Tribal websites and social media with public health and safety information

Step 4: Prepare an Extreme Heat Communication Plan

- Identify all agencies/entities to be contacted during an extreme heat event
- Outline the strategies to be used to reach vulnerable populations with key health, safety and resource information
- Outlines what information should be shared with the community during each phase of the Tribe's response to an extreme heat event
- Outlines how the Tribe will communicate with the community during each response phase
- Toolkit Provides Culturally Appropriate Public Health and Safety Message templates for use in each phase of response

One More Resource in the Toolkit:

Guideline for Cooling Center

- Provides recommendations regarding Cooling Center Location:
 - Attributes of suitable facility
 - Recommended supplies and equipment needed for operating cooling center
 - Recommended amenities for occupants of cooling center (food, Wi-Fi, charging devices, etc.)
 - Recommended training for Cooling Center Staff
- Defines the conditions which mobilize the opening of a cooling center
 - e.g. NWS Heat Index Tool



**Head to a local cooling center
to #BeatTheHeat**

Transportation to Cooling Centers



- THP Advocate
- Ensure to include public transportation options to the Cooling Center in your plan
- Transportation should be convenient and accessible for vulnerable community members
- Ensure air conditioning is available on buses or other public transportation options used in your plan
- Select pick up stops that offer shading

Questions

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