



Health Center Preparedness and Response Forum



***Session 3: February 8, 2024
Extreme Heat and Wildfires***



Housekeeping

- All participants are muted and videos are off
- Use the Q&A or chat box to ask a question during the session
- This webinar is being recorded and materials will be emailed to all registrants within 7 days of this session
- We would love to hear your feedback – please fill out our brief evaluation at the end of the session!

National Training and Technical Assistance Partners (NTTAPs)



Learn More: [Browse NTTAPs by Topic](#)

Today's Facilitators



Alexis Guild, MPP

Vice President of Strategy and Programs
Farmworker Justice



Alaina Boyer, PhD

Senior Director of Programs
National Health Care for the Homeless Council

Checking In:

Were you or your organization impacted by the recent California storm?

What has the emergency response looked like in your area?

What support does your community still need?

Today's Agenda

- Welcome and Introductions
 - Patient Population Highlights
 - Farmworkers
 - Individuals experiencing homelessness
 - *National Perspective: Impact of extreme heat and wildfires on at-risk patient groups*
 - **Juli Trtanj, NOAA**
 - *Regional Example: Health Center Partners of Southern California*
 - **Candy Alvarez**
 - Evaluation & Close
-

Outdoor Workers & Heat and Wildfires

- Outdoor workers have limited protections
 - No federal heat or wildfire standard
 - Only a handful of states have implemented protections
 - Heat - CA, WA, OR, CO, MN (indoor)
 - Wildfire - CA, WA, OR
- Farmworkers are 35 times more likely to die from heat-related illness than other workers
- Studies indicate that $\frac{2}{3}$ of farmworkers did not receive training in heat safety

Homelessness & Extreme Heat and Wildfires

- Unsheltered homelessness (street, encampments, vehicles)¹
- Extreme Heat:
 - Poor ventilation inside tents
 - 2nd and 3rd degree burns from pavement²
 - Prevention: cooling centers, hydration, community spaces (malls, libraries, day shelters)³
- Wildfires:
 - Poor air quality
 - Respiratory illness, heart conditions worsened²
 - Prevention: masks and finding indoor shelter³



Today's Speaker



Juli Trtanj

One Health Lead and NIHHIS Director,
*National Oceanic and Atmospheric
Administration (NOAA)*

A satellite view of Earth from space, showing the Western Hemisphere. The Arctic region is visible at the top, with a large ice cap. The continents of North and South America are visible, along with the surrounding oceans and cloud patterns.

Heat and Wildfires!

Using Environmental Information to Predict, Prepare for, and Prevent health risks

Juli M. Trtanj

**Climate and Health Program Director
National Integrated Heat Health Information System Director**

**Hunter Jones, NIHHIS Program Manager
Morgan Zabow, Community Engagement Coordinator
NOAA Climate Program Office**

US Department of Commerce National Oceanic and Atmospheric Administration



Weather >



Climate >



Oceans & Coasts >

- To understand and predict changes in climate, weather, oceans, and coasts,
- To share that knowledge and information with others, and
- To conserve and manage coastal and marine ecosystems and resources.



Marine & Aviation >

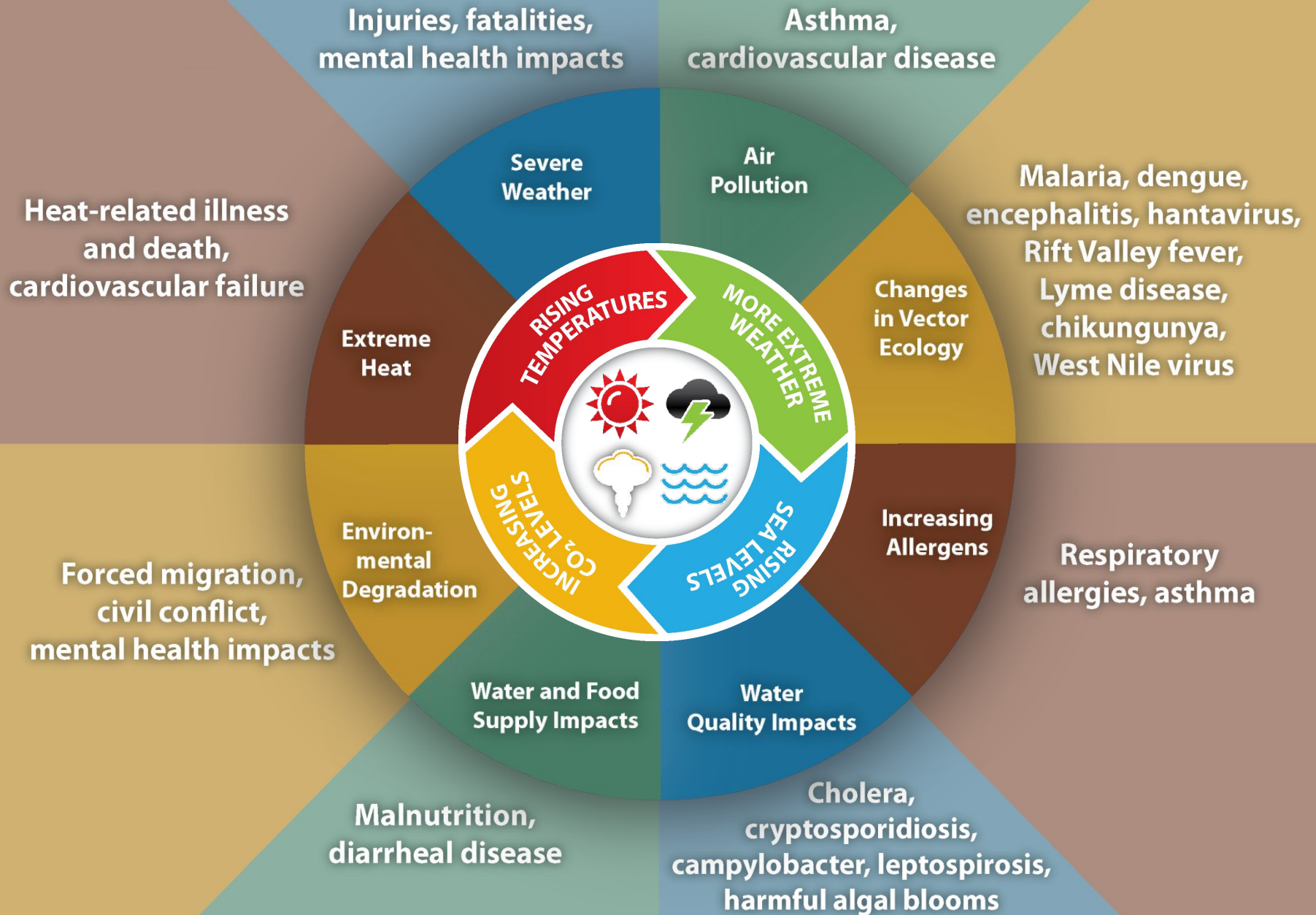


Charting >



Sanctuaries >

Impact of Climate Change on Human Health



NOAA One Health



Animal Health



Human Health



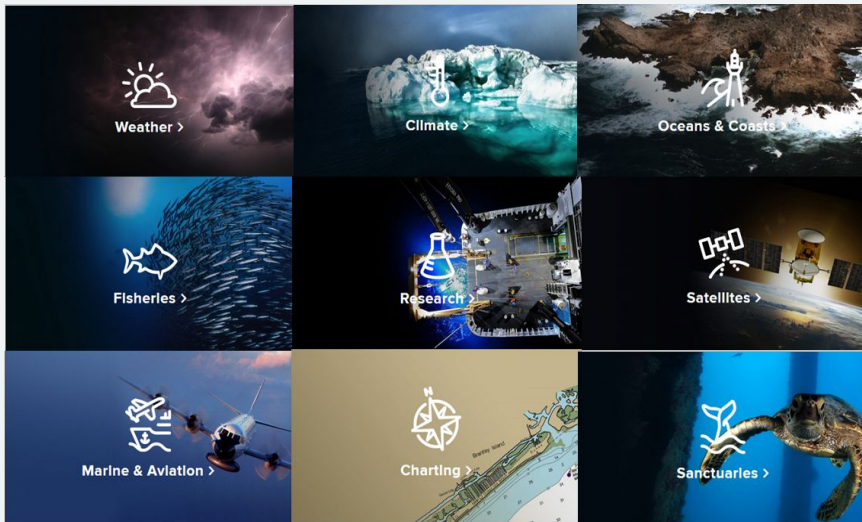
Ecosystem Health

One Health involves applying a coordinated, collaborative, multidisciplinary, and cross-sector approach to **address potential or existing risks** that originate at the interface of humans, animals, and ecosystems.

www.onehealthglobal.net



NOAA and One Health

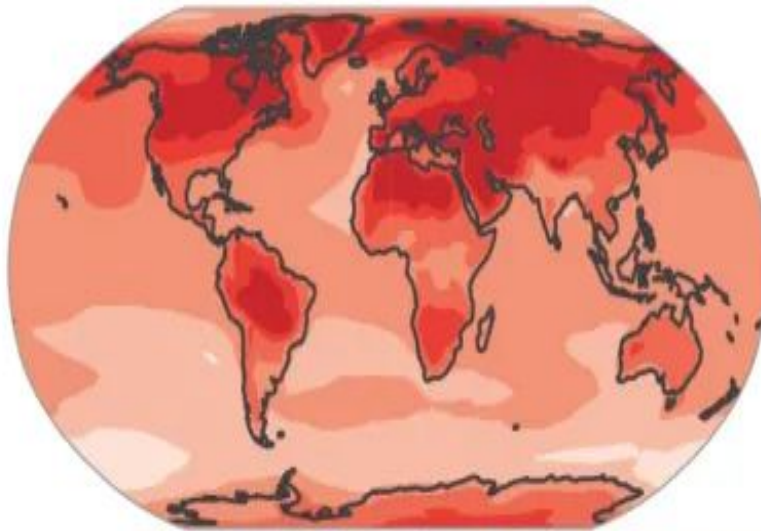


One Health advances NOAA's science and services to inform our decisions related to the agency's mission areas through improving our understanding of the linkages between environmental conditions and health outcomes, and delivering effective prediction products, data, and tools.

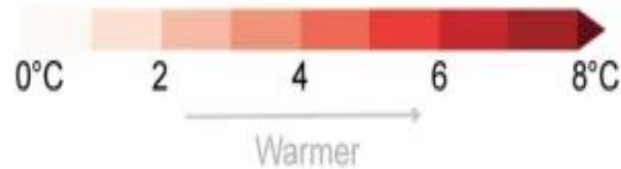
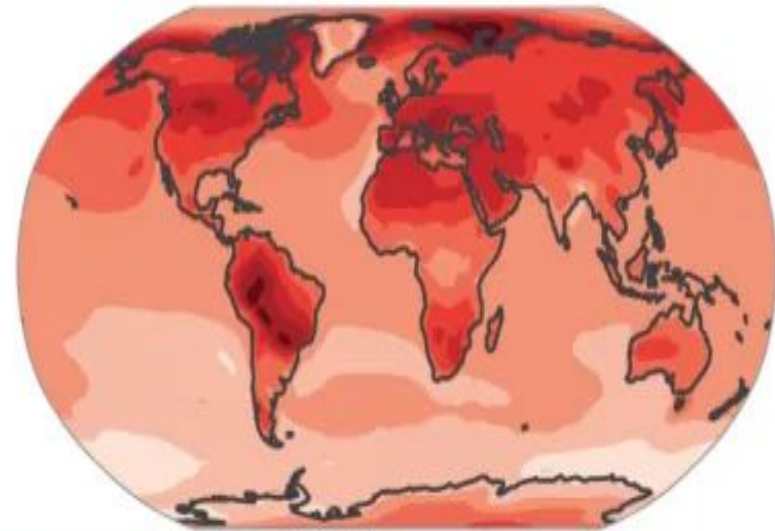


The global average temperature for July 2023 was the highest on record and likely for at least 120,000 years, the UN weather agency and partners said on Tuesday-WMO

Climate average



Climate extreme



Future changes in temperature averages and extremes will be similar

Recent heat events threatened human & animal health, critical infrastructure, and our economy.

abc NEWS VIDEO LIVE SHOWS

Deaths due to extreme heat at national parks increasing, data from the National Parks Service shows

Triple-digit temperatures are not deterring visitors from national parks.

CLIMATE & ENVIRONMENT

Los Angeles Times

With water running out, California faces grim summer of dangerous heat, extreme drought



CNN BUSINESS Live TV

Extreme heat means two-thirds of North America could suffer blackouts this summer

By Matt Egan, CNN
Published 1:28 PM EDT, Mon June 26, 2023

CLIMATE & ENVIRONMENT

The Washington Post

Democracy Dies in Darkness

CAPITAL WEATHER GANG

Record-setting, long-duration heat wave is roasting Western U.S.

Los Angeles and Sacramento are included in excessive heat warnings through the Labor Day weekend

The New York Times

Heat Is Costing the U.S. Economy Billions in Lost Productivity

From meatpackers to home health aides, workers are struggling in sweltering temperatures and productivity is taking a hit.

TIME SIGN UP FOR OUR IDEAS NEWSLETTER

CLIMATE + EXTREME WEATHER

Heat Waves Can Be Deadly for Those With Mental Health Issues



30-year Normal compared to 1901-2000



U.S. annual temperatures: present climate compared to 20th-century average. From NOAA Climate.gov

Heat Kills



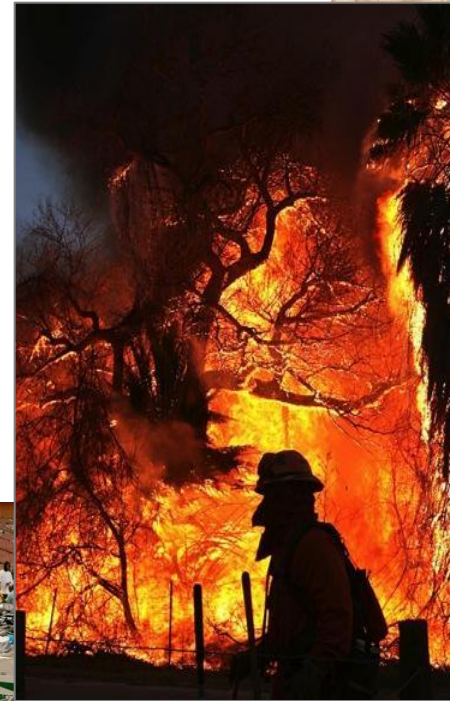
Extreme heat is deadly, killing thousands every year, but it also diminishes labor productivity and crop yields.

Extreme heat: The economic and social consequences for the United States, 2021, Atlantic Council



Heat Exacerbates

Cascading Impacts
Food and Water Security
Domestic violence and conflict
Destabilizing nations, fueling
political turmoil, migration, and
civil unrest
Economic hardship and supply
chain challenges
Physical and Mental Health
impacts
Critical Infrastructure
Humanitarian Response and
Workforce



Heat is an Overlooked Issue



- The impacts are often invisible, delayed, or **hard to quantify**.
- Heat governance falls **between the cracks** at all levels of government.
- Heat affects **marginalized groups the most**, which by definition lack the means to act themselves or bring high level attention to the issue
- As with other disasters, we **wait until it is too late** rather than planning and preparing.

Heat and Mental Health by the Numbers

Heat exposure increases risk of mental health impacts.

8% increase in mental health ED visits on hot days

1.8°F Suicides increase by 0.7% for every 1.8°F increase in temperature

4.5% increase in risk of dementia admission per 1°C increase above 17°C in England

86°F On nights over 86°F, sleep declines by 14 minutes on average

Mental health also affects risk of other heat-health impacts:

People with behavioral health conditions, such as schizophrenia or substance use disorders, are among those at highest risk of heat-related **illness or death.**

Psychotropic medications can increase heat-health risk.

The National Integrated Heat Health Information System (NIHHIS)

A Coordinated Federal Approach to Managing Heat Risk across time scales

Launched in 2015 as a sub-IPC (Interagency Policy Committee) under the Critical Infrastructure Committee of National Security Council

Coordinated approach to heat resilience that builds awareness, evidence, and capacity to address heat risk

Multi-agency and trans-disciplinary with partners such as health officials, elected officials, energy companies, universities, and museums

Works across timescales to bridge long-term heat risk mitigation and short-term management, planning, and preparedness

Supports and implements the White House Extreme Heat Interagency Working Group





National Integrated Heat Health Information System (NIHHIS)

NIHHIS vision: A heat resilient nation empowered to effectively address extreme heat and its impacts.

Understand decision context



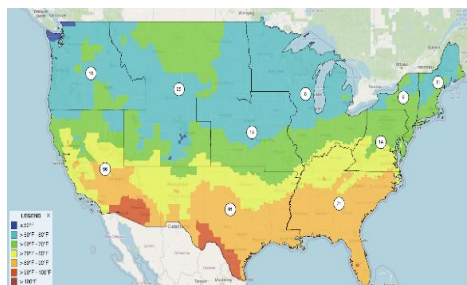
Improve Observations and Predictions



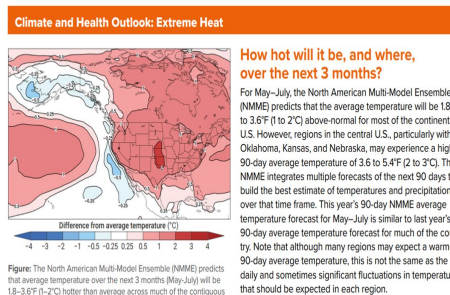
Enhance Solutions with Research



Co-Develop Products and Tools



Support Planning and Response



Communicate and Build Capacity

Heat Exhaustion		Heat Stroke	
<p>ACT FAST</p> <ul style="list-style-type: none"> Move to a cooler area Loosen clothing Sip cool water Seek medical help if symptoms don't improve 	<p>Dizziness</p> <p>Thirst</p> <p>Heavy Sweating</p> <p>Nausea</p> <p>Weakness</p>	<p>Confusion</p> <p>Dizziness</p> <p>Becomes Unconscious</p>	<p>ACT FAST</p> <p>CALL 911</p> <ul style="list-style-type: none"> Move person to a cooler area Loosen clothing and remove extra layers Cool with water or ice
<p>Heat exhaustion can lead to heat stroke.</p>		<p>Heat stroke can cause death or permanent disability if emergency treatment is not given.</p>	
<p>Slay Cool, Stay Hydrated, Stay Informed!</p>			



U.S. Department of Veterans Affairs

Landscape of Federal Heat Action

Coordination

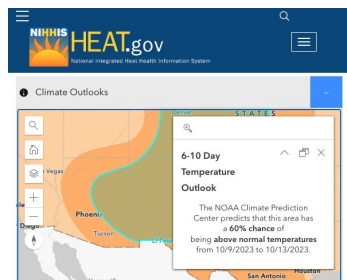
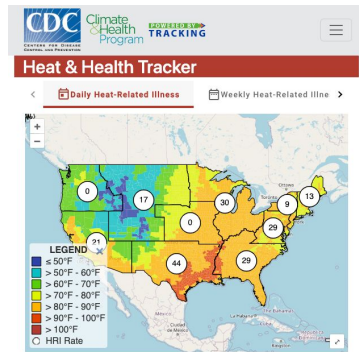


NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM



National Heat Strategy

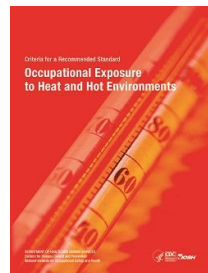
Research, Data, Information



Regulation, Policy



H.R.4953 - Preventing HEAT Illness and Deaths Act of 2023
 H.R.4733 - Smoke and Heat Ready Communities Act of 2023
 H.R.4256 - Jordan McNair Student Athlete Heat Fatality Prevention Act
 H.R.4314 - Stay Cool Act
 H.R.4269 - Timothy J. Barber Act
 H.R.4378 - SMART Energy Efficiency Standards Act
 11+ Bills in the House Alone



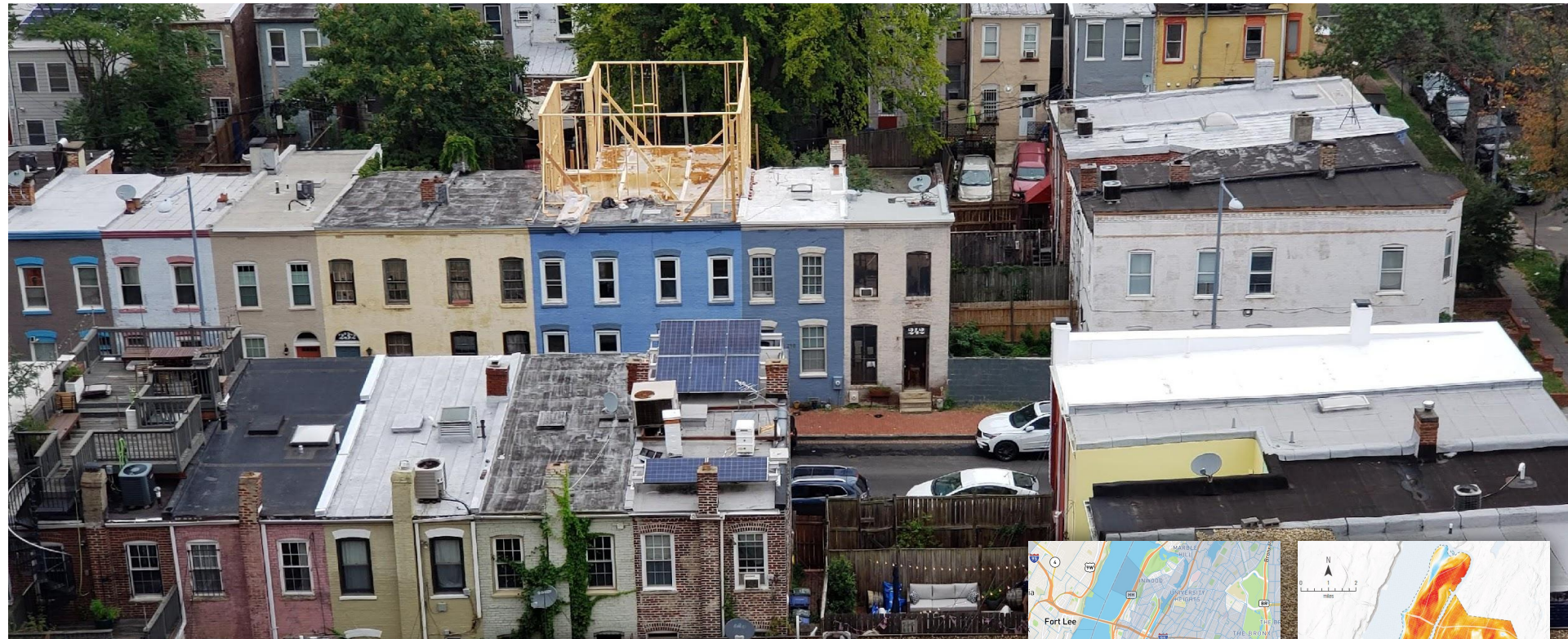
Implementation & Capacity



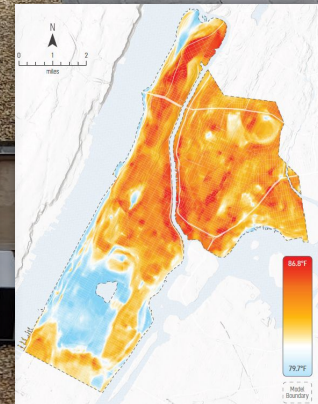
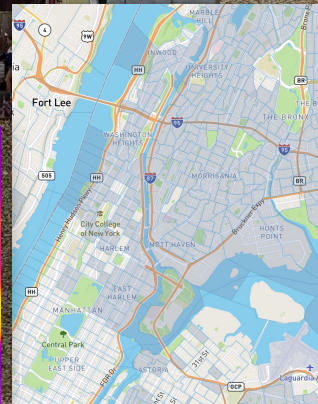
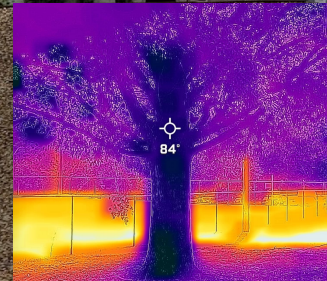
Technical Support & Guidance



We know our cities are getting hotter... so now what?



CITIZEN
SCIENCE
URBAN
HEAT
ISLAND
MAPS
HUNTER
JONES



Helping Cities Manage Heat

Planning for Urban Heat Resilience Guide
(funded by FY21 NIHHS opportunity)

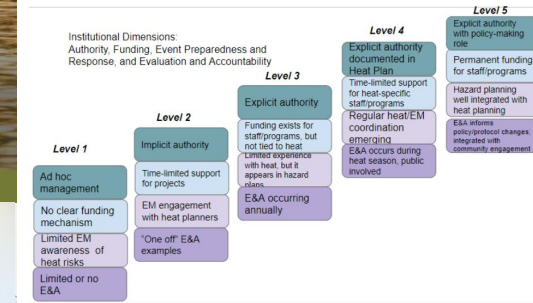
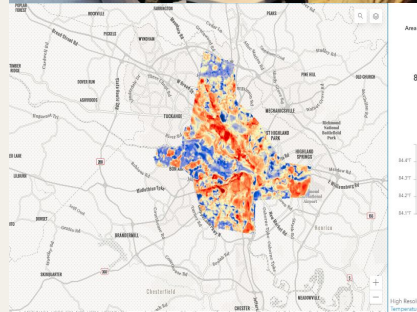
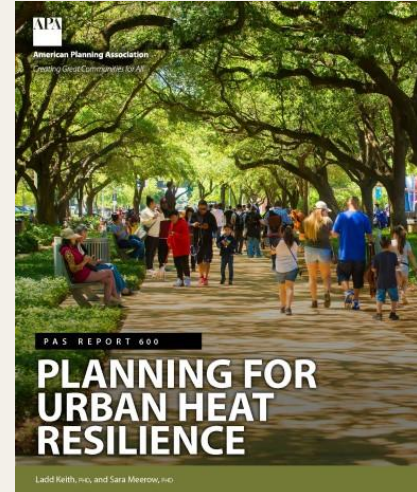
Plan Integration for Resilience Scorecard
for Heat

Heat tabletop exercises

Heat governance maturity model

Urban heat island mapping campaigns and
community of practice

Heat equity mapper on heat.gov

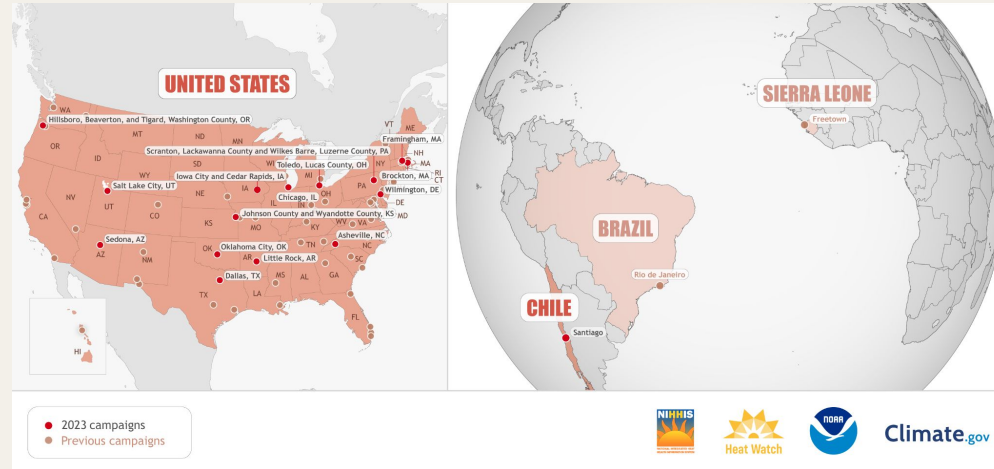


NIHHIS Urban Heat Island Mapping Campaign

NIHHIS and partners launched community-led campaigns that map the hottest parts of cities to **learn where action is needed to protect vulnerable populations now and in the future.**

Campaigns engage local communities and create partnerships to **better understand and address the inequitable threat of extreme heat.**

The Urban Heat Island campaigns are one of the seven NOAA initiatives covered under the **Biden-Harris Administration's Justice40 Initiative.**



Campaigns in California:

Los Angeles, Sacramento, San Diego, San Francisco, San Jose, Santa Clara, Oakland, Berkeley, San Bernardino, Victorville

People go out mapping for a day

Spatially-rich approach, collecting +100,000 points / city

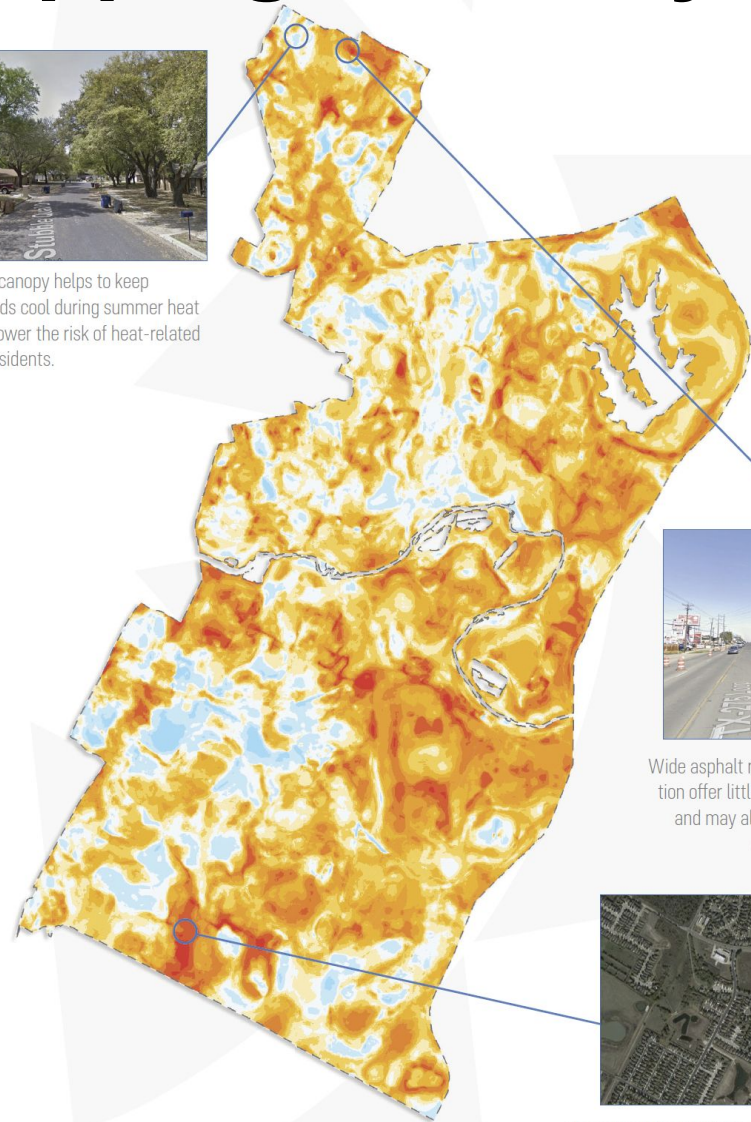
Machine learning algorithm (Random Forest), uses imagery from Sentinel-2 satellite for land characteristic variables

Generates “snapshot-in-time” temperature and heat index maps of heat on high-temperature, stagnant air conditions

□ heat exposure descriptions at human level, high resolution



Mature tree canopy helps to keep neighborhoods cool during summer heat waves and lower the risk of heat-related illness for residents.



Wide asphalt roadways with sparse vegetation offer little to no refuge for pedestrians, and may also contribute ambient heat to surrounding residential areas.



Homogeneous suburban developments attract heat, though conserved natural areas such as Grand Meadow Park may help to buffer or break the heat between neighborhoods.

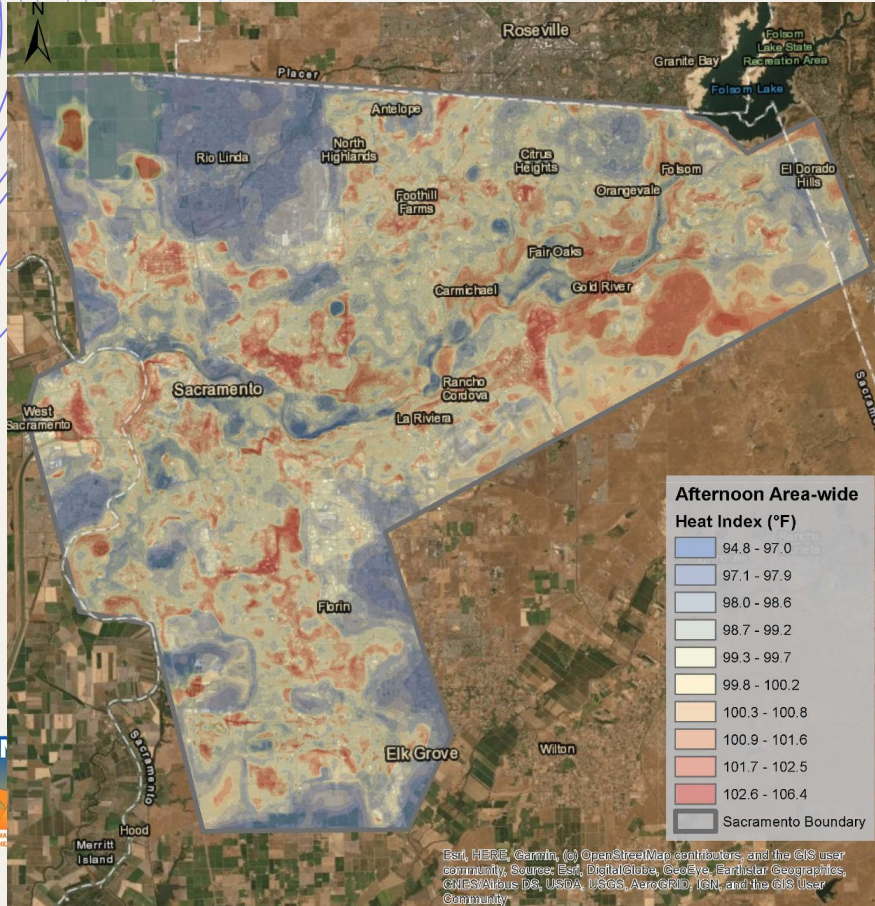


Volunteer team in Jackson, MS



Afternoon Traverse Points

Temperature (3 - 4pm)



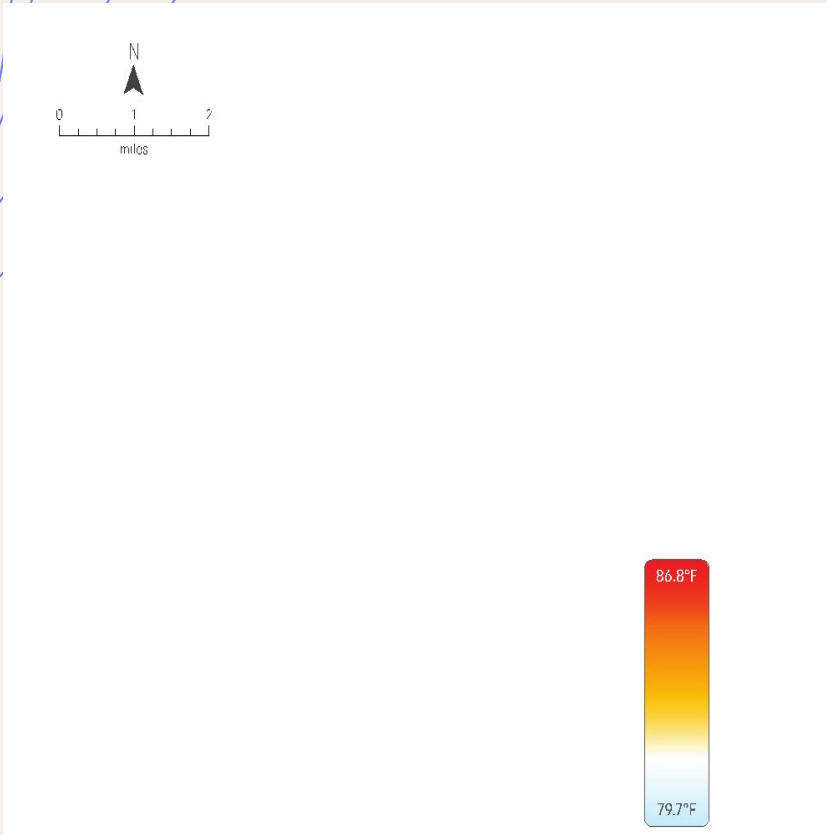
UHI Mapping in Sacramento

On 14 August 2019, volunteers collected data points across 10 study areas in Sacramento, CA to measure the Urban Heat Island effect.

The maximum heat index recorded was 107.2°F, with a highest concurrent temperature differential of 22.1°F.



NIHHIS IS A JUSTICE40 PROGRAM



Afternoon Air Temperatures from NIHHIS Citizen Science Mapping



Disadvantaged Census Tracts from White House C.JEST Tool



NOAA Research

National Integrated Heat Health Information System



National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Search NOAA sites

Home / News & Features

Excessive heat, a 'silent killer'

Heat exhaustion or heatstroke? Know the signs of heat illness.

Focus areas: Weather Topics: heat waves, human health, extreme weather, sun safety

Share: [f](#) [t](#) [e](#) [m](#)

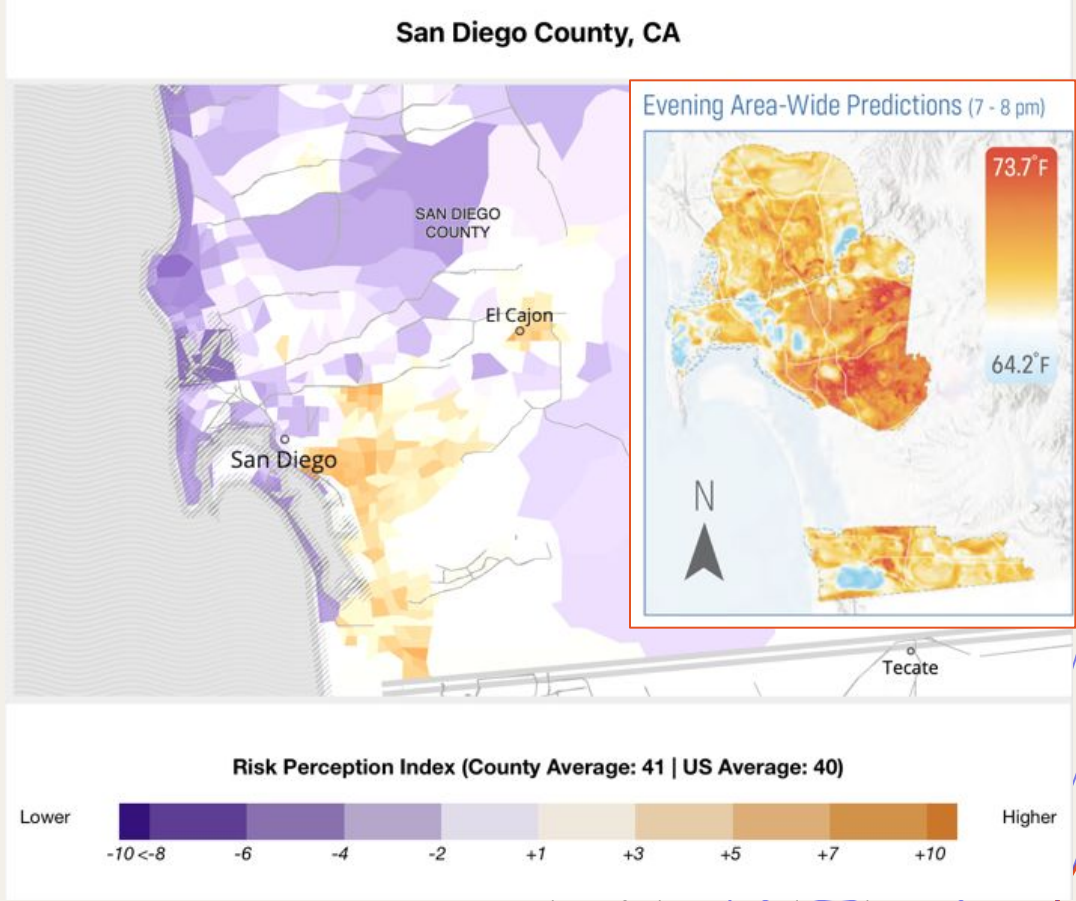
June 18, 2014 — If you plan on being out and about in summer, chances are you'll be exposed to a lot of sun and higher temperatures.



*"The most important finding is that **knowledge** and subjective heat sensitivity are **directly correlated** with heat risk perception, meaning **people who know more about heat waves are more likely to perceive heat as a risk** and take adequate adaptation measures."*

- Beckmann & Hiete, 2020

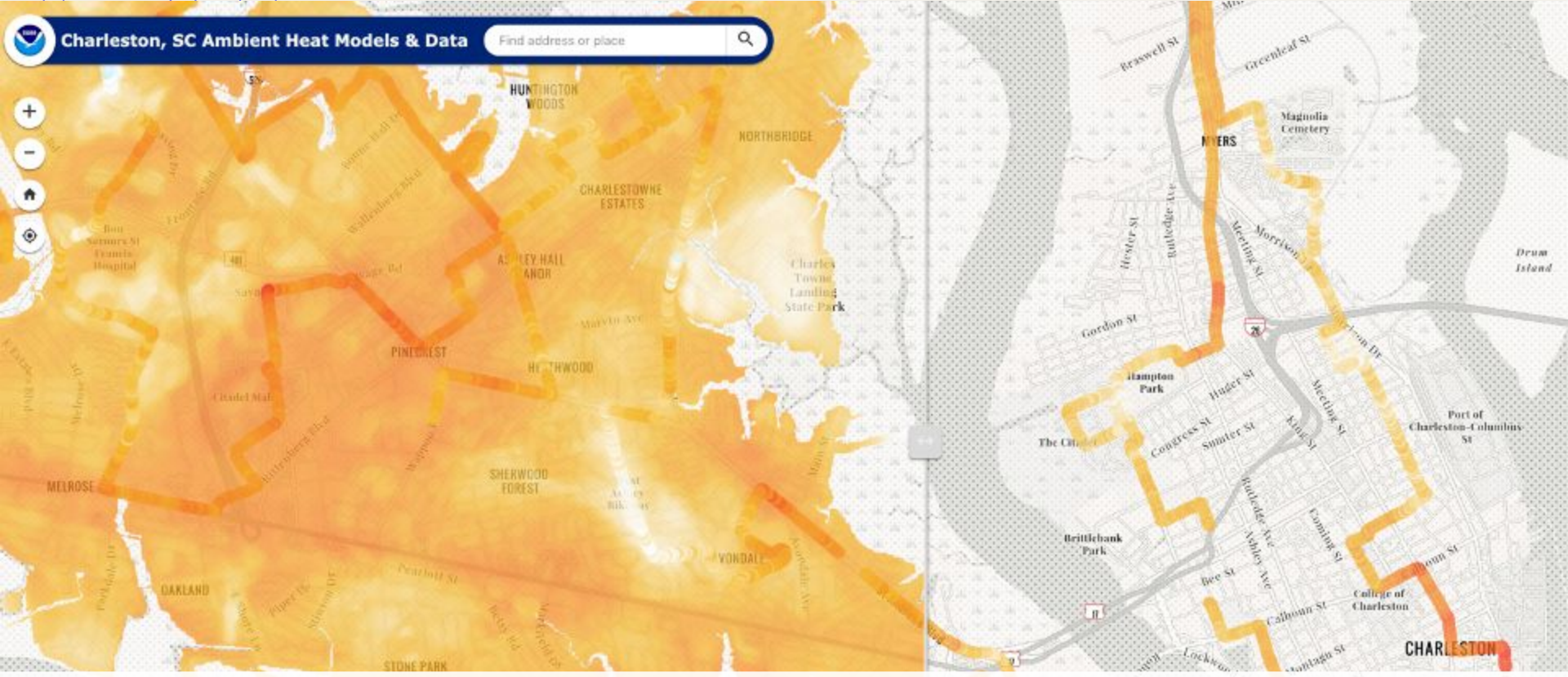
How can we increase awareness of impacts and improve heat risk perception?



CAPA Strategies, 2021

Howe et al., 2019 & Yale Program on Climate Change Communication



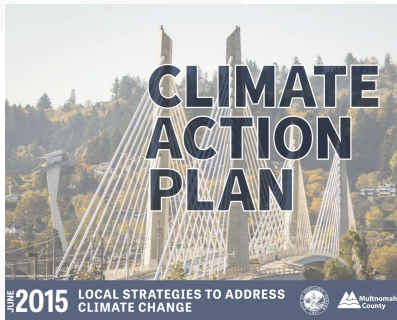


Air temperature and Heat Index maps make community-level variation in heat visible.





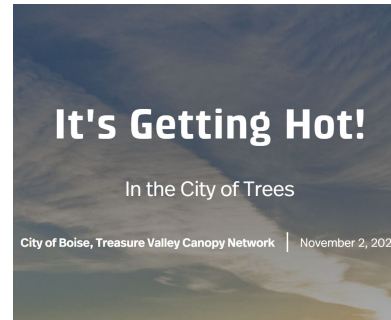
Heat Data Implementations



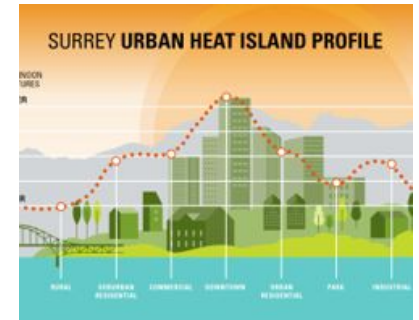
*Climate Action Planning
Portland, Oregon*



*Social Vulnerability & Adaptation
Strategies
O'ahu, Hawaii*



*Tree Canopy Intervention
Boise, Idaho*



*Heat Preparedness
Surrey, British Columbia*

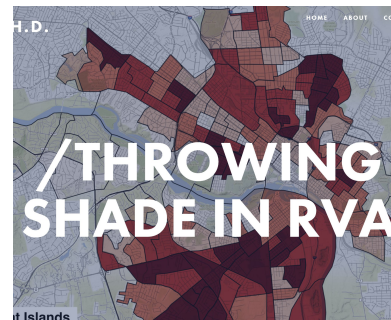


*Partnership Building &
Collaborative Action
Houston & Harris County, Texas*



**Wicked Hot
Boston**

*Public Engagement
Boston, Massachusetts*



*Health Vulnerability & Youth
Engagement
Richmond, Virginia*



*Heat, Health, and Community
Baltimore, Maryland*



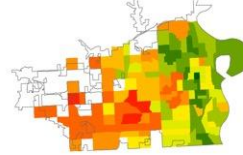
Trees and Vegetation



Green Roofs



Cool Roofs & Pavements



Targeted Early Warning



Smart Growth



Weatherization



Green Building Programs and Policies



Sun Shades



Mobile Cooling Vans



Spray Parks



Communication and Education



Energy Assistance Programs

Enabling Urban Solutions with Better Urban Heat Island Information

Many of the existing actions and interventions used to reduce the health impacts of extreme heat can be informed by detailed urban heat island information. They can be targeted to the hottest areas in the short-run, and cities can be better designed to manage UHIs in the long-run.

Heat.gov

The premier source of heat and health information for the nation to reduce the health, economic, and infrastructural impacts of heat

Includes content from many federal agencies and other partners, sourced through the NIIHIS Interagency Working Group (30+ heat experts).

In FY24, we plan to add:

- More at-risk groups & detail
- Heat Governance Maturity Model
- Heat Tabletops Guide
- New tools for specific decisions

The screenshot shows the HEAT.gov website with a dark blue header containing the NIIHIS logo and navigation links. The main content area features a 'Welcome to HEAT.gov' section with introductory text, a 'News' section with three articles, and a row of three featured cards: 'Tools & Information', 'Who is at Risk to Extreme Heat', and 'Climate and Health Outlook'. Below this is a 'Current Conditions and Future Outlooks' section with a bar chart for 'Extreme Heat' showing 5,491,360 people under heat alerts over the last 30 days. To the right of the chart is explanatory text. At the bottom, a map interface is visible with tabs for 'Current Heat Forecast', 'Current Temperature', 'Climate Outlooks', 'Extreme Heat Days in 2050', and 'Days Above 90 deg F in...'. The map shows the southwestern United States with city labels like Los Angeles, Phoenix, San Diego, Albuquerque, Santa Fe, Amarillo, and Lubbock.

Federal Heat Season Communication Campaigns

Annual early-, mid-, and late-season social media campaigns

Co-branded graphics

Interagency Webinars

E.g. “OCCHE’s Environmental Justice and Climate Resilience webinar with experts from the EPA and NOAA. This session will explore opportunities of environmental justice work and climate resilience from the EPA’s Environmental and Climate Justice Program and the NOAA Climate Resilience Regional Challenge...”

Overlooked & Overburdened Webinar Series

Heat Exhaustion

ACT FAST

- Move to a cooler area
- Loosen clothing
- Sip cool water
- Seek medical help if symptoms don't improve

Symptoms: Dizziness, Thirst, Heavy Sweating, Nausea, Weakness

Heat Stroke

ACT FAST

CALL 911

- Move person to a cooler area
- Loosen clothing and remove extra layers
- Cool with water or ice

Symptoms: Confusion, Dizziness, Becomes Unconscious

Heat exhaustion can lead to heat stroke. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Stay Cool, Stay Hydrated, Stay Informed!

SAMHSA @samhsagov · 2h

Heat Season Awareness Read our latest blog: Heat Health Awareness: Why it's Important for Persons with Substance Use Disorders and Mental Health Conditions, Caregivers and Health Care Providers [fal.cn/3ygod #HeatSafety](#)

Heat Health Awareness: Why it's Important for Persons with Substa...
Last year, amidst one of the warmest global summers recorded, the Biden Administration launched Heat.gov as a "a one-stop hub on he...

Climate and Health Outlook: Extreme Heat

Who is at high risk from heat in the counties with the most extreme heat days?

These hot factors vary across the 203 counties expected to have 50 or more expected extreme hot days in May of these counties:

- 22 (20%) have a high number of people aged 65 or over living alone
- 184 (89%) have a high number of people with health conditions
- 85 (82%) have a high number of people living in rental units
- 81 (78%) have a high number of people living in mobile homes
- 71 (68%) have a high number of people living in poverty
- 23 (18%) have a high number of people experiencing a high proportion of their income on home energy
- 22 (20%) have a high number of people with a high number of people aged 65 or over and are enrolled in the HUD's HOPE program
- 63 (29%) have a high number of people in ZIP codes with high poverty rates
- 62 (29%) have a high number of people with severe housing and food insecurity
- 62 (29%) have a high number of people living in areas without adequate fire cover

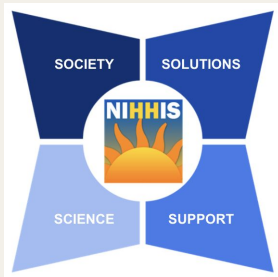
203 counties across 14 states are projected to have 50 or more extreme hot days. Texas (17), California (16), New Mexico (15), Arizona (14), Utah (14), Oklahoma (13), Kansas (13), Idaho (13), Nevada (13), Montana (13), Colorado (12), Georgia (12), Florida (12) and Indiana (12) have 203 counties, the total population at 31,877,388 people.

FY24 NIHHIS & White House Heat Interagency Working Group Priorities

NIHHIS National Meeting (4/15-4/18)



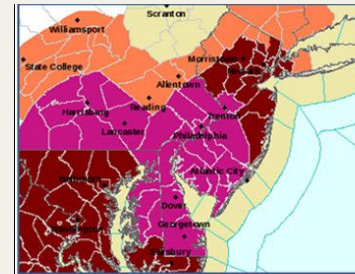
National Heat Strategic Plan



Federal Heat Communications Plan and Campaign

Heat Exhaustion	Heat Stroke
ACT FAST <ul style="list-style-type: none">Move to a cooler areaLoosen clothingSip cool waterSeek medical help if symptoms don't improve	ACT FAST <ul style="list-style-type: none">Move person to a cooler areaLoosen clothing and remove extra layersCool with water or ice
Dizziness Thirst Heavy Sweating Nausea Weakness	Confusion Dizziness Becomes Unconscious
<small>Heat exhaustion can lead to heat stroke.</small>	<small>Heat stroke can cause death or permanent disability if emergency treatment is not given.</small>
Stay Cool, Stay Hydrated, Stay Informed!	

Federal Heat Op. Procedures



3rd Annual NIHHIS National Meeting (15-18 APR 2024)

Connects stakeholders from various organizations and fields to discuss heat and health across **timescales and geographic scales** and develop a shared vision for **community heat resilience**

April 15: **State, local, tribal, and territorial (SLTT) governments** will organize locally-focused heat planning sessions and share outcomes.

Themes:

Defining the Problem of Heat (e.g., Congressional remarks, reflection on 2023 heat season, 2024 forecasts, infrastructure impacts)

Personal Exposure to Heat (e.g., at-risk populations, addressing heat in clinical settings, understanding multi-hazards related to heat)

Community Resilience (e.g., developing heat safe spaces, heat policy, community response case studies)



**NATIONAL INTEGRATED HEAT
HEALTH INFORMATION SYSTEM**

Opportunities to Engage with NIHHIS

Engage with us via **Heat.gov**,
Heat Beat Newsletter,
@HeatGov on X

**Help your community plan by
April 15!**

**Participate and learn at NIHHIS
National 15-19 April 2024**

Engage with new Centers of
Excellence, FEMA, HUD,
communications

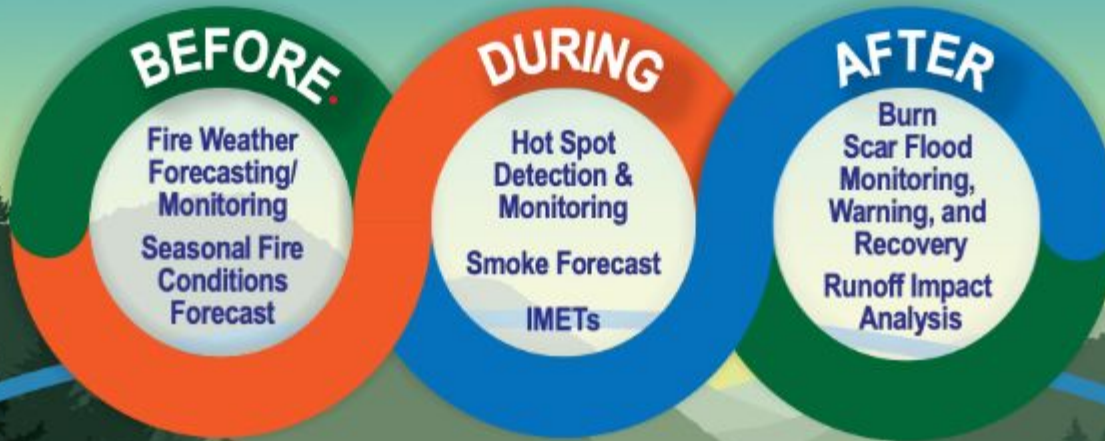


Wildfires



“The last major smoke episode of a similar magnitude that impacted air quality in the eastern U.S. occurred in July 2002, over 20 years ago,” said Amy Huff ([NESDIS](#)). “Due to the impacts of climate change, including increased drought and hotter temperatures, wildfires like the one in June 2023 are unlikely to be a rare occurrence.”

NOAA Fights Fire with Science



DECISION SUPPORT

Data & Tools

OBSERVATIONS

- Satellites
- Radar
- Surface Observations

MODELING

- Drought
- Fire Weather
- Smoke

RESEARCH

- Artificial Intelligence
- Automated alerts
- Air chemistry models

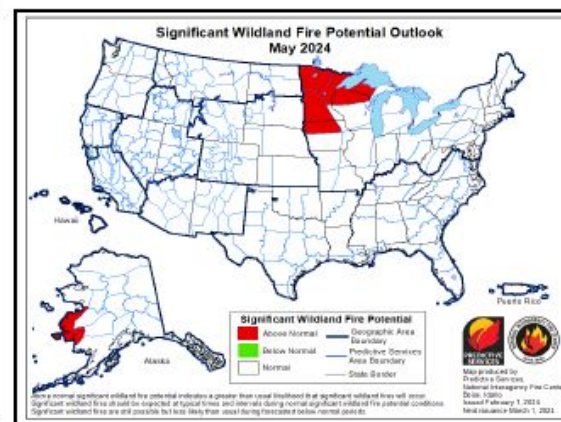
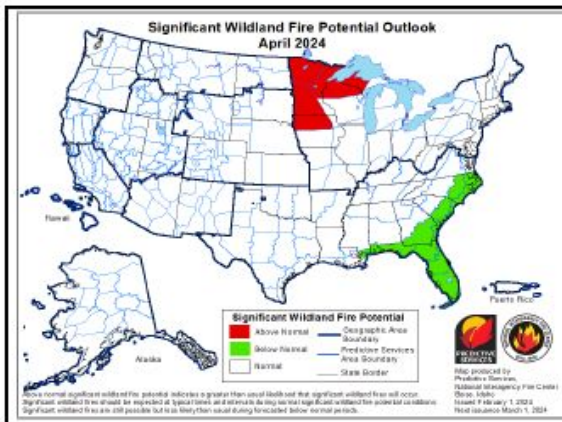
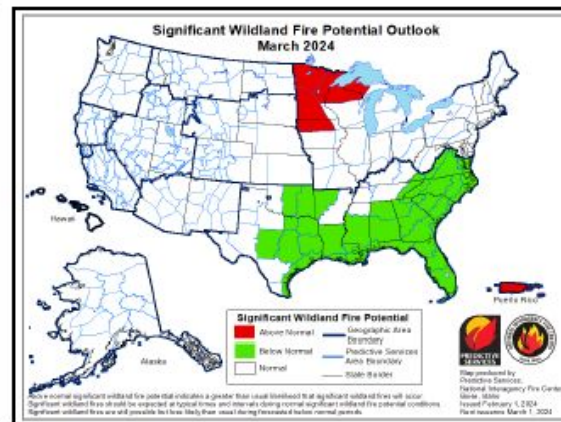
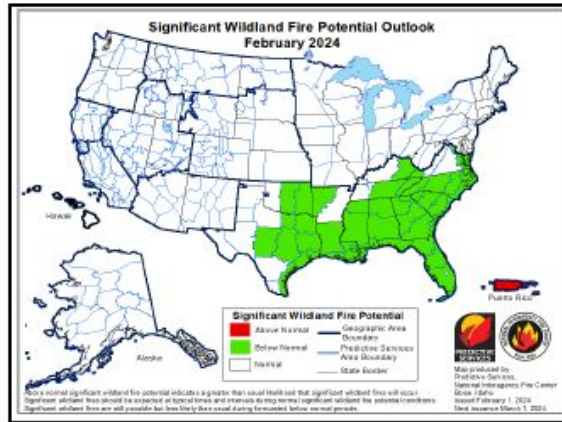


Issued: February 1, 2024
Next Issuance: March 1, 2024

Outlook Period – February through May 2024

Executive Summary

The significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the ten Geographic Area Predictive Services units and the National Predictive Services unit.





Public Health Situation Analysis

El Niño

Global Climate Event
Covering July-September 2023

Population: El Niño affected countries
Reporting period: July-Sep 2023
Start date of crisis: July 2023
Typology of crisis: Heatwaves, drought, wildfires, floods, landslides, food insecurity, infectious diseases, cyclones

This living document was prepared by the Department of Alert and Response Coordination with inputs from relevant technical experts within WHO and partners. It may be updated periodically based on changes in the situation and availability of new data.



Key Health Risks associated with Extreme Weather Conditions are Interrelated



- Droughts and flooding may trigger food insecurity, increase malnutrition and enhance vulnerability to infectious diseases
- Droughts, flooding and intense rainfall (including cyclones) may cause loss of life, significant population displacement, water and vector-borne disease outbreaks, and damage or close health facilities
- El Niño-related warmer temperatures may result in vector-borne disease epidemics in highland areas
- Extremely hot and dry conditions may lead to heat waves, wildfires, increased smoke and deteriorated air quality
- Populations already affected by a humanitarian crisis (e.g. internally displaced persons and refugee camps) face heightened risk of health consequences of wet and dry conditions

Thank you!
Please be in touch

Juli.Trtanj@noaa.gov
Alice.Lau@noaa.gov

Heat.gov- Launched July 2022



National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Search NOAA sites



Home / News & Features

Biden Administration launches Heat.gov with tools for communities facing extreme heat

Focus areas: Research, Climate

Topics:

heat, heat waves, safety, extreme weather, public health, Social media and Web, climate, resilience

Share:

Current Conditions and Future Outlooks

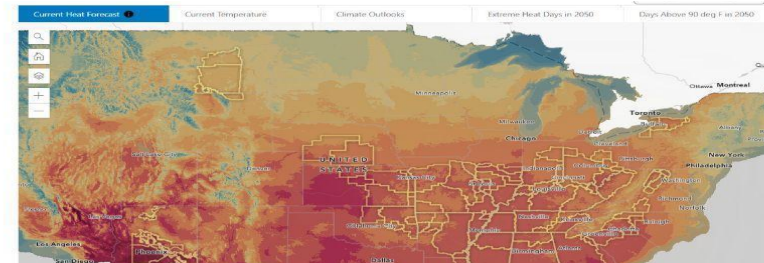
Extreme Heat

92,530,689
people in warning area



source: NOAA National Weather Service

The screenshot shows the HEAT.gov homepage with a dark blue header containing the logo and navigation links. The main content area features a large 'Welcome to HEAT.gov' section with introductory text, a 'News' section with several article links, and a bottom row of three featured topics: 'Tools & Information', 'Who is at Risk to Extreme Heat', and 'Climate and Health Outlook'.



Future Heat Events and Social Vulnerability 2018



Heat Events Options

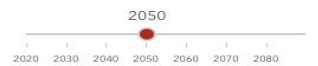
US Population Estimates 2018

Population	287,789,370
Daytime Population	260,327,205
Housing Units	120,407,008
Households	106,518,241

Total days with temperatures over 95°

7 - One Week

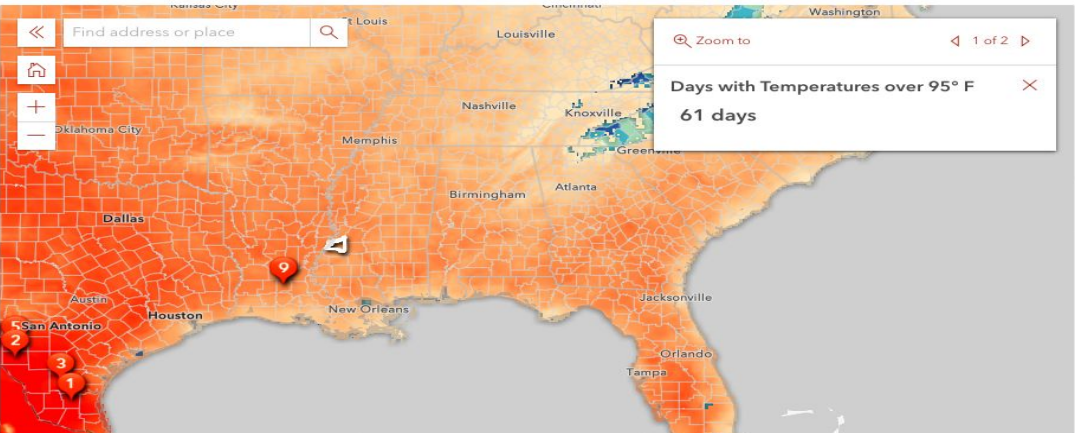
Year



Display Type

Total Days Days Increase

Overall Score Socioeconomic Status Household Composition & Disability Minority Status & Language Housing & Transportation



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA | Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Ge... Powered by Esri

Contributions to Overall Index



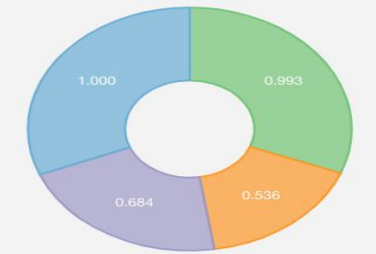
Claiborne County, Mississippi

In 2050 a projected maximum of 60 total days with temperatures over 95°

Population	9,120
Daytime Population	11,597
Housing Units	4,277
Households	3,009

Overall Vulnerability Index

Score: 0.992



Most Vulnerable

Most Vulnerable by Theme



NIHHIS Work on Extreme Heat



The launch of Heat.gov as premier source of Federal heat information

Work/Rest and Water Consumption
Applies to average sized, heat-acclimated soldier wearing BDU, hot weather. (See TS MED 50)

Heat Category	WBGT Index, F°	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water (oz/100 ml)	Work/Rest (min)	Water (oz/100 ml)	Work/Rest (min)	Water (oz/100 ml)
1	78° - 81.5°	NL	%	NL	%	40/20 min	%
2	82° - 84.5°	NL	%	50/10 min	%	30/10 min	%
3	85° - 87.5°	NL	%	40/20 min	%	20/10 min	%
4	88° - 90.5°	NL	%	30/30 min	%	20/45 min	%
5	> 90°	50/10 min	%	20/40 min	%	10/50 min	%

Note: NL = No Load, % = 40% of maximum work rate. Work/Rest (min) indicates the maximum work period followed by the minimum rest period. Water (oz/100 ml) indicates the minimum water consumption per 100 ml of body weight.

Activity Modification Guideline harmonization for military and outdoor workers



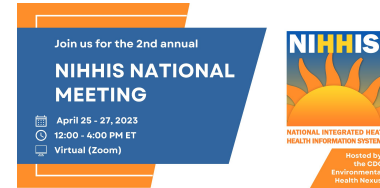
Communicated heat messages through 285,600 impressions on Twitter



20K awarded to 10 communities for innovative communications to at-risk populations



Developed 6 new tools/datasets to inform heat resilience



Featured congressionals, 7 agency leaders and reached nearly 1,000 attendees.

Today's Speaker



Candy Alvarez

Emergency Preparedness Coordinator
Health Center Partners of Southern
California

Extreme Heat and Wildfires

A look at the regional impact among
health centers in Southern California

Presented by
Candy Alvarez
Emergency Preparedness Coordinator
Health Center Partners of Southern California
www.hcpsocal.org





HEALTH CENTER PARTNERS
of Southern California

Health Center Partners of Southern California (HCP) is a regional primary care association of 16-member organizations including Federally Qualified Health Centers (FQHCs), and Indian Health Services Organizations, both urban and sovereign. We serve 176 practice sites across San Diego, Riverside, and Imperial counties, and we are the fifth largest provider group in the region. Our mission is to help our members deliver quality health care to the safety net population in Southern California, through innovative programs, resources, and advocacy. FQHC's may be Community Health Centers, Migrant Health Centers, Health Care for the Homeless, and Health Centers for Residents of Public Housing.



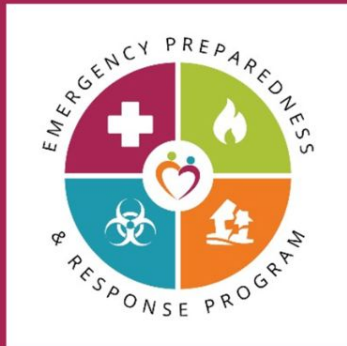
Proudly serving community health centers for 46 years. 1977-2023



My role as an Emergency Preparedness Coordinator

- Established in 2002, the Emergency Preparedness & Response Program assists HCP member community health centers in their preparation for, and response to, local disasters and public health emergencies through direct support and representation at the State, Local, Tribal, and Territorial (SLTT) levels.
- Among a multitude of courses in disaster and emergency preparedness, I have completed the Emergency Management Specialist Certificate from the California Governor's Office of Emergency Services (CalOES) California Specialized Training Institute, as well as the Infrastructure Disaster Management Certificate from Texas A&M Engineering Extension Service (TEEX).
- Help facilitate a monthly emergency preparedness peer network (EPRP) and co-chair the EPRP Drills and Communications Sub-Committee, where I help design exercises for our members to test emergency response and alternate communication methods, utilizing principles from the Homeland and Security Exercise and Evaluation Program (HSEEP).
- Represent HCP and its members at healthcare disaster coalitions in our three counties of service and currently serve as co-chair of the San Diego Healthcare Disaster Coalition.

Program Activities



Disaster Preparedness



Your health center has a plan, BUT are you ready? Disaster preparation will help mitigate the affects to personal and family safety and the potential impacts to your organization and community.

Emergency Preparedness Coordinator Onboarding

Whether you are a seasoned Emergency Manager or have just stepped into the role as Emergency Preparedness Coordinator (EPC), HCP provides support and can offer strategies to help your organization prepare for disaster.

CMS Emergency Preparedness Rule



Training and support on the core elements of the CMS Emergency Preparedness Rule: review response plans based on an all-hazards risk assessment, develop a communications plan, ensuring policies and procedures are consistent with response plans, and assist during the training and testing of your response program.

Peer Networks and Workgroups

HCP hosts regular meetings focused on different objectives. Meetings provide a forum for training, best practices, information sharing, and other networking opportunities.

- The Emergency Preparedness Peer Network (monthly)
- Drills & Communications Workgroup (bi-monthly)
- *NEW* Security Task Force Subcommittee (quarterly)



Mini Training Series



Short training presentations that cover the fundamentals of a topic. Generally 30-60 minutes in length, learn about a number of topics to include: writing after-action reports, weather emergencies and personal preparedness, conducting a tabletop exercise, continuity of operations, and more!

Safety and Security Assessments

A vulnerability assessment of your site can identify potential dangers that expose staff, patients, and visitors to harm. The discussion and subsequent report will offer solutions to improve your security posture and can be used to apply for federal and state security grant funding.



Stop the Bleed



Injuries resulting in heavy bleeding may come from a variety of incidents. Provide immediate care and help save a life using proper bleeding control techniques until EMS professionals arrive. Certificate provided upon completion.



Risks: Extreme Heat and Wildfires



- Exposure to excessive heat can cause illness, injury, and death. Heat-related illnesses could include heat rash, sunburn, heat cramps, heat exhaustion, heat stroke, and even death. A vulnerable individual may experience heat-related illness or fatality at any time when temperatures are high, but the overall effect of prolonged periods of heat (i.e., heat wave) increases the risk of illness and death in the population.
- Those at greatest risk for developing a heat-related injury are individuals who are working or playing outdoors, without access to air conditioning, socially isolated, or on certain medications. Vulnerable populations include children, low-income individuals, pregnant women, older adults, and individuals with mental or chronic conditions.
- Southern California has had a long and intense history with wildfire, with several in the past decade setting records for the largest, most deadly, and most destructive fires in the history of the United States as a whole. Millions of acres of land have been destroyed, hundreds of thousands of structures have burned down, and it has caused the deaths of humans, animals, and plants. Worst of all, most of these wildfires were caused by human activity, which means they could have been prevented.
- Affect on Public Health: Wildfire smoke reduces air quality and can cause eye and respiratory illness, especially among children and the elderly. Wildfires that burn in residential areas can melt plastic water pipes and cause contamination of water systems with a known toxin that can lead to irritated skin and nausea to more serious issues affecting the nervous, immune, and reproductive systems.

PERSONAL, FAMILY, & WORKPLACE EMERGENCY PREPAREDNESS PLANNING

You need to be prepared and ensure your own safety, and the safety and readiness of your family and loved ones. Emergency managers, site managers, and leadership should all develop a culture of preparedness with their staff.

Evacuating for a wildfire may require relocation without advance notice, and may keep you away from your home for an unknown period. Identify roadways that provide escape in each direction, if possible. Keep your vehicle filled with at least ½ fuel tank to ensure you can navigate these routes and get to safety. Having that go-bag handy, or an additional kit for your vehicle, will help you during these circumstances.

GO-BAG

This should be a smaller, more portable bag or kit in case mobility is required with short notice.

- Food (ready to eat) and water
- Phone charger and battery bank
- Small battery-powered or hand-crank radio
- Battery-powered or hand-crank flashlight
- Extra batteries
- Small first-aid kit and personal medications
- Personal toiletries and items, such as an extra pair of glasses or contact lenses
- Copy of your emergency plan
- Copies of important documents, such as insurance papers and identification
- Cash in small bills
- Local map with your family meeting place identified
- Seasonal clothing, an emergency blanket, and masks
- Pen and notepad
- Whistle

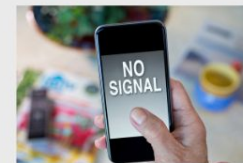


EMERGENCY COMMUNICATION

Maintain multiple methods of communication for disaster situations. Also be sure to have direct contact phone numbers and email addresses for critical agencies and people.

Make sure emergency communications channels are easily accessible:

- Land line
- Mobile phone
- Email
- Dispatch services
- Mass Communication Systems
- Handheld radio, CB, or HAM



Create a contact list of important phone numbers:

- Your supervisor
- Team members
- Hospital, local medical clinic, urgent care, or medical provider
- Non-emergency phone numbers to dispatch centers for local police, sheriff's office, and state police.

EMERGENCY OPERATIONS PLAN: FUNCTIONAL ANNEXES

Functional Annexes are the parts of the Emergency Operations Plan (EOP) that provide **specific information and direction.**

Annexes focus on operations: what the function is and who is responsible for carrying it out. While the plan provides information relevant to the EOP as a whole, annexes emphasize responsibilities, tasks and operational actions that pertain to the function being covered.

The following documents should be inserted to this Plan.

- 1. Communication Plan**
- 2. Continuity of Operations Plan**
- 3. Evacuation Plan**
- 4. Shelter-in-Place/Lockdown**
- 5. Medical Mutual Aid: (List agreements between CHCs, healthcare facilities, vendors and other governmental and non-governmental agencies here.)**
- 6. Security Plan**
- 7. Surge Plan**
- 8. Special-Needs Populations Plan**
- 9. Medical Documentation Plan**
- 10. Volunteer Plan**
- 11. [Insert additional functional annexes as needed]**



EMERGENCY OPERATIONS PLAN

Hazard-Specific Appendices

Hazard-Specific Appendices should be chosen based on your Risk Assessment / Hazard Vulnerability Analysis (HVA). You should have an appendix for at least the top 5 hazards identified by your risk assessment.

1. Earthquake Incident Response Guide
2. Fire Incident Response Guide (Internal/External or Wildfire)
3. Flood Incident Response Guide
4. Pandemic Influenza Plan
5. Power Failure Incident Response Guide
6. [Insert additional hazard-specific appendices as needed.]

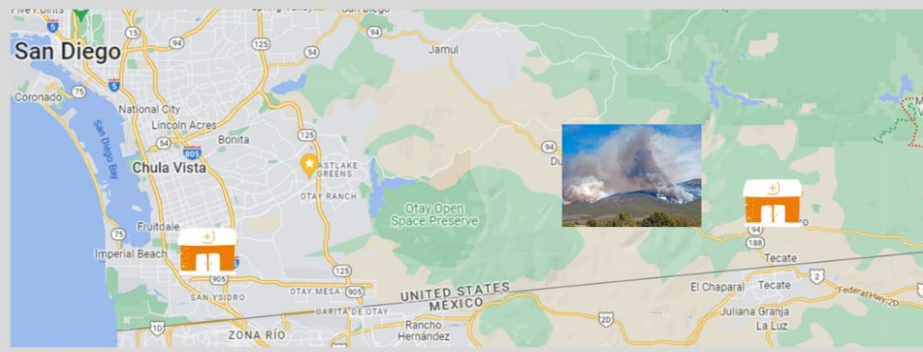
LESSONS LEARNED AND BEST PRACTICES

- Situational awareness is critical once you recognize the potential of being affected. The Watch Duty service alerts you of nearby wildfires and firefighting efforts in real-time.
 - Notify your Incident Management Team (IMT) early to be proactive and to start establishing objectives.
- Difficult to handle a surge of patient volume for respiratory issues. Although generally minor for most, it can be an ongoing health risk for all personnel and patients who had extended exposure to smoke.
- Surge of people entering raised security issues (increased foot traffic inside the front lobby and in the parking lot.) Also, the in and out allowed smoke from the fire to enter the building.
- Once facility had a surge of patients and started running out of supplies such as masks for respiratory distress patients. Direct Relief sent a shipment within 48 hours.
- A recognized strength was that even without a manager/supervisor physically on site, there was good teamwork and communication. Staff should be recognized and a site specific disaster team can be created.
- The safety team communicated through a platform (Juvare/WebEOC) with the county's medical operations center for needed supplies and awareness.

LESSONS LEARNED AND BEST PRACTICES

- Staffing support in the event employees live in the mandatory evacuation area and will need to leave to evacuate their house.
- Build trust and a sense of security by providing continued communication to staff during and after all emergency protocols are deactivated. This will avoid misinformation, confusion, and stress between the staff members.
- Highly recommended to have communication drills. 1. Monthly test for mass communication messaging via email, text, or calls. Test calls with analog phones and if possible, monthly HAM radio test.
- Check that your generators have their monthly maintenance and testing to ensure they are working properly.
- Make sure there are plenty of additional sources of lights such as headlamps, flashlights, or chem lights in the event of a power shut off.
- Create a plan for additional support in the event the affected site needs coverage and support.
- Work with your communications or IT team to create pre-messaging/communication templates based on specific scenarios.

EXAMPLE OF A REAL WILDFIRE INCIDENT RESPONSE



Border 32 Fire



Firefighters work to contain the Border 32 Fire on the evening of August 31, 2022.

Location Barrett Junction, San Diego County, California

Coordinates  32.612181°N 116.707395°W

Statistics⁽¹⁾

Date(s)	August 31, 2022 – September 5, 2022
Burned area	4,456 acres (1,803 ha)
Cause	Under investigation
Buildings destroyed	10 structures destroyed
Non-fatal injuries	2 civilians, 1 firefighter



On day 3 the fire made an easterly turn and went around the facility by about a mile away leaving the facility unharmed physically.



The Director of Emergency Operations & Preparedness had a strong emergency operations plan and continuously trained and tested procedures and policies. This kept everyone updated as the situation quickly evolved.



Staff appreciated the updates. There was never a time where they felt they were guessing about what the organization's plans were. Staff were eager to learn more about personal preparedness.

RESOURCES

FEMA: Be Prepared for Extreme Heat

<https://community.fema.gov/ProtectiveActions/s/article/Extreme-Heat>

FEMA: Be Prepared for a Wildfire

<https://community.fema.gov/ProtectiveActions/s/article/Wildfire>

<https://www.fema.gov/disaster/wildfire-actions>

National Oceanic and Atmospheric Administration—NWS Experimental heat Risk:

www.wrh.noaa.gov/wrh/heatrisk

Ready.Gov: Extreme Heat

<https://www.ready.gov/heat>



Thank You

Candy Alvarez
Emergency Preparedness Coordinator
Emergency Preparedness & Response Program
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www.hcpsocal.org

Toolkits for Heat and Wildfire Resilience

- [Community Resilience Toolkit](#), HUD
- [Patient-Centered Climate Resilience Toolkit](#), NACHC
- [Meet People Where They Are Toolkit for Preparedness](#), CDC
- AmeriCares [Extreme Weather Tool Kits](#) for [Extreme Heat](#) | [Wildfires](#) | [Climate Clinics](#)

Watch a virtual walkthrough of the [Climate Resilience for Frontline Clinics Tool Kit](#)



Resources for Health Centers

- [Catalytic Program on Utilizing the Inflation Reduction Act](#), HHS
- [Obtaining FEMA Funding for Damaged or Destroyed Facilities](#), Capital Link
- [Building Resilience Against Climate Effects \(BRACE\) Framework](#), CDC
- [Community Health Access to Resilient Green Energy \(CHARGE\) Partnership](#), NACHC
- [Health Sector Climate Pledge Webinar Series](#), Office of Climate Change and Health Equity
- [Accessing Federal Funding for Health Center and Community Resilience](#), Medical Society Consortium on Climate & Health
- [Health Center Emergency Operations Plan Template](#)
- [Health Center Communications Plan Template](#)

NTTAP Resources

- [Illustrated Heat Illness Symptoms handout \(Spanish\)](#)
- [Do I need to drink more water? \(Spanish\)](#)
- [Stay Hydrated in the Heat \(Spanish | Tagalog\)](#)
- [Heat Stress Prevention and Hydration & Electrolyte Balance for Agricultural Workers \(Spanish\)](#)
- [Heat Safety Training Toolkit for Farmworkers \(Spanish\)](#)
- [All Hazards Emergency Preparedness and Response Competencies for Health Center Staff](#) in English and Spanish
-

NTTAP Resources

- [The Ripple Effect of Climate-Induced High Heat - One Step Beyond](#)
- [Heat Stress, a Myriad of Health Effects](#)
- [Heat-Related Illness Clinician's Guide](#)
- [Building Connections to Improve Weather Emergency Preparedness for Older Adults](#)
- [Heat Safety for Older Adults](#)

Health Center and Special Population Samples

- [Resilient Power Proves a “Lifesaver” for Mississippi Health Center After Catastrophic Tornado](#)
- [Analysis: Burning of Lahaina’s sacred sites is a major loss for Native Hawaiians. But their history will live on](#)
- [The Ripple Effect of Climate-Induced High Heat - One Step Beyond](#)

Health Center Preparedness and Response Forum

A Four-Part
Webinar Series

October 12, 2023: Infectious
and Vector-Borne Diseases

December 14, 2023: Natural
Disasters

February 8, 2024: Extreme
Heat and Wildfires

April 11, 2024: Workforce
and Community Supports

All sessions will be held from 1:00PM - 2:00PM ET

[Register Now](#)

Health Center Preparedness and Response Forum: Session Materials



This four-part series, created by HRSA National Training and Technical Assistance Partners (NTTAPs), will promote promising practices and offer strategies for addressing challenges related to both emergency planning and recovery. This webinar series will focus on preparing for and responding to a wide variety of emergencies, including infectious diseases, natural disasters, extreme heat, and workforce and community supports.

Audience: Health centers serving priority populations, such as agricultural workers, individuals experiencing homelessness, residents of public housing, and other underserved groups including older adults, and Asian American, Pacific Islander, and Native Hawaiian patients.

Upcoming Dates:

- December 14, 2023: Natural Disasters
- February 8, 2024: Extreme Heat and Wildfires
- April 11, 2024: Workforce and Community Supports

Register now: <https://bit.ly/3r20D0V>

[View the Resources](#)

EVALUATION

Please take the time to complete the Forum evaluation via Zoom, and help us improve this activity for future sessions.

Thank you!

*Next Session on Workforce and
Community Supports: April 11, 2024*