

Guidance on Extreme Temperatures for State, Local, Tribal and Territorial Leaders

Extreme Temperatures Are Adversely Affecting People's Lives

As climate change continues to intensify hazards that communities face, extreme temperature incidents will increase stress on people and infrastructure. Federal agencies and state, local, tribal, and territorial leaders can increase community resilience against extreme temperature-related weather incidents through planning, hazard mitigation activities, and community outreach.

What temperatures constitute extreme heat or extreme cold depends on the average temperature of a given area, leading to differing experiences of extreme heat and cold in communities across the United States. This means that extreme heat occurs when temperatures are unusually high for that area, and extreme cold occurs when temperatures are unusually low for that area. Leaders need to understand what constitutes [extreme heat](#) or [extreme cold](#) within their area to plan for and respond to extreme temperature events. The impact of extreme temperature incidents can persist for years and affect community resilience.

People in all communities are at risk from the impacts of extreme temperatures, and underserved communities are often the most negatively affected. Extreme temperatures can pose significant risk to human health, energy power grids, supply chains, water resources, transportation, and other basic infrastructure needs.

Communities Can and Should Prepare for Extreme Temperatures Today

Preparing today for extreme temperatures can improve community resilience, [save energy and reduce utility bills](#), [save post-disaster costs](#), and save lives. Below are specific actions that leaders can take to prepare their community to withstand and respond to extreme temperatures.

Additional resources and guidance on how to prepare for extreme heat and extreme cold temperatures can be found [at the end of this document](#).

ACTION 1: MAKE AN EXTREME TEMPERATURE RESPONSE PLAN.

Leaders and decision makers should create an extreme temperature response plan well in advance of extreme weather. The National Weather Service issues watch and warning alerts for extreme temperatures. To learn more about watch and warning alerts for extreme heat, visit: [Heat Watch vs. Warning](#) (weather.gov), and for extreme cold visit: [Wind Chill Warning vs Watch](#) (weather.gov). Creating plans for extreme temperatures can save lives and increase community resilience. An extreme temperature response plan may include:



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- **Designate a lead officer for extreme temperatures.** Miami-Dade County, Florida was the first local government to appoint a chief heat officer to coordinate a whole government response to extreme heat. Other cities have followed suit, including Phoenix, Arizona and Los Angeles, California. Many urban and rural jurisdictions manage extreme temperatures through their offices of emergency management, sustainability, or resilience.
- **Position resources for effective and timely deployment.** Knowing where resources are needed can save lives. Create a map to determine where resources will be needed to support hospitals, electric grids, food and water supplies, and roads in the event of an extreme temperature incident. Coordinate resources and activities with health services departments, supporting agencies, first responders, and other partners, engage with volunteer responders and organizations to plan your response.
- **Notify residents of extreme temperatures and actions they can take.** Baltimore, Maryland, for example, issues a “Code Red” when a heat advisory goes into effect. The city alerts its residents by text and email informing them to take precautions. Chicago, Illinois sends text messages informing those who signed up of extreme heat or cold weather, so residents have time to prepare.
- **Identify the most vulnerable residents and/or neighborhoods for targeted outreach.** People who are most at risk for health impacts from extreme temperatures include older adults, infants, the homeless, people with financial hardship, the socially isolated, people with mobility restrictions, people taking certain medications or have physical or mental health impairments, people under the influence of alcohol or drugs, and people engaged in strenuous outdoor work or exercise.
- **Designate cooling or heating centers and notify the public of their operation.** Libraries, senior centers, and other community buildings can shelter vulnerable people from extreme temperatures during extended episodes of extreme heat or cold. Some communities refer to these centers from temperature extremes as “resilience hubs.”

ACTION 2: CONDUCT A THREAT AND HAZARD IDENTIFICATION AND RISK ASSESSMENT.

Emergency managers should include extreme temperatures when they conduct their Threat and Hazard Identification and Risk Assessments (THIRA) every three years. FEMA encourages using the [THIRA Job Aid](#) to assist with developing strategies, identifying gaps, and coordinating workforce capabilities to build community resilience. Complementary actions may include:

- **Establish a clear heat index or temperature threshold for a heat or cold advisory.** The National Weather Service issues a Heat Advisory when it expects heat index values to be 100-105 °F for one or two days. Some cities, however, issue advisories or alerts at a lower threshold. For example, Washington, D.C. activates its heat emergency plan when the heat index reaches 95 °F.
- **Map your “heat islands.”** Heat islands are urban areas dominated by hard surfaces and lacking trees and green space. As a result, these areas can be more than 20 °F hotter than nearby areas with trees and grass. The National Oceanic and Atmospheric Administration is working with more than 60 U.S. cities to map their heat islands. City managers can use this information to identify vulnerable neighborhoods and target services and outreach efforts.
- **Incorporate extreme temperatures into Hazard Mitigation Plans.** Leaders and decision makers can appoint and prepare resilience officers to work in coordination with emergency managers and community planners to

lead hazard mitigation planning processes. Identify when the last Hazard Mitigation Plan was last completed. Ensure that all hazard mitigation plans are up to date, and that risk-reducing projects and initiatives are identified and have plans to be carried out. Confirm that strategies and capital investment plans are leveraging available future conditions data from trusted sources. FEMA funds can be used to support [hazard mitigation planning activities](#).

ACTION 3: PLAN FOR AND ADAPT TO FUTURE CONDITIONS.

Climate change makes the average temperature warmer. But it also makes extreme temperatures and other weather events more likely. Infrastructure built today will likely be in place five decades from now. State, local, territorial, and tribal leaders should consider how that infrastructure will fare in today's climate and that of a warmer, and more extreme, future.

- **Use future conditions data to prepare today.** Ensure that leaders and decision makers are using available climate information from trusted sources to make investments that will help communities respond to and reduce the effects of extreme temperatures. Visit the [Climate Risk and Resilience \(ClimRR\) Portal](#) to view future forecasted minimum and maximum temperatures for mid-century (2045 to 2054) and end of century (2085 to 2094).
- **Plant trees.** Eliminate urban heat islands by expanding urban forests and green space. Investments in urban forests and other nature-based solutions may take time to mature. Therefore, it is critical to make those investments now. Consider future climate conditions when planting long-lived trees. Chicago, Illinois is working toward its goal of planting 75,000 trees in 22 neighborhoods. Many of these areas are heat islands. The city hired “tree ambassadors” to go door-to-door, encouraging residents to request trees be planted in their yards.

The Environmental Protection Agency created the “[Let's Talk About Heat](#)” resource hub with examples of innovative and diverse outreach strategies from across the country to help planners and communicators connect with at-risk communities that lack access to traditional communication methods. While this resource specifically addresses extreme heat, the outreach strategies can also be used for extreme cold incidents.

In addition, the Centers for Disease Control and Prevention's [Gateway to Health Communication](#) provides guidance on communicating health risks during extreme temperature events. The FEMA [Equity Action Plan](#) can also help you to incorporate equity into outreach plans.

ACTION 4: ADOPT AND ENFORCE NATURAL HAZARD-RESISTANT BUILDING CODES THAT CAN PROTECT YOUR COMMUNITY AGAINST EXTREME TEMPERATURES.

FEMA strongly encourages using the latest natural hazard-resistant codes, specifications, and standards in the construction of new buildings and the repair or alteration of existing buildings. Building codes address extreme temperatures by providing insulation and window requirements for the building envelope, which includes the roof/ceiling, wall, and floor assembly. In general, tightly built, well-insulated houses with good windows help maintain livable temperatures longer, allowing residents to shelter-in-place during disasters, power outages, and extreme temperature incidents. The FEMA [Building Codes Adoption Playbook For Authorities Having Jurisdiction](#) provides general information on the importance of building codes, general steps to adopt and enforce them, information on FEMA grants, and references to additional resources.

Resources to Support Preparedness Efforts

The following resources provide additional information to support community preparedness for extreme temperatures.

Extreme Heat	Extreme Cold
<ul style="list-style-type: none"> ▪ Extreme Heat Ready.gov ▪ Be prepared for extreme heat (ready.gov) ▪ Extreme Heat Community Preparedness (fema.gov) ▪ Heat is a Silent Killer: Extreme Heat Preparedness (fema.gov) ▪ A Guide for Alerts and Warnings (ready.gov) ▪ Who is at risk to extreme heat HEAT.gov - National Integrated Heat Health Information System ▪ Arizona Department of Health Services, Extreme Heat Incident Annex 	<ul style="list-style-type: none"> ▪ Winter Weather Ready.gov ▪ Be prepared for a winter storm (ready.gov) ▪ Winter Storm Community Preparedness (fema.gov) ▪ FEMA Data Digest: Winter Storm Safety ▪ A Guide for Alerts and Warnings (ready.gov) ▪ Stay Safe in the Extreme Cold (weather.gov)

Funding Opportunities to Support Preparedness Efforts

The following resources provide additional information about funding opportunities to build community resilience to extreme temperatures.

- For information about how to use FEMA’s Hazard Mitigation Assistance grant programs to plan for and mitigate risks posed by extreme temperatures, visit [Mitigating the Risk of Extreme Temperatures with Hazard Mitigation Assistance Funds Fact Sheet](#).
- For information about how to use financial assistance to support emergency response to extreme heat, visit [Selected Federal Financial Assistance for Emergency Response to Extreme Heat](#). (Congressional Research Service, June 17, 2022)
- For information about regulations and guidance about hazard mitigation planning, visit [FEMA regulations and Guidance | FEMA.gov](#).

For a broad overview of roles and resources in emergency management for local elected and appointed officials, visit [Local Elected and Appointed Officials Guide \(fema.gov\)](#).