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Selected Federal Financial Assistance for Emergency Response to Extreme Heat

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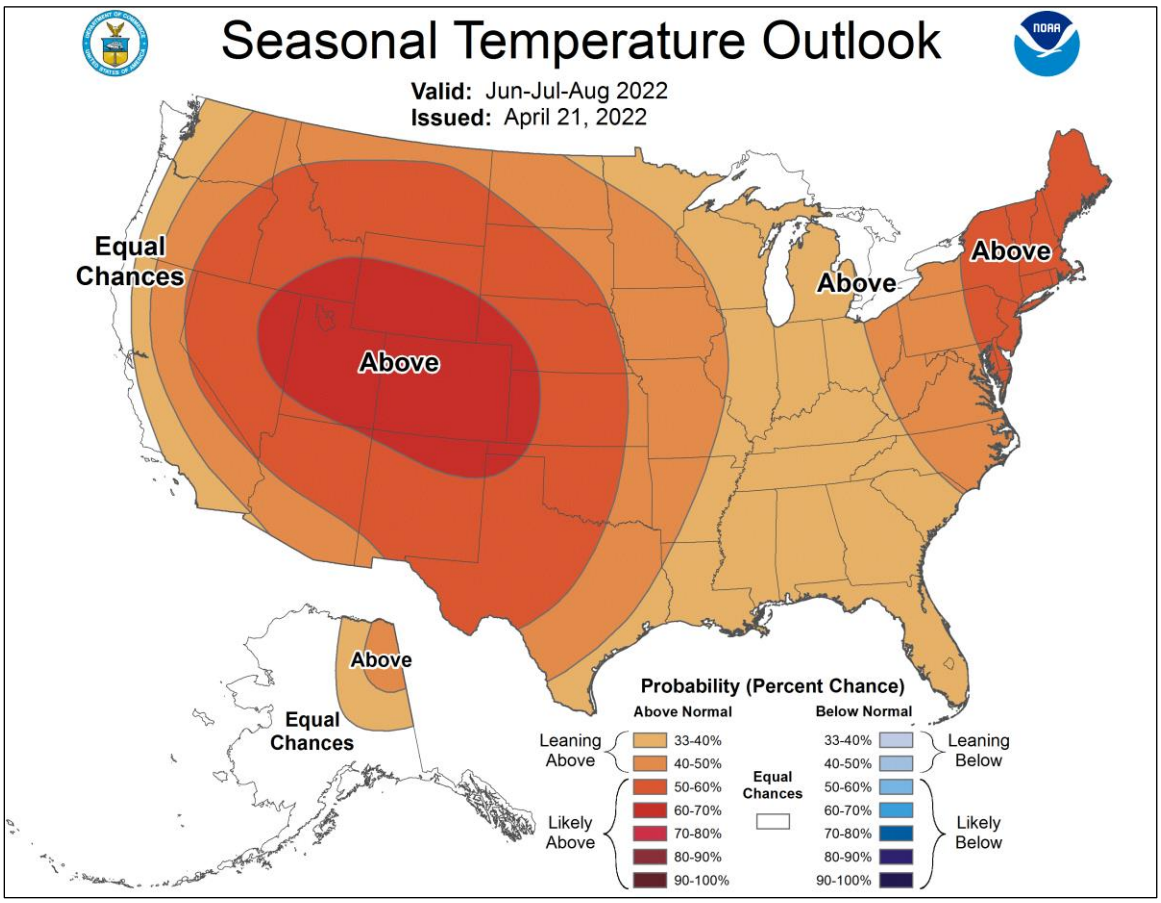
Introduction

Summer 2021 brought extreme heat to many areas of the United States,[1] with a historic "heat dome" setting temperature records in multiple states.[2] As of May 2022, the National Weather Service's "Seasonal Temperature Outlook" for summer 2022 "favors above normal temperatures" for much of the country.[3]

Figure 1. Seasonal Temperature Outlook, June-August 2022

According to National Weather Service Climate Prediction Center



Source: National Weather Service, "Three Month Outlooks: Official Forecasts," June-August 2022, https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2.

[1] Tom Di Liberto, National Oceanic and Atmospheric Administration (NOAA), "Record-Breaking June 2021 Heatwave Impacts the U.S. West," updated April 5, 2022, https://www.climate.gov/news-features/event-tracker/record-breaking-june-2021-heatwave-impacts-us-west.

[2] NOAA National Centers for Environmental Information, "U.S. Climate Summary for June 2021: Hottest June on Record," July 9, 2021, https://www.climate.gov/news-features/understanding-climate/us-climate-summary-june-2021-hottest-june-record.

[3] National Weather Service, "Climate Prediction Center," https://www.cpc.ncep.noaa.gov/products/predictions/90day/fxus05.html; accessed May 5, 2022.

Notes: For more information about the probabilities represented in the image, see National Weather Service, Climate Prediction Center, "How to Read the 3-class Three-Month Outlook maps," https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal_info.php.

Congress and the executive branch have taken actions to respond to the threat of extreme heat impacts on U.S. public health. Several bills in the 117th Congress, including H.R. 5296, H.R. 7583, H.R. 7949, and S. 2510, seek to provide assistance to mitigate and/or respond to the health impacts of extreme heat events. Additionally, President Joe Biden announced new initiatives in several federal agencies to respond to the health impacts of extreme heat, including the establishment of an Interagency Working Group on Extreme Heat and the HHS Office of Climate Change and Health Equity.[4]

This report provides a brief overview of existing federal resources available to respond to the impacts of extreme heat on humans and communities.[5]

Defining Extreme Heat

What constitutes "extreme" heat meteorologically is relative to each region's climate.[6] For the purposes of helping communities prepare, the Federal Emergency Management Agency (FEMA) explains that extreme heat may be generally defined as a period of temperatures above 90 degrees Fahrenheit and high humidity for at least two to three days.[7] For the purposes of understanding the impacts of extreme heat on human health, the Environmental Protection Agency defines an extreme heat event or a heat wave as "a period of two or more consecutive days when the daily minimum apparent temperature (the actual temperature adjusted for humidity) in a particular city exceeds the 85th percentile of historical July and August temperatures (1981–2010) for that city."[8]

[4] The White House, "FACT SHEET: Biden Administration Mobilizes to Protect Workers and Communities from Extreme Heat," September 20, 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/20/fact-sheet-biden-administration-mobilizes-to-protect-workers-and-communities-from-extreme-heat/; Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021. For more information on the Department of Labor's Occupational Safety and Health Administration (OSHA's) initiatives, see CRS Insight IN11701, *Occupational Safety and Health Administration (OSHA) Regulation of Employee Exposure to Heat*, by Scott D. Szymendera.

[5] For federal grants that may assist with research on the effects of extreme heat on local populations, long-term regional planning to mitigate the effects of extreme heat, and management of urban forests to mitigate heat, among other uses, see Sara Hoverter and Laura Dziorny, "Federal Funding Compendium for Urban Heart Adaptation," *Georgetown Climate Center*, December 2013, https://www.georgetownclimate.org/files/report/Federal%20Funding%20Compendium%20for%20Urban%20Heat%20Adaptation.pdf.

[6] Federal Emergency Management Agency (FEMA), "Extreme Heat," https://community.fema.gov/ProtectiveActions/s/article/Extreme-Heat. By contrast, the Centers for Disease Control and Prevention (CDC) defines extreme heat as "summertime temperatures that are much hotter and/or humid than average." CDC, "About Extreme Heat," https://www.cdc.gov/disasters/extremeheat/heat_guide.html.

[7] Ready.gov, "Extreme Heat," last updated July 20, 2021, https://www.ready.gov/heat.

[8] Environmental Protection Agency (EPA), "Climate Change Indicators: Heat Waves," https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves.

Extreme Heat: Brief Overview of Impacts on Humans

During the 2021 extreme heat event in the United States, affected communities reported deaths,[9] spiking numbers of heat-related emergency room visits and overwhelmed health care systems,[10] and power supply strains,[11] among other consequences. Socially vulnerable populations, including individuals with medical conditions and disabilities, as well as children, older adults, unhoused persons, agricultural and other outdoor workers, marginalized racial groups, lower-income persons, incarcerated persons, and persons without air-conditioning, may be at particular risk of heat-related illness or death.[12]

The Centers for Disease Control and Prevention (CDC) and the National Weather Service (NWS) report that extreme heat is one of the leading weather-related causes of death in the United States.[13] In the most recent analysis available in the *Morbidity and Mortality Weekly Report*, the CDC reported, on average, 702 U.S. heat-related deaths annually between 2004 and 2018.[14] However, some estimates utilizing different methods are higher.[15] The Environmental Protection

[9] Washington State Department of Health, "Heat Wave 2021," https://doh.wa.gov/emergencies/be-prepared-be-safe/severe-weather-and-natural-disasters/hot-weather-safety/heat-wave-2021; Oregon Military Department Office of Emergency Management, State of Oregon, "Initial After-Action Review (AAR) of the June 2021 Excessive Heat Event," July 27, 2021, https://www.oregon.gov/oem/Documents/2021_June_Excessive_Heat_Event_AAR.pdf; Multnomah County, "News Release: Multnomah County Medical Examiner Finds 45 Deaths Related to Historic Heat Wave," June 30, 2021.

[10] Paul J. Scramm et al., "Heat-Related Emergency Department Visits During the Northwestern Heat Wave — United States, June 2021," *Morbidity and Mortality Weekly Report*, vol. 70, no. 29, July 23, 2021. Orla McCaffrey, Ian Lovett, and Paul Vieira, "Deadly Heat Wave in Pacific Northwest Overwhelmed Healthcare System," *Wall Street Journal*, July 5, 2021, https://www.wsj.com/articles/deadly-heat-wave-in-pacific-northwest-overwhelmed-healthcare-system-11625493601.

[11] Dan Murtaugh, Dan, Josh Saul, and Naureen S. Malik, "Global Power Grids Pushed to Breaking Point," *Bloomberg*, June 16, 2021, https://www.bloomberg.com/news/articles/2021-06-16/power-prices-rising-temperatures-risk-blackouts.

[12] EPA, "Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts," September 2021; Leah Schinasi et al., "Associations Between Historical Redlining and Present-Day Heat Vulnerability Housing and Land Cover Characteristics in Philadelphia, PA," *Journal of Urban Health*, vol. 99 (2022); Roger Renteria et al., "Social Disparities in Neighborhood Heat in the Northeast United States," *Environmental Research*, vol. 23, January 22; Jessica Abbinett, Paul J. Schramm, Stasia Widerynski, et al., CDC, "Heat Response Plans: Summary of Evidence and Strategies for Collaboration and Implementation," p. 11, https://www.cdc.gov/climateandhealth/docs/HeatResponsePlans_508.pdf#page=11; Julianne Skarha et al., "An Overlooked Crisis: Extreme Temperature Exposures in Incarceration Settings," *American Journal of Public Health*, vol. 110 (January 2020); Rebecca Marx and Jorge Morales-Burnett, *Centering Equity to Address Extreme Heat*, February 2022, https://www.urban.org/sites/default/files/2022-02/centering-equity-to-address-extreme-heat_1.pdf.

[13] CDC, "CDC's Tracking Network in Action: Extreme Heat," last reviewed June 1, 2021, https://www.cdc.gov/nceh/features/trackingheat/index.html; National Weather Service, *Weather Related Fatality and Injury Statistics, https://www.weather.gov/hazstat/*.

[14] Ambarish Vaidyanathan et al., "Heat-Related Deaths — United States, 2004-2018," *CDC Morbidity and Mortality Weekly Report*, vol. 69, no. 24 (June 19, 2020), p. 1. In this study, heat-related deaths include listing exposure to excessive natural heat, environmental hyperthermia of newborn, effects of heat and light as the underlying cause of death, or as one of the contributing causes, but do not include those listing exposure to excessive heat of man-made origin (e.g., an electrical fire).

[15] For a discussion of the different approaches to measuring the health impacts and fatalities attributed to extreme heat, see Marcus Sarofim et al., "Temperature-Related Death and Illness," *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, Chapter 2, U.S. Global Change Research Program, pp. 46-54, http://dx.doi.org/10.7930/J0MG7MDX.

Agency (EPA) acknowledges that "[s]ome statistical approaches estimate that more than 1,300 deaths per year" in the United States are due to extreme heat.[16]

Industry experts and officials warn that extreme heat could exacerbate ongoing energy shortages in 2022, leading to rolling blackouts or power losses.[17] This could precipitate additional threats to human health and safety.

CDC[18] and EPA[19] highlight response measures that state, local, tribal, territorial governments (SLTTs) and communities may undertake to protect residents, including

- developing heat health action plans;
- communicating risks to the public;[20]
- closing outdoor events;
- expanding surveillance of health effects;
- increasing emergency medical staff;
- expanding services and distributing water to vulnerable populations;[21]
- providing emergency energy assistance;[22] and
- opening cooling centers.[23]

Federal Financial Assistance by Agency

This report identifies federal assistance potentially available through the Department of Homeland Security (DHS), the Department of Health and Human Services (HHS), the Department of Housing and Urban Development (HUD), the Department of Agriculture (USDA), and other authorities for certain extreme heat response costs incurred by SLTTs and eligible community organizations (e.g., hospitals). For example, federal assistance may be available for water distribution, heat risk communication, or the operation of cooling centers. Given evolving and flexible program and grant guidelines, the lists in this report may not be comprehensive. Program applicability to each applicant or incident may vary.

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[16] EPA, "Climate Change Indicators: Heat-Related Deaths," last updated April 2021, https://www.epa.gov/climate-indicators/climate-change-indicators-heat-related-deaths.

[17] Dale Kasler, "'Risk of Further Outages': California Warns of Blackouts as Another Hot Summer Looms," *Sacramento Bee,* May 6, 2022; Dalie Faheid, "Texas Heat Wave Explained: What Does It Have to Do with the ERCOT Power Grid?" *Fort Worth Star Telegram,* May 6, 2022; Anne C. Mulkern, "Spikes in Air-Conditioning Use with Warming Could Tax Electric Grid," *E&E News,* February 7, 2022.

[18] Jessica, Abbinett, Paul J. Schramm, Stasia Widerynski, et al., CDC, "Heat Response Plans: Summary of Evidence and Strategies for Collaboration and Implementation," https://www.cdc.gov/climateandhealth/docs/HeatResponsePlans_508.pdf.

[19] EPA, "Excessive Heat Events Guidebook," June 2006, https://www.epa.gov/sites/default/files/2016-03/documents/eheguide_final.pdf#page=58.

[20] CDC, "Climate Change and Extreme Heat Events," https://www.cdc.gov/climateandhealth/pubs/ClimateChangeandExtremeHeatEvents.pdf.

[21] Jessica Abbinett, Paul J. Schramm, Stasia Widerynski, et al., CDC, "Heat Response Plans: Summary of Evidence and Strategies for Collaboration and Implementation," p. 34, https://www.cdc.gov/climateandhealth/docs/HeatResponsePlans_508.pdf#page=34.

[22] Ibid., p. 36.

[23] Ibid., p. 33.

Federal assistance for other costs related to extreme heat (e.g., infrastructure improvements, assistance for individuals) are not detailed here, but may be available from the Department of Energy, EPA (e.g., the Heat Islands Reduction Program)[24], and other agencies.[25] Technical assistance may also be available to communities for the purposes of extreme heat emergency response, such as that provided by the EPA to develop cooling centers in public school facilities.[26]

Department of Homeland Security—FEMA

FEMA's response, recovery, and Hazard Mitigation Assistance (HMA) programs could potentially provide funding to address risks from extreme heat.[27] HMA guidance encourages risk mitigation projects that address future effects of climate change and extreme heat, among other hazards.[28]

FEMA may provide assistance for heat-related response costs if the President issues an emergency or major disaster declaration for extreme heat under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act; P.L. 93-288, as amended).[29] CRS could not locate prior Stafford Act declarations for heat waves, though the President declared emergencies for some states during the 2003 power outages,[30] which may have been related to a heat wave.[31] However, it is possible that extreme heat episodes could meet the statutory definition of an emergency:

> any occasion or instance for which, in the determination of the President, federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.[32]

In contrast to the definition of emergency, the Stafford Act definition of a Major Disaster is specific (see below). Extreme heat is not among the list of explicitly qualifying events. However, the major disaster declarations for the COVID-19 pandemic (also not among the listed hazard

[24] EPA, "What EPA Is Doing to Reduce Heat Islands," https://www.epa.gov/heatislands/what-epa-doing-reduce-heat-islands.

[25] See CRS In Focus IF11921, *Surface Transportation and Climate Change: Provisions in the Infrastructure Investment and Jobs Act (P.L. 117-58)*, by William J. Mallett.

[26] EPA, "EPA to Help Schools in Four Communities Become Cleaner Air and Cooling Centers," October 29, 2021, https://www.epa.gov/newsreleases/epa-help-schools-four-communities-become-cleaner-air-and-cooling-centers.

[27] FEMA, "State Hazard Mitigation Officers," last updated April 29, 2022, https://www.fema.gov/grants/mitigation/state-contacts.

[28] FEMA, "Hazard Mitigation Assistance Guidance," February 27, 2015, https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf.

[29] 42 U.S.C. §§5121 et seq.

[30] See "Ohio Power Outage (EM-3187-OH)," "New Jersey Power Outage (EM-3188-NJ)," "Michigan Power Outage (EM_3189-MI)," "New York Power Outage (EM-3186-NY)," at FEMA, "Declared Disasters," https://www.fema.gov/disaster/declarations?field_dv2_state_territory_tribal_value=All&field_year_value=2003&field_dv2_declaration_type_value=All&field_dv2_incident_type_target_id_selective=49142.

[31] Jeremy Dillon, and Edward Klump, "Heat Wave Slams the Grid. Here's What to Know," *Politico Pro*, July 22, 2019, https://subscriber.politicopro.com/article/eenews/1060771407; and JR Minkel, "The 2003 Northeast Blackout—Five Years Later," *Scientific American*, August 13, 2008, https://www.scientificamerican.com/article/2003-blackout-five-years-later/.

[32] 42 U.S.C. §5122(1).

types) suggest that natural catastrophes may include hazards not expressly named in the definition of a major disaster:[33]

> any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance.[34]

Four FEMA programs may offer assistance for costs associated with extreme heat response.

Public Assistance (PA)[35]

CRS Expert: Erica Lee

- FEMA's Public Assistance program provides financial and direct assistance (e.g., materials, operational support, personnel) to SLTTs and eligible nonprofits when authorized by the President through a Stafford Act declaration.[36] Subject to agency discretion, FEMA may provide reimbursement or direct assistance for emergency protective measures, including "sheltering," which could potentially include cooling centers, as well as emergency food, water, or medical care, and risk communication.[37]

Hazard Mitigation Grant Program (HMGP)[38]

CRS Expert: Diane Horn

- Following a declaration of a Stafford Act major disaster[39] or Fire Management Assistance Grant (FMAG),[40] HMGP is awarded as a formula grant to states based on estimated federal assistance per declaration or FMAG, subject to a sliding scale.[41] Funds may be used for eligible activities irrespective of the hazard or area for which the grant was awarded. For example, while one county may use funding allocated following a flooding incident in one county, another county could use funding for eligible mitigation measures of extreme heat.[42]

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[33] For more information, see CRS Report R46809, *Federal Emergency and Major Disaster Declarations for the COVID-19 Pandemic*, coordinated by Erica A. Lee and Sarah A. Lister.

[34] 42 U.S.C. §5122(2).

[35] FEMA, "Assistance for Governments and Private Non-Profits After a Disaster," last updated August 7, 2020, https://www.fema.gov/assistance/public.

[36] For more information, see CRS Report R46749, *FEMA's Public Assistance Program: A Primer and Considerations for Congress*, by Erica A. Lee.

[37] FEMA, *Public Assistance Program and Policy Guide V. 4.0*, June 1, 2020, pp. 120-121, https://www.fema.gov/sites/default/files/documents/fema_pappg-v4-updated-links_policy_6-1-2020.pdf#page=121.

[38] FEMA, "Hazard Mitigation Grant Program," last updated May 4, 2022, https://www.fema.gov/grants/mitigation/hazard-mitigation. For more information, see CRS Insight IN11187, *Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance*, by Diane P. Horn.

[39] FEMA, "How a Disaster Gets Declared," last updated January 4, 2022, https://www.fema.gov/disaster/how-declared.

[40] FEMA, "Fire Management Assistance Grants," last updated April 8, 2022, https://www.fema.gov/assistance/public/fire-management-assistance.

[41] 42 U.S.C. §5170c.

[42] FEMA, "Hazard Mitigation Assistance Guidance," February 27, 2015, https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf.

Building Resilient Infrastructure and Communities (BRIC)[43]

CRS Expert: Diane Horn

- Provides financial assistance to SLTTs undertaking risk mitigation activities to reduce the threat of future disaster-related losses of life and property. BRIC is a pre-disaster mitigation grant and, as such, does not require a declaration. It is awarded competitively to communities on an annual basis.

Emergency Management Performance Grant (EMPG)[44]

CRS Expert: Shawn Reese

- EMPG funds are available on a formula basis to all states, territories, and the District of Columbia, and do not require a Stafford Act declaration.[45] EMPG provides federal funds to states to assist state, local, territorial, and tribal governments in preparing for all hazards in accordance with the National Preparedness System.[46] FEMA says the EMPG program for FY2022 will support the agency's focus on preparedness for all hazards, including evolving threats and risks associated with climate change.[47] The 2022 EMPG Notice of Funding Opportunity states that "emergency managers must learn to manage and support climate-related emergencies such as drought and extreme heat."[48]

Department of Health and Human Services

Centers for Disease Control and Prevention (CDC)

Recipients of CDC grants may use some funds to prepare for or respond to extreme heat. These funds are generally designed to increase public health planning or preparedness capacity. However, in certain circumstances, funds can be used for response costs. Depending on the grant, funded activities can include emergency planning, health communication, data surveillance and analysis, and efforts to identify and assist at-risk individuals. The following provides an overview of selected relevant CDC grant programs.

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[43] FEMA, "Building Resilient Infrastructure and Communities (BRIC)," last updated April 25, 2022, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities. For more information, see CRS Insight IN11515, *FEMA Pre-Disaster Mitigation: The Building Resilient Infrastructure and Communities (BRIC) Program*, by Diane P. Horn.

[44] FEMA, "Emergency Management Performance Grant," last updated May 13, 2022, https://www.fema.gov/grants/preparedness/emergency-management-performance.

[45] For more information, see CRS Report R44669, *Department of Homeland Security Preparedness Grants: A Summary and Issues*, by Shawn Reese.

[46] See CRS Report R46696, *National Preparedness: A Summary and Select Issues*, by Shawn Reese and Lauren R. Stienstra.

[47] FEMA, *Manual (FM) 207-22-0001 Fiscal Year 2022 Preparedness Grants*, V.3, May 2022, pp. H-1–H-3, https://www.fema.gov/sites/default/files/documents/fema_fy-2022-preparedness-grants-manual.pdf.

[48] FEMA, "The Department of Homeland Security (DHS) Notice of Funding Opportunity (NOFO) Fiscal Year 2022 Emergency Management Performance Grant (EMPG) Program," May 13, 2022, https://www.fema.gov/fact-sheet/department-homeland-security-dhs-notice-funding-opportunity-nofo-fiscal-year-2022.

Public Health Emergency Preparedness (PHEP) Cooperative Agreement[49]

CRS Expert: Taylor R. Wyatt

- Provides assistance to 62 state, local, and territorial public health departments[50] to strengthen public health preparedness and response capacity. PHEP Cooperative Agreement recipients engage in activities that align with the Public Health Emergency Preparedness and Response Capabilities, which allow for an all-hazards approach to responding to public health emergencies and the public health consequences of traditional disasters.[51] Recipients can use funds to prepare for and respond to extreme weather, including heat events.[52]

Public Health Crisis Response Notice of Funding Opportunity (NOFO)[53]

CRS Expert: Taylor R. Wyatt

- Speeds CDC's award of funds to SLTTs for public health emergency response by using an "approved but unfunded" (ABU) grantee list.[54] These grants are generally only available when Congress provides supplemental appropriations to fund SLTTs for a public health emergency response.[55]

Climate-Ready States & Cities Initiative[56]

CRS Expert: Taylor R. Wyatt

- Funds grantees' efforts to identify local climate change effects, potential health effects, at-risk populations, and potential mitigating interventions. Funds may be used for climate-related emergency preparedness and response activities. Currently, the Initiative funds 11 jurisdictions, including state, county, and local governmental agencies.[57]

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[49] CDC, "Public Health Emergency Preparedness (PHEP) Cooperative Agreement," last reviewed April 22, 2022, https://www.cdc.gov/cpr/readiness/phep.htm.

[50] CDC, *PHEP Budget Period 2 (Fiscal Year 2020) Funding*, https://www.cdc.gov/cpr/readiness/00_docs/CDC_PHEP-FY-2020_Budget-Period-2_Funding-Table_final.pdf.

[51] CDC, *Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health*, Atlanta, GA, October 2018, https://www.cdc.gov/cpr/readiness/00_docs/CDC_PreparednesResponseCapabilities_October2018_Final_508.pdf.

[52] See, for example, CDC, *Public Health Emergency Preparedness Cooperative Agreement Budget Period 1 Performance Measure Specifications and Implementation Guidance Version 1*, https://www.cdc.gov/cpr/readiness/00_docs/PHEP_BP1-2017PerformanceMeasureGuidance_508-FINAL.PDF.

[53] CDC, "Public Health Crisis Response NOFO," last reviewed February 1, 2022, https://www.cdc.gov/cpr/readiness/funding-crisis.htm.

[54] Eligible applicants include all 50 states, 8 U.S. territories and freely associated states, counties that serve a population of 2 million or more, cities that serve a population of 400,000 or more, and federally recognized tribal governments that serve a population of 50,000 or more. See CDC, *FY 2022 Public Health Crisis Response Notice of Funding Opportunity (NOFO) Fast Facts*, January 14, 2022, https://www.cdc.gov/cpr/readiness/00_docs/CDC_2022_Public_Health_Crisis_Response_NOFO_Fast_Facts.pdf.

[55] CDC, *CDC Publishes FY 2019 Public Health Crisis Response Notice of Funding Opportunity*, 2018, https://www.cdc.gov/cpr/readiness/00_docs/FY19_Crisis_Response_NOFO_Updated_Fast_Facts_509_compliant.pdf.

[56] CDC, "CDC's Climate-Ready States and Cities Initiative," last reviewed November 4, 2021, https://www.cdc.gov/climateandhealth/climate_ready.htm.

[57] CDC, "Climate-Ready States and Cities Initiative Grant Recipients," last reviewed September 30, 2021,

Preventive Health and Health Services (PHHS) Block Grant[58]

CRS Expert: Kavya Sekar

- Flexible block grant to 61 health jurisdictions allows grantees to address the unique and emerging public health needs of their communities which could include those related to extreme heat.[59]

Administration for Children and Families

Community Services Block Grant (CSBG)[60]

CRS Expert: Conor Boyle

- Provides flexible funding to states, territories, and tribes for distribution to local agencies to support community-based activities to reduce poverty.[61] Funds may be used for emergency assistance, which may include cooling center operations.

Low Income Home Energy Assistance Program (LIHEAP)[62]

CRS Expert: Libby Perl

- LIHEAP is a flexible block grant to states, tribes, and territories for operating home energy assistance programs for low-income households.[63] Grantees[64] may use funds to pay for heating and cooling costs, crisis assistance, weatherization assistance, and services to reduce the need for energy assistance. An HHS memorandum states that grantees may use funds to establish and operate cooling centers and provide air-conditioning units to eligible households.[65] In addition, HHS has established a LIHEAP and Heat Stress Geographic Information System Dashboard, which includes historic temperature data, the effects of extreme heat on health, and ways in which LIHEAP can help.[66]

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https://www.cdc.gov/climateandhealth/crsci_grantees.htm.

[58] CDC, "Public Health Professionals Gateway: Preventive Health and Health Services (PHHS) Block Grant," last reviewed March 1, 2022, https://www.cdc.gov/phhsblockgrant/index.htm.

[59] CDC, "PHHS Block Grant Program Contacts," last reviewed March 4, 2022, https://www.cdc.gov/phhsblockgrant/phhscontacts.htm.

[60] U.S. Department of Health and Human Services (HHS) Office of Community Services, "Community Services Block Grant (CSBG)," last reviewed April 27, 2022, https://www.acf.hhs.gov/ocs/programs/community-services-block-grant-csbg.

[61] HHS Office of Community Services, "CSBG Map State and Territory Grantee Contact Information," last reviewed April 27, 2022, https://www.acf.hhs.gov/ocs/map/csbg-map-state-and-territory-grantee-contact-information.

[62] HHS Office of Community Services, "Low Income Home Energy Assistance Program (LIHEAP)," last reviewed April 27, 2022, https://www.acf.hhs.gov/ocs/low-income-home-energy-assistance-program-liheap.

[63] For more information on LIHEAP, see CRS Report RL31865, *LIHEAP: Program and Funding*, by Libby Perl.

[64] HHS Office of Community Services, "LIHEAP Map State and Territory Contact Listing," last reviewed April 27, 2022, https://www.acf.hhs.gov/ocs/map/liheap-map-state-and-territory-contact-listing.

[65] HHS Office of Community Services, "LIHEAP IM-2021-01 Heat Stress Flexibilities and Resources," July 1, 2021, https://www.acf.hhs.gov/ocs/policy-guidance/liheap-im-2021-01-heat-stress-flexibilities-and-resources.

[66] HHS Office of Community Services, "LIHEAP DC-2022-11 Heat Stress FY2022," April 22, 2022, https://www.acf.hhs.gov/ocs/policy-guidance/liheap-dcl-2022-11-heat-stress-fy2022. The dashboard is available at https://liheap-and-extreme-heat-hhs-acf.hub.arcgis.com/, last reviewed May 2, 2022.

Department of Housing and Urban Development

Community Development Block Grant Program (CDBG)[67]

CRS Expert: Joe Jaroscak

- Provides flexible federal funding to states and localities to support economic development, community development, and infrastructure.[68] In some cases, CDBG grantees could target or reprogram funds to prepare for or respond to extreme heat events. In particular CDBG funds could support the development or rehabilitation of public facilities,[69] or the provision of public services[70] to meet specific community needs related to heat events, if compliant with one of the program's three national objectives and all relevant requirements.[71]

CDBG—Disaster Recovery (CDBG-DR)[72]

CRS Expert: Joe Jaroscak

- Congress has provided for supplemental appropriations using CDBG authorities for disaster recovery (CDBG-DR), or in response to other emergency events. Emergencies may potentially include extreme heat. In February 2018, Congress dedicated funds to mitigate against future disaster risk (CDBG-MIT) following some incidents; this could serve as a model for extreme heat mitigation resilience.[73]

The Indian Community Development Block Grant (ICDBG)[74]

CRS Expert: Joe Jaroscak

- Provides economic development and urgent needs funding to federally recognized tribal nations and Alaska Native villages. ICDBG funding is awarded

[67] U.S. Department of Housing and Urban Development (HUD), "Community Development Block Grant Program," content current as of June 8, 2021, https://www.hud.gov/program_offices/comm_planning/cdbg.

[68] HUD Exchange, "Community Development Block Grant Program," https://www.hudexchange.info/programs/cdbg/. For more information, see CRS Report R43520, *Community Development Block Grants and Related Programs: A Primer*, by Joseph V. Jaroscak.

[69] HUD, *Guide to National Objectives and Eligible Activities for CDBG Entitlement Communities*, "Chapter 2: Categories of Eligible Activities," February 2001, pp. 2-11 through 2-12; available at https://www.hudexchange.info/sites/onecpd/assets/File/CDBG-National-Objectives-Eligible-Activities-Chapter-2.pdf.

[70] Ibid., p. 2-22.

[71] HUD Exchange, "Guide to National Objectives and Eligible Activities for CDBG Entitlement Communities," February 2001, https://www.hudexchange.info/resource/89/community-development-block-grant-program-cdbg-guide-to-national-objectives-and-eligible-activities-for-entitlement-communities/.

[72] HUD Exchange, "Community Development Block Grant Disaster Recovery Program," https://www.hudexchange.info/programs/cdbg-dr/. For more information, see CRS Report R46475, *The Community Development Block Grant's Disaster Recovery (CDBG-DR) Component: Background and Issues*, by Joseph V. Jaroscak.

[73] See CRS In Focus IF11814, *Disaster Resilience Investments: Community Development Block Grant Authorities for Mitigation (CDBG-MIT)*, by Joseph V. Jaroscak; and HUD Exchange, "Community Development Block Grant Mitigation Program," https://www.hudexchange.info/programs/cdbg-mit/.

[74] HUD, "Indian Community Development Block Grant Program," https://www.hud.gov/program_offices/public_indian_housing/ih/grants/icdbg.

in two categories: (1) competitive community and economic development grants allow for a variety of uses, including potentially extreme heat mitigation; and (2) noncompetitive imminent threat grants address issues posing an urgent threat to the public health or safety of tribal residents, which could also respond to extreme heat incidents or their aftermath.

Federal Regional Commissions and Authorities[75]

CRS Expert: Julie Lawhorn

- There are seven authorized federal regional commissions and authorities in statute: Appalachian Regional Commission (ARC);[76] Delta Regional Authority (DRA);[77] Denali Commission;[78] Northern Great Plains Regional Authority (NGPRA); Northern Border Regional Commission (NBRC);[79] Southeast Crescent Regional Commission (SCRC);[80] and Southwest Border Regional Commission. As chartered federal-state partnerships, the federal regional commissions receive appropriated funds, which they sub-allocate for community and economic development purposes in their respective service areas. These funds are generally flexible, and can be used to address a variety of community and economic development purposes, including pre- and post-disaster hazard mitigation uses related to extreme heat or other climate-related issues. Previously, grant funding has been used to respond to natural disasters and the COVID-19 pandemic.

Defense Production Act of 1950 (DPA)[81]

CRS Experts: Heidi Peters and Erica Lee

The DPA provides the President with the authority to mobilize the domestic economy in service of the national defense, broadly defined, which may include emergency management and disaster recovery purposes. The DPA generally does not provide direct financial assistance to SLTTs. However, it does allow the federal government to intervene in the civilian economy to facilitate the provision, movement, and expanded production of critical goods, materials, and services. During an extreme heat event, DPA authorities could be used to procure and distribute supplies, or provide resources to SLTTs to mitigate adverse effects.

[75] See CRS Report R45997, *Federal Regional Commissions and Authorities: Structural Features and Function*, by Julie M. Lawhorn.

[76] Appalachian Regional Commission, "Investing in Appalachia's economic future," https://www.arc.gov/.

[77] Delta Regional Authority, "Delta Regional Authority," https://dra.gov/.

[78] Denali Commission, "Denali Commission," https://www.denali.gov/.

[79] Northern Border Regional Commission, "Northern Border Regional Commission," https://www.nbrc.gov/.

[80] Southeast Crescent Regional Commission, "Southeast Crescent Regional Commission," https://scrc.gov/.

[81] FEMA, "Defense Production Act," last updated July 6, 2021, https://www.fema.gov/disaster/defense-production-act.

Department of Agriculture

CRS Experts: Lisa Benson

- For certain kinds of projects in qualifying rural areas, USDA Rural Development is a potential resource for assistance.[82] USDA Community Facilities Programs (such as Community Facilities Direct Loans and Grants)[83] assist with developing or improving essential public services and facilities; these funds might be used for efforts related to community emergency shelters and cooling centers.[84] The USDA Disaster Resource Center also gives timely information on assistance to communities affected by severe weather events and other disasters and emergencies.[85] See State Offices for contacts.[86]

Congressional Considerations

As the United States faces another projected season of extreme heat, Congress may consider the following policy issues, among others.

Adapting Existing Grant Programs to Extreme Heat Response

None of the federal assistance programs listed above were specifically designed to provide assistance for the impacts of extreme heat events on human health. Furthermore, given the lack of readily available data, it is unclear how often these programs have been consistently utilized for such incidents, despite their potential relevance.[87]

Previous uses of the above programs for extreme heat that CRS *could* identify were relatively limited in scope and frequency. One example is LIHEAP. The LIHEAP statute authorizes "emergency contingency funds" for distribution to one or more grantees in cases of "natural disaster and other emergency."[88] A natural disaster includes "a weather event (relating to hot or cold weather)."[89] Congress has not appropriated emergency contingency funds since FY2011, and FY2007 was the last year in which funds were awarded to grantees (two states and tribes within those states) due to extreme heat.[90]

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[82] U.S. Department of Agriculture (USDA), "Rural Development," https://www.rd.usda.gov/.

[83] USDA, "Community Facilities Direct Loan & Grant Program," https://www.rd.usda.gov/programs-services/community-facilities/community-facilities-direct-loan-grant-program.

[84] USDA, "Community Facilities Programs," https://www.rd.usda.gov/programs-services/all-programs/community-facilities-programs.

[85] USDA, "Disaster Resource Center," https://www.usda.gov/topics/disaster-resource-center.

[86] USDA, "State Offices," https://www.rd.usda.gov/about-rd/state-offices#.

[87] The absence of reporting and tracking requirements for some grants hinder efforts to measure federal assistance historically provided for extreme heat response. For example, Community Service Block Grant funds may fund subgrants to local organizations that do not require consistent reporting. For more information, see CRS Report RL32872, *Community Services Block Grants (CSBG): Background and Funding*, by Conor F. Boyle.

[88] 42 U.S.C. §8621(e).

[89] 42 U.S.C. §8622(7).

[90] See the LIHEAP Clearinghouse compilation of emergency contingency fund awards, https://liheapch.acf.hhs.gov/Funding/emrgfund.htm, last reviewed May 18, 2022. The LIHEAP Clearinghouse compiles and makes available LIHEAP information via a contract with HHS.

Given the relatively limited known use of federal assistance for extreme heat, some agencies may seek to address extreme heat emergencies through existing programs by modifying policies, guidance documents, and grantee communications. For example, HUD released new guidance on the use of CDBG funds to assist during the Pacific Northwest 2021 heat wave.[91] These adaptations may enhance subfederal capacity to respond to extreme heat. Some may raise concerns that such actions may divert resources and attention away from efforts for which programs were originally designed, or introduce undesirable competition for scarce funds.[92] Some may also argue that state, local, tribal, and territorial jurisdictions may not have the capacity for this directed focus; for example, local health jurisdictions may not have workforce capacity and subject matter expertise to contend with an increased focus on heat emergencies amid other public health threats, such as infectious disease outbreaks.[93]

Congress may consider monitoring any agency plans for such modifications and strategies to communicate such changes to nonfederal partners and potential grant recipients. Congress may also consider appropriating new funds to support the expanded scope of existing programs. Alternatively, Congress could discourage agencies from adapting existing grant programs given the risk of resource competition and increased demand on federal funds.

Stafford Act Assistance for Extreme Heat

Historically, most financial and operational assistance for emergency response provided through Stafford Act declarations has covered costs incurred as a result of sudden-onset hazards that caused structural damage (e.g., hurricanes and tornadoes).[94] This pattern may be attributable to regulatory authorities that primarily rely upon the costs of structural damages as thresholds for particular forms of federal assistance,[95] the applicability of assistance available under the Stafford Act, or interpretations of events that qualify as major disasters under the Stafford Act (as noted above).

If Congress determines that the Stafford Act should be more clearly available for extreme heat response, Congress may consider directing FEMA to give greater consideration to casualties and other nonstructural losses when evaluating the need for Stafford Act declarations and associated financial assistance for emergency response for hazards like extreme heat.[96] Congress may also consider amending the definition of a major disaster to include extreme heat events. Congress

[91] HUD, "FAQs: CDBG Resources and Authorities to Help Pacific Northwest Communities Respond to Heat Waves and Extreme Temperature Events," June 29, 2021, https://www.hud.gov/sites/dfiles/CPD/documents/CDBG-FAQ-for-heat-wave-support-v2.pdf.

[92] For research on emergency preparedness funding, resource scarcity and competition, see Justeen Hyde et al., "Better Prepared but Spread Too Thin: The Impact of Emergency Preparedness Funding on Local Public Health," *Disaster Management & Response*, vol. 4, no. 4, (Fall 2006), pp. 106-113; and Aaron Katz, Andrea Staiti and Kelly McKenzie, "Preparing for the Unknown, Responding to the Known: Communities and Public Health Preparedness," *Health Affairs*, vol. 25, no. 4 (July 2006).

[93] Justeen Hyde et al., "Better Prepared but Spread Too Thin: The Impact of Emergency Preparedness Funding on Local Public Health," *Disaster Management & Response*, vol. 4, no. 4, (Fall 2006), pp. 106-113.

[94] See CRS Report R46749, *FEMA's Public Assistance Program: A Primer and Considerations for Congress*, by Erica A. Lee.

[95] See CRS Insight IN11534, *Will FEMA Recommend Public Assistance Following a Disaster? Proposed Rulemaking*, by Erica A. Lee.

[96] For discussion, see CRS Insight IN11696, *Climate Change, Slow-Onset Disasters, and the Federal Emergency Management Agency*, by Diane P. Horn, Erica A. Lee, and Elizabeth M. Webster.

could also weigh the potential resulting burdens on FEMA's existing response and recovery capacity as well as the potential increased expenditures out of the Disaster Relief Fund, which supports Stafford Act activities. Alternatively, Congress could encourage FEMA to incorporate heat-related preparedness and adaptation measures (e.g., development of heat emergency communications and response plans,[97] installation of cool roofs and shade structures)[98] into existing requirements for governments applying for federal assistance. Doing so may encourage more subfederal governments to prepare for and reduce future costs and casualties associated with extreme heat. FEMA could, for example, require jurisdictions to incorporate heat health action plans into mitigation plans required to be in place to access certain forms of Public Assistance.[99] Such a requirement could help reduce risks of future casualties from extreme heat without necessarily creating significant new financial and operational commitments for FEMA.

Designing Federal Assistance for Emergency Response to Extreme Heat

An increase in heat-related deaths was the first key finding of a 2016 report by the U.S. Global Change Research Program:

> Based on present-day sensitivity to heat, an increase of thousands to tens of thousands of premature heat-related deaths in the summer [Very Likely, High Confidence] and a decrease of premature cold-related deaths in the winter [Very Likely, Medium Confidence] are projected each year as a result of climate change by the end of the century.[100]

Experts project that extreme heat events are likely to become more frequent, severe, and longer in duration, placing particular stress on populations living in urban areas.[101]

Given these projections, Congress may consider revising existing statutory authorities providing federal assistance available for emergency response, or creating new authorities, to explicitly provide assistance for emergency response to public health threats associated with extreme heat. Under current law and practice, requests for federal assistance for extreme heat response may compete with demands for emergency assistance or preparedness for hazards that more commonly receive federal attention and assistance; for example, hurricanes, terrorist attacks, or infectious disease incidents. Congress could clarify the applicability of existing authorities to ensure the availability of federal assistance. It could, for example, incorporate specific language directing or incentivizing recipients to undertake measures for heat response, preparedness, and mitigation into appropriations for HHS's PHEP Cooperative Agreement or Preventive Health and Health Services (PHHS) Block Grant. Alternatively, Congress could provide new financial or operational assistance programs specifically designed to enhance the ability of jurisdictions to

[97] Lisa Zottarelli, Starla Blake, and Michelle Garza, "Communicating Heat-Health Information to the Public: Assessing Municipal Government Extreme Heat Event Website Content," *Weather, Climate, and Society*, vol. 14, no. 1 (February 2022).

[98] Department of Energy, "Cool Roofs," https://www.energy.gov/energysaver/cool-roofs; Ladd Keith and Sara Meerow, *Planning for Urban Heat Resilience*, American Planning Association, PAS Report 600, April 2022, https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-600-r1.pdf.

[99] 44 C.F.R. §206.226. Sample heat emergency response plans include State of California, *Protecting Californians From Extreme Heat: A State Action Plan to Build Community Resilience*, https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Climate-Resilience/2022-Final-Extreme-Heat-Action-Plan.pdf, April 2022.

[100] Marcus Sarofim et al., "Temperature-Related Death and Illness," *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, Chapter 2, U.S. Global Change Research Program, p. 44, http://dx.doi.org/10.7930/J0MG7MDX.

[101] David Dodman et al., "Cities, Settlements, and Key Infrastructure," International Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Summary for Policymakers*, Chapter 6, pp. 6-21–6-24.

respond to the threat of extreme heat and reduce the future risks to public health and safety to avoid creating competition for resources in existing programs.

Congress may also weigh the potential fiscal demands of such new or clarified authorities to provide assistance for extreme heat and the potential burdens placed on federal, state, and local emergency response offices to execute such authorities. Congress may prefer to retain existing flexibilities so as to allow subfederal governments and public health authorities to determine the best use of existing grant funds.

Author Information

Erica A. Lee, Coordinator
Analyst in Emergency Management and Disaster Recovery

Taylor R. Wyatt, Coordinator
Analyst in Public Health Emergency Management

Diane P. Horn
Analyst in Flood Insurance and Emergency Management

Joseph V. Jaroscak
Analyst in Economic Development Policy

Maria Kreiser
Senior Research Librarian

Julie M. Lawhorn
Analyst in Economic Development Policy

Libby Perl
Specialist in Housing Policy

Heidi M. Peters
Analyst in U.S. Defense Acquisition Policy

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