

# Protecting the Health of Everyone in the United States in the Face of Climate Change: The New OCCHE

John Balbus, MD, MPH, Interim Director  
HHS Office of Climate Change and Health Equity  
Worker Training Program Grantee Meeting  
May 18, 2022











Office of  
Climate Change  
and Health Equity

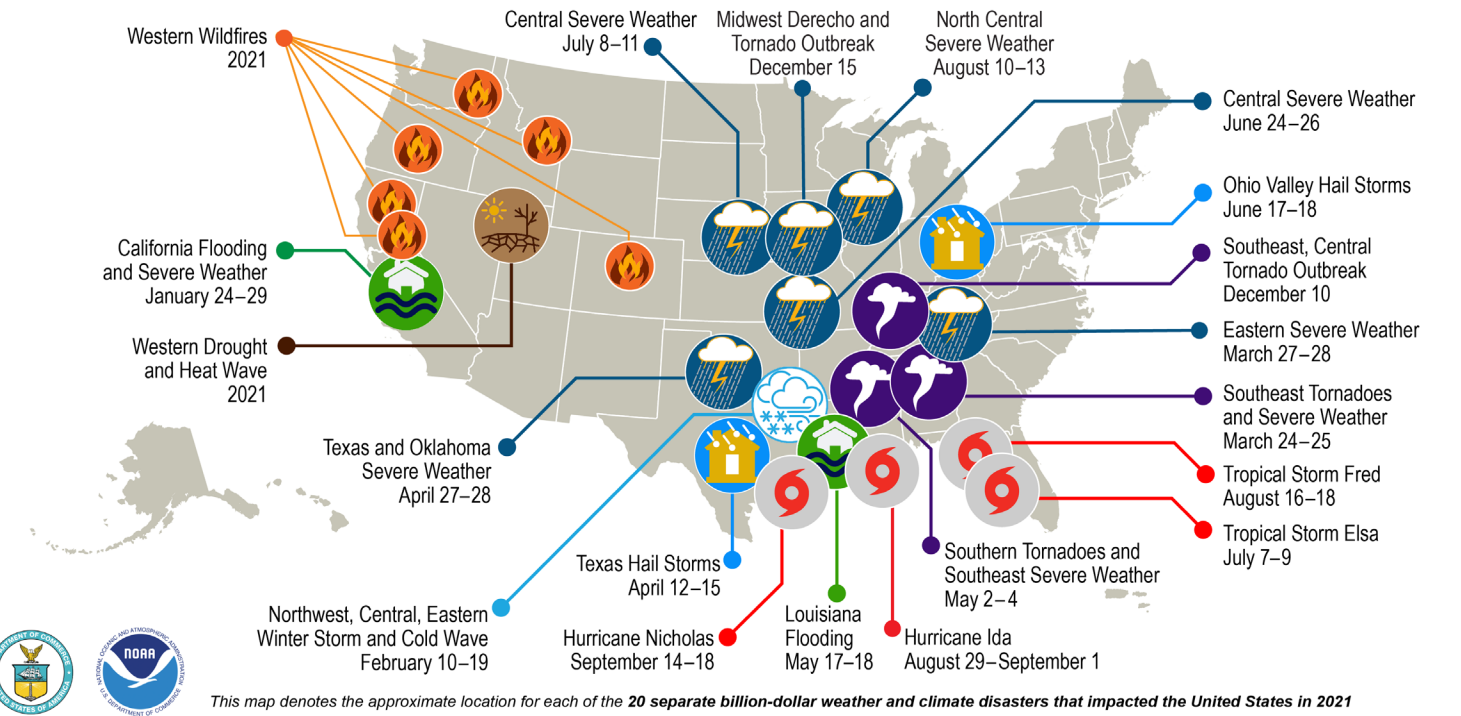
SENIOR CENTER

WEAR A MASK  
WASH YOUR HANDS  
SOCIAL DISTANCE  
STAY SAFE

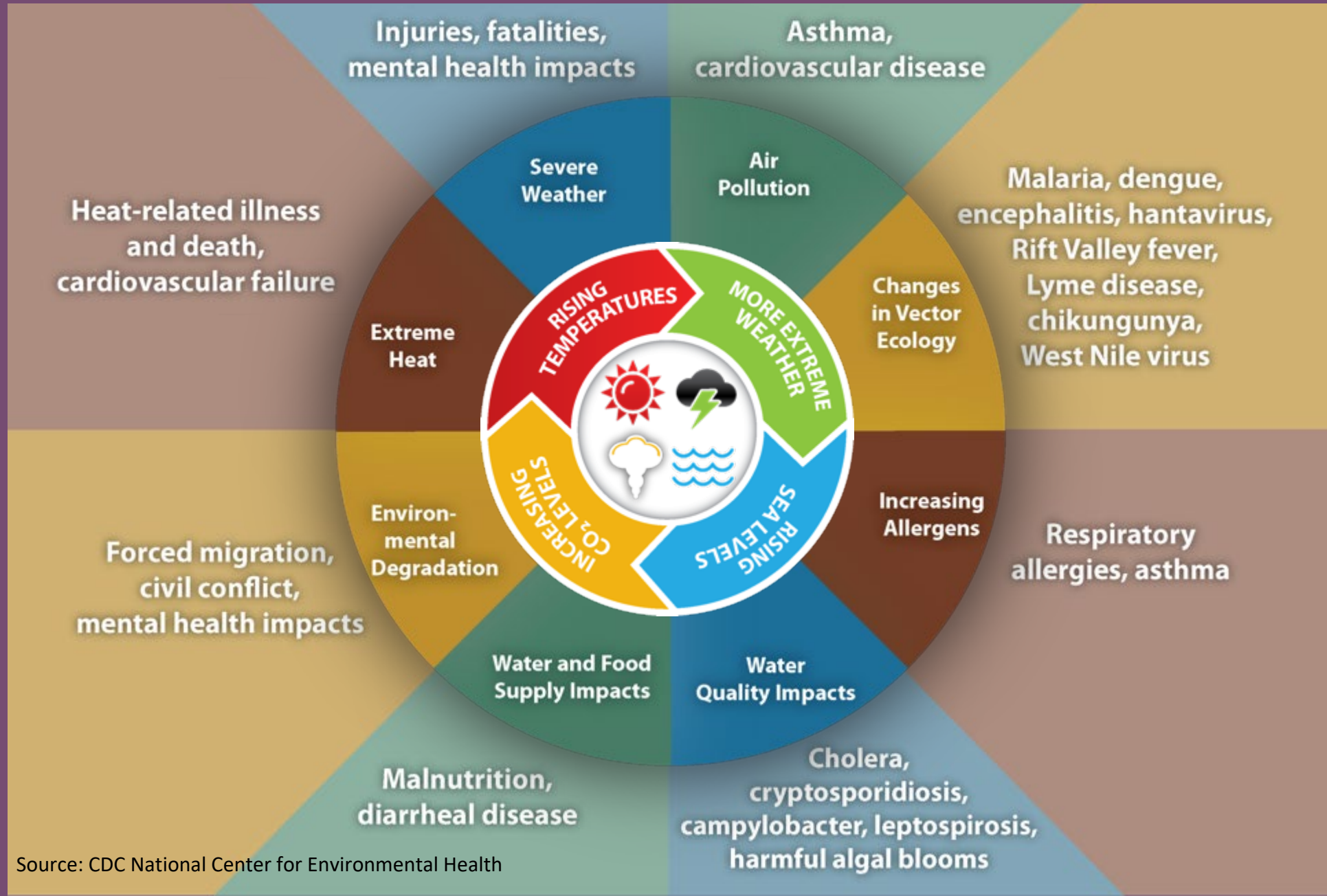
COME JOIN US

## U.S. 2021 Billion-Dollar Weather and Climate Disasters

-  Drought/Heat Wave
-  Flooding
-  Hail
-  Hurricane
-  Tornado Outbreak
-  Severe Weather
-  Wildfire
-  Winter Storm/Cold Wave



# The Public Health Impacts of Climate Change



# Exposure Pathways for outdoor workers

---



Increasing temperature



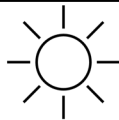
Air pollution



Water quality



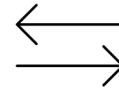
Extreme weather events



Ultraviolet radiation



Vector borne diseases &  
biological hazards



Displacement



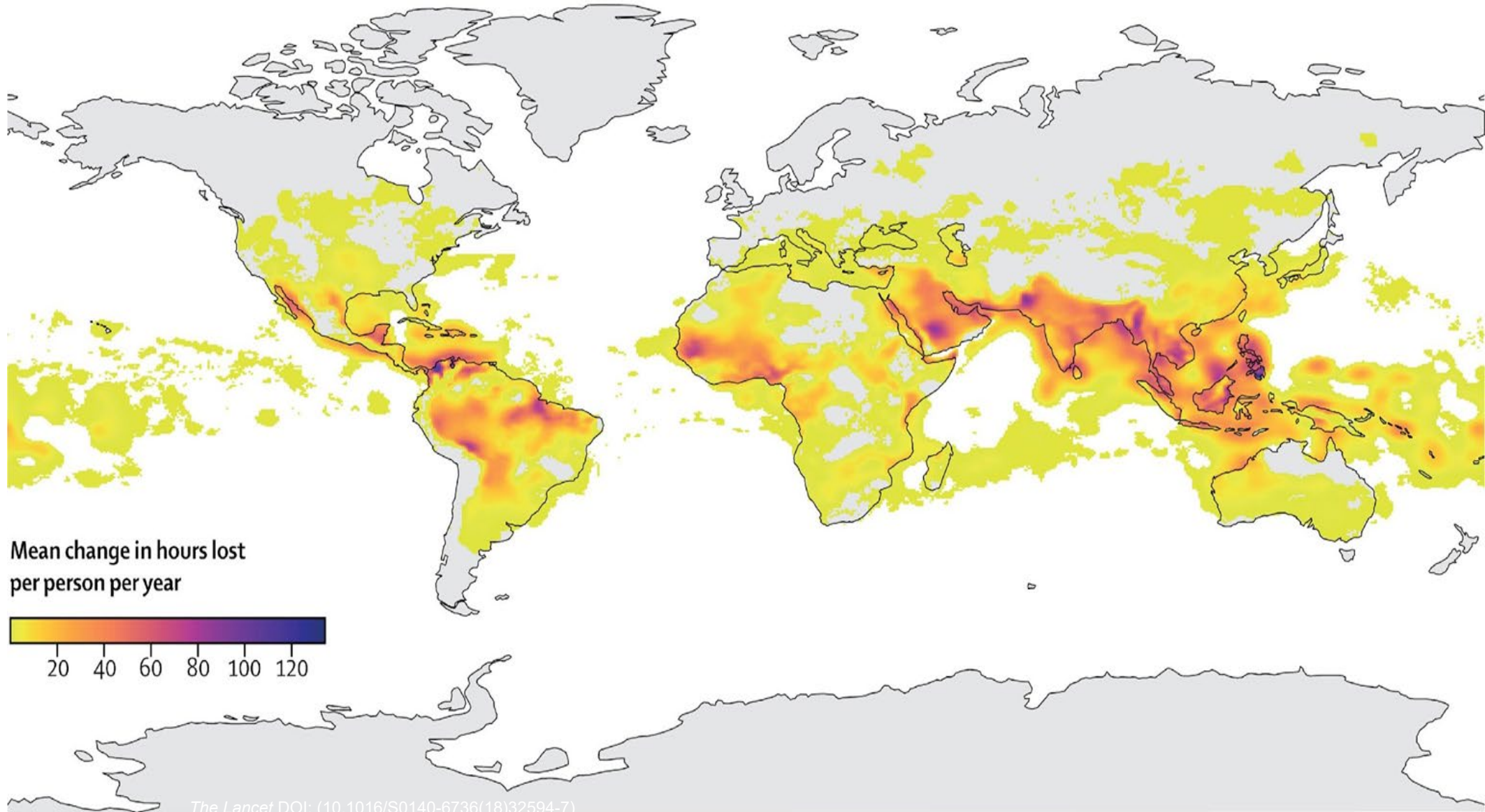
Emerging industries &  
industrial transitions

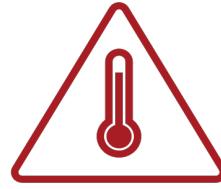
# Displacement

Manifestations of climate change	Environmental change	Pathways/effects that influence human security	Observed or potential influence on migration
Increasing warm days and nights	Decreases in surface and groundwater; desertification	Arable/grazing land degradation; drought stress on flora and fauna; lack of water for human settlements and agriculture; local economic decline; limitations to outdoor activities under extreme temperatures	Decline in pastoral land use, African Sahel; rural to urban migration in Malawi concurrent with increasing frequency and severity of drought since 1970
Heat waves increasing over land and ocean	Increase in temperature extremes, exceeding heat stress tolerance level of humans and ecosystems	Increase in excess death rate; impacts on food safety and changing ecological patterns of vector-borne, zoonotic, and environmentally sourced (e.g., from water-, soil-, or dust-borne pathogens) infectious diseases; increase in wildfire; coral bleaching events; more frequent harmful algal blooms	Heat wave deaths in India (2015), Europe (2019); impacts of weather extremes in highly vulnerable economies (e.g. Dominican Republic, Jamaica); agricultural land degradation
Increases in the intensity and duration of drought	Declining lake storage, streamflow, and groundwater	Water resource shortages and food insecurity; land degradation; reduction in crop, forest, and livestock production; increase in wildfire	Migration and conflict over water in Burkina Faso (ongoing); migration from drought-stricken lands in Ethiopia, Iraq and Somalia (2019)

# Economic consequences

Labour loss at activity level 400 W, mean change 2000-17 relative to baseline





Increasing temperature



Occupational  
illness & injury

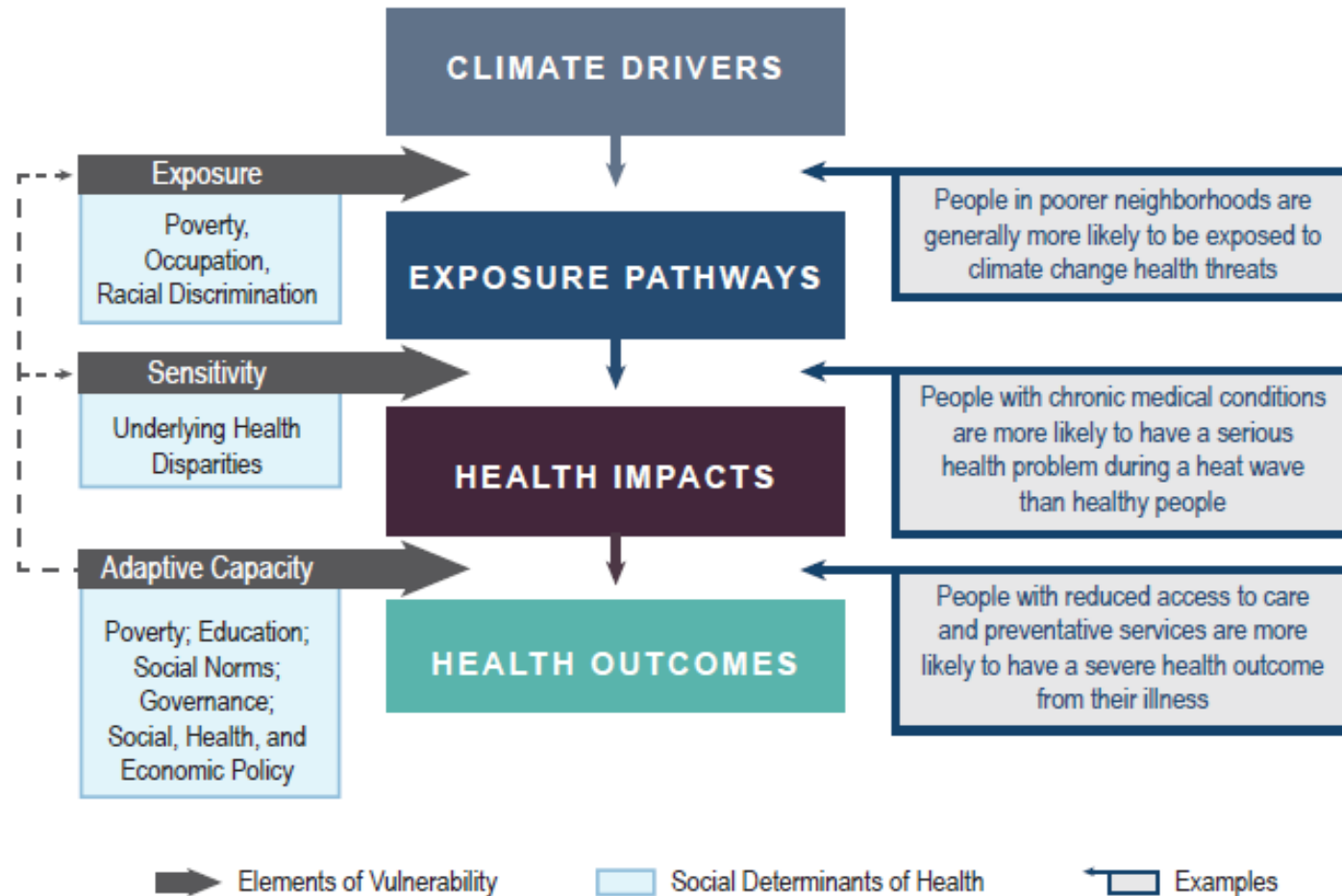


Reduced  
productivity



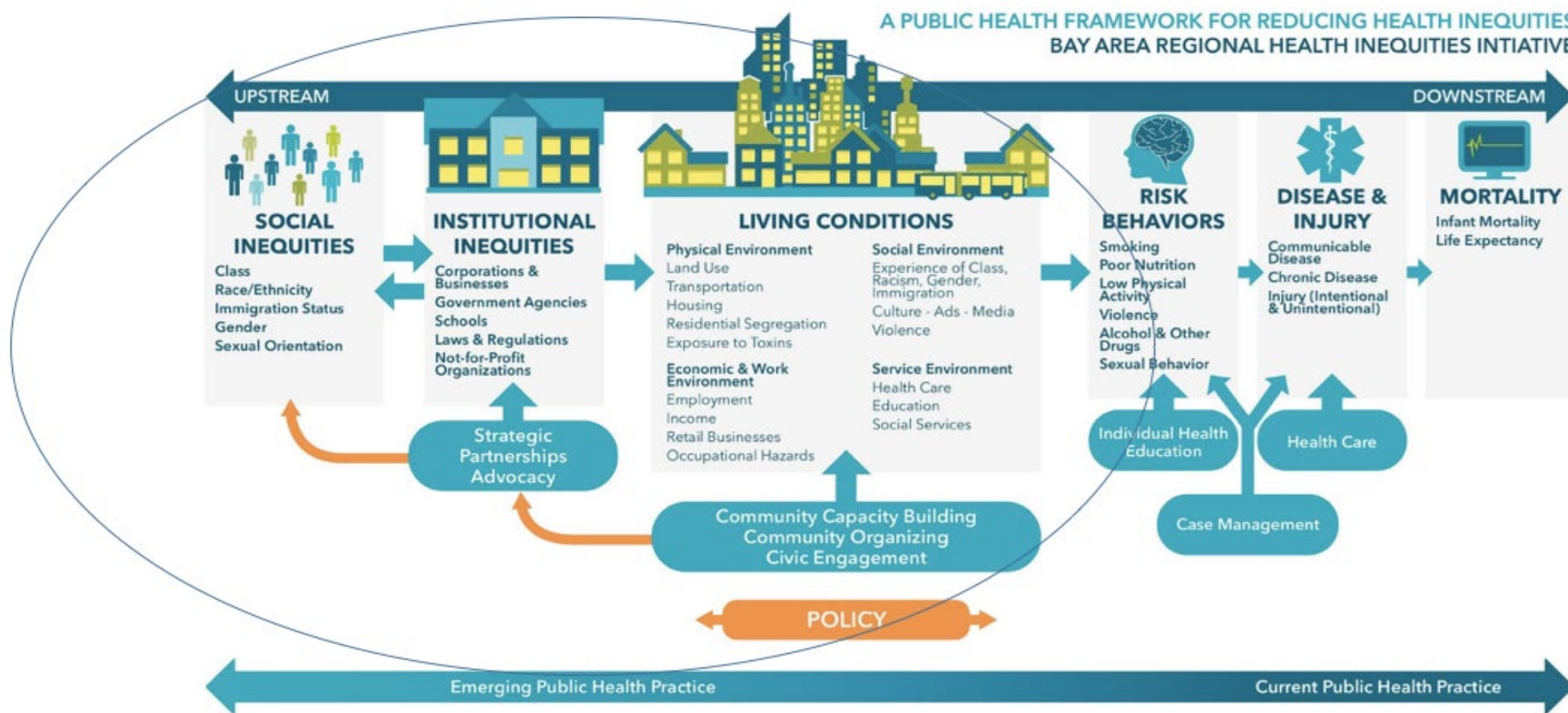
Job/income loss

## Intersection of Social Determinants of Health and Vulnerability





# How do health equity and climate change intersect?



## Origins of the Office of Climate Change and Health Equity (OCCHE)

---

### E.O. 14008 - “Tackling the Climate Crisis”

- HHS mandates (Section 222(d))
  - ✓ Office of Climate Change and Health Equity
  - ✓ Interagency Working Group to Decrease Risk of Climate Change to Children, the Elderly, People with Disabilities, and the Vulnerable
  - ✓ Biennial Health Care System Readiness Advisory Council



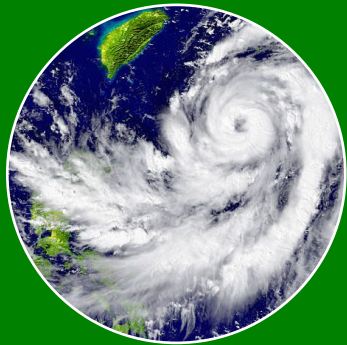
## Mandates and Commitments for CCHE at HHS

---

- COP26 commitments to resilient and low-carbon health systems
- Executive Orders 14008 and 14057
- Objective 2.4 in the HHS strategic plan: *“Mitigate the impacts of environmental factors, including climate change, on health outcomes”*
- HHS Climate Action and Resilience Plan (2021)



## OCCHE Priorities



Priority 1:  
Climate & Health  
Resilience for  
Most Vulnerable

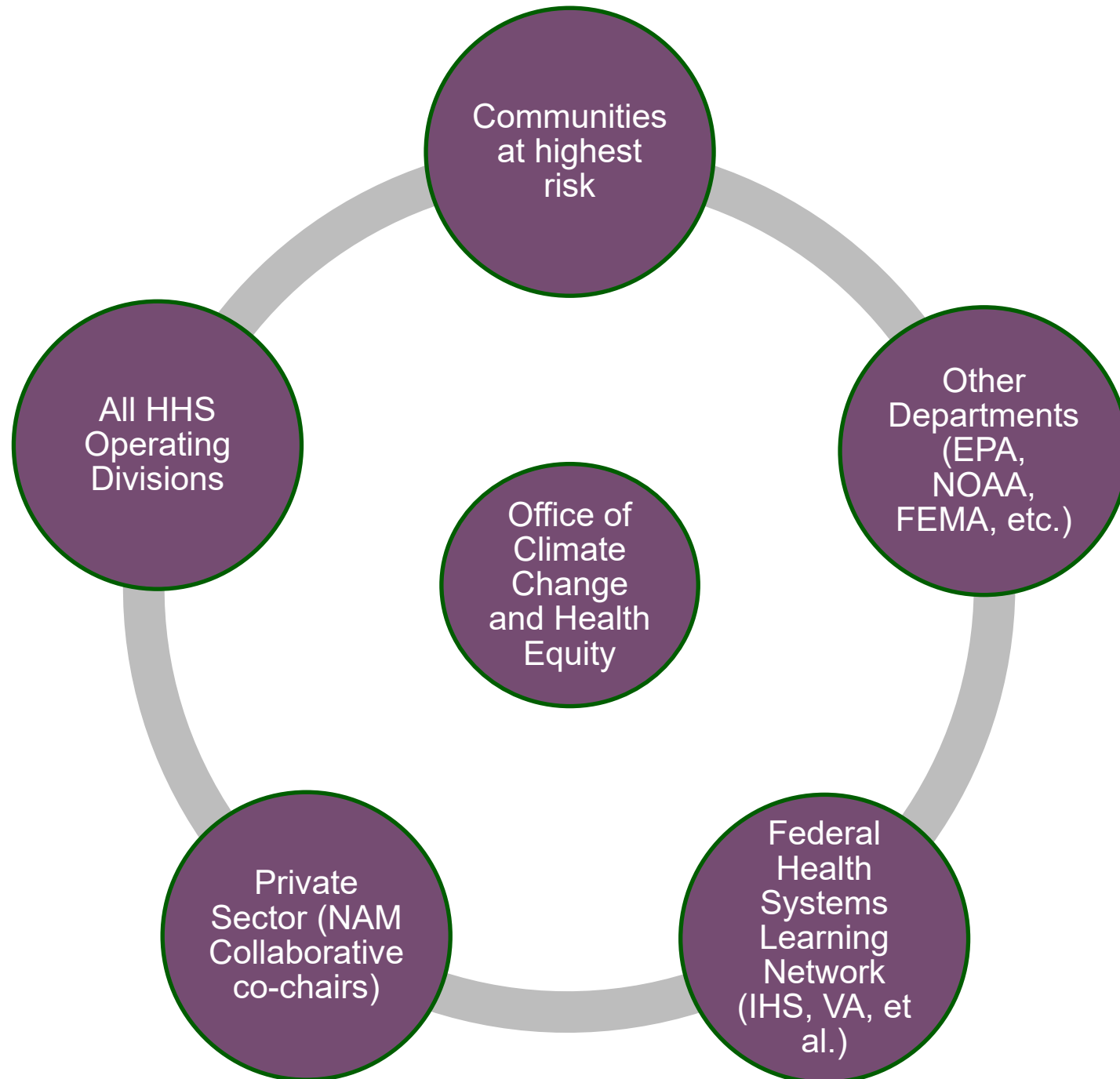


Priority 2:  
Climate Actions  
to Reduce Health  
Disparities



Priority 3: Health  
Sector Resilience  
&  
Decarbonization

Cross-Cutting Work: Data Analytics; Comms/Outreach; Training



## Accomplishments to Date

---

- *July 2021:* Launch of Extreme Heat Interagency Working Group
- *August 2021:* Launch of Office of Climate Change and Health Equity (OCCHE)
- *September 2021:* Launch of the National Academy of Medicine Action Collaborative on Decarbonizing the US Healthcare Sector (ASH as co-chair)
- *November 2021:* HHS Commitments at United Nations Climate Conference (COP26)
- *December 2021:* First Request for Information (RFI) on climate change and equity in a CMS NPRM
- *January 2022:* Creation of learning network for federal health systems to support implementation of EO 14057
- *February 2022:* Completion of initial meetings with all relevant HHS Divisions
- *March 2022:* Initial convening the Climate Change and Health Equity Working Group
- *April 2022:* Release of HHS Health Care Sector Climate Pledge
- *May 2022:* Seasonal Forecast for Health (“OCCHE Climate Health Outlook”)

# Health Care Sector Commitments to Emissions Reduction and Resilience

## **We voluntarily pledge to:**

- 1. At minimum, reduce organizational emissions by 50% by 2030 (from a baseline no earlier than 2008) and achieve net-zero by 2050, publicly accounting for progress on this goal every year.***
  - a) Share publicly our strategies for reducing on-site emissions (where relevant addressing sources related to on-site energy usage, waste anesthetic gases, vehicle fleets and refrigerants).***
- 2. Designate an executive-level lead for our work on reducing emissions by 2023 and conduct an inventory of Scope 3 (supply chain) emissions by the end of 2024.***
- 3. Develop and release a climate resilience plan for continuous operations by the end of 2023, anticipating the needs of groups in our community that experience disproportionate risk of climate-related harm.***



Recognizing the critical need to address climate change through health sector leadership, the National Academy of Medicine (NAM) launched the Action Collaborative on Decarbonizing the U.S. Health Sector (Climate Collaborative), a public-private partnership of leaders from across the health system committed to addressing the sector's environmental impact while strengthening its sustainability and resilience.

Climate change is increasingly affecting people's health and the ability of the U.S. health care system to effectively respond to increases in extreme climate-related events. Improving the carbon footprint of the entire health ecosystem can drastically lower the approximately 8.5% of U.S. carbon emissions for which it is responsible, while also having significant health, social, and economic benefits. There is a need to activate all parts of the health sector for sustainable change.

[Climate Collaborative  
Members](#)

[Network Organizations](#)

[Register for Updates](#)





ISSUED MAY 2022

# Climate and Health Outlook: Extreme Heat

Welcome to the first edition of the Climate and Health Outlook from the Department of Health and Human Services (HHS) Office of Climate Change and Health Equity (OCCHE). The Climate and Health Outlook is an effort to inform health professionals and the public on how our health may be affected in the next 30 and 90 days by climate events and provide resources to take proactive action.

This edition focuses on the 2022 early summer season and uses the most current long-term temperature forecasts that come from the National Oceanic and Atmospheric Administration (NOAA) to illustrate how extreme heat poses a health risk for all Americans.

## Where are extremely hot days expected to be most frequent in May?

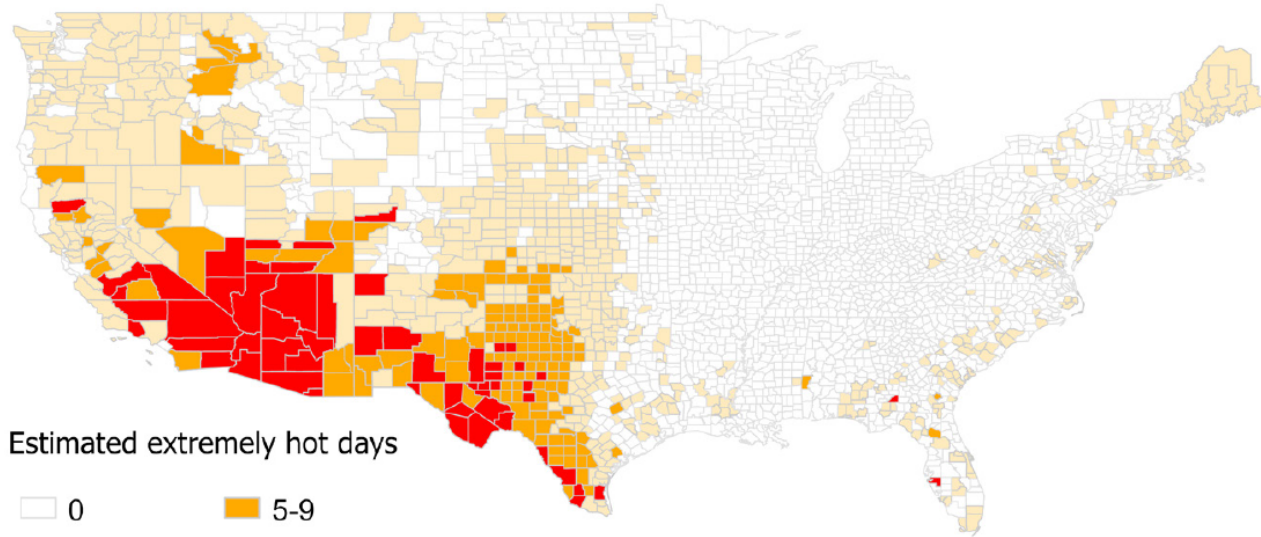
### Who is at high risk from heat in the counties with the most extreme heat days?

Some communities face greater health risks from extreme heat given various risk factors they face. These communities include people who: are elderly and live alone, have existing health conditions, have poor access to healthcare, live in rural areas, work outdoors, make a low income, face difficulty paying utility bills, live in poor housing, and live in urban areas without adequate tree cover.

These risk factors vary across the 203 counties estimated to have 5 or more expected extreme hot days in May. Of these counties:

- **53 (26%)** have a high number of people aged 65 or over, living alone.
- **29 (14%)** have a high number of people with diabetes.

## Where are extremely hot days expected to be most frequent in May?



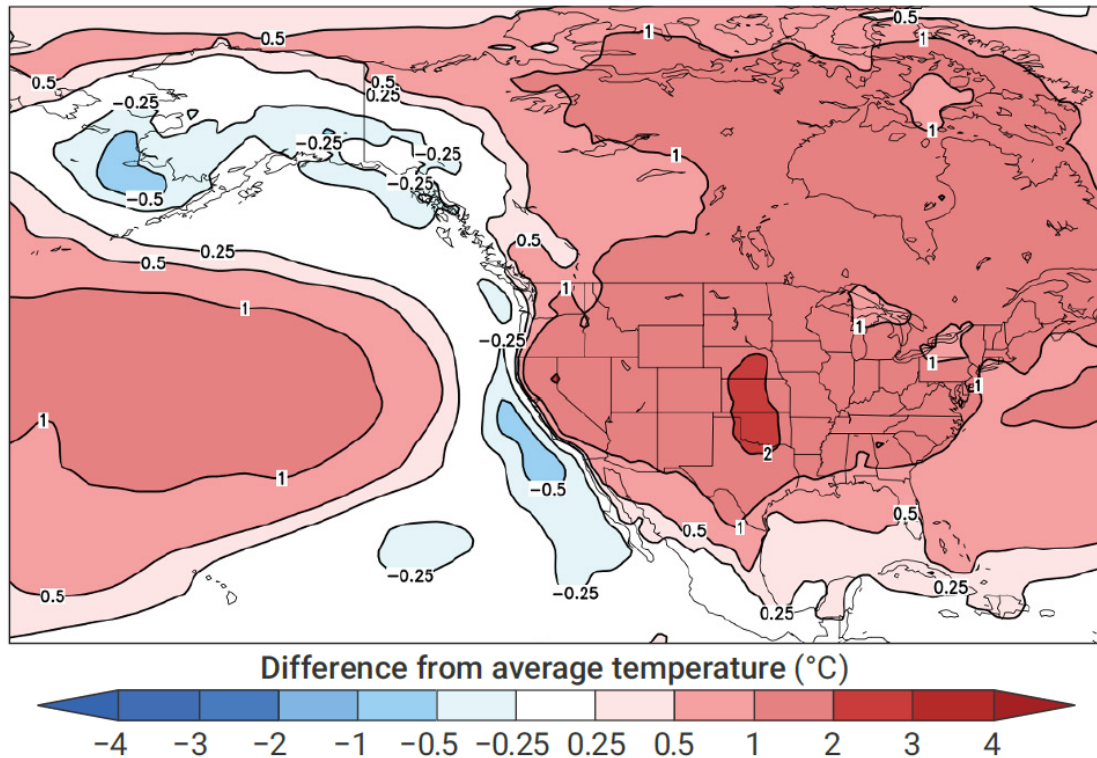
Estimated extremely hot days



**Figure:** This map shows the expected number of extremely hot days in May in each county in the contiguous U.S. The forecast is based on the NOAA Climate Prediction Center’s probabilistic outlook of temperatures being above, below, or near normal in May. A county’s ‘normal’ temperature is based on the 30-year average from 1991–2020. An ‘extremely hot day’ is when the daily maximum temperature is above the 95th percentile value of the historical temperature distribution in that county. For more information on your county, please refer to the [Centers for Disease Control and Prevention \(CDC\) Heat and Health Tracker](#).

- 65 or over, living alone.
- **29 (14%)** have a high number of people with diabetes.
- **134 (66%)** have a high number of people without health insurance.
- **65 (32%)** have a high number of people living in rural areas.
- **61 (30%)** have a high number of people employed in construction.
- **73 (36%)** have a high number of people living in poverty.
- **33 (16%)** have a high number of people spending a large proportion of their income on home energy.
- **50 (25%)** have a high number of people with electricity-dependent medical equipment and enrolled in the HHS emPOWER program.
- **64 (32%)** have a high number of people in mobile homes.
- **48 (24%)** have a high number of people with severe housing cost burden.
- **138 (68%)** have a high number of people living in areas without adequate tree cover.

## Climate and Health Outlook: Extreme Heat



**Figure:** The North American Multi-Model Ensemble (NMME) predicts that average temperature over the next 3 months (May–July) will be 1.8–3.6°F (1–2°C) hotter than average across much of the contiguous U.S. For more information about this model or prediction, please refer to the [NMME website](#).

## How hot will it be, and where, over the next 3 months?

For May–July, the North American Multi-Model Ensemble (NMME) predicts that the average temperature will be 1.8 to 3.6°F (1 to 2°C) above-normal for most of the continental U.S. However, regions in the central U.S., particularly within Oklahoma, Kansas, and Nebraska, may experience a higher 90-day average temperature of 3.6 to 5.4°F (2 to 3°C). The NMME integrates multiple forecasts of the next 90 days to build the best estimate of temperatures and precipitation over that time frame. This year's 90-day NMME average temperature forecast for May–July is similar to last year's 90-day average temperature forecast for much of the country. Note that although many regions may expect a warmer 90-day average temperature, this is not the same as the daily and sometimes significant fluctuations in temperatures that should be expected in each region.

## Health Impacts During the Heat Dome of 2021

## Worker Health

Occupations that require strenuous work outdoors pose a high risk for heat-related illness. This includes construction workers, farmers, agricultural workers, delivery workers, athletes, landscapers, and others. [Learn more](#) about the dangers of working in heat. Employer responsibilities and resources for safety are also available through the Occupational Safety and Health Administration (OSHA) [Heat Illness Prevention campaign](#).



The [Heat Safety Tool](#) provides real-time heat index and hourly forecasts, specific to your location, as well as occupational safety and health recommendations from OSHA and the National Institute for Occupational Safety and Health (NIOSH).



The [National Institute of Environmental Health Sciences \(NIEHS\) Worker Training Program](#) has heat safety and health training for at-risk workers.



The Health Resource Services Administration (HRSA) funds [National Training and Technical Assistance Partners — Farmworker Justice and Migrant Clinicians Network](#) that helps clinicians prevent and treat heat-related illness among agricultural workers.

**LIHEAP PROVIDES 6.7 MILLION HOUSEHOLDS WITH HEATING AND COOLING ASSISTANCE.**

**WAP INSTALLS ENERGY EFFICIENCY MEASURES FOR LONG-TERM SOLUTIONS.**



NATIONAL ASSOCIATION FOR STATE COMMUNITY SERVICES PROGRAMS

Image source: [nascsp.org/liheap-and-wap-two-sides-of-the-same-coin/](https://nascsp.org/liheap-and-wap-two-sides-of-the-same-coin/)

## Staying Safe Indoors



The [Low Income Home Energy Assistance Program \(LIHEAP\)](#) and the [Weatherization Assistance Program \(WAP\)](#) help keep families safe and healthy through initiatives that assist families with energy costs. To inquire about LIHEAP assistance, call the National Energy Assistance Referral (NEAR) hotline at 1-866-674-6327.

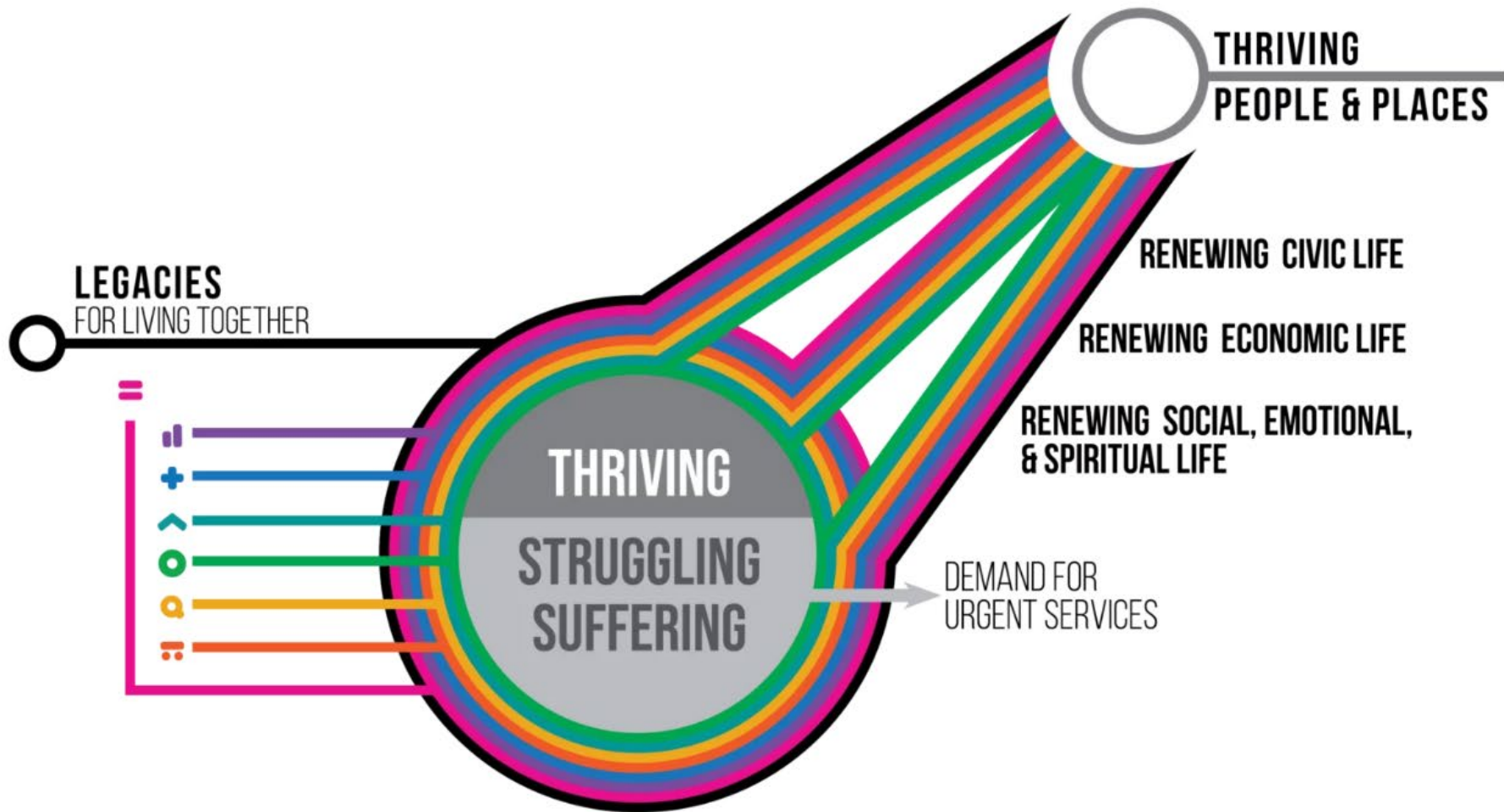


Medicare Advantage (MA) plans may provide [Special Supplemental Benefits for the Chronically Ill \(SSBCI\)](#) with equipment and services that improve indoor air temperatures and quality (such as portable air conditioners) to chronically ill patients.

## Major Upcoming Milestones

---

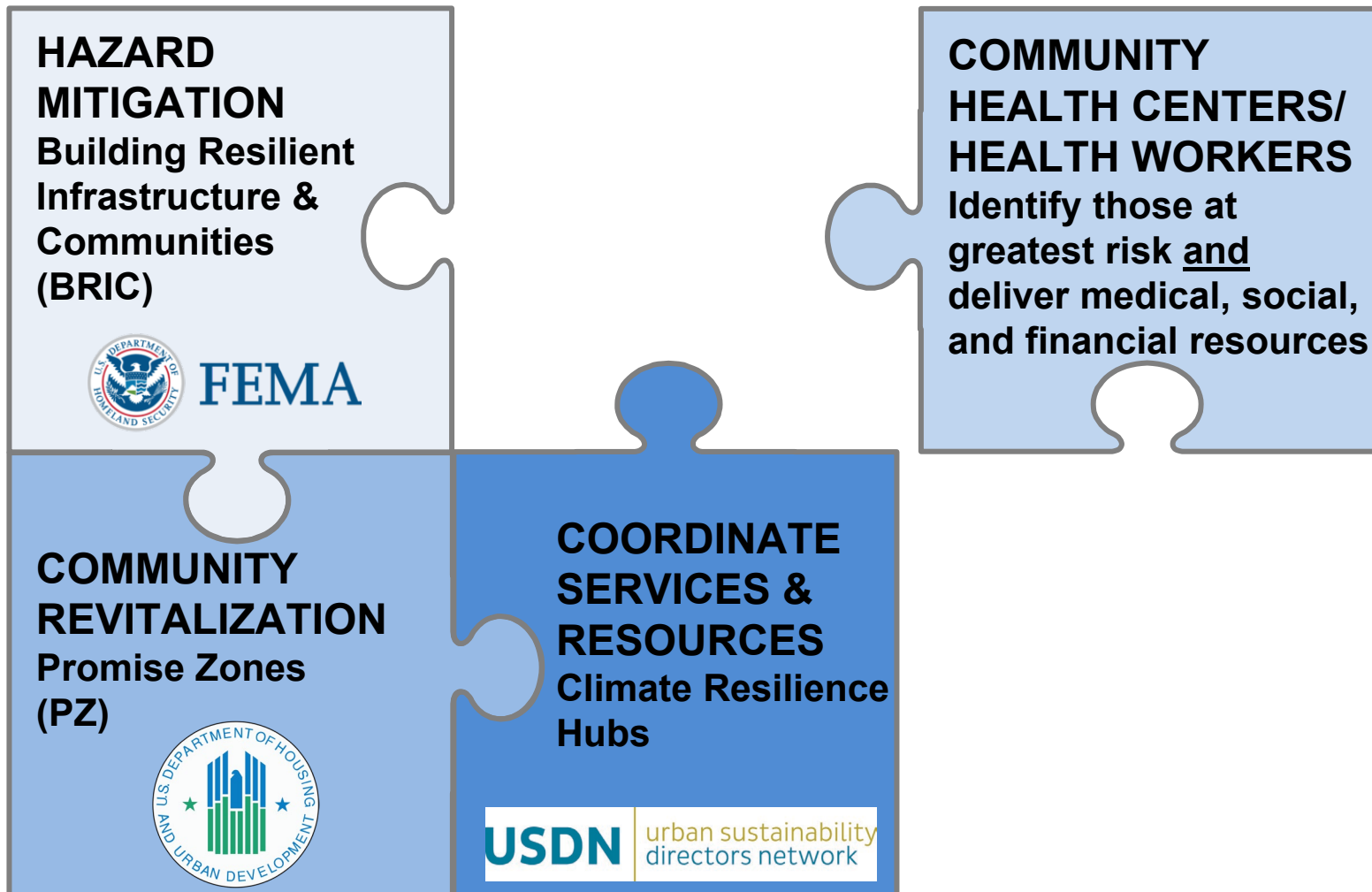
- *Potential partnership pledge event with Administration leaders and private-sector leaders*
- *Updated HHS Climate Action and Resilience Plan with strategic plans from every Operating Division (on path to National Adaptation Plan for Health)*
- *Adaptation Gap Analysis project in partnership with HHS Regions*
- *Technical assistance/supports from multiple Operating Divisions (e.g., AHRQ, CMS, ASPR)*



Well Being Trust Releases *Thriving Together: A Springboard for Equitable Recovery and Resilience in Communities Across America.*

*The Springboard Provides Communities and Local Government with Promising Actions in the Wake of Covid-19, Toward a Healthy and Just Nation* Well Being Trust Releases *Thriving Together: A Springboard for Equitable Recovery and Resilience in Communities Across America.*

# The Resilience Puzzle



- **Multipurpose:** social supports at baseline; resources and haven during disasters
- ↓ risk and ↑ resilience among the most vulnerable
- ↑ service and continuity of care during disruptions
- ↑ collaborative funding and shared resources
- ↓ healthcare carbon with health benefits



## **In Closing**

- Climate change exacerbates stressors to workers whether illness or changes in productivity and industries
- Community-based solutions are an essential component
- Connecting occupational health to community health could be critical to long term resilience





**OASH**

Office of  
Climate Change  
and Health Equity

# Thank you!

**Contact us: [OCACHE@hhs.gov](mailto:OCACHE@hhs.gov)**

Visit us online and sign up for our listserv at  
[www.hhs.gov/ocche](http://www.hhs.gov/ocche)