Putting the “H” in Resilience: Integrating Health Services in Climate Resilience Efforts

John Balbus, MD, MPH, Acting Director
HHS Office of Climate Change and Health Equity

Innovations in Climate Resilience 2023
Columbus, Ohio

March 28, 2023
Overview for today

- Impacts of Climate Change on the Health Sector
- The Office of Climate Change and Health Equity
- The Health Sector Resilience Ecosystem
- Towards an Integrated Health Resilience Ecosystem
Impacts of Climate Change on the Health Sector

Towards an Integrated Health Resilience Ecosystem

The Office of Climate Change and Health Equity

The Health Sector Resilience Ecosystem

Impacts of Climate Change on the Health Sector
U.S. 2021 Billion-Dollar Weather and Climate Disasters

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

Western Wildfires 2021
California Flooding and Severe Weather January 24-29
Western Drought and Heat Wave 2021
Texas and Oklahoma Severe Weather April 27-28
Midwest Derecho and Tornado Outbreak December 15
North Central Severe Weather August 10-13
Central Severe Weather June 24-26
Ohio Valley Hail Storms June 17-18
Southeast, Central Tornado Outbreak December 10
Eastern Severe Weather March 27-28
Southeast Tornadoes and Severe Weather March 24-25
Tropical Storm Fred August 16-18
Tropical Storm Elsa July 7-9
Louisiana Flooding May 17-18
Texas Hail Storms April 12-15
Northwest, Central, Eastern, Winter Storm and Cold Wave February 10-19
Hurricane Nicholas September 14-18
Southern Tornadoes and Southeast Severe Weather May 2-4
Hurricane Ida August 29-September 1

This map denotes the approximate location for each of the 20 separate billion-dollar weather and climate disasters that impacted the United States in 2021.
Mapping Climate Impacts on Hospitals & Health

Increase in GHG concentration

Temperature changes
- Sea level rise
- Heat waves, cold spells
- Extreme weather events
- Wildfires
- Drought
- Excess rain, floods

Precipitation changes

- Power outages
- Transportation
- Backup medical supplies
- Facility flooding
- Vector-borne diseases
- Heat health impacts
- Poor air quality

Precipitation changes
Climate-related disasters lead to health system failures...and resilience

**COMPONENT 1: Estimation of Excess Mortality**

**Estimate** Excess Mortality
- **Estimated Excess Mortality due to Hurricane Maria from September 20, 2017 to February 28, 2018**

**POPULATIONS MOST VULNERABLE TO EXCESS DEATHS**
- Residents of municipalities with lower levels of socioeconomic development
- Men 65 years and older

**Deaths were overall 22% HIGHER for that time period**

**APPROXIMATELY 8% OF THE POPULATION MIGRATED**

Mortality estimates take into consideration dramatic displacement of people from Puerto Rico between September 2017 and February 2018

**Louisiana hospital staff stayed behind to care for 19 babies as Hurricane Laura hit**

By Christina Ziemann, CNN

- 9 August 2020

---

**STARTUP KNOCKING RETIREMENT INDUSTRY ON ITS HEAD**

- New report finding
- Industry adapting
- Challenges persist

---

**Findings**

- Impact on health systems
- Resilience measures
- Long-term implications
2 Studies of Hospital and Nursing Home Evacuations

• 114 of 158 Hospital evacuations (2000-2017) due to extreme weather events
  • 65 Hurricanes
  • 25 Wildfires
  • 10 Flooding events

• Most frequent states
  • Florida
  • California
  • Texas

• 59% of Nursing Home evacuations (1995-2017) due to extreme weather events
  • 12 Hurricanes
  • 10 Floods
  • 4 Snow/Ice storms

• Most frequent states
  • Texas
  • Louisiana
  • Missouri
  • New York
  • Pennsylvania


Images of this past summer...
Hurricane Ian took over **120 lives** in Florida

- **More than 2/3 of fatalities** were in those age 60 or older

Flooding in Kentucky took **43 lives** and **school had to be delayed** as **thousands** of students remained displaced

OCCHE’s Climate and Health Outlook found that in **7 out of 10 HHS regions**, average heat-related illness rates in 2022 were higher in 2022 compared to the average rates in 2018-2021
The Health Sector Resilience Ecosystem

Towards an Integrated Health Resilience Ecosystem

Impacts of Climate Change on the Health Sector

The Office of Climate Change and Health Equity

The Health Sector Resilience Ecosystem
The Health Sector Resilience Ecosystem

Towards an Integrated Health Resilience Ecosystem

Impacts of Climate Change on the Health Sector

The Office of Climate Change and Health Equity

The Health Sector Resilience Ecosystem
Note: This data represents a majority of hospitals (90 percent or greater) that are dependent on the external product or service.

FIGURE 1—Percent of assessed hospitals dependent upon external products or services, and percent degradation from their loss (Courtesy of DHS and Argonne National Laboratory)
## During Sandy, critical system failures caused evacuations, closures, and reduced services

<table>
<thead>
<tr>
<th>Providers</th>
<th>Impact</th>
<th>Building</th>
<th>Equipment (elevators, Imaging)</th>
<th>Utilities (power, water)</th>
<th>Heating/cooling</th>
<th>Commun-ications/IT</th>
<th>Staff</th>
<th>Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>Evacuations/closures/reduced services</td>
<td>Flooded</td>
<td>Flooded</td>
<td>Back-up failed</td>
<td>Flooded</td>
<td>Phone/internet outages</td>
<td>Staff couldn’t travel</td>
<td>Limited deliveries</td>
</tr>
<tr>
<td>Nursing homes/adult care facilities</td>
<td>Evacuations</td>
<td>Flooded</td>
<td>No back-up power</td>
<td>No back-up (NH) / no back-up (ACF)</td>
<td>No back-up</td>
<td>Phone/internet outages</td>
<td>Staff couldn’t travel</td>
<td>Limited deliveries</td>
</tr>
<tr>
<td>Community-based providers</td>
<td>Closures / reduced services</td>
<td>Flooded</td>
<td>No back-up power</td>
<td>No back-up</td>
<td>No back-up</td>
<td>Phone/internet outages</td>
<td>Staff couldn’t travel</td>
<td>Limited deliveries</td>
</tr>
<tr>
<td>Home-based providers</td>
<td>Reduced services</td>
<td>Disruptions in patients’ homes/residences, e.g. loss of power, elevators not working</td>
<td></td>
<td></td>
<td></td>
<td>Phone/internet outages</td>
<td>Staff couldn’t travel</td>
<td>Delayed deliveries</td>
</tr>
</tbody>
</table>

### What is the risk this could happen again to the same number or even more providers?

Source: SIRR interviews
Learnings from House Ways and Means Committee Report

- Multi-site health systems more likely to have dedicated staff, plan, resources
  - Nursing homes, dialysis centers less likely
- Plans involved tracking forecasts, EOCs, continuity of operations
- Recommendations (federal)
  - Increase HPP funding
  - Support microgrid and renewable energy grids
  - Permit fuel energy cell storage


“Now is the time to focus on making our health infrastructure more efficient and resilient…”

—Chair Richard E. Neal, Press Release Applauding the establishment of the Office of Climate Change and Health Equity, August 31, 2021
The Health Sector Resilience Ecosystem

**Hospital Preparedness Program (HPP)**
- >85% of nation’s acute care hospitals
- 326 Health Care Coalitions (HCC) across the nation
- Secondary facility types optional

**Public Health Emergency Preparedness Program (PHEP)**
- 62 recipients in 50 states, 4 cities and 8 territories
- Funds can be shared with local HD’s, tribes and tribe-serving organizations

**MIND THE GAP!**
Community Health Centers/FQHCs, ambulatory care, residential facilities lack direct support for preparedness

**National Health Security Strategy (ESF-8)**
The Two Sides of Health Systems Approach

Public Health Approach

Resilience

BRACE
Building Resilience Against Climate Effects

01. Protecting the Disease Burden
02. Building Resilience Against Climate Effects
03. Assessing Public Health Interventions
04. Developing and Implementing a Climate and Health Adaptation Plan
05. Evaluating Impact and Improving Quality of Activities

CLIMATE RESILIENCE

Leadership & Governance
Health Workforce
Health Information Systems
Climate Resilient & Sustainable Technologies and Infrastructure
Integrated Risk Management
Climate & Health Research
Management of Environmental Determinants of Health
Health Programs
Climate Resilient Financing
Emergency Preparedness & Management

Building blocks of health systems

Service delivery
Financing
Leadership & governance
Health workforce
Essential medical products & technologies
Climate & health research
Integrated risk management
Management of environmental determinants of health
Climate resilient & sustainable technologies and infrastructure
Health information systems
Leadership & governance

CLIMATE & HEALTH WORKFORCE

CLIMATE & HEALTH RESEARCH

CLIMATE RESILIENT & SUSTAINABLE TECHNOLOGIES AND INFRASTRUCTURE

CLIMATE & HEALTH INFORMATION SYSTEMS

CLIMATE & HEALTH POLICY & REGULATION

CLIMATE & HEALTH FINANCING

CLIMATE & HEALTH PROGRAMS

CLIMATE & HEALTH PREPAREDNESS & MANAGEMENT

CLIMATE & HEALTH RISK ASSESSMENT
The HHS Office of Climate Change and Health Equity

Towards an Integrated Health Resilience Ecosystem

Impacts of Climate Change on the Health Sector

The Office of Climate Change and Health Equity

The Health Sector Resilience Ecosystem
The HHS Office of Climate Change and Health Equity

- Towards an Integrated Health Resilience Ecosystem
- Impacts of Climate Change on the Health Sector
- The Office of Climate Change and Health Equity
- The Health Sector Resilience Ecosystem
Origins of the Office of Climate Change and Health Equity

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
Office of Climate Change & Health Equity (OCCHHE)

Priority 1: Climate & Health Resilience for Most Vulnerable
- Capturing community and health system vulnerabilities and logging adaptation gaps
- Enhancing the resilience of health systems and communities to climate change effects
- Building on existing networks and plans to develop a national plan for health adaptation

Priority 2: Climate Actions to Reduce Health Disparities

Priority 3: Health Sector Resilience & Decarbonization
- Coordinating Federal health system greenhouse gas accounting and reduction targets
- Partnership with private health sector to develop an action plan for reductions via incentives, technical assistance, policy guidance, applied research, toolkits, training, use of regulatory authorities as needed, etc.
The OCCHE “Hub”: Setting Strategy, Coordinating Action

- Communities at highest risk
- Office of Climate Change and Health Equity
- Government Agencies
- Federal Health Systems
- Private Sector
- All HHS Operating Divisions
Overview Driver Diagram for OCCHE

1. Set the Vision and Agenda
2. Build the Evidence Base
3. Train the Workforce
4. Develop Communities of Practice
5. Mobilize Resources
6. Strengthen Incentives and Standards
Federal Health Systems Learning Network

- Convened by OCCHE to accelerate the work of federal health systems to address climate change and health equity
- Identifying best practices in decarbonization and resilience
- Surfacing challenges and addressing them collectively
  - E.g., workforce issues, procurement standards
White House/HHS Health Sector Climate Pledge

1. Reduce organizational emissions by 50% by 2030 and achieve net-zero by 2050, publicly accounting for progress on this goal.

2. Designate an executive-level lead for work on reducing emissions 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 at disproportionate risk of climate-related harm.
### White House/HHS Health Sector Climate Pledge Signees At-a-Glance

<table>
<thead>
<tr>
<th>Total Pledge Organizations</th>
<th>102</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private-Sector Hospitals Represented</td>
<td>837</td>
</tr>
<tr>
<td>Academic Medical Centers</td>
<td>20+</td>
</tr>
<tr>
<td>Hospitals in US (Combined Gov and Private-Sector)*</td>
<td>~16%</td>
</tr>
<tr>
<td>Fortune 500 Organizations</td>
<td>7</td>
</tr>
<tr>
<td>Pharmaceutical Companies</td>
<td>6</td>
</tr>
</tbody>
</table>

*Including federal health systems, over 1,080 hospitals have made the Pledge commitments*
Climate and Health Outlook

Welcome to the ninth edition of the Climate and Health Outlook from the Department of Health and Human Services (DHHS) 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 coming months by climate events and to provide resources to take proactive action. This page includes additional resources and information associated with the PDF summary, including regional prospective forecasts.

Download the Climate and Health Outlook for March 2023 - PDF

U.S. Seasonal Forecast for Health: March 2023
Regional health forecasts for wildfire and drought

In the coming months, the Southeast, most of the Southern Great Plains, and parts of the Southeast will experience temperatures 0.5 – 1.3°F (0.3 – 0.7°C) warmer than normal. The Northeast, Hawaii, and parts of the Midwest will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal. Some of the Northern Great Plains will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal. Other parts of the Northern Great Plains, along with parts of Alaska, the Northwest, and the Southwest will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal, including parts of southern Idaho and eastern Oregon. Warmer winters can cause these and other long-term conditions, aggravating conditions like allergic asthma. Increasing winter temperatures can also contribute to earlier onset of vector-borne diseases like Lyme disease.

Image source: https://www.cdc.gov/media/releases/2023/p0321-forestfires.html

Northern Great Plains: Drought is favored to persist in Montana, North Dakota, South Dakota, and Wyoming. Drought removal or improvement is favored in western Wyoming, and drought removal or favorable conditions are favored in southeastern North Dakota and eastern South Dakota.

Northwest: Drought is favored to persist in much of Oregon and Idaho. Drought improvement and removal is favored in parts of eastern Idaho.

Southwest: Drought is favored to persist in parts of California, Nevada, Utah, Arizona, Colorado, and New Mexico. Drought improvement and removal is favored in parts of California, Nevada, and Utah. Above-normal wildfire potential is favored for much of southern New Mexico.

Southeast: Drought is favored to persist or develop in parts of Texas. Drought is favored to persist in parts of eastern Texas, and drought improvement and removal is favored in parts of eastern Texas. Above-normal wildfire potential is favored for parts of eastern Oklahoma.

Midwest: Drought is favored to persist in parts of Iowa, Minnesota, and Michigan. Drought improvement and removal is favored in parts of Iowa and Minnesota, as well as parts of Michigan.

We thank you for your interest in the Climate and Health Outlook and encourage you to visit our website for more information.

Drought
Wildfire

Climate and Health Outlook

Issued March 2023

The Climate and Health Outlook is an effort to inform health professionals and the public on how our health may be affected in the coming months by climate events and to provide resources for proactive action. An associated multimedia campaign includes additional resources and information.

In the coming months, the Southeast, most of the Southern Great Plains, and parts of the Southwest will experience temperatures 0.9 – 3.6°F (0.5 – 2°C) warmer than normal. The Northeast, Hawaii, and parts of the Midwest will experience temperatures 0.4 – 1.3°F (0.2 – 0.7°C) warmer than normal. Some of the Northern Great Plains will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal. Warmer winters and early spring months can cause earlier and longer allergy seasons, aggravating conditions such as allergic asthma. Increasing winter temperatures can also contribute to earlier onset of vector-borne diseases like Lyme disease.

U.S. Seasonal Forecast for Health: March 2023
Regional health forecasts for wildfire and drought

In the coming months, the Southeast, most of the Southern Great Plains, and parts of the Southeast will experience temperatures 0.5 – 1.3°F (0.3 – 0.7°C) warmer than normal. The Northeast, Hawaii, and parts of the Midwest will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal. Some of the Northern Great Plains will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal. Other parts of the Northern Great Plains, along with parts of Alaska, the Northwest, and the Southwest will experience temperatures 0.4 – 0.6°F (0.2 – 0.3°C) warmer than normal, including parts of southern Idaho and eastern Oregon. Warmer winters can cause these and other long-term conditions, aggravating conditions like allergic asthma. Increasing winter temperatures can also contribute to earlier onset of vector-borne diseases like Lyme disease.

Image source: https://www.cdc.gov/media/releases/2023/p0321-forestfires.html

Northern Great Plains: Drought is favored to persist in Montana, North Dakota, South Dakota, and Wyoming. Drought removal or improvement is favored in western Wyoming, and drought removal or favorable conditions are favored in southeastern North Dakota and eastern South Dakota.

Northwest: Drought is favored to persist in much of Oregon and Idaho. Drought improvement and removal is favored in parts of eastern Idaho.

Southwest: Drought is favored to persist in parts of California, Nevada, Utah, Arizona, Colorado, and New Mexico. Drought improvement and removal is favored in parts of California, Nevada, and Utah. Above-normal wildfire potential is favored for much of southern New Mexico.

Southeast: Drought is favored to persist or develop in parts of Texas. Drought is favored to persist in parts of Kansas and Oklahoma, and drought improvement and removal is favored in parts of Oklahoma. Above-normal wildfire potential is favored for parts of southern and eastern Texas. Above-normal wildfire potential is also favored for parts of eastern Oklahoma.

Midwest: Drought is favored to persist in parts of Iowa, Minnesota, and Michigan. Drought improvement and removal is favored in parts of Iowa and Minnesota, as well as parts of Michigan.

We thank you for your interest in the Climate and Health Outlook and encourage you to visit our website for more information.

Drought
Wildfire
The health effects

County-level risk factors

The forecast

Climate and Health Outlook

Who is at high risk in the counties projected to have drought in February?

As indicated in the map to the left, 1,083 counties across 26 states are projected to have persistent/remaining drought or drought development in February. In these counties, the total population at risk is 109,253,219 people, and of those, 1,326,890 people work in agriculture. Of these counties:

- 360 (33%) have a high number of people aged 65 or over, living alone.
- 364 (34%) have a high number of people living in rural areas.
- 210 (18%) have a high number of people living in poverty.
- 129 (12%) have a high number of people with frequent mental distress.
- 765 (7%) have a high number of adults with asthma.
- 401 (37%) have a high number of people without health insurance.
- 513 (47%) have a high number of uninsured children.
- 137 (13%) have a high number of Black or African American persons.
- 227 (21%) have a high number of people with severe housing cost burden.
- 210 (18%) have a high number of people in mobile homes.
- 176 (16%) have a high number of people with one or more disabilities.

255 (2%) are identified as highly vulnerable by CDC’s Social Vulnerability Index.

*"High number" indicates that these counties are in the top quartile for this indicator compared to other counties.

Figure. The National Weather Service Climate Prediction Center’s Monthly Drought Outlook is issued at the end of each calendar month and is valid for the upcoming month. The outlook predicts whether drought will persist, develop, improve, or be removed over the next 30 days or so. For more information, please refer to drought.gov.

For February, drought is expected to improve over northern California and west-central Oregon, and to persist over the rest of the West, northern Rockies, and Great Plains, with potential drought development over parts of southern and western Texas. Existing drought is expected to improve in parts of eastern Texas to northern South Carolina, Oklahoma, and Arkansas. Drought improvement is favored across much of the Mississippi, Tennessee, and Ohio Valleys. Existing drought conditions across the Southeast are expected to persist with drought development likely throughout the Florida Peninsula by the end of the month. In Hawaii, drought improvement or removal is anticipated across the islands.

Drought can have direct and indirect impacts on health—increasing incidence of illness among people living in the affected area and worsening mental health outcomes as livelihoods are challenged.

Drought Affects Health in Many Ways

Drought increases the risk for a diverse range of health outcomes. For example:

- Low crop yields can result in rising food prices and shortages, potentially leading to malnutrition.
- Dry soil can increase the number of particulates such as dust and pollen that are suspended in the air, which can irritate the bronchial passages and lungs.
- Dust storms can spread the fungus that causes coccidioidomycosis (Valley Fever).
- If there isn’t enough water to flow, waterways may become stagnant breeding grounds for disease vectors such as mosquitos as well as viruses and bacteria.
- Drought’s complex economic consequences can increase mood disorders, domestic violence, and suicide.
- Long-term droughts can cause poor-quality drinking water and leave inadequate water for hygiene and sanitation.

We want to hear from you! Please send your feedback on ways to improve the Climate and Health Outlook to ocdehealth.gov.
Who is at high risk in the counties with above normal wildland fire potential in March?

Wildland fires are occurring more frequently in the United States and pose a health hazard for populations living close to a fire. As indicated in the map to the left, 127 counties across 4 states are projected to have above-normal wildland fire potential in March. In these counties, the total population at risk is 26,543,672 people. Of these counties:

- 28 (22%) have a high number* of people aged 65 or over, living alone.
- 91 (72%) have a high number of people without health insurance.
- 79 (60%) have a high number of uninsured children.
- 82 (60%) have a high number of people with mental illness.
- 26 (20%) have a high number of adults with coronary heart disease.
- 52 (41%) have a high number of people living in poverty.
- 49 (38%) have a high number of people with disabilities.
- 55 (42%) have a high number of people in mobile homes.
- 36 (28%) have a high number of people with one or more disabilities.
- 66 (52%) are identified as highly vulnerable by CDC's Social Vulnerability Index.

90% of the counties are in the top quartile for this indicator compared to other counties.

90% more acres than average. The Southern California and Northwest Areas (OR and WA) were near their 10-year average for numbers of fires. However, in 2022, California accounted for the highest number of structures lost to wildfire in one state, including 492 residences. The other Areas in the country were noticeably lower than their 10-year averages for fire occurrences. For more information, see the NIFC Wildland Fire Summary and Statistics Annual Report 2022.
OCCHE Agenda for the coming year….

- HHS Climate Change and Health Equity Strategy Development
- Expanding awareness of resources through White House/HHS Health Sector Climate Pledge, IRA “Quickfinder” for the health sector, and other public-private initiatives
- Partnership with federal health systems on decarbonization and resilience
- Creation of geospatial platform for OCCHE Climate and Health Outlook
- Revised Health Care Facilities Resilience Toolkit
- “Summer Suite” of Resources for Bedside Clinical Care Coordination
Towards an Integrated Health Resilience Ecosystem
Towards an Integrated Health Resilience Ecosystem

- Towards an Integrated Health Resilience Ecosystem
- Impacts of Climate Change on the Health Sector
- The Office of Climate Change and Health Equity
- The Health Sector Resilience Ecosystem
Components of an integrated resilience ecosystem

- Tools and TA
- Data, surveillance, measures, research
- Workforce Training
- Revised Policy and Program
- Funding
Support for Community Health Centers’ Climate Resilience

• HRSA National Training & Technical Assistance Partnerships
  ▪ Preparedness for Emergencies and Environmental Impacts on Health

• Workforce training

• Support for solar backup power & access to community solar

• Integrate protection from climate-related hazards in clinical care coordination to address SDOH

• Incorporate safety net health services in community climate resilience hubs
# SCRHCFI Version 2.0

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Current Version</th>
<th>Planned Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding exposure</td>
<td>Background information on climate-related threats</td>
<td>Updated studies, illustrations and links to dynamic mapping tools</td>
</tr>
<tr>
<td>Assessment</td>
<td>Static PDFs and Excel Files for self assessment</td>
<td>Updated assessment questions to determine strengths and gaps; customization for facility types, populations served</td>
</tr>
<tr>
<td>Investigating options for actions</td>
<td>Potential actions and case studies</td>
<td>Updated case studies and connections to new resources (e.g., funding, IRA incentives and technical assistance)</td>
</tr>
<tr>
<td>Prioritizing and planning</td>
<td>Tools and templates to prioritize action</td>
<td>Listing of suggested actions</td>
</tr>
<tr>
<td>Taking action</td>
<td>Instruction on improvement and implementation science</td>
<td>Tools to measure improvement and progress; access to peers and experts</td>
</tr>
</tbody>
</table>
Inflation Reduction Act: Potentially Relevant Incentives, Grants and TA

• Mitigation (examples)
  • Commercial Buildings Energy Efficiency
  • Zero-emission Technology Community Grants
  • Low Emissions Energy Program (LEEP)
  • Incentives to Update Building Codes (State/Local gov.)

• Adaptation (Examples)
  • Environment and Climate Justice Block Grants
  • Coastal Community Grants
  • Funds for drought resilience in 17 Western (Reclamation) States
  • Air Quality monitoring in low-income communities
“Climate-Health Resilience Hub”

- Climate information, education, and civic engagement (esp. youth)
- Place-based, trusted location(s)
- Clinical and/or public health services (or has direct links/referrals)
- Local control and locally-identified needs.
- Linked to local hazard mitigation plan. Resources during disruptions, e.g.: power, broadband, heating/cooling, clean air, water
- Year-round community benefits

Slide courtesy of Drs. Jason Wilken and Michael Huff
Towards an Integrated Health Resilience Ecosystem

Impacts of Climate Change on the Health Sector

The Office of Climate Change and Health Equity

The Health Sector Resilience Ecosystem
Questions?

- Towards an Integrated Health Resilience Ecosystem
- Impacts of Climate Change on the Health Sector
- The Office of Climate Change and Health Equity
- The Health Sector Resilience Ecosystem
Thank you!

Contact us: OCCHE@hhs.gov

Visit us online and sign up for our listserv at www.hhs.gov/ocche