

Session: Protecting Mental Health during Extreme Weather and Climate Change



Welcome! As you settle in, introduce yourself to the person next to you and reflect on the below:

How has extreme weather and climate change impacted mental health in your community?

Examples: floods or power outages due to storms; wildfire smoke; air quality concerns; heat waves; longer season for ticks; warmer winters; less snow; less ice coverage

Protecting Mental Health during Extreme Weather and Climate Change

MALPH 2024

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Agenda

1. Climate Trends in Michigan
2. Climate and Mental Health Pathways
3. Mental Health Outcomes
4. Discussion: Opening Reflection Question
5. Example Interventions to Address the Issue
6. Discussion: Your Local Health Priorities
7. Resources for You
8. Questions

Climate Trends

Climate Change in the Great Lakes Region

GLISA
A NOAA RISA TEAM

Average
Temperature



2.5°F

1951-2021

Michigan 1951-2021
2.6°F

Frost-free
Season



16 Days

1951-2021

Total
Precipitation



16%

1951-2021

Michigan 1951-2021
15%

Heavy Precipitation
Events



37%

1991-2020 v. 1951-1980



“Father’s Day Flood” – up to 7” of rain in 9 hours,
1,000-year flood event

Houghton, 2018



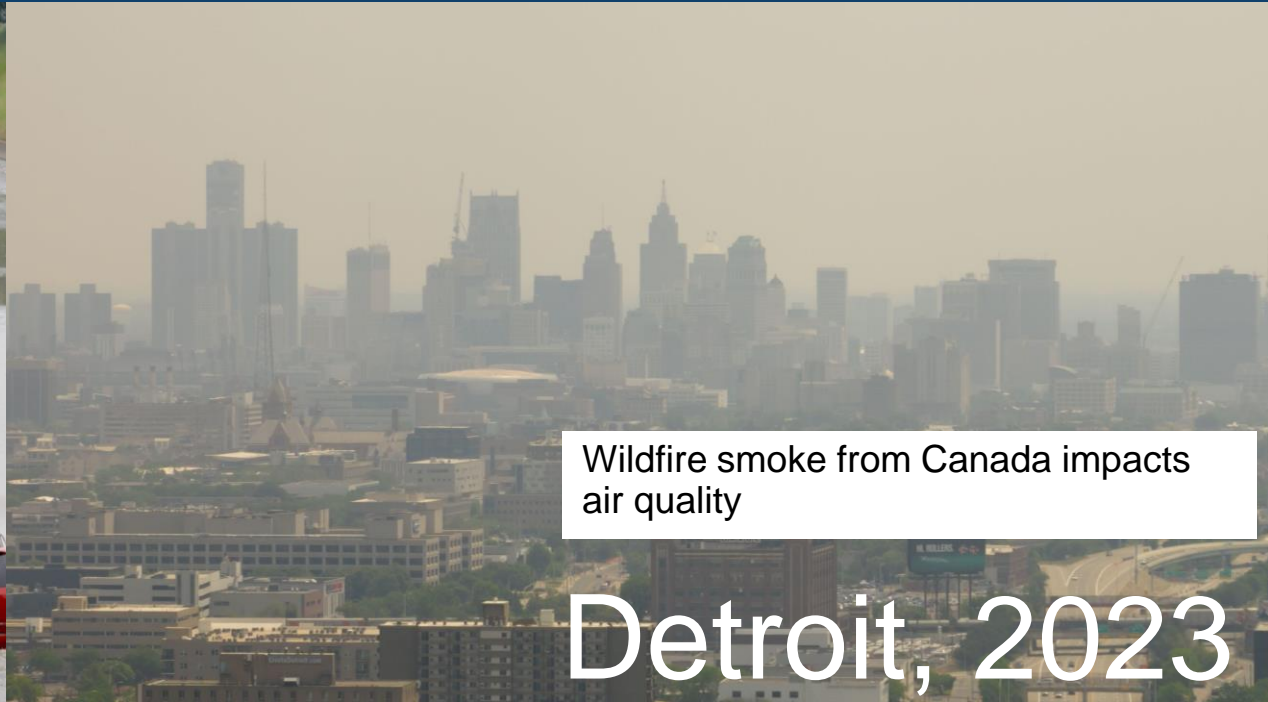
4-7” of rain in 48 hours, 500-year flood
event

Midland, 2020



7” of rain in 4 hours, 100-year flood event

Southeast MI, 2021



Wildfire smoke from Canada impacts
air quality

Detroit, 2023

Climate and Mental Health Pathways

| Long-Term Change | Acute Events |
|---|---|
| <p>Concern for the global impact of climate change</p> <p>Concern for the personal impact where you live</p> <p>Slower-onset events such as sea level rise; annual average temperature rising impacting seasons</p> | <p>A single extreme weather event</p> <p>Cascading disasters (ex. flooding > power outage)</p> <p>Concurrent disasters (ex. heat and wildfire smoke)</p> <p>Repeated disasters</p> |

Mental Health Outcomes

Solastalgia: a profound sense of loss of connection and detachment from a changing environment that is noticeably different from what they are used to.

“ Well I guess we're coming into our fifth year of the drought . . . B [daughter-in-law] and I, um, our gardens have had to die because our house dam has been dry . . . so it's very depressing for a woman because a garden is an oasis out here with this dusty . . . that's all gone, so you've got dust at your back door. (Female farmer)

. . . in living history there hasn't been a drought that's lasted like this one has, it's just phenomenal . . . almost so that we're used to it. [laughs] You know, you've sort of almost forgotten what to do in a good year. (Male farmer)

Mental Health Outcomes

Solastalgia

Bridge
MICHIGAN

Michigan's nonpartisan, nonprofit news source

Climate change is erasing Michigan winters, taking our heritage with them



Disappearing winters threaten Michiganders' collective identity, said Langston... "We're northern people who have chosen to live in a cold, remote place at the edge of the universe. And people who live here are really proud of that." For generations, that pride has inspired celebrations across the state – from mid-winter celebrations in the UP honoring Finnish snow gods, to polar plunges in Houghton Lake, ski contests in Traverse City, snowmobile races on Lake St. Clair and snurfing – a precursor to modern snowboarding – in Muskegon.

"Honestly it just kind of hurts." Piper said. There's nowhere else that I'd want to live other than Michigan, and that's specifically because of the seasons."



Mental Health Outcomes

Eco-anxiety: a chronic fear of environmental doom ranging from mild stress to clinical disorders like depression, anxiety, post-traumatic stress disorder



So I used to enjoy hearing the sound of rain, it was very calming, relaxing, and helped put me to sleep. Now it's the source of great anxiety. It rained yesterday and the day before and the first thing I do is look in my basement, or if it's pooling in the streets, because if it's pooling in the streets then the system is not acting right and potentially could be a problem.



Mental Health Outcomes

Extreme Heat and Mental Health

May lead to increases in suicide and hospital admissions for people with psychiatric conditions.

Increased risk for heat-related illness while taking some anti-psychotics and anti-depressants.

Increased risk for heat-related illness with illicit drug use (ex. cocaine or amphetamines).



Mental Health Outcomes

Air Quality and Mental Health

PM2.5 exposure associated with depression, anxiety and suicide risk.

Poor air quality can also exacerbate existing health conditions (ex. asthma; cardiovascular disease) and add to stress.

Mental Health Outcomes

Climate Change: A Risk Multiplier

Climate change can amplify risk for those with existing mental health conditions.

Example:

An older adult with severe and persistent mental illness may experience more isolation and limited social support, possibly making them more susceptible to extreme weather events.

Interventions: Federal Resource



Emergency Preparedness and Response

Search



🏠 Emergency Preparedness and Response

Protect Yourself and Loved Ones

Prepare Your Health

Shelter In Place

Coping with a Disaster or Traumatic Event

Taking Care of Your Emotional Health

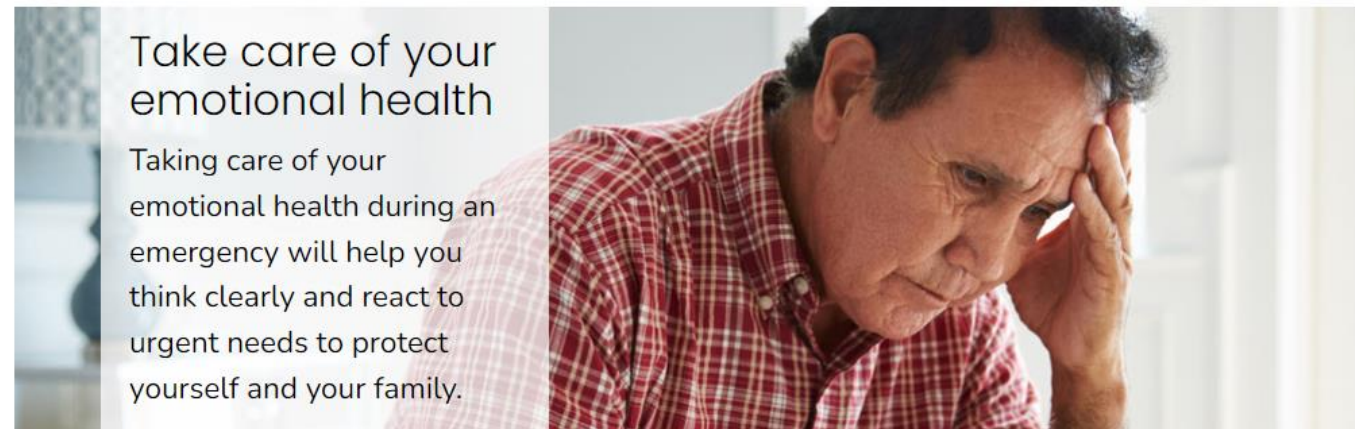
Helping Children Cope

Response Resources for Leaders

Coping with a Disaster or Traumatic Event

[Español \(Spanish\)](#) | [Print](#)

emergency.cdc.gov/coping



During and after a disaster, it is natural to experience different and strong emotions. Coping with these feelings and getting help when you need it will help you, your family, and your community

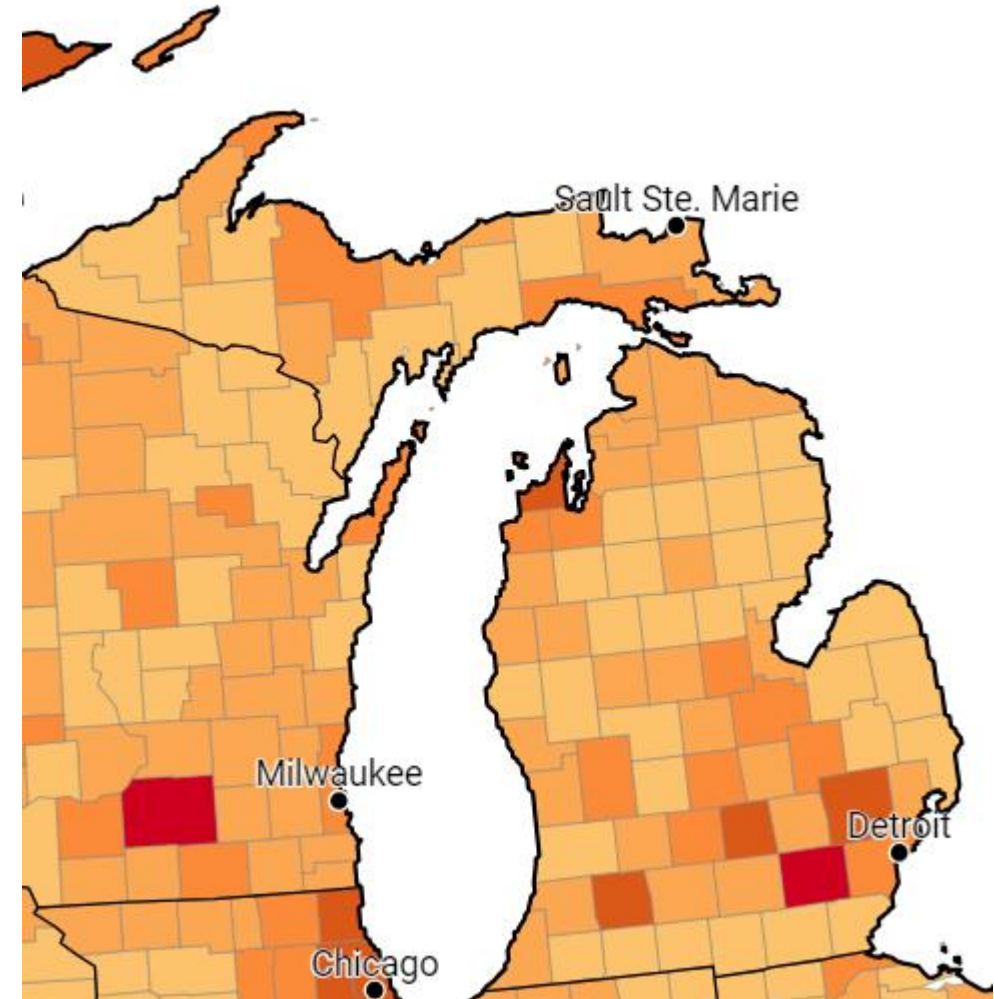
Interventions: State Level

Principles in Communication and Health Education:

- Building community care
- Recognizing the emotional toll and surfacing those emotions.
- Connecting to personal experiences
- There is hope in action

Beginning Work:

- "Talk About It" comic series
- Social media posts highlighting checking in on others
- Behavioral Risk Factor Surveillance System (WA)
- More materials in the works



Example: Community Care

PREPARING FOR FLOODS: MANAGE STRESS AND INCREASE SAFETY



Climate change is increasing the risk of flooding in Michigan. Heavy rainstorms are becoming more common and annual precipitation (snow, rain, ice) is likely to increase.¹ Preparing for these events can help individuals, families and communities to better cope with, and recover from, flooding. Two other documents provide more information about how to stay safe *during* and *after* a flood:

- [Staying Safe During a Flood](https://bit.ly/During-Floods) (URL: bit.ly/During-Floods)
- [Staying Safe After a Flood](https://bit.ly/After-Floods) (URL: bit.ly/After-Floods)

Extreme weather events and stress

People affected by flooding often experience high levels of stress and anxiety. Stress and anxiety can last a short time or continue for months or years after a flood. Anxiety brought on by floods and other effects of climate change can lead to long-term depression, post-traumatic stress disorder and increased aggressive behavior and domestic violence.²

Preparing in advance of an extreme weather event can help to protect physical safety and reduce stress and anxiety. This document provides basic information on how to prepare for floods to give yourself, your family and your community a better sense of security.

Who is most at-risk during a flood?

Some people may be less able to cope with or bounce back from a flood. Planning how to help those who will need extra support before a flood happens can reduce anxiety and stress. People who are more at risk include:

- People over 65.
- Infants and children.
- Pregnant and postpartum people.
- People with limited mobility.
- Low-income individuals and families.
- People who live alone.
- People without strong social networks.
- People with mental health conditions.
- People with limited English proficiency and some immigrant groups.
- People who are geographically isolated or under-resourced areas.

Help Others

Know how you'll help people and pets who normally rely on you.



Summers are getting hotter in Michigan. High temperatures can be especially dangerous for some vulnerable groups.



Prepare for extreme heat by learning what resources your community provides and checking with family and friends that may need extra help.



Learn more about how you can prepare for the heat at michigan.gov/climateandhealth




Emphasizes the need to check in with people that may need extra help.

Examples: Surfacing emotions, connecting to personal experiences, hope in action

Climate Change and Emotional Resilience

Climate change is taking a toll on our mental health. Research by the Yale Program on Climate Change Communication found that 62% of Michiganders are worried about climate change.*

How does climate change make you feel?
Take a sticky dot and place it next to one or two emotions that you feel and associate with climate change.



The Climate Emotions Wheel is a circular diagram divided into 20 segments, each representing an emotion. The segments are: Indignation, Outrage, Frustration, Betrayal, Disappointment, Despair, Loneliness, Loss, Depression, Grief, Shame, Guilt, Worry, Anxiety, Powerlessness, Panic, Overwhelm, Hope, Gratitude, Empathy, Inspiration, Empowerment, and Interest. The wheel is color-coded, with red and orange for negative emotions, blue and green for positive or coping emotions, and purple and yellow for mixed or complex emotions.

Climate Emotions Wheel adapted from the Climate Mental Health Network. Learn more at climatementalhealth.net/
* Yale Program on Climate Change Communication, Climate Opinion Maps at climatecommunication.yale.edu/visualizations-data/ycom-us/


How are you building emotional resilience to climate change?

One way to deal with the mental health impacts of climate change is to "create hope through action."
Building individual and community emotional resilience can be fostered by:

- Recognizing feelings associated with climate change, and,
- Understanding how individual and community actions can help build emotional resilience.

Use a yellow post-it note to write down an action that you are taking that helps you to cope with climate change.

Use a blue post-it note to write down an action that your community, as you define it, is taking that gives you hope.



The board features two large vertical columns for writing actions. The left column is associated with a yellow sticky note and the right with a blue sticky note. The board is part of an interactive display at a community event.

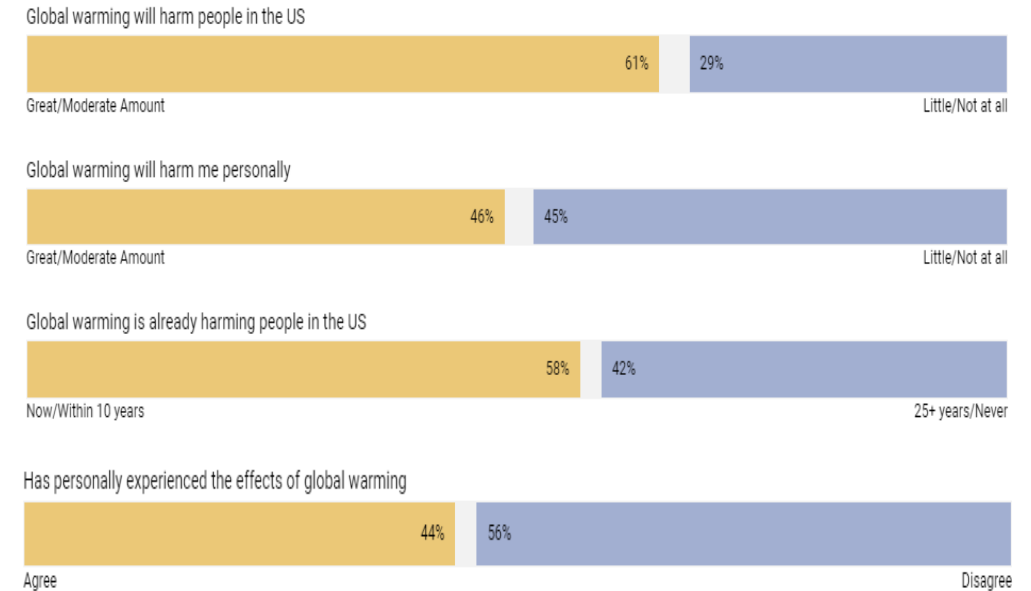


Example: Connecting to Personal Experience

How is health in your community affected by climate change?

Use a sticky note to write climate-related health effects you've seen or experienced and post it on the map. The list below provides some ideas of what health effect goes with which climate change impact.

- Heat**
 - Heat exhaustion and heat stroke.
 - Strain on people with pre-existing conditions.
 - Stress on heart and kidneys.
- Increased Precipitation and Flooding**
 - Waterborne illness from polluted drinking water, which may result from flooded wells, sewer overflows, and failing septic systems.
 - Breathing difficulties or asthma due to mold.
- Extreme Weather**
 - Power outages and carbon monoxide (CO) poisoning.
 - Power outage and inability to use medical devices or refrigeration.
 - Injury and accidents due to unsafe conditions.
 - Stress or other mental health impacts.
- Worsening Air Quality**
 - More pollen over longer periods of time lengthens allergy season.
 - Heat interacts with pollution and worsens air quality, triggering asthma attacks.
- Milder Winters**
 - Creates more favorable conditions for ticks and mosquitoes that can carry vector-borne disease.
- Other, for impacts not mentioned**



Howe, P., Mildenberger, M., Marlon, J., & Leiserowitz, A. (2015) "Geographic variation in opinions on climate change at state and local scales in the USA," [Nature Climate Change](https://doi.org/10.1038/nature23426).

<https://climatecommunication.yale.edu/visualizations-data/ycom-us/>

Interventions: Local Level

- ❑ Community Health Needs Assessment
- ❑ Focus Groups
- ❑ Emergency Planning Documents and Actions ([NACCHO Info](#))
 - ❑ Storms, Floods, Power Outages, Heat, Cold, Drought, Vector-Borne Disease (ticks and mosquitos), Poor Air Quality Days
- ❑ Community Outreach: before and during extreme weather events, especially for those living with mental illness

Your Local Health Priorities

1. How does your local health department address mental health issues? Even if it's not climate related.
2. Is mental health and environmental health included in your community health needs assessments? How?
3. Have you talked to local mental health partners or providers about the impact of extreme weather and climate change on their patients?
4. Is mental health included in your weather-related disaster response plans? Is it incorporated in other areas?
5. How would you like the state to support your climate and mental health work?
 - MICHAP can offer: meetings/consultations; presentations; factsheets; talking points; climate and health data snapshot at the county level; share spotlights of great work being done at the local level

RESOURCE: Organizations

1. [Climate Psychology Alliance \(North America\)](#)
2. [Climate Psychiatry Alliance](#)
3. [Climate Mental Health Network](#)
 - [Tips and Worksheets](#)
4. [All We Can Save](#)
5. [Good Grief Network](#)
6. [American Psychological Association: CE Credit Article](#)

RESOURCE: Data Tools

Mental Health

- [County Health Rankings](#)
- [Mental Health and Our Changing Climate - ecoAmerica](#)

Heat

- [NWS HeatRisk](#) (best for planners and responders)
- [CDC HeatRisk](#) (best for the general public)
- [CDC Heat and Health Tracker](#)
- [AIHA Heat Stress Mobile App](#)
- [MiOSHA Heat Resources](#)

Flooding and Power Outage

- [Neighborhoods at Risk](#)
- [HHS emPOWER Map](#)

Air Quality

- [Airnow.gov](#)
- [Fire and Smoke Map](#)

General

- [FEMA National Risk Index](#)
- [Resilience.climate.gov](#)
- [YPCCC Climate Opinion Map](#)

RESOURCE: Technical Assistance



Collaborate with local partners, MSU School of Planning, Design and Construction, MSU Extension and MDHHS to identify climate and health vulnerabilities in your community and develop an adaptation plan, including landscape designs, to address the issue.

[LEARN MORE AND APPLY](#)

Examples of previous projects: shoreline restoration; flood mitigation; increasing walkability and public use of natural spaces

RESOURCE: MICHAP Materials

Program Webpage

- michigan.gov/climateandhealth

Heat and Cold

- [Cold Factsheet](#)
 - [Spanish](#)
- [Heat Factsheet](#)
 - [Spanish](#), [Bengali](#), [Arabic](#)

Seasonal Resource Packets

- [Fall and Winter](#)
- [Spring](#)
- [Summer](#)

Flooding and Power Outage

- [Preparing for Floods](#)
- [During a Flood](#)
- [After a Flood](#)
- [Carbon Monoxide](#)

Air Quality

- [Wildfire Smoke Webpage](#)
- [Wildfire Smoke Factsheet](#)
- [Activity Guidance for Everyone](#)
- [Activity Guidance for Schools](#)

Questions?

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