



Environmental Health Policy Fact Sheet

Climate Change, Extreme Heat, and Health

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The Detroit Climate Action Collaborative (DCAC) is a group of businesses, universities, community-based organizations, government representatives and community residents working together to reduce the burden of climate change.

*This fact sheet was developed by DCAC in collaboration with the Community Outreach & Engagement Core (COEC) of the University of Michigan Lifestage Environmental Exposure & Disease (M-LEEaD) Center**

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Why is Climate Change Important to Public Health?

Climate change is altering weather and climate patterns. These changes could affect human health in direct and indirect ways, sometimes severely.^{3,5}

The American Public Health Association and World Health Organization call climate change '**one of the most serious public health threats**' facing us today.^{1,2}

How is Climate Change & Extreme Heat Impacting Michigan?

Temperatures are rising. Heat waves are becoming more frequent. According to projections, Detroit could experience as many as 65 days per summer with high temperatures above 90° toward the end of the century.^{3,5}

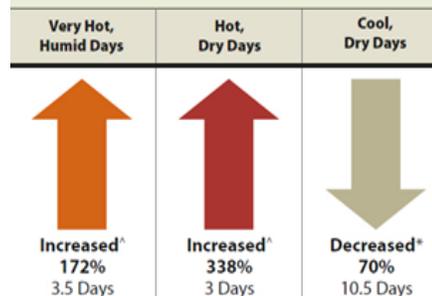
In southeast Michigan there are many 'urban heat islands'— areas with significantly warmer temperatures due to human activities in the built environment, such as heavy use of concrete.³



Source: Long Term Ecological Research Network

DAILY SUMMER WEATHER TRENDS

Very hot, humid days and hot, dry days are both dangerous to human health, while cool, dry days bring relief from the summer heat and humidity.



The changing frequency of summer weather patterns from 1959-2011.

Source: Great Lakes Integrated Sciences Assessments (GLISA)

In August 2003, Europe experienced a fatal record-breaking heatwave. More than 20,000 people died due to this extreme heat. Not only were the physical effects on the environment astonishing, but it also had great human effects. People experienced heat-strokes, dehydration, sunburn, air pollution which contributed to deaths and even drownings when people tried to cool off in rivers and lakes.⁴

Experts estimate that if Detroit suffered the same extreme heat conditions that Europe did in the summer of 2003, it would experience over 450 excess deaths throughout the course of such a summer.³

What Heat-Related Health Effects Can We Expect for Detroit?

Detroit is extremely vulnerable to climate change and already disproportionately experiences compromised health compared to the rest of the state.⁵ There are many health related implications due to rising temperatures. These include:

- **Chronic Obstructive Pulmonary Disease**
 - ◇ Definition: a group of lung diseases that block airflow, making it difficult to breathe.
 - ◇ This can be worsened due to increasing air pollution or extreme temperatures.
- **Asthma**
 - ◇ Chronic respiratory illness that inflames and narrows the lungs' airways making it difficult to breathe, affecting both children and adults. This is a problem that is exacerbated due to increasing temperatures.
 - ◇ In Detroit, the current prevalence of asthma among adults is 50% higher, and rates of asthma hospitalization are three times higher than those of Michigan as a whole.⁷
- **Fatalities** related to severe weather events and heat waves
- **Allergic symptoms** related to increased allergen production

What Does this Mean For Me and My Community?

According to the CDC, here are some steps you can take when the weather gets hot to protect your health:

- Stay hydrated. Drink water. Avoid sugary & alcoholic beverages.
- Stay indoors and in an air-conditioned place. If your home does not have air conditioning, go to the mall or public library.
- If you are outside, limit your outdoor activity to morning and evening hours.
- Watch the local news to find out where there are cooling centers in your area.
- Wear lightweight, light-colored, loose-fitting clothing.

Here are some steps you can take to protect your neighbors, friends, and family:

- Check on seniors or individuals who are disabled or live alone during extreme heat events
- Be aware of local extreme weather warnings and share information about cooling centers
- Learn about climate change and support local efforts like the Detroit Climate Action Collaborative

**BEAT THE HEAT:
Extreme Heat**

Heat related deaths are preventable

<p>WHAT:</p> <p>Extreme heat or heat waves occur when the temperature reaches extremely high levels or when the combination of heat and humidity causes the air to become oppressive.</p>	<p>WHO:</p> <p>More males than females are affected</p> <p>Children Older adults Outside workers</p>
<p>WHERE:</p> <p>Houses with little to no AC Construction worksites Cars</p>	<p>HOW to AVOID:</p> <p>Stay hydrated with water, avoid sugary beverages Stay cool in an air conditioned area Wear light-weight, light colored, loose fitting clothes</p>

Source: Centers for Disease Control & Prevention

Citations available at: ehscc.umich.edu/wp-content/uploads/Extreme-Heat-Fact-Sheet_citations.pdf



*Developed in collaboration with the Community Outreach & Engagement Core (COEC) at the Michigan Lifestage Environmental Exposures & Disease (M-LEEAD) Center, which promotes multi-directional communication among UM environmental health researchers, public health decision makers, and communities. Researchers work together to advance knowledge of environmental health issues that affect community members in Detroit and Southeast Michigan. More information can be found at www.ehsc.umich.edu, or by contacting Carol Gray, Project Coordinator, at (734) 764-8632 or ccbgray@umich.edu. Special thanks to Sarah Bellaire and Jessica Doan, who developed this fact sheet.

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