

Extreme heat in Indiana

Extreme heat is the deadliest weather hazard in the US, responsible for more fatalities each year than hurricanes, tornadoes, and flooding.

Over the next three decades, average temperatures in Indiana are projected to rise about 5 to 6 degrees Fahrenheit due to climate change. With these changes, the frequency, duration, and intensity of heat waves are expected to increase across the Midwest.

In order to protect Hoosiers from the health impacts of extreme heat, communities must recognize the risks posed by summer heat waves and make plans to protect residents and reduce the need for medical intervention.

Who is most at risk?

The effects of extreme heat, including heat exhaustion and heat stroke, are not felt equally across the population. Groups that are more vulnerable to extreme heat include:

- People who work outside, lack access to air conditioning, or are experiencing homelessness
- Low-income communities and communities of color
- Infants, young children, pregnant women, and the elderly
- People who are sick, overweight, or suffer from health conditions such as heart disease or mental illness



5 to 6 degree increase in Indiana's average annual temperatures projected by 2050.¹

38 to 51 days at or exceeding 95 degrees projected for Southern Indiana by mid-century, more than five times the historical average.¹

105 degrees: the projected average hottest days of the year in Indiana by 2050, about 8 degrees higher than average compared to the past century.¹

400 percent increase in the number days Hoosiers will need cooling projected by the 2080s compared to the previous century.¹

702 average annual deaths due to extreme heat recorded in the US between 2004 and 2018.²

1 Indiana Climate Change Impacts Assessment

2 Centers for Disease Control and Prevention



For more information, visit eri.iu.edu or contact the Environmental Resilience Institute at eri@iu.edu.

How can communities prepare for extreme heat?

Local governments and community leaders can take action to reduce the risks posed by hot days and nights to residents. Here are a few important ones:

Conduct a heat vulnerability assessment to identify local areas and populations that are most likely to be impaired by extreme heat.

Develop a heat management plan that includes strategies and procedures for responding to periods of extreme heat. Plans can include preventative measures, such as expanding the local tree canopy, as well as emergency measures, such as 24-hour cooling centers.

Raise awareness among local stakeholders, especially vulnerable populations, to alert residents to the risks posed by extreme heat, symptoms of heat-related illness, and actions to take on high-heat days. Communities can also knock on neighbors' doors and implement warning systems to inform residents when an extreme heat event is going to occur.

Implement cooling infrastructure—infrastructure designed to provide shade and reflect sunlight—to reduce ambient air temperatures and heat absorption. Examples of cooling infrastructure include urban trees, green and white roofs, cool coatings on pavements and buildings, pervious pavement, and parking lot shading.

Did you know...

Temperatures on a hot day can vary widely between nearby urban and rural areas. Sparse vegetation, heat-absorbent asphalt and concrete, and poor air flow all contribute to the “heat island” effect that can make cities significantly hotter than other areas.



Beat the Heat program

To help local governments in Indiana develop and implement heat relief strategies and response protocols, ERI and the Indiana Office of Community and Rural Affairs launched the “Beat the Heat” program in Spring 2021, selecting Clarksville and Richmond for the two-year intervention.

The program provides each community with a full-time heat relief coordinator to lead efforts in gathering and analyzing local heat data, developing and implementing heat relief strategies, engaging community stakeholders, and educating residents on the risks posed by extreme heat.

To learn more about the program, go to <https://go.iu.edu/3Q6R>.