



Climate Change in Illinois: Public Health

As emissions rise, environmental changes as a result of climate change—including heat waves, floods, droughts, and worsening air quality—will negatively impact the health of Illinois communities across the state, from urban to rural. However, these public health impacts will not be felt equally. Outcomes will depend on where you live as well as other factors that can increase vulnerability to climate impacts, such as race and socioeconomic status.

An Increasingly Vulnerable Illinois

Heat-related illness: High outdoor temperatures—particularly in combination with high humidity and high nighttime temperatures—can cause a variety of heat-related illnesses, ranging from mild heat rash to more concerning illnesses, like heat exhaustion and heat stroke.

Health impacts of flooding: The increase in likelihood of heavy precipitation events will cause more flooding and runoff in Illinois, resulting in an increased risk of water-borne infectious diseases, mold exposure, injuries, and emotional distress from the flooding of homes and businesses.

Asthma and allergies: Levels of mold, pollen, and ozone pollution are expected to increase and the pollen season is projected to lengthen, resulting in more severe respiratory allergies and more frequent asthma attacks.

Vector-borne diseases: Rising temperatures and increasing precipitation are already creating conditions that permit mosquitoes and ticks to survive in previously unsuitable locations. The biting season is also projected to lengthen, increasing vector-borne diseases, such as Lyme disease and West Nile virus.

Impacts on mental health: More severe weather events will exacerbate existing mental illness and increasingly affect the mental health and wellbeing of people. Some groups face higher mental health risks from climate-related events, such as farmers who rely on the weather for dependable yields, or first responders who directly confront the impacts of natural disasters.

Variable community vulnerability: Climate change is expected to exacerbate existing stressors and health disparities, likely with worse impacts in low-income communities and communities of color.

Economic impacts: Economic assessments indicate substantial costs due to increases in climate-sensitive health conditions and highlight the potential benefits of taking action now to mitigate and adapt to climate change.

Pathways Forward

Communities, both rural and urban, can better prepare for the health effects of climate change by integrating climate change information into public health strategies. It is important to consider climate change in public health planning processes; to educate medical professionals on the climate change impacts to health; to improve built and green infrastructure for better health outcomes; and to create strategies that address climate change and health through an equity lens.

The Nature Conservancy's Contributions

Nature-based Solutions

Research from around the world increasingly shows the value of nature and green infrastructure to public health, with benefits for both communities and individuals. A reciprocal relationship exists among the health of individuals, communities, and ecosystems. Floodplain restoration, expanded greenspace, and green infrastructure (e.g., bioswales) can reduce flood risk and flood-related health impacts. Vegetation, and especially trees, provides shade and reduces temperatures, reducing heat-related emergencies and deaths. Plants also filter airborne particulates, which reduces respiratory disease. Importantly, nature and open spaces provide venues for social interactions that can foster community cohesion, and access to and engagement with nature can enhance physical and mental health.

TNC and our partners are using nature-based solutions to address the public health impacts of climate change. For example, we are working with partners on the Far South Side of Chicago to help communities increase the tree canopy for better air quality and reduced summer heat through the Imani Green Health Advocates program. In suburban Cook County, we are helping communities participate in the Metropolitan Water Reclamation District's stormwater credit trading program to help fund new stormwater natural infrastructure in the most vulnerable communities, a project known as StormStore™. TNC also works across Illinois and throughout the Mississippi River Basin to expand floodplain restoration efforts.

Chicago Greenprint

TNC created Chicago Greenprint to identify where nature-based solutions can alleviate challenges related to climate change in Cook County's communities. Chicago Greenprint is a mapping tool that analyzes multiple layers of data to determine which neighborhoods are at highest risk for climate change impacts, including flooding, poor air quality, and excessive heat. It considers data on which areas are home to high concentrations of youth, older adults, and low to moderate income families, who are particularly vulnerable to these impacts. The tool can be used by communities and other stakeholders to understand the risks they face and to identify areas that could benefit from green infrastructure, such as rain gardens, bioswales, and additional greenspace. To learn more about Chicago Greenprint, visit our [storymap](#).



Learn more about climate change in Illinois in the report, *An Assessment of the Impacts of Climate Change in Illinois*, on our [website](#).

