

HEALTH

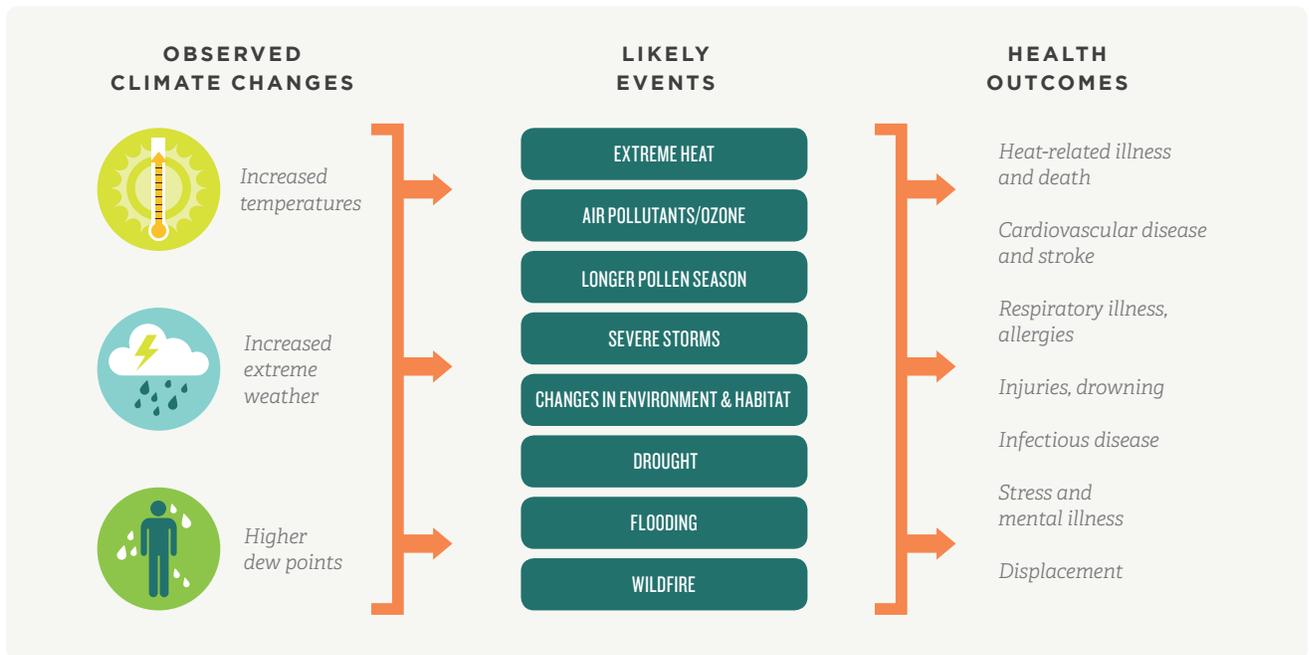
With more powerful and intense weather events upon us today, human health is now a leading climate change issue. Extreme weather increases flooding, overwhelming storm water systems and potentially contaminating recreational and drinking water, which may be in short supply due to drought. Heat illness, respiratory problems, food security and property loss add to the list of concerns among public health officials. Minnesotans can learn about climate-induced health risks, and towns and cities statewide can make changes that build their resilience and improve their communities.

WHAT'S HAPPENING?

Climate Cause and Effect: When Health Professionals Get Involved

How people's health is affected by climate change can be as complex as it is overwhelming. Obvious problems are heat stroke and exhaustion; injuries sustained from extreme weather; or asthma aggravated by poor air quality. But what about food safety or an influx of heat-loving, disease-carrying ticks and mosquitoes?

Climate change impacts human health in many ways, including extreme heat, water and air quality, agriculture and food security, and mental health. Some populations are more vulnerable than others, including children, the elderly, and people living in poverty. They are particularly susceptible or lack resources to respond to bad air days, heat waves or storms.



LOOKING AHEAD

With powerful storms forecasted for years to come, towns are investing in safety and taking steps to reduce future damages. The Division of Homeland Security and Emergency Management (HSEM) helps towns envision their future, offering grants and planning resources for “mitigation measures” that reduce or eliminate the severity of future disasters. For example, when a 1,000-year flood hit Zumbro Falls in 2010—its fourth significant flood since 1970—community leaders had enough. The town of 200 secured \$1.9 million in city, state and federal funds to buy out 14 homeowners and one business on “Water Street,” preventing future damage and protecting residents. The green space now provides an area for community festivals and cultural events, showing that good can come from painful changes. Also with HSEM’s help, Wadena-Deer Creek added a tornado-safe room to its school. And, Moorhead secured a new water pumping system so water is safe to drink during the Red River Valley’s flood season.

By the Numbers



Estimated damages from air pollutants emitted by electricity generation each year. These pollutants cause most harm to humans near the source who suffer from asthma and cardiovascular disease.



Estimated damages to property in Minnesota due to extreme weather between 2000 and 2012.

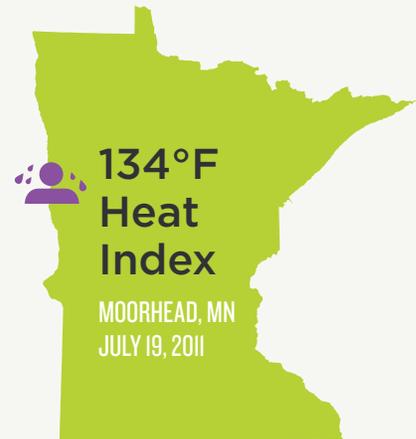


The number of heat-related emergency room visits in 2011 statewide, 168 more than the previous decade's high of 1,087 visits (2001).

Keeping Our Cool When Heat Hits

When Moorhead was the hottest place on Earth with a heat index of 134°F on July 19, 2011, only two Minnesota public health departments had a heat-response plan. That summer, five heat episodes resulted in heat advisories or warnings, and the number of emergency department visits statewide alarmed state health officials. To help prepare communities, the Minnesota Department of Health developed the **Minnesota Extreme Heat Toolkit**, offered online and through trainings. The agency also helps communities map populations that are vulnerable to heat-related illness against other risk factors, such as lack of resources. For example, the Minneapolis Health Department and the Minnesota Department of Health used Geographic Information System (GIS) maps to pinpoint where Minneapolis residents could access a public building with air conditioning during a heat wave.

HOTTEST PLACE ON EARTH



Improving Our Air Quality

A 2001 state law allowing Minnesota utilities to recover the costs of moving to cleaner technology with a modest cost to customers improved metro-area air quality. Xcel Energy's Metropolitan Emissions Reduction Project added state-of-the-art emissions controls to its Oak Park Heights plant and converted coal-fired plants in northeast Minneapolis and near downtown St. Paul to natural gas.

As a result of Xcel Energy's overall project efforts, emissions that can cause respiratory diseases dropped by more than 90% and carbon emissions fell 21%. Customers paid less than expected, and the plants' total production increased.



Converted for natural gas production, the Xcel Energy High Bridge Generating System in Saint Paul came on line in May 2008.



Create your extreme weather emergency plan.

Heed heat advisory, storm and air-quality warnings.

Drive less and walk more to boost your health and cut your use of gasoline.

