



City Fact Sheet: Minneapolis, Minnesota

URBAN CLIMATE ASSESSMENT SERIES

Minnesota is the fastest-warming state in the continental U.S. during the winter, with temperatures and overnight low temperatures contributing the most to the rapid warming (1970-2012, NOAA). City leaders are adjusting infrastructure to accommodate a growing population, and more severe temperatures and precipitation events. The climate is not moderated by the Great Lakes as much as lakeside cities, such as Duluth. As a result, area residents experience extreme cold in winter and heat waves in summer. In addition to the city's reputation for being extremely cold in the winter months, increasing heat waves in the summer are a key risk to residents. Minneapolis is the urban heat island epicenter for the Twin Cities metropolitan region, demonstrating significant differences in surface temperature between the City's core and surrounding rural areas.

Despite these challenges, the city serves as a model for climate vulnerability studies and adaptation projects. Current efforts include working toward the city's energy efficiency and renewable energy goals through the Clean Energy Partnership with local utilities. Minneapolis is a White House Climate Action Champion City, committed to the Compact of Mayors, and was recently included in the final cohort of the Rockefeller 100 Resilient Cities – all of which come with commitments to advance climate adaptation and resilience, particularly with a focus on equity and inclusion. The selection means Minneapolis will gain access to tools, funding, technical expertise and other resources to build resilience for the challenges of the 21st century.

KEY CONSIDERATIONS

Extreme heat is an increasing threat to residents living in the Minneapolis area. In response to this threat, the city identified vulnerable populations and cooling centers, partnered with hospitals to track heat-related emergency room visits, and generated a Hazards Plan to reduce potential health impacts. Climate experts predict a rise in flash flooding frequency and intensity, based on climate scenarios. This may impact both water quantity and quality.

QUICK FACTS

- + Located in southeast Minnesota, the population of Minneapolis is 412,517 (2015).
- + Median household income is approximately \$69,000 (per 2014 census).
- + As of 2014, Minneapolis led the nation with the highest percentage of green commercial space (77% of commercial real estate space).

CLIMATE HISTORY

Changes from 1951 to 2012 include:

- Average annual temperatures increased 3.2°F
- 16 more days in the growing season
- 20.7% increase in total annual precipitation
- 58.3% increase in days with 1.25" or more precipitation



CLIMATE ACTION PLAN AND CLEAN ENERGY PARTNERSHIP

Established in 2015, the goal of the Clean Energy Partnership is to cut greenhouse gas (GHG) emissions by creating residential energy efficiency policies and engaging more people in programs, specifically underserved populations. In 2014, the Energy Pathways Study recommended the development of a Clean Energy Partnership with local utility companies Xcel Energy and CenterPoint Energy.

The Minneapolis Climate Action Plan (2013) includes 103 mitigation-focused strategies to reduce GHG emissions in the city. Representatives from Minneapolis and St. Paul participated in a climate change vulnerability workshop. Experts from health, environmental, and public works departments identified areas of vulnerability for future climate-related impacts. Strategies to address vulnerabilities to extreme heat, precipitation, and drought were identified. Participants also recognized the need to improve public understanding of the perceived climate-related health risks.

Also in 2013, graduate students in urban planning from the University of Minnesota Humphrey School of Public Affairs developed a report highlighting climate change impacts and adaptation best practices for Minneapolis. Students included best practices for managing heat, preserving the natural environment, managing stormwater, ensuring a reliable water and energy supply, and addressing the impacts of aging infrastructure. In addition, students provided sample case studies of cities implementing these practices, and conducted a climate change vulnerability assessment analyzing extreme heat, precipitation, and flooding.

Information from the 2013 workshop and the 2016 climate change vulnerability assessment is being used to inform a number of activities including: updating the city's long-range planning document, Minneapolis 2040; convening community climate conversations (Fall 2016) in 2-3 Minneapolis neighborhoods; day-to-day work performed by city departments impacted by climate change; and including the city's Resilience Plan as part of the 100 Resilient Cities initiative.

ADDITIONAL ACTIVITIES

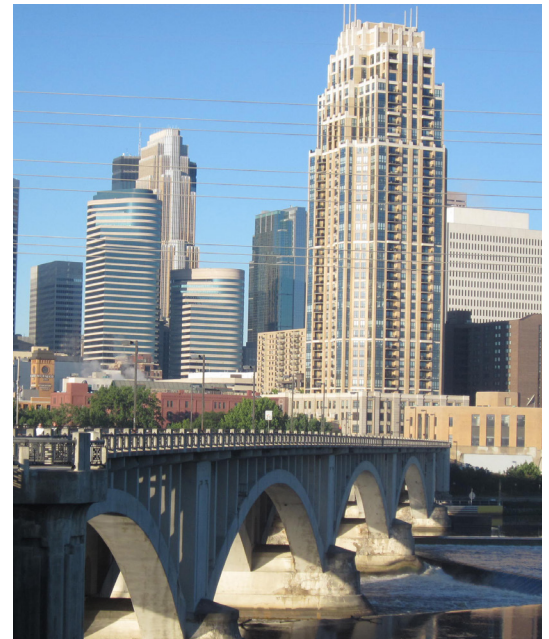
- The city is partnering with Macalester College to implement climate resilience efforts in neighborhoods and public education about climate change.
- Minneapolis is undertaking a 10- and 100-year flood event study, using NOAA Atlas 14 Precipitation Frequency Estimates, to assess the capacity of the city's stormwater system.
- The Mayor attended the 2015 summit on climate change and human trafficking at the Vatican, raising the profile of city leaders as global climate change advocates.

SUPPORT

The U-M Climate Center transforms climate research into accessible information and dynamic strategies empowering stakeholders to address climate-related challenges and opportunities. We believe that diversity is key to individual empowerment, and the advancement of sustainability knowledge, learning and leadership. The Center is part of the Graham Sustainability Institute, which integrates faculty and student talent across U-M, and partners with external stakeholders to foster collaborative sustainability solutions at all scales. See: www.graham.umich.edu/climate

Photos courtesy of Wikimedia Commons.

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LEARN MORE

Minneapolis Vulnerability Workshop Summary:

<http://www.minneapolismn.gov/www/groups/public/@citycoordinator/documents/webcontent/wcms1p-110591.pdf>

Minneapolis Climate Change Vulnerability Assessment:

<http://www.ci.minneapolis.mn.us/sustainability/climate/WCMSP-180495>

City Case Study Examples:

<http://www.ci.minneapolis.mn.us/www/groups/public/@citycoordinator/documents/webcontent/wcms1p-108963.pdf>

Sustainability Reports:

<http://www.ci.minneapolis.mn.us/sustainability/reports/WCMS1P-108792>

Minneapolis Clean Energy Partnership:

<https://mplscleanenergypartnership.org/>

Compact of Mayors:

<http://www.compactofmayors.org/cities/minneapolis-mn/>