



City Fact Sheet: St. Paul, Minnesota

URBAN CLIMATE ASSESSMENT SERIES

The two greatest climate risks Saint Paul (St. Paul) faces are 1) flooding associated with increased mean rainfall and extreme rainfall events, and 2) the impacts of temperature increases. For example, a warmer climate will exacerbate the urban heat island effect, with temperatures in the city significantly hotter than surrounding areas. In 2015, St. Paul secured a grant from the Minnesota Pollution Control Agency to develop a strategic climate change Resilience Framework. Part of the Framework includes increasing green infrastructure to improve storm water management. Other aspects of the Framework focus on improving communication about how to reduce the effects of climate change on city residents, especially more vulnerable populations.

CLIMATE HISTORY

Changes from 1951 to 2012 include:

- Average annual temperatures increased by 3.2°F
- Annual precipitation increased by 21%, and heavier precipitation events increased by 58%
- Highest flood stages from the Mississippi River (5 of 10 on record) occurred in the last twenty years
- Growing season increased by 16 days

KEY CONSIDERATIONS

Aging infrastructure is a significant quality of life and public safety concern, especially as increasing frequency of extreme rainfall raises the probability of a storm exceeding the capacity of the city's storm sewer system. Also, the rising frequency of summer high temperatures stresses an aging electrical distribution system. The cost of planning for and coping with floods is a growing expense, drawing resources away from other vital city services. For example, increasing frequency of flooding on the Mississippi River has necessitated the construction of emergency flood mitigation facilities six times since 2001.

QUICK FACTS

- + Located in southeast Minnesota, Saint Paul is the seat of Minnesota's state capitol.
- + Median household income is approximately \$48,000 (per 2014 census).
- + A significant geographic feature of St. Paul is the Mississippi river, flowing through the southern end of the city.
- + As the second largest city in the state of Minnesota, St. Paul is growing with a population of nearly 301,000 (2015), and may exceed its peak 1960 population of 313,400 in the next few years.
- + Known for its high literacy rate, St. Paul shares the nickname "the Twin Cities" with its neighbor, Minneapolis.
- + Lucien Galtier established the Log Chapel of Saint Paul, and the area near the chapel became known as Saint Paul's Landing.

A RESILIENT ST. PAUL

The mayor and city council are committed to making St. Paul “The Most Livable City in America,” an initiative aimed at protecting and sustaining the city’s natural resources and urban landscape. Strong leadership has led to the implementation of climate resilience and adaptation policies. Representatives from the Mayor’s office, city council, city departments, academia, hospitals and public health providers, and energy utilities participated in meeting to establish four Resiliency Framework working groups based on key areas of climate change impact:

- Natural resources
- Infrastructure
- Emergency response and public health
- Economy and social well-being

The City’s Climate Change Resiliency Framework, completed in 2016, is the springboard for St. Paul to finalize a resiliency plan and move forward with resiliency efforts. The Framework will: integrate climate resiliency strategies into existing emergency management and relevant local and regional planning documents; outline ways to best communicate efforts to broader community; and increase the community’s adaptive capacity. Experts expect the Framework will catalyze efforts to finalize St. Paul’s resiliency plan and future efforts.

Macalester College completed a Climate Resiliency Small Grants Fund project in 2016. Supported by a GLISA grant, faculty and students explored models for community engagement on climate adaptation in partnership with St. Paul city leaders.

ADDITIONAL ACTIVITIES

- In response to the increased risk of flooding, St. Paul developed a rigorous, multi-departmental flood management approach, including permanent and temporary flood diversion structures and the expansion of green infrastructure to slow and redirect runoff.
- The SEES Urban Heat Island Network, one of the National Science Foundation’s Sustainable Research Networks, is headed by the University of Minnesota. Through this effort, the St. Paul and Minneapolis metropolitan area has the largest urban temperature sensor network in the world.
- In 2014, Macalester College published a “Ready & Resilient” primer, focusing on the impacts of extreme weather in St. Paul. Project leaders collected information from low income residents, particularly in communities of color, to improve climate understanding, create tools for engaging residents on climate change, and develop culturally appropriate communication strategies for the city’s diverse community.

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.

36918-AUG-2016



LEARN MORE

City of St. Paul Climate Resiliency Resources:

<https://www.stpaul.gov/news/climate-resiliency>

Macalester College 2014

“Ready & Resilient” Primer:

<http://www.macalester.edu/readyandresilient/resources/ReadyandResilientPrimer.pdf>

St. Paul Resilience Workshop Summary:

<http://graham.umich.edu/media/files/GLAA-C/Minneapolis-StPaul/StPaul-Resilience-Workshop-Summary-2013-05-21.pdf>

St. Paul Climate Scenarios:

<https://www.stpaul.gov/DocumentCenter/View/80002.pdf>