

WATER QUALITY & QUANTITY

CLIMATE & HEALTH

IMPORTANCE OF WATER

Minnesota benefits from more freshwater than any other of the 48 contiguous U.S. states. The viability of Minnesota's industries, farms, utilities, and municipalities hinges on adequate supply of clean water. Climate-related changes in extreme weather and precipitation patterns will likely threaten existing water systems in Minnesota and significantly disrupt the hydrologic cycle, which is essential for human life.

CLIMATE CHANGE IN MINNESOTA

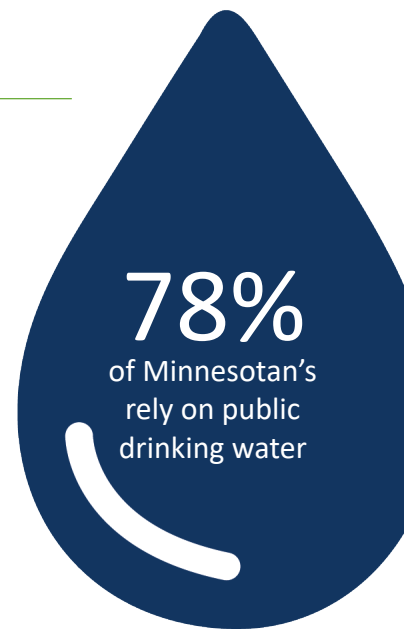
The rise in greenhouse gases is leading to increases in temperature and changes in precipitation. These changes are causing changes in water quality and quantity, air quality, weather patterns, and ecosystems.

WATER CHANGES: Climate change may impact Minnesota's water quality and quantity by increasing precipitation, decreasing precipitation, and increasing temperatures of lakes and streams.

AIR CHANGES: Specific air pollutants that are likely to be increased by climate change and result in negative health impacts include particulate matter, ozone, pollen, and mold.

WEATHER CHANGES: Extreme heat events in Minnesota are already occurring and expected to become more common, more severe, and longer-lasting.

ECOSYSTEM CHANGES: Warmer, wetter climate trends may support the spread of tickborne diseases.



Did you know?

7 of the 15 Minnesota mega-rain events have occurred since 2002.



INCREASES IN WATER

Examples of increases in water include the following: changes in snow-to-precipitation ratio, increases in amounts of heavy precipitation, flooding, dew point changes, and extreme heat and humidity.

PUBLIC HEALTH ISSUES...

- Physical injuries and destruction to property
- Increased runoff, such as sediment, contaminants, nitrate, etc.
- Sewage overflows
- Contamination of surface water
- Waterborne disease outbreaks from contaminated drinking water or recreational contact

DECREASES IN WATER

Examples of decreases in water include the following: decreased precipitation, drought, and significant changes in regional lake water levels.

PUBLIC HEALTH ISSUES...

- Reduced soil moisture, groundwater and stream flows, and reduced water levels in lakes and wetlands
- Potential concentration of pollutants
- Decreased water supply for drinking water and agriculture
- Negative effects to food supply
- Wildfire dangers

INCREASES IN WATER TEMPERATURE

PUBLIC HEALTH ISSUES...

- Warmer waters harm certain fish populations
- Increased harmful algal blooms and bacteria
- Breeding of insects that may increase risk of vectorborne diseases
- Native species may be stressed by the changing habitat
- Invasive species may be better acclimated to warmer temperatures

PUBLIC HEALTH STRATEGIES

GREEN INFRASTRUCTURE

- Collaborate across sectors to plant appropriate vegetation to soak up rainwater where it falls. This helps prevent water pollution, reduce flooding, and protect our drinking water resources.

GREY INFRASTRUCTURE

- Work with city planners, engineers, and decision-makers to increase capacity of storm water pipes, storage tanks, and wastewater treatment facilities to accommodate larger rain events.

EMERGENCY PREPAREDNESS

- Help identify and plan for water quality and water quantity risks, such as waterborne diseases, flooding, and drought-induced wildfires.

CONTAMINATED WATER

- Advise community members to drink bottled water during and/or after a flood or a waterborne disease outbreak if they rely on a private well.



ACTION STEPS TO PROTECT OUR HEALTH & ENVIRONMENT

- 1. Treat rain as a resource** — collect rainwater from your rooftop and store it in a rain barrel for irrigation.
- 2. Grow a sustainable lawn** — select native and drought tolerant plants, increase mowing heights, and reduce fertilizer applications.
- 3. Test your well** — if you are a private well owner, test and treat your water to ensure safe drinking water.