



# Climate Resiliency GUIDE

City of Burnsville | 100 Civic Center Parkway | [www.burnsville.org/sustainability](http://www.burnsville.org/sustainability) | 952-895-4400



## Pledge to Become Climate Resilient!

Climate Resiliency is the practice of dealing with challenges and impacts on the community that may result from climate change. This guide outlines current weather changes already observed in the Twin Cities, and provides steps you can take to be more climate resilient!

## Impacts of Climate Change

Climate resiliency efforts are being undertaken at local, state, national and international levels to address areas that will likely be impacted by climate change. Some of these impacts include:

### Hotter Summers

According to the Minnesota State Climatology Office, Minnesota's annual temperatures have increased at an average rate of .23 degrees F per decade since 1895, but at a much faster rate of .45 degrees F per decade since 1970. Although much of this warming has occurred during winter, summertime lows are also getting warmer. This makes it more difficult to stay cool, and increases the potential for heat-related impacts. The most up-to-date climate projections indicate that Minnesota can expect several more days per year with temperatures above 95 degrees by the middle of the century.

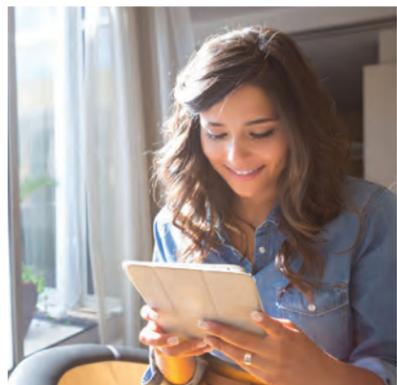
Excessive heat is more likely to affect populations in northern latitudes, where people are less prepared to cope. The body's cooling mechanisms are less effective when air temperature is higher than body temperature, and humidity is high.

- 1. Heat Exhaustion & Heat Stroke:** Symptoms include headaches, dizziness, irritability, fatigue and loss of coordination. Heat stroke becomes a medical emergency when the victim experiences disorientation or delusions, unconsciousness or seizures. It can injure the liver and lead to kidney failure or death.



Stay hydrated during extreme heat.

**Prevention/Tip:** Reduce physical activity in the heat before experiencing symptoms. Hydrate with water or other nonalcoholic fluids. Check on vulnerable populations such as children, the sick and the elderly. Do not leave children and pets alone in cars for any amount of time. Cool off with water spray, a lake or pool. Spend time in air-conditioned locations such as malls and libraries. Use fans and open windows to circulate air if there is no air conditioning, but do not direct the flow of portable electric fans toward yourself when room temperatures are hotter than 90 degrees F. If you experience severe symptoms, get medical attention.



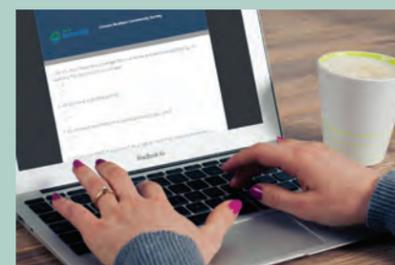
Stay indoors if air quality is low.

- 2. Heat Cramps:** Symptoms include painful muscle spasms in the arms, shoulders and legs caused by extreme heat.  
**Prevention/Tip:** Rest. Drink plenty of fluids that have electrolytes and salt. Seek immediate medical care if you experience severe symptoms.
- 3. Respiratory & Cardiovascular Disease:** Pre-existing cardiovascular and respiratory diseases, including asthma, pneumonia and influenza are aggravated by heat.  
**Prevention/Tip:** Stay indoors if air quality is low.
- 4. Heat Rash:** Symptoms include flushed, pale or clammy skin caused by blocked sweat ducts.  
**Prevention/Tip:** Keep cool. Avoid over-dressing. Wear breathable, light clothing.

## Take the Climate Resilient Community Survey

To help the City better understand the needs of our community when it comes to climate resiliency, please take our short survey. Your answers will help us better prepare to help you in a time of need!

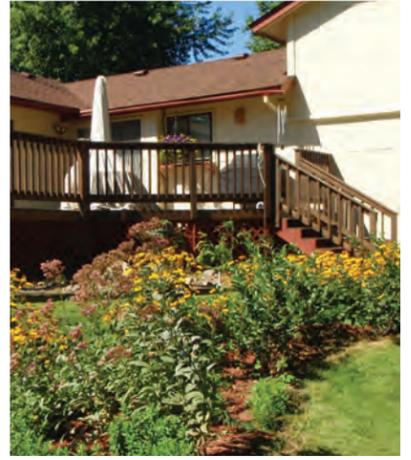
[www.burnsville.org/climatesurvey](http://www.burnsville.org/climatesurvey)



## More Heavy Rain and Snow Storms

Heavy downpours in Minnesota are now twice as frequent as they were a hundred years ago. Intense or prolonged precipitation can be disruptive and even dangerous, causing falling tree branches or flooding. Scientists expect precipitation events like these to become increasingly common.

- 1. Pollution:** Intense storms can increase pollution and create health hazards. Runoff from driveways and lawns, construction sites and agricultural fields carry pollutants to water sources.  
*Prevention/Tip:* Decrease the use of lawn chemicals, and consider planting rain gardens to reduce runoff and allow water to seep into the ground.
- 2. Soil Erosion:** Unlike historically light rains, intense rainfall does not easily absorb into the ground. Runoff erodes precious soil, and makes it difficult for crops and garden plants to endure. Extreme precipitation also softens the soil, making it easier for wind gusts to uproot trees.  
*Prevention/Tip:* Mix compost into soil and plant deep-rooted native plants to increase infiltration.



Plant rain gardens to help reduce storm runoff.



Falling trees and branches can cause power outages and damage.

- 3. Power Outages:** Without power, refrigerators don't work and food will spoil. Without air conditioning, home temperatures increase to uncomfortable levels. Water becomes less accessible or contaminated.  
*Prevention/Tip:* Have a back-up plan for power outages such as a friend or relative in a different part of the city or a generator. Make sure you have an Emergency Preparedness Kit available (see below).
- 4. Tree Damage:** Falling trees and branches can cause damage to streets, cars, homes and power lines.  
*Prevention/Tip:* Trimming trees keeps them out of the way of power lines to help prevent outages.
- 5. Flash Flooding:** Heavy rainfall on solid surfaces can result in flash-flooding, causing water damage and dangerous conditions for drivers and pedestrians.  
*Prevention/Tip:* Reduce the risk of flooding by diverting water to rain gardens or using permeable pavement, which allows water to soak into the ground. Help protect property by elevating equipment in basements and installing backflow prevention devices/sump pumps. While driving, avoid low spots with high flooding potential and do not attempt to cross flooded roadways.

## Warmer Winters

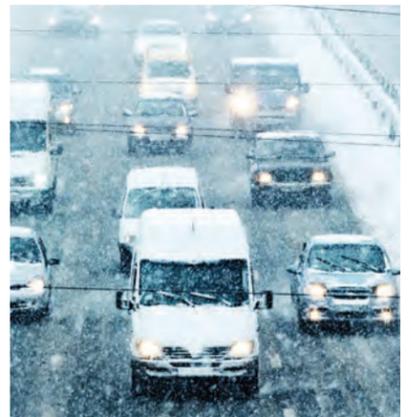
Winter temperatures are expected to increase at a greater rate than summer temperatures.

- 1. Travel Delays:** Warmer winters mean that motorists can expect some winter snowfall to be replaced with freezing rain. This can lead to icy roads, downed trees and power lines, public transit delays and power outages.  
*Prevention/Tip:* Allow plenty of time for winter travel. Prepare for winter driving by watching media reports the night before planned travel.



Plant native plants and trees adapted to the area's climate.

- 2. Changing Road Conditions:** Driving conditions can change significantly on pavement and bridge decks as temperatures hover around the freezing mark.  
*Prevention/Tip:* Be aware of road condition changes and drive carefully.
- 3. Environmental Impacts on Plants/Animals:** Warmer winter temperatures will increase the presence of pests such as ticks, mosquitoes and the emerald ash borer. Some tree species are also slowly migrating north, meaning they may not be as resilient over the long run for planting.  
*Prevention/Tip:* When spring arrives, make sure to use an insect spray when outdoors. Check with the State or City forestry departments to determine which tree species are best for your area.
- 4. Earlier Ice Outs:** Earlier ice outs and thinner ice can increase the danger of being on the ice in winter.  
*Prevention/Tip:* Research ice conditions carefully before driving or being on the ice.



Warmer winters can result in poor road conditions.

## Create an Emergency Preparedness Kit

Being prepared means being equipped with the supplies you may need during an emergency or disaster. Keep your supplies in an easy-to-carry emergency preparedness kit that you can use at home or take with you.

- Be prepared to take care of yourself and your family for 72 hours
- Water – one gallon per person, per day at a minimum
- Food – non-perishable
- Flashlight with extra batteries (or hand-crank)
- Radio with extra batteries (battery-powered or NOAA Weather Radio)
- First-Aid Kit
- Medications (7-day supply)
- Multi-purpose tools
- Sanitation and personal hygiene items such as toilet paper, etc.
- Cell phone with chargers  
(fully charge cell phones before a predicted extreme weather event)
- Family contact information
- Maps
- Pet food – non-perishable, with extra water for pet



Photo Credit: Centers for Disease Control and Prevention