

# Climate Change Impacts

## Chequamegon-Nicolet National Forest



### Wisconsin's "Northwoods" are a treasure.

People who know its woods, waters, and wildlife have deep connections to this special place – cultural, emotional, and economic connections. Land managers of the Chequamegon-Nicolet National Forest recognize the risks posed to the northern forests by a changing climate and are ready to respond. These efforts are part of a broader strategic plan initiated by the USDA Forest Service to ensure sustainability of natural resources for generations to come.

### Climate change will have many effects on northern Wisconsin:

- Mean annual **temperatures** are expected to increase by about 6.5 °F to 10.5 °F over the next century.
- Higher temperatures may result in shifts from **snow to rain** during the winter.
- Less summer rain may lead to **drought** in autumn.
- **Severe rain and ice storms, high winds, wildfire, and floods** are expected to occur more often.
- **Pests and diseases** that impact tree health may increase or become more severe.



### What's at risk?

Many tree species are likely to have large declines in the amount of habitat that is suitable for their growth in northern Wisconsin.

These include many species: sugar maple, balsam fir, white spruce, paper birch, and quaking aspen. Other iconic species of the Northwoods, including hemlock, tamarack, black spruce and black ash, are also expected to have large declines in habitat by the end of the century. Understory plants, forest ponds and streams, and other features of the northern forest landscape are likely to be affected by the changing climate and loss of tree species.

The loss of habitat may ultimately impact other important services that forests provide, such as watershed improvement, wildlife habitat, forest recreation, maple syrup production, and wood products supply. Preparing for risks and responding to climate change impacts are important actions for maintaining healthy and sustainable ecosystems.

# Responding to Climate Change

## Chequamegon-Nicolet National Forest

### How can we prepare?

Understanding future changes and their associated impacts is an important first step. Preparing for risks and responding to climate change impacts will help the Forest adapt to these changes.

### Sustainability is the focus.

Actions we take in the near future can help maintain healthy and sustainable ecosystems in the long term. Responding to climate change is one of the many ways the Chequamegon-Nicolet National Forest meets the needs of current and future generations.

### Climate Change Model Forest for Landscape Management

The Chequamegon-Nicolet National Forest (CNNF) serves as a Climate Change Model Forest for Landscape Management. Researchers, partners, and land managers are working together to address the challenges of managing ecosystems under a changing climate in a number of ways :



#### Science

Collaborative research, demonstration projects, and ongoing discussion with scientists increase understanding of climate change and how forests respond to climate change.



#### Partnerships and Collaboration

Active involvement with researchers, landowners, other organizations, and the public is essential.



#### Education and Outreach

Communication and outreach efforts increase understanding and awareness of climate change.



#### Climate Change Response Framework Project

The Chequamegon-Nicolet National Forest is collaborating with a number of partners to examine local climate change impacts, the role of forests in removing carbon from the atmosphere, and land management activities that will inform future management and a collective response to forest adaptation.

For more information on the Climate Change Response Framework, visit us online at:

[www.nrs.fs.fed.us/niacs/climate/cnnf/](http://www.nrs.fs.fed.us/niacs/climate/cnnf/)

Photos courtesy of the Chequamegon-Nicolet National Forest

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