

## Sustainable Forests Education Cooperative

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# 2014: Climate-Informed Forest Management

The purpose of this forum and field day was to share information on how forest managers in Minnesota can incorporate climate change considerations into forest management decisions. The half-day indoor session will provide information on climate change in Minnesota, potential impacts to regional forests, and how forest managers might adapt to future conditions. The full-day field tour will include ongoing and planned projects that illustrate different ways foresters might address changing conditions through forest management decisions.

**May 7, 2014 Forum:** Timberlake Lodge in Grand Rapids, MN

**May 8, 2014 Field Day:** Chippewa National Forest

**Instructors:** Alessandra Bottero (USFS NRS), Tony D'Amato (UMN), Paul Dubuque (MN DNR), Stephen Handler (USFS NRS and NIACS), Christel Kern (USFS NRS), Linda Nagel (UMN), Brian Palik (USFS NRS), Mike Reinikainen (UMN), Rob Slesak (MFRC), Chris Swanston (USFS NRS and NIACS), and Keith Wendt (MN DNR)

**Sponsors:** [Minnesota Forest Resources Council](#), Sustainable Forests Education Cooperative, [UMN Department of Forest Resources](#), [Minnesota DNR](#), [USFS Chippewa National Forest](#), [USFS Superior National Forest](#), [USFS Northern Research Station](#), [USFS Northern Institute of Applied Climate Science](#), and [USFS State & Private Forestry](#)

## Content:

[PDF Flyer](#) and agendas for [May 7](#) and [May 8](#)

### May 7 Presentations:

- Chris Swanston: [Climate change and Minnesota forests](#) (.pdf)
- Linda Nagel: [Adaptive management for climate change in Minnesota forests](#) (.pdf)
- Paul Dubuque, Keith Wendt, and John Almendinger: [MNDNR climate change efforts](#) (.pdf)
- Stephen Handler: [Real-world examples of adaptation from Minnesota](#) (.pdf)

### May 7 Handouts:

- [MNDNR Tree Suitability Table v2.2](#) (.pdf)
- [Forest Adaptation Resources: Climate Change Tools and Approaches for Land Managers](#)

[May 7 Forum Recap](#) (.pdf)

## Contact Us

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**UMN SF...** @MNFore... · Sep 21  
Brian Palik gave a great talk yesterday called Adaptive Silviculture for Climate Change: Lessons for timber-oriented managers.

If you missed it, here's the recording:  
[sfec.cfans.umn.edu/2022-webinar-s...](https://sfec.cfans.umn.edu/2022-webinar-s...)



1



**UMN SF...** @MNFore... · Sep 20  
Starting in 15 minutes: Adaptive Silviculture for Climate Change

# Climate-Informed Forest Management: Forum and Field Day

## May 7-8, 2014 – Grand Rapids, MN

**Purpose and Outcomes:** The purpose of this forum and field day is to share information on how forest managers in Minnesota can consider climate change in real-world forest management applications. The half-day indoor session will provide information on climate change in Minnesota, potential impacts to forests, and how forest managers might adapt to future conditions. The full-day field tour will include planned and on-going projects that illustrate different ways foresters might address changing conditions through management decisions.

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### May 7, 2014 Agenda – Climate-Informed Forest Management Forum

Timberlake Lodge

- 1:00      **Introduction and welcome**  
*Dave Zumeta, Minnesota Forest Resources Council and Linda Nagel, UMN Cloquet Forestry Center*
- Introductions, context for the meeting, goals, agenda
- 1:15      **Climate change and Minnesota forests**  
*Chris Swanston, USFS Northern Research Station and Northern Institute of Applied Climate Science*
- Climate is one of the major drivers that shapes Minnesota's forests
  - Key climate change concepts: observed evidence, uncertainty in projections, etc.
  - General challenges and opportunities for forest management
  - Specific conclusions from Minnesota climate change vulnerability assessment
- 2:15      **Adaptive management for climate change in Minnesota forests**  
*Linda Nagel, UMN Cloquet Forestry Center*
- Forest managers can respond to future uncertainty
  - Climate adaptation can fit into the silvicultural process
  - Adapting to climate change will be a customized experience for every landowner and place
- 3:00      **BREAK**
- 3:15      **Incorporating adaptation (resiliency) strategies into DNR silvicultural guidelines**  
*Keith Wendt and Paul Dubuque, Minnesota DNR*
- Ecological Classification System (ECS) tools and information to help set landscape forest composition goals and make effective site-level management decisions in the face of change
- 4:00      **Real-world examples of adaptation from Minnesota**  
*Stephen Handler, USFS Northern Research Station and Northern Institute of Applied Climate Science*
- Highlights of several on-going adaptation demonstration projects from Minnesota
  - National Forest, Private Industrial, Non-Industrial Private Landowners, The Nature Conservancy
  - Consider how this approach might work for you
- 4:45      **Re-cap and adjourn**  
*Dave Zumeta and Linda Nagel*
- Look ahead to tomorrow
  - Review logistics

Thanks to the following contributors:



Chippewa National Forest  
Superior National Forest  
Northern Research Station  
State and Private Forestry



# May 8, 2014 Agenda – Climate-Informed Forest Management Field Day

## Chippewa National Forest

- 8:00am Leave Timberlake Lodge
- 9:00-10:15 **Site 1: Restoring complex structure in Great Lakes pine ecosystems to increase options for the future**
- Focus: Consider restoration of structural complexity and compositional diversity, in anticipation of climate change, so as to increase future options
  - Speakers: Brian Palik (**RED**), Christel Kern (**BLUE**), Tony D'Amato (**YELLOW**), Linda Nagel (**GREEN**)
  - Each group sticks with one speaker
- 10:15-10:45 Drive to next fieldsite
- 10:45-12:00 **Site 2: Managing black ash forests in the face of EAB and climate change**
- Focus: Consider opportunities to increase compositional diversity in anticipation of emerald ash borer to maintain hydrologic function and future options in black ash forest wetlands
  - Speakers: Tony D'Amato (**RED**), Brian Palik (**BLUE**), Rob Slesak (**YELLOW**), Mike Reinikainen (**GREEN**)
  - Each speaker will rotate one group through four treatments
- 12:00-12:15 Drive to Cutfoot Horse Camp
- 12:15-1:15 Lunch at Cutfoot Horse Camp – restrooms available
- 1:15-1:30 Drive to next fieldsite
- 1:30-2:15 **Site 3: Density management to increase resistance, resilience, and recovery of stand growth to drought -- and Experimental Forest Monitoring for Climate Change (EFMCC) Project**
- Focus: Consider how density management in production forests can increase the ability of stands to maintain growth during and after drought
  - Speakers: Christel Kern (**RED**), Alessandra Bottero (**BLUE**), Brian Palik (**YELLOW**), Tony D'Amato (**GREEN**)
  - Each group sticks with one speaker; will look at two contrasting densities on each side of the road
- 2:15-2:30 Walk to next fieldsite
- 2:30-3:15 **Site 4: Adaptive Silviculture for Climate Change (ASCC) Project**
- Focus: Consider effectiveness of a spectrum of adaptive silviculture goals/objectives and related treatments for accommodating climate change in a red pine-dominated forest type
  - Speakers: Linda Nagel (**RED**), Tony D'Amato (**BLUE**), Christel Kern (**YELLOW**), Brian Palik (**GREEN**)
  - Each group sticks with one speaker; will be looking at a transition treatment; discuss spectrum of treatments
- 3:15-3:30 Drive to next fieldsite
- 3:30-4:00 **Site 5: Zon Memorial – Synthesis and integration of climate-informed forest management**
- Focus: Synthesis, importance of long-term research, discussion
  - Speakers: Stephen Handler, Chris Swanston, Linda Nagel
- 4:00-5:00 Drive back to Grand Rapids