



Wisconsin Initiative on Climate Change Impacts (WICCI) Report Summary

Climate Change Challenges and Emerging Opportunities

Andy Stoltman

Forest Economics and Ecology Section Chief

Wisconsin Department of Natural Resources

Brad Hutnik

Forest Ecologist / Silviculturist

Wisconsin Department of Natural Resources

Wisconsin Initiative on Climate Change Impacts (WICCI)

Nationally recognized collaborative network linking science with action.

Formed in 2007 as a partnership between the Wisconsin Department of Natural Resources and Nelson Institute for Environmental Studies.



WICCI Structure – Coordinating Team

Ann Kipper	WICCI Co-Director, External Services Division, Wisconsin DNR
Steve Vavrus	WICCI Co-Director, Nelson Institute Center for Climatic Research
Dea Larsen Converse	WICCI Communications Director
Dominic Holt	WICCI Coordinator, External Services Division, Wisconsin DNR
Dreux Watermolen	External Services Division, Wisconsin DNR

WICCI Structure – Science Advisory Board

Name	Affiliation
Anna Haines (chair)	Center for Land Use Education, UW-Stevens Point
Carol Barford	Center for Sustainability and the Global Environment, UW-Madison
Owen Boyle	Division of Fish, Wildlife and Parks, Wisconsin DNR
Abigail Derby Lewis	Field Museum
Ankur Desai	Department of Atmospheric and Oceanic Sciences, UW-Madison
Hilary Dugan	Center for Limnology, UW-Madison
Jane Elder	Retired, Wisconsin Academy of Sciences, Arts and Letters
Tracey Holloway	Environmental Studies, UW-Madison
Richard Lathrop	Center for Limnology, UW-Madison
Dave MacFarland	Office of Applied Science, Wisconsin DNR
Sandra Mclellan	UW-Milwaukee
Nick Miller	The Nature Conservancy
Hannah Panci	Great Lakes Indian Fish and Wildlife Commission
Jonathan Patz	Center for Sustainability and the Global Environment, UW-Madison
Greg Sass	Office of Applied Science, Wisconsin DNR
Bart Sponseller	Division of Environmental Management, Wisconsin DNR
Andy Stoltman	Forest Economics and Ecology, Wisconsin DNR
Dan Vimont	Nelson Institute Center for Climatic Research, UW-Madison
Sara Walling	Alliance for the Great Lakes
Caitlin Williamson	Natural Resources Foundation of Wisconsin

WICCI Structure – Working Groups

- Agriculture
- Climate
- Coastal Resilience
- Community Sustainability
- Fisheries
- **Forestry**
- Geospatial
- Great Lakes
- Human Health
- Infrastructure
- Plants and Natural Communities
- Tourism and Outdoor Recreation
- Water Resources
- Wildlife

Wisconsin forests can mitigate climate change

Forests are a natural carbon sink that absorb 10-15 percent of our nation's greenhouse gases.

Forests in the upper Midwest, including Wisconsin, have been a steadily growing carbon sink for decades.

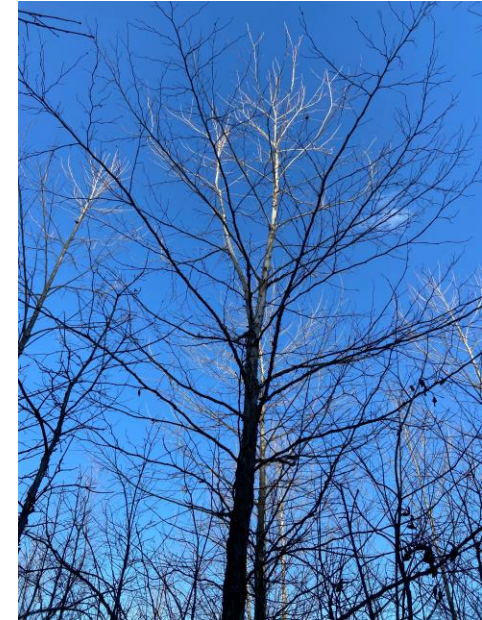
With additional stressors brought about by climate change, we must work to ensure that Wisconsin's forests continue to store carbon.



2009



2014

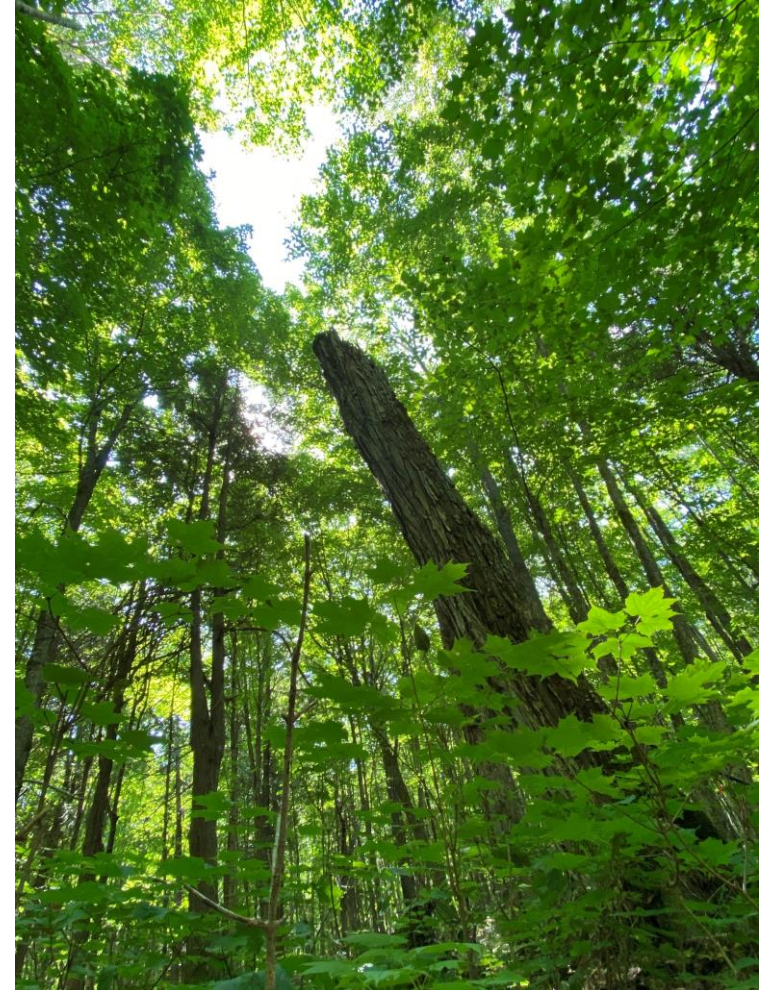


2021

WICCI: Forestry Working Group

WICCI's Forestry Working Group is designed to share information across the forestry community about climate change impacts, adaptation, and mitigation.

We also put information into action by helping foresters and land managers develop real-world actions to prepare for change and manage forest carbon.



Ashlee Lehner

WICCI: Forestry Working Group

Forestry Working Group	
Stephen Handler, Co-chair	United States Forest Service and Northern Institute of Applied Climate Science
Linda Parker, Co-chair	United States Forest Service Chequamegon-Nicolet National Forest
Alex Bohman	Great Lakes Indian Fish and Wildlife Commission
Dan Buckler	Wisconsin Department of Natural Resources
Fred Clark	Wisconsin's Green Fire
Matt Dallman	The Nature Conservancy in Wisconsin
Ron Eckstein	Wisconsin Department of Natural Resources
Forrest Gibeault	Steigerwaldt Land Services
Jason Holmes	Bayfield County
Brad Hutnik	Wisconsin Department of Natural Resources
Lauren Larsen	University of Wisconsin-Madison Division of Extension
Dick Rideout	Wisconsin Department of Natural Resources (Retired)

2021 WICCI Assessment Report

- First update since 2011
- Electronic format for rapid dissemination and easy updating
- Utilizes narratives to improve science communication
- Greater emphasis on climate justice
- Target audience is decision-makers (government, conservation, etc.)
- Includes climate change adaptation and mitigation strategies

[2021 Assessment Report: Wisconsin's Changing Climate | Wisconsin Initiative on Climate Change Impacts \(WICCI\)](#)



WICCI 2021 Assessment: Forestry Solutions



1. Keep forests as forests

- ❑ *2020 Wisconsin Statewide Forest Action Plan*
 - ✓ Goal C: Keep forests as forests to maintain the long-term value & benefits they provide.

2. Support holistic deer management

- ❑ *2020 Wisconsin Statewide Forest Action Plan*
 - ✓ Goal H: Forested land & ecosystem functions are maximized, while losses due to forest health threats are minimized.
 - Strategy 4: Reduce impacts to regeneration from invasive species, deer, catastrophic weather events, and climate change.

3. Expand rural and urban forest cover

- ❑ *2020 Wisconsin Statewide Forest Action Plan*
 - ✓ Goal K: Carbon storage in forests & forest products is increased.
 - Strategy 3: Increase Wisconsin's forested area to increase total stored carbon in the State.

4. Support climate-focused planning and management

- ❑ *2020 Wisconsin Statewide Forest Action Plan*
 - ✓ Goal J: Forests are resilient & adaptable to future conditions.
 - Strategy 11 Use best available science and research on climate change adaptation strategies to guide forest management.

5. Support WI Wood Product Utilization

- ❑ *2020 Wisconsin Statewide Forest Action Plan*
 - ✓ Goal K: Carbon storage in forests & forest products is increased.
 - Strategy 6: Increase use and marketing of forest products, including wood-based construction.

WICCI Forestry Working Group

2022 Workplan

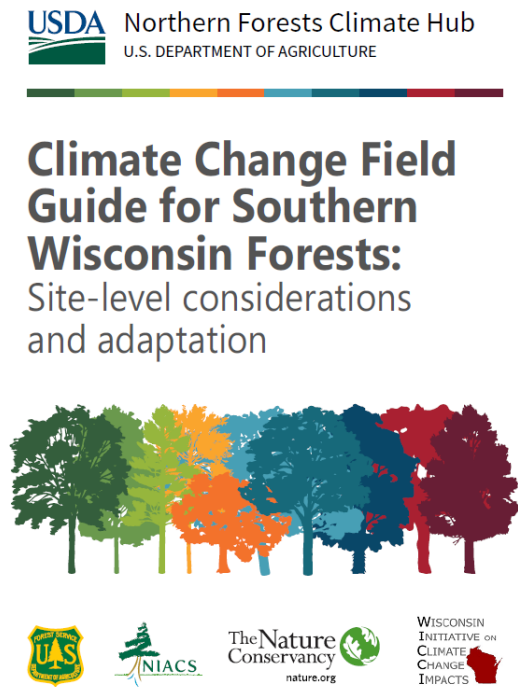
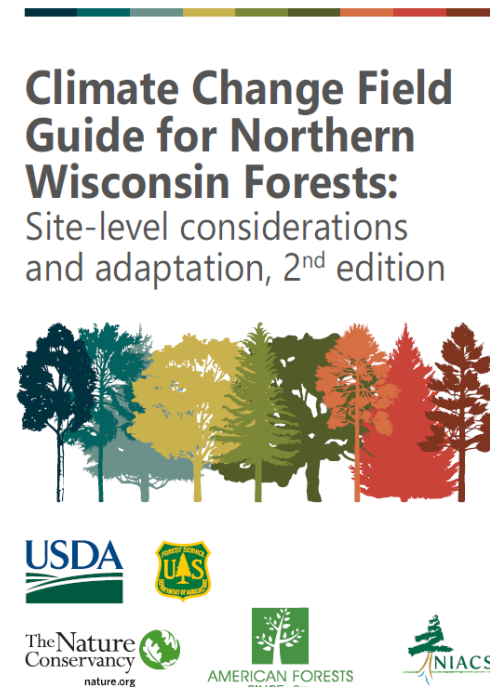
1. Track, monitor, and promote adaptation projects
2. Incorporate climate info into silviculture guidance
3. Develop forest carbon introductory materials
4. Create a WICCI Forestry Bulletin Series (short summaries of key topics like deer, assisted migration, aspen management, plantation management, etc.)



Wisconsin Adaptation Projects: Climate Change Field Guides

Climate Change Field Guides (2019, 2021)

- Summarize climate change effects on Northern and Southern Wisconsin's forests
- ID site conditions that could increase or reduce risk from climate change
- Helps start discussions about potential impacts and management responses
- Note: the guides do not replace planning processes, local knowledge, or management experience
- Google “wi climate forest guide”



WICCI Forestry Working Group: Adaptation Projects

Bayfield County Forest – Aspen Diversification Project

Issue

- Bayfield County Forest is approx. 45% aspen
- Climate Change Tree Atlas projects >20% decrease in suitable habitat for aspen by the year 2100.

Action

- White pine seedlings were planted in several 1/3-acre patches at three sites (approx. 1,400 trees/acre) with limited fall release.

Desired Outcome

- Patches of white pine add structural and species diversity and provide a natural seed source for the surrounding forest. Each 1/3-acre planted patch could potentially provide a seed source for a surrounding 35 acres.
- Google “wicci forestry”



Jason Holmes

WICCI Forestry Working Group: Adaptation Projects

Forest Exploration Center Adaptation and Mitigation Project

Issue

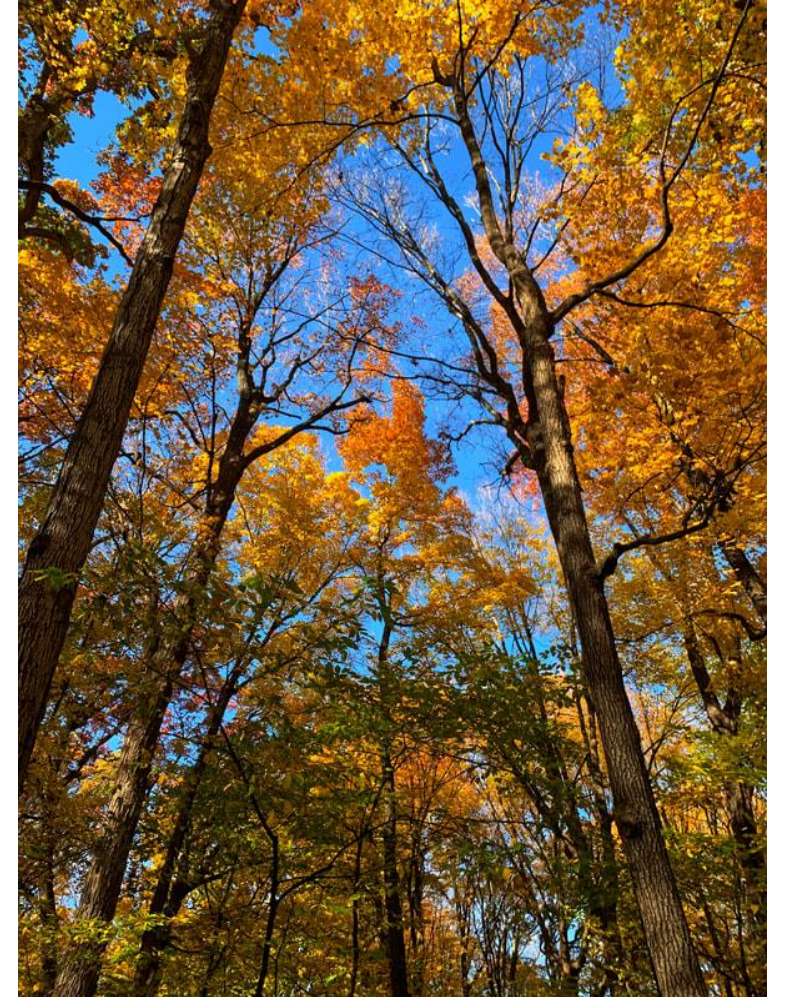
- Goal is to foster understanding of forest ecology and sustainable forestry management practices, provide meaningful education, recreation and stewardship opportunities.
 - ❑ What is the best way to integrate climate change considerations into management and interpretation?

Action

- 2022 FEC adaptation and mitigation project based on NIACS adaptation workbook. Project considers site specific potential effects of climate change and designs actions to reduce risk and increase adaptability.
- Project actions:
 - Create gaps and release natural regeneration
 - Enrichment planting (tree seedlings and plants)
 - Control interfering vegetation
 - “Slash walls”
 - Oak stand midstory removal

Desired Outcome

- Compositional and structural diversity are increased.
- Opportunities for education and interpretation based on project actions are increased.



Wisconsin Forestry Center

University of Wisconsin-Stevens Point > CNR Associated Programs > Wisconsin Forestry Center > SilviCast

- Home
- Workshops and Trainings
- Certificate Programs
- Research and Development
- Forestry for Teachers
- Landowner Resources
- About Us
- Contact Us



Carbon, WHAT?!!

6-24-2022

In this episode, part 1 of our 2 part series, we talk with Alexandra Kosiba, Ph.D., the first state climate forester with the Vermont Department of Forest, Parks, and Recreation, to better understand the basics of forest carbon.

Learn more, [earn CEUs/CFEs](#), and listen [here](#).

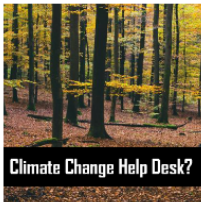


The Carbon Cycle Won't Leave Me Alone

7-29-2022

In part 2 of our carbon series, we explore ways to enhance carbon storage and sequestration through silviculture with Luke Nave, Ph.D. and Todd Ontl, Ph.D of the Northern Institute of Applied Climate Science.

Learn more, [earn CEUs/CFEs](#), and listen [here](#).



Climate Change Help Desk?

11-15-2021

On this episode of SilviCast, we dig into one tool that helps answer our climate change questions, The Climate Change Tree Atlas.

Learn more and listen [here](#).



Right Tree, Right Place, Right Time

4-15-2021

In this episode we explore the challenges of artificial regeneration with Doug Jacobs, the Fred M. van Eck Professor of Forest Biology and Associate Head of Extension at Purdue University.

Learn more and listen [here](#).

CONNECT WITH US

Questions?

Contact Brad Hutnik
WDNR Forest Ecologist / Silviculturist

Bradley.Hutnik@wi.gov

608-574-5642



/WIDNR



@WIDNR



@WI_DNR



/WIDNRTV



"WILD WISCONSIN:
OFF THE RECORD"