

NE SIC Climate Smart Forestry Regional Assessment

2022



The SFI 2022 Forest Management Standard has incorporated opportunities for cooperative efforts involving SFI Implementation Committees to meet various Indicators in this standard. SFI Inc. developed a [playbook](#) and hosted a national workshop on March 31 to discuss how Climate Smart Forestry Indicators could be addressed collaboratively.

On June 28th, 2022, SFI hosted a Northeast (NE) Regional Workshop specifically to help SICs in that region meet Performance Measure 9.1 Indicator 1.

Performance Measure 9.1 Certified Organizations shall individually and/or through cooperative efforts involving SFI Implementation Committees or other partners identify and address the climate change risks to forests and forest operations and develop appropriate adaptation objectives and strategies. Strategies are based on best scientific information.

Indicators:

- 1. Based on best scientific information, Certified Organizations shall identify climate change risks and prioritize them based on the likelihood, nature, severity of their expected impact to their forest lands or forest tenures.*

And Performance Measure 9.2

Performance Measure 9.2 Certified Organizations shall individually and/or through cooperative efforts involving SFI Implementation Committees or other partners identify and address opportunities to mitigate the effects associated with its forest operations on climate change.

The workshop was facilitated by Todd Ontl, Climate Adaptation Specialist, Northern Institute of Applied Climate Science (NIACS). The workshop helped SICs:

- Discuss potential climate change risks to SFI-Certified Organizations and develop a regional risk assessment.
- Identify potential adaptation actions to address priority climate impacts and in some cases offer mitigation opportunities.

The full agenda for the meeting can be found in Appendix 1.

The workshop was attended by SIC Coordinators of four states - Vermont, New Hampshire, New York and Maine - as well as several organizations certified to the SFI Forest Management or Fiber Sourcing standards. A full list of attendees can be viewed in Appendix II.

The process of the workshop was to:

1. Identify Climate Change Risks,
2. Prioritize risks utilizing a matrix, and
3. Identify opportunities to adapt to risks.

1. Identifying Climate Change Risks

The Northeast US Climate Change Risks Identified were:

1. **Rising Sea levels** – Sea level along the Atlantic coast expected to rise by 7 to 23 inches by the end of the century.
2. **Warmer temperatures** – Temps in New England are projected to increase 3.5-8.5 degrees F by the end of the century, with the greatest warming expect to occur during winter.
3. **Longer Growing season** – In the NE, the growing season has already increased about 10 days over the past 50 years. By the end of the century, the growing season is projected to increase an additional 20-50 days.
4. **Milder Winters** – The winter logging season will be shorter and milder. There will be less precipitation falling as snow, as well as reduced snow cover and depth.
5. **Changing Precipitation** – Across the NE, annual precipitation is projected to increase by the end of the century, but there is a potential for reduced growing season precipitation. Intense precipitation events will continue to become more frequent. The timing and amount of stream flow is expected to change.
6. **Extreme events** – The NE Region has already experienced the largest increase in heavy precipitation events, compared to other regions of the country. Intense precipitation events will continue to become more frequent. Strong storms and wind events may also increase.
7. **Altered soil moisture and increased drought risk** - Warmer temperatures and altered precipitation will interact to change soil moisture patterns throughout the year, with the potential for both wetter and drier conditions depending on the location and season. Vapor pressure deficit is projected to increase. Forest vegetation may face increased risk of moisture deficit and drought during the growing season.
8. **Increase in insect pests and forest pathogens** – Certain insect pests and pathogens will increase in occurrence or become more damaging.
9. **Increases in invasive plant species** – Many invasive plants will increase in extent or abundance.
10. **Changes in forest composition** – Many northern and boreal tree species will face increasing stress across the region, while habitat may become more suitable for some southern species. Conditions affecting tree regeneration and recruitment will change.

2. The Risks were prioritized using the matrix below:

Risk Assessment Instructions

The effects of climate change will vary greatly, and some will have a more substantial impact on forest ecosystems and forestry operations. A risk management framework can help to identify the most significant climate change impacts and vulnerabilities and prioritize management responses. Considering these risks broadly across the Northeast region and across all SFI certified organizations can provide a common understanding that individual organizations can use to refine based on their own circumstances. This regional risk assessment is designed to help focus (not limit) an individual organization's climate change efforts.

We will use the risk matrix below to identify the highest-priority issues from among all of the impacts that have been identified.

Risk = the probability of an event multiplied by some measure of its consequence

Assessing Risk

Use the figure to determine the risk rating for each impact or vulnerability (low-high).

1. What is the likelihood of the impact or vulnerability?

Very likely— it's already beginning or has already happened

Likely— it's imminent that it will happen

Possible— there's evidence to support it happening, but depends on other factors

Unlikely— there's evidence predominately supporting that it won't happen

Very unlikely— it would be against long odds to happen, but it's still possible

2. What is the severity of the impact if it does happen?

Consider forest ecosystem health as well as forestry operations.

Negligible— there is little visible, functional, or economic consequence

Minor— there is some visible, functional, or economic consequence, but within the range of normal variability

Moderate— visible, functional, or economic consequence is slightly outside the range of normal variability

Major— visible, functional, or economic consequence is detrimental to operations and must be addressed for operations to continue

Severe— visible, functional, or economic consequence that results in system failure

		Severity of Impacts				
		Negligible	Minor	Moderate	Major	Severe
Likelihood	Very Likely	Med. Low	Medium	Med. High	High	High
	Likely	Low	Med. Low	Medium	Med. High	High
	Possible	Low	Med. Low	Medium	Med. High	Med. High
	Unlikely	Low	Med. Low	Med. Low	Medium	Med. High
	Very Unlikely	Low	Low	Med. Low	Medium	Med. High

The outcome of the prioritization was as follows:

Ranking	Climate Change Risk	Rating (Severity / Likelihood)
1	Changing Precipitation	High (Severe / Very Likely)
1	Milder Winters	High (Major / Very Likely)
1	Extreme Events	High (Major / Very Likely)
4	Increased Pests and Pathogens	Med High (Major / Likely)
5	Altered Soil Moisture	Med (Moderate / Likely)
6	Invasive Species	Med (Moderate / Likely)
7	Changes in Forest Composition	Med (Moderate / Likely)
8	Longer Growing Season	Med Low (Minor / Likely)
9	Warmer Temperatures	Med Low (Minor / Possible)
10	Rising Sea levels	Low (Negligible / Likely)

The final portion of the workshop was to identify adaptation strategies to address the top 4 risks. This yielded the following table (a further list of adaptations can be found at the [Menu of Adaptation Strategies and Approaches – Developed for forests](#)):

Risk	Impacts	Adaptations
Changing Precipitation	-Increased erosion, road costs increase. -Different tree species -logger inefficiency -logging chance/timing adjustments	-Internal business efficiency to better handle changes. -Utilizing proactive BMP's by implementing BMP during harvest activities instead of waiting until the end. -Adaptive silviculture planning and operations -Upgraded roads and infrastructure -Adjust mgmt. activities to accommodate precipitation variability. - Encourage stand diversity - Increased use of soil stabilization techniques
Milder Winters	-less winter harvest availability -different tree species -increased inoperable areas	-Adjust equipment mix to better handle less frozen ground conditions -Develop redundant or back-up plans -Upgrade road infrastructure to support wider seasonality -Implementation of BMPs during harvest activities instead of waiting until the end. -Support research and SIC Sharing of best practices to address forest responses to mild winters

		-Adjust mgmt. activities to accommodate shorter seasons
Extreme Events	- increased road costs - loss of stumpage value - altered sustainable harvest levels	-Upgrade road infrastructure to support higher flows -encourage stand diversity to promote resilience -Logger training to handle extreme events and salvage - Support research and SIC sharing of best practices to address forest responses to extreme events -System investments (LIDAR/DEM/etc.) for better business efficiency to adapt to extreme events -manage habitats over a range of sites and conditions for better adaptability -Consider Early Commercial Thinning (ECT)/Pre-Commercial Thinning's (PCT) to enhance stand resilience -consider extreme weather (i.e., wind) in laying out trails and mgmt. decisions
Increased Pests and Pathogens	-loss of stumpage value -altered sustainability harvest levels (value)	-implement internal procedures to reduce spread -maintain tree vigor through stand management thinning, etc. -encourage stand and landscape level age and species diversity -Increase monitoring and early intervention strategies

This report is intended to serve as a resource for climate smart forestry and does not constitute a complete list of adaptations. As further adaptations are realized, this report can be updated accordingly.

Appendix 1.

Northeast State Implementation Committee Regional Climate Change Workshop – June 28, 2022

PURPOSE & OBJECTIVES

The 2022 SFI Forest Management Standard includes a new Objective on “Climate-Smart Forestry,” which sets expectations for SFI certified organizations related to climate change risk assessment, adaptation, and carbon management. The Climate-Smart Forestry Objective also introduces new opportunities for engagement and collaboration via the SFI State Implementation Committees (SICs). This regional workshop is designed to help the SICs in the Northeast US exchange ideas and provide some regional information for SFI certified organizations, which they can use as a starting point.

Specifically, this workshop will help the SICs to:

- Discuss potential climate change impacts to SFI certified organizations and SFI managed forests and develop a regional risk assessment
- Identify potential adaptation actions to address priority climate impacts
- Determine how SICs will share this information with SFI certified organizations

Outcomes:

1. A ranked list of climate impacts and vulnerabilities for the Northeast region
2. An initial list of adaptation actions for SFI certified organizations to consider

WORKSHOP PRE-WORK

1. Review climate change impacts for Northeast forests.
 - a. Watch this 30-min presentation on [Climate Change Impacts for New England Forests](#)
 - b. Review this NIACS Storymap on [Climate Change Impacts and Adaptation for New England and Northern New York Forests](#)
2. Submit a short online survey to share your concerns and questions.
Respond to this short survey no later than **Wednesday, June 22:**
<https://forms.gle/QWUAQc4o7zXd1wjk6>.
3. Review the [Climate-Smart Forestry Objective](#) in the 2022 SFI Forest Management Standard

WORKSHOP AGENDA

Location: New Hampshire Timberland Owners Association - 54 Portsmouth Street, Concord, New Hampshire

Participants: Expecting 25 people, including a mix of SIC coordinators, land managers, and land owners from ME, VT, NH, and NY.

Note: All times approximate. Agenda will be adjusted to accommodate discussion.

9:00 Introduction (Gordy)

- Welcome & Introductions
- Workshop Purpose
- Connection to SFI Playbook for Climate-Smart Forestry
- Antitrust Statement

9:30 Climate Impacts and Vulnerabilities (Todd)

The goal is to create a list of the climate change impacts that are of greatest concern for SFI certified organizations and SFI managed forests. We will be considering these impacts broadly at the regional level, so we don't need to discuss these items in extreme detail. This list does not have to include every potential impact.

- Share a summarized list of climate impacts that were identified as part of the pre-work survey.
 - Review each making sure that everyone understands the issue, adding additional detail or clarification as needed.
 - Ask what other climate impacts may be missing that were not captured in the survey responses.
- Have a good discussion of climate impacts
- Don't worry about rating or ranking impacts at this point – just get the ideas down
- Gordy take Notes in Step 2 worksheet.

10:15 Break

10:30 Risk Assessment – State Groups (Todd)

The goal is to understand which climate impacts create the most concerning risks to SFI certified organizations in the region. Risks may related to the health and condition of certified forests, or they relate to the forestry operations of SFI certified organizations (e.g., infrastructure damage due to extreme rainfall). We will use a risk assessment process to evaluate how individual risks may broadly affect SFI certified organizations in the region, and then prioritize them.

- Present slides to explain process. Time frame is next 20 years. = 15 minutes [Provide an example to illustrate how to rate likelihood and severity.]
- Break into small groups by state. Each group should look at the list of climate impacts and select 5 items to evaluate using the prioritization process. You can pick any 5 based on what you think will be the most important or things you'd like to think about in more detail as a group.
- ~30 min group work time. For each item, groups should:
 - Evaluate likelihood that it will happen
 - Evaluate severity if the impact does happen – effects on forests and operations
 - Create overall risk rating
- While group is working, put diagram up in a place where people can view it (if possible).

11:15 Risk Assessment – Full Group Discussion (Todd)

- Instruct groups to use sticky notes to place their ratings on the diagram (if possible). Each team gets a different color.
 - Where groups evaluated the same impact, compare and discuss how they rated the risk of these impacts.
 - Then discuss climate impacts where only 1 group rated that impact.
 - Capture notes regarding the risk evaluation or suggestions for possible adaptation responses as appropriate
- After all items have been evaluated, go back and look through risk ratings to determine whether to prioritize items.
 - What impacts rise to the top of the list because several groups rated high risk?
 - For impacts that are low priority, why is that? Is that okay?
 - If we looked at a longer time period, would any ratings or priorities change?
- Finalize Step 3 worksheet.

12:00 Lunch

12:45 Complete Risk Assessment & Review Risk Ratings

Buffer time if needed, otherwise move ahead!

1:15 Climate Change Adaptation Concepts

Presentation on management options to help forests adapt to changing conditions. Introduce menus of adaptation strategies and approaches and describe how they can be used to connect big ideas to more targeted actions. For this workshop, the SICs will be discussing adaptation actions that could be broadly applicable across the region, rather than specific tactics to implement on individual ownerships.

1:45 Identify and Evaluate Adaptation Actions – State Groups (Todd)

Goal is to brainstorm a list of actions that SFI certified organizations could take to address the highest-priority risks. This list will be a starting point for individual organizations to consider.

- Break into small groups. Each group should consider the list of high-priority climate impacts.
- For each high-priority impact, use the worksheet to:
 - Brainstorm ~5 potential adaptation actions that could be broadly applicable to respond and adapt to the risk, trying to get many people to provide suggestions. Teams can use any of the NIACS menus to generate ideas or come up with their own.
 - Consider urgency, barriers, opportunities, and capacity for implementation
- ~45 min group work time

2:30 Break

2:45 Identify and Evaluate Adaptation Actions – Large Group Discussion (Todd)

- Groups report out
- Gordy takes notes to complete Step 4 worksheet

3:30 **Summarize & Next steps (Gordy)**

Items for discussion:

- Are there any big takeaways or 'ahas' from the discussion?
- Are there gaps or ideas we didn't discuss?
- How can we compile this information so individual certified organizations can carry the ball forward?
- What are some concrete next steps?

4:00 **Adjourn!**

Appendix II

Attendee List

Name	Organization
Ed Larson	Vermont SIC
Malcolm Milne	Durgin & Crowell
Chris Fife	Weyerhaeuser
Jeremy Miller	AFM / BBC Land, LLC
Andy Fast	U of NH
Joel Philbrook	Huber
Pat Sirois	Maine SIC
Nick Brunette	Molpus
John Bartow	NY SIC
Sean Ross	Lyme Timber
Andrew Whitman	Manomet
Andrew Brown	Wagner Forest Management
Gordy Mouw	SFI
Jasen Stock	NHTOA / NH SIC
Evan Chatmas	Sappi
Kyle Burdick	Baskahegan
Peter Johnson	7 Islands Land Company