

SFI CLIMATE SMART FORESTRY FRAMEWORK

The Sustainable Forestry Initiative (SFI) is an independent, non-profit organization advancing the value and benefit of forests as a critical component of solutions for a sustainable future. With over 360 million acres (140 million hectares) certified to the SFI Forest Management Standard in North America, and tens of millions more positively influenced by SFI Fiber Sourcing standards, SFI and SFI-certified organizations have the scale to implement nature-based solutions across the vast forested landscapes of the U.S. and Canada.

Launched in 2024, the SFI Climate Smart Forestry Initiative aims to elevate two new objectives in the 2022 Forest Management Standard focused on climate change mitigation and adaptation and fire resiliency and awareness. These objectives require certified organizations, individually or through cooperative efforts, to identify and address climate change and fire risks to forests and forest operations and develop adaptation and mitigation strategies.

To scale the implementation and deliver on the SFI Climate Smart Forestry Initiative, SFI has developed science-based Climate-Informed Principles and Practices (CLIPPs) that guide the interpretation of Climate Smart Forestry (CSF) objectives in the SFI Forest Management Standard. These principles are the vision and direction to guide and support CSF implementation.

SFI Climate Smart Forestry Framework for Adaptive Management

The CLIPPs are part of an **SFI Climate Smart Forestry Framework** for Adaptive Management (*Figure 1*). The Framework guides forest managers to inform their management for adaptation and mitigation outcomes with the following steps: ***Identify*** the current forest conditions and climate change impacts on their forests and operations as well as their contributions to climate change through their forestry operations and ***Plan*** how to implement the results of the assessment into action; ***Address*** those climate change impacts by taking action to adapt to or mitigate those impacts on forests and operations as well as taking action to mitigate the contributions of forestry operations to climate change; and ***Evaluate and Monitor*** the outcomes of their actions over time to determine the results of interventions that inform future decisions.



Figure 1. SFI Climate Smart Forestry Framework for Adaptive Management



SFI Climate-Informed Principles and Practices (CLIPPs)

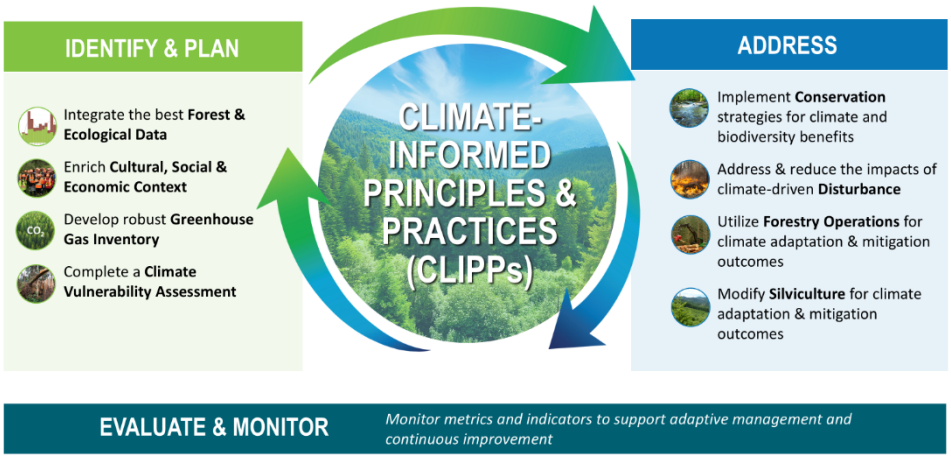

Figure 2. SFI Climate-Informed Principles (CLIPPs) over the SFI CSF Framework.

The SFI Climate-Informed Principles and Practices draw from themes throughout the SFI Forest Management Standard. *Figure 2* lists these principles, climate rationale, and their alignment across the SFI Forest Management Objectives. The CLIPPs distill research and knowledge into highly communicable strategies with recommendations for related practices to implement them. The CLIPPs further elevate current and experimental tools, on-the-ground interventions, emerging research, and traditional knowledges. With the support of expert guidance, these CLIPPs:

- Support systematic decision making for climate-informed interventions,
- Improve understanding of climate implications of different management options,
- Enhance the ability to communicate climate benefits of forestry interventions, and
- Support certified organizations in meeting the SFI Forest Management standard.

Principle: The vision and direction for sustainable forest management as embodied in the principles of the SFI 2022 Standards.

Practice: The actual application or use of an idea, belief, or method, as opposed to theories relating to it.

Source: SFI Standards, Section 14: Definitions (2022)

The SFI CLIPPs align with existing frameworks from partners like the United States Forest Service, the Adaptive Silviculture for Climate Change (ASCC) network, and Natural Resources Canada (Brandt et al. 2016, Ontl el al. 2020, NRCan 2025, Swanston et al. 2016).

The table below captures the connections between the SFI CLIPPs and the SFI Forest Management Objectives and Performance Measures (PM), grouped by each step in the SFI CSF Framework.



	CLIMATE-INFORMED PRINCIPLE	CLIMATE RATIONALE	SFI FOREST MANAGEMENT STANDARD
IDENTIFY & PLAN	Integrate the best **Forest and Ecological Data**	Forest inventory and ecological condition data provide critical insight into carbon storage, forest health, and biodiversity. In turn, this information supports efforts to enhance carbon sequestration and increase forest resilience, which are essential for climate change adaptation and mitigation.	SFI FM Objective 1, PM 1.1; Objective 4, PM 4.1; Objective 9, PM 9.1
	Enrich **Cultural, Social, and Economic Context**	Ensure management practices reflect the values, traditions, and needs of the people who depend on the forest. Integrating this knowledge helps build community support, protect culturally important species or landscapes, and create strategies that are ecologically effective, socially acceptable, and economically viable.	SFI FM Objective 1, PM 1.1; Objective 5, PM 5.4; Objective 6; Objective 8; Objective 14; Objective 15
	Develop robust **Greenhouse Gas Inventory and Accounting**	Greenhouse gas inventory and accounting track emissions from forestry activities, providing a clear picture of the sources and quantities of greenhouse gases. These data help identify emission reduction opportunities, set targets, and measure progress toward mitigating climate change.	SFI FM Objective 9, PM 9.2
	Complete a **Climate Vulnerability Assessment**	Vulnerability assessments identify regions, ecosystems, or communities most at risk from climate change impacts, enabling targeted adaptation and mitigation strategies. By understanding these vulnerabilities, mitigation efforts can focus on reducing climate-related risks to forests and forestry operations and enhancing resilience to future climate change.	SFI FM Objective 9, PM 9.1
ADDRESS	Implement **Conservation** strategies for climate and biodiversity benefits	Forest conservation strategies protect and restore vital ecosystems, enhancing forests' ability to sequester carbon and maintain biodiversity. Strategies that reduce deforestation, protect high carbon reserves, and enhance landscape connectivity helps protect and enhance stored carbon and strengthens the forest's role in climate change mitigation while supporting biodiversity.	SFI FM Objective 1. PM 1.2-4; Objective 2, PM 2.1; Objective 4, PM 4.1-2



	CLIMATE-INFORMED PRINCIPLE	CLIMATE RATIONALE	SFI FOREST MANAGEMENT STANDARD
	Address and reduce the impacts of climate-driven **Disturbance.**	Activities that reduce the risk of disturbance and impacts from disturbance (such as wildfires) prevent the release of large amounts of carbon stored in forests. Implementing strategies like controlled burns and creating firebreaks, help maintain forest health, resilience, and carbon sequestration capacity, thus supporting climate change mitigation (Beverly et al. 2021). Post-disturbance forest restoration helps mitigate climate change by enhancing carbon sequestration and storage, reducing soil erosion, further supporting ecosystem resilience in the face of climate impacts.	SFI FM Objective 2, PM 2.4; Objective 4 PM 4.1; Objective 10 PM 1.1-2
	Utilize **Forestry Operations** for climate adaptation and mitigation outcomes.	Forestry operations contribute to climate change by using fossil fuels and disrupting stored carbon. Adjusting operations can help mitigate climate change and reduce greenhouse gas emissions through actions that reduce fossil fuel use of equipment, increase operational efficiency, and repurpose forest biomass for energy production or new final products that decrease fossil use and promote a circular bioeconomy. Forestry operations and infrastructure can be adapted to be resilient to climate change impacts such as shorter winters, severe storms, and wildfire and sustain ecological functions by preventing the introduction of invasive species, restoring hydrology, and reducing impacts to soils.	SFI FM Objective 2, PM 2.3-4; Objective 3, PM 3.1-2; Objective 7, PM 7.1; Objective 9, PM 9.2; Objective 10, PM 10.1
	Modify **Silviculture** for climate adaptation and mitigation outcomes	Silvicultural strategies, that maintain or enhance sequestration capacity and existing carbon stocks, can help maintain forest structure and health, allowing forests to continue sequestering carbon and supporting biodiversity, contributing to climate change mitigation. Maintaining or increasing ecosystem function, such as promoting diverse tree species and varied age structures, enhances ecosystem resilience and carbon storage. This approach strengthens forest ability to adapt to climate change, supports biodiversity, and boosts long-term carbon sequestration (Messier 2019).	SFI FM Objective 1, PM 1.1; Objective 2, PM 2.1-5; Objective 9, PM 9.2



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