



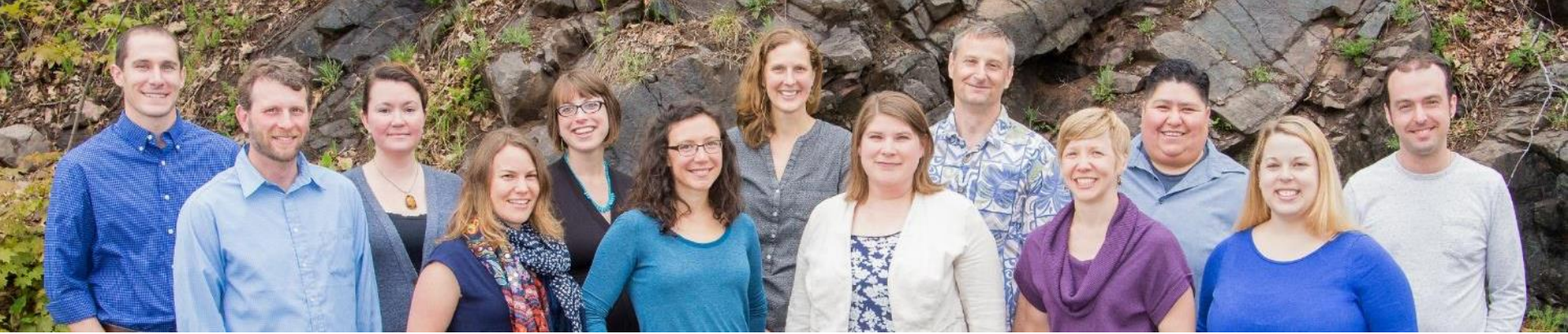
OPERATIONALIZING ENVIRONMENTAL JUSTICE

CLIMATE CHANGE RESPONSE FRAMEWORK

Chris Swanston
Stephen Handler
Maria Janowiak
April 24, 2017



Northern Institute of Applied Climate Science



Climate

Carbon

Provides **practical** information, resources, and **technical assistance** related to forests and climate change



Regional multi-institutional partnership among:



Michigan
Technological
University



ncasi

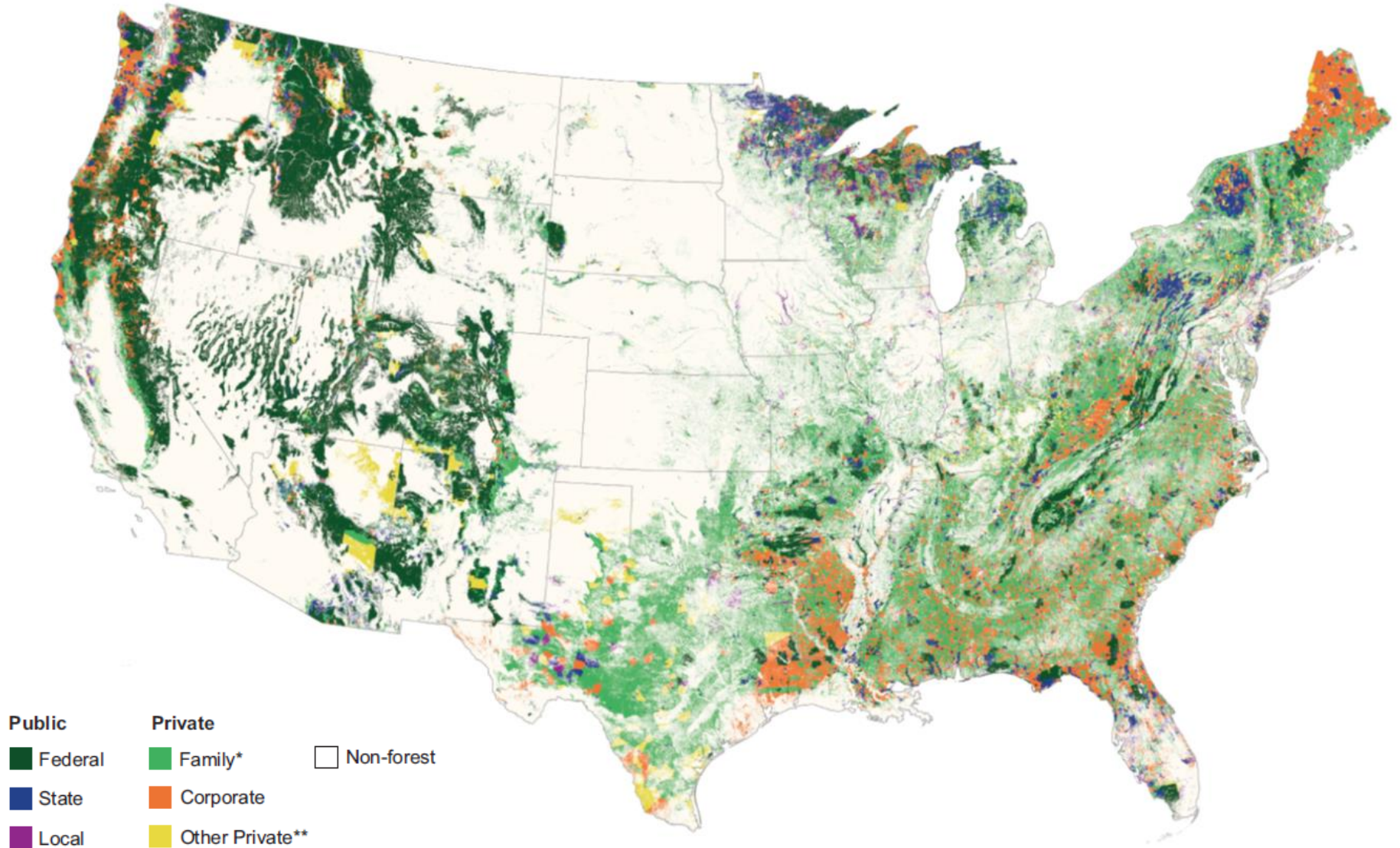


The
UNIVERSITY
of VERMONT



UNIVERSITY OF MINNESOTA

Diverse Forest Ownership



Hewes et al. 2014



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Our approach is pretty
simple....

Listen to people and their needs



Consider their
place
and its realities



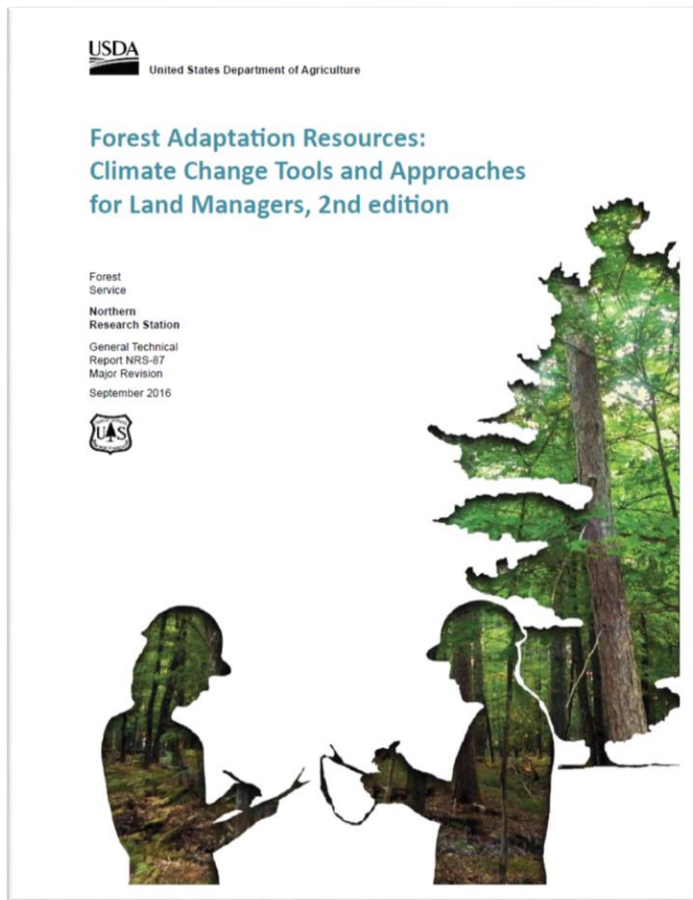
*Consider their
place
and its realities*



Be creative & flexible



Forest Adaptation Resources



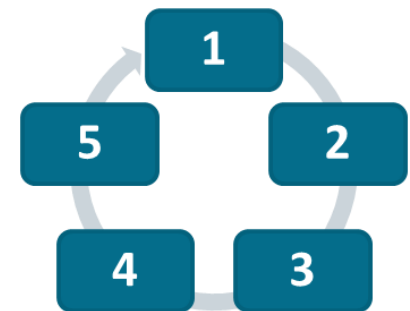
Strategies & Approaches

Menu of adaptation actions



Adaptation Workbook

- Structured process to integrate climate change considerations into management Workbook approach



Also online: AdaptationWorkbook.org

Swanston et al. 2016 (2nd edition);
www.treesearch.fs.fed.us/pubs/52760

Forest Adaptation Resources

The **Menu** helps you create **clear rationale** for your actions by connecting them to **broader adaptation ideas**.

“Intentionality”
“Success”



Swanston et al. 2016 (2nd edition);
www.treearch.fs.fed.us/pubs/52760

Forest Adaptation Resources

Adaptation Workbook provides “structured flexibility”



Forest Adaptation Resources

- Step-by-step **Adaptation Workbook** for planning

Management Objectives	Challenges	Opportunities	Feasibility	Other Considerations

Adaptation Actions			Benefits	Drawbacks/ Barriers	Recommend Tactic?
Approach (From Chapter 2)	Tactic	Time Frame			

Forest Adaptation Resources

Management Goals
& Objectives

Menu + Workbook

Climate Change
Impacts

Challenges &
Opportunities

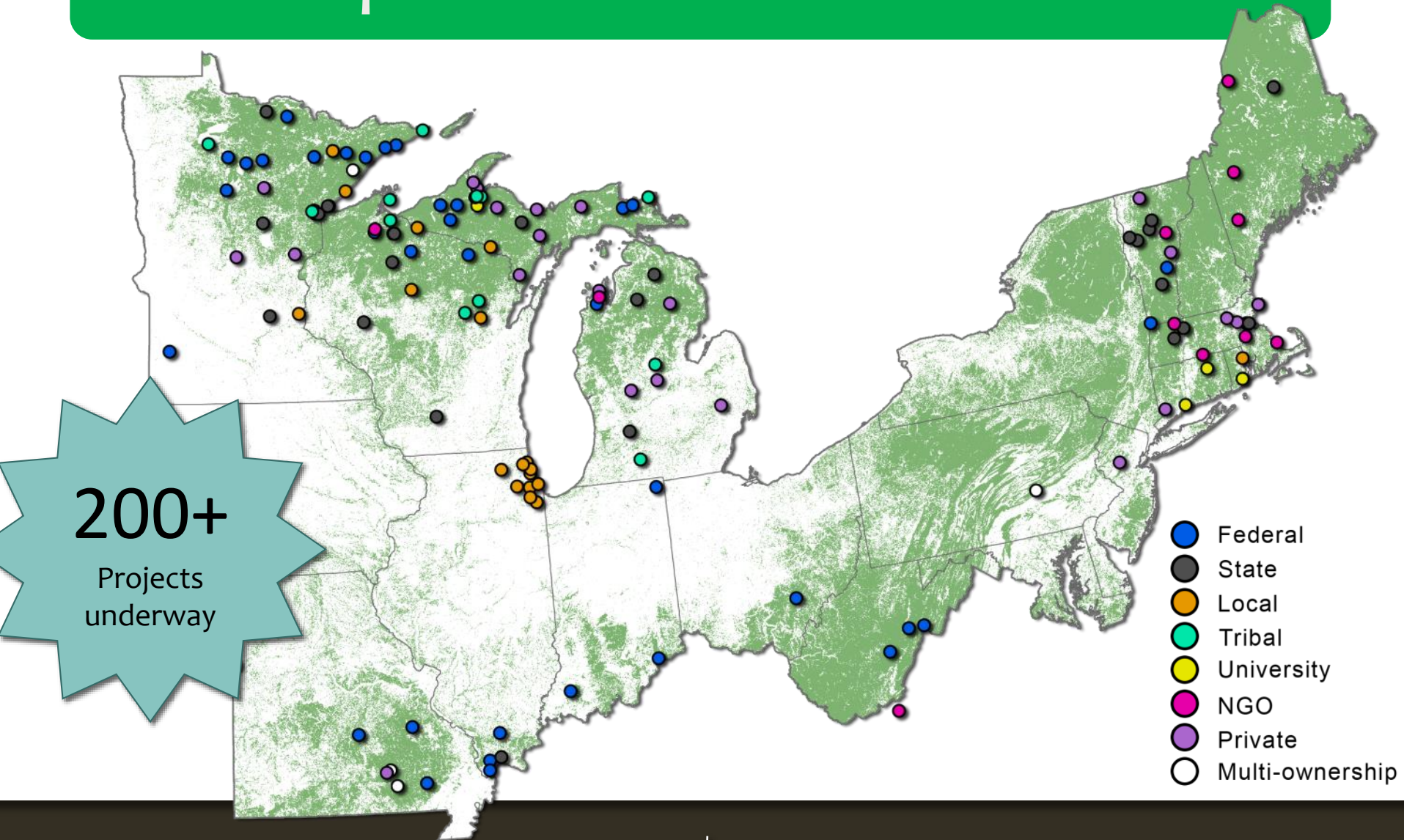
Intent of Adaptation
(Option)

Make Idea Specific
(Strategy, Approach)

Action to Implement
(Tactic)

Why it's important:
Helps connect the dots
from broad concepts
to specific actions for
implementation.

Adaptation Demonstrations



Keweenaw Bay Indian Community Sugar Maple Diversity



- Managing sugar maple to maintain high-quality maple syrup collecting
- Shifting spring phenology, maple decline
- “Common garden” test with sugar maple seedlings from across the species range

Lac du Flambeau Band of Lake Superior Chippewa Wild Rice Restoration



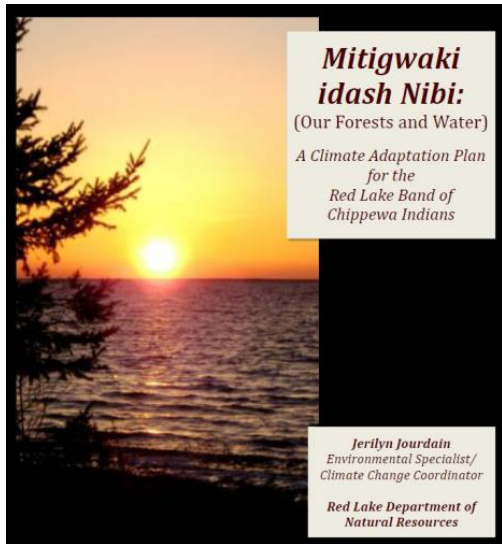
- Re-establish and expand wild rice
- Water level changes, heavy precip during vulnerable life stages
- Active management of water quality and quantity, managing lakes as well as upland forests

Pokagon Band of Potawatomi Wetland Forest Restoration



- Restore and maintain culturally important species (ash)
- Forested wetlands will become open wetlands without trees to pump water
- Promoting a less-vulnerable replacement (blue ash), protecting individual trees from EAB with injections

Red Lake Band of Chippewa Indians Integrated Resource Management Plan



- Prepare an comprehensive Climate Adaptation Plan
- Aspen decline, water table changes, frozen ground
- Use the Adaptation Workbook in conjunction with climate change planning curriculum (Climate Solutions University)

Adaptation Demonstrations

Learn through examples!!

- Diversity in lands
- Diversity in objectives
- Acknowledge difference, build on similarities
- Demonstrate shared perspectives

forestadaptation.org

The screenshot displays the 'Climate Change Response Framework' website. At the top, there is a navigation menu with links for Home, Our Approach, Projects, Demos, Products, Partners, Resources, and Contact. Below the menu is a map of the United States with colored dots indicating the status of demonstration projects: Start-Up (red), Planning (orange), Action (green), and Evaluation (black). The map shows a high concentration of projects in the Northeast and Midwest regions. To the left of the map is a vertical list of project categories, each with a representative image: Central Appalachians, Central Hardwoods, Mid-Atlantic, New England, Northwoods, and Urban. Below the map is a search and filter section for 'Demonstration Projects'. It includes a 'Keywords Full List' dropdown, 'State' and 'Landowner Type' dropdowns, and a 'Status' dropdown. There are also 'Go' and 'Reset' buttons. At the bottom, there is a 'News & Events' section with a small image of people in hard hats.

Climate Change Response Framework

Home Our Approach Projects Demos Products Partners Resources Contact

Map Satellite

● Start-Up ● Planning ● Action ● Evaluation

MINNESOTA MINNAPOLIS WISCONSIN IOWA ILLINOIS INDIANAPOLIS INDIANA OHIO MISSOURI KANSAS CITY MISSOURI KENTUCKY NASHVILLE

Central Appalachians

Central Hardwoods

Mid-Atlantic

New England

Northwoods

Urban

Demonstration Projects

Demonstration projects are real-world examples of how managers have integrated climate considerations into forest management planning and activities. These projects use the partnerships and resources developed through the Framework to test new ideas and actions for responding to changing conditions. Demonstrations come in all shapes and sizes, showing a variety of adaptation actions that also achieve forest management goals.

Keywords Full List State Landowner Type Status

Choose some options --Any-- --Any-- --Any-- Go Reset

News & Events

Narragansett Bay National Estuarine Research Reserve: Prudence Island Heritage Unit
This forest on Prudence Island has been degraded by forest pests and invasive species, and work is underway to develop a strategy to restore healthy forest conditions while also adapting to climate change.

Environmental justice in practice

Build trust

- Show up. Listen. Be transparent. Be humble.

Climate-informed decisions are typically about people and place, not about climate

- Help people do their jobs and meet their goals
- “Structured flexibility” gets them to *their* answer

Their place, their knowledge, their decision

Thank you!!



Chris Swanston
cswanston@fs.fed.us





Forest Adaptation Resources

Ways the **Adaptation Workbook** can be used:

- Coordinator facilitates individual or small group
- Forest Adaptation Planning and Practices workshop
 - General (state agencies; SFEC)
 - Tribal (Sault; Menominee)
 - Conservation (WCS; DU)
- Managers use the workbook independently
 - Online version!!



Forest Adaptation Resources

Adaptation Workbook.org

- Interactive, self-guided, flexible
- National - tailored by location
- Creates custom adaptation plan based on inputs
- Distance learning courses
- Western integration

The image displays two screenshots of the Adaptation Workbook.org website. The top screenshot shows the main landing page with the title 'Adaptation Workbook' and the subtitle 'a distance learning tool for forest management and conservation'. It features three main categories: 'FORESTS', 'URBAN FORESTS', and 'AGR. CULTURE', each with a representative image. Below these are navigation buttons for 'Get Started' and 'About'. The bottom screenshot shows a detailed view of the 'Management Goals and Objectives' section. It includes a sidebar with navigation options like 'My dashboard', 'Logout', 'Home', 'Handout Pages', 'Programs/Sections', and 'Steps'. The main content area is titled 'Management Goals and Objectives Instructions' and lists 'General Goals for the entire property or project area', 'Crop Goals and Objectives', and 'Greenhouse Goals and Objectives'. The 'Crop' goal is expanded, showing a specific objective: 'Generate \$1000,000 of farm income by growing vegetables'. It includes a description of the goal, a 'Does this goal apply to these Management Topics?' toggle, and a list of applicable topics: 'Crop', 'Greenhouse', and 'Biodiversity'. The 'Crop' topic is selected, and its description is shown: 'Land used primarily for the production and harvest of annual or perennial for, forage, food, fiber, horticultural, orchard, vineyard, or energy crops. May also include lands used for silvopasture between rows of trees.'