URBAN FORESTRY CLIMATE CHANGE RESPONSE FRAMEWORK

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US Forest Service

Northern Institute of Applied Climate Science

Climate

Carbon

Bioenergy

NIACS
Northern Institute of Applied Climate Science

www.nrs.fs.fed.us/niacs/

NIACS is a regional multi-institutional partnership

Forest Service

- Northern Research Station
- Eastern Region
- Northeastern Area S&PF

Non-FS partners

- Michigan Technological University
- University of Minnesota
- National Council for Air & Stream Improvement
- Trust for Public Land

FOREST SERVICE US DEPARTMENT OF AGRICULTURE

Michigan Technological University

ncasi

University of Minnesota

The Trust for Public Land

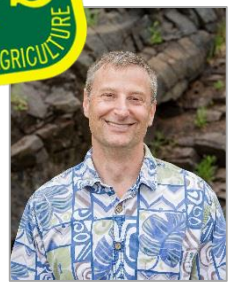
2009

Michigan Technological University

Maria Janowiak

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

Leslie Brandt



Chris Swanston

NIACS
Northern Institute of Applied Climate Science

Today!

NIACS
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FOREST SERVICE
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Michigan Technological University


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Patricia Butler


Jim Klapperich


Shawn Klomparens


Kailey Marcinkowski


Kristen Schmitt


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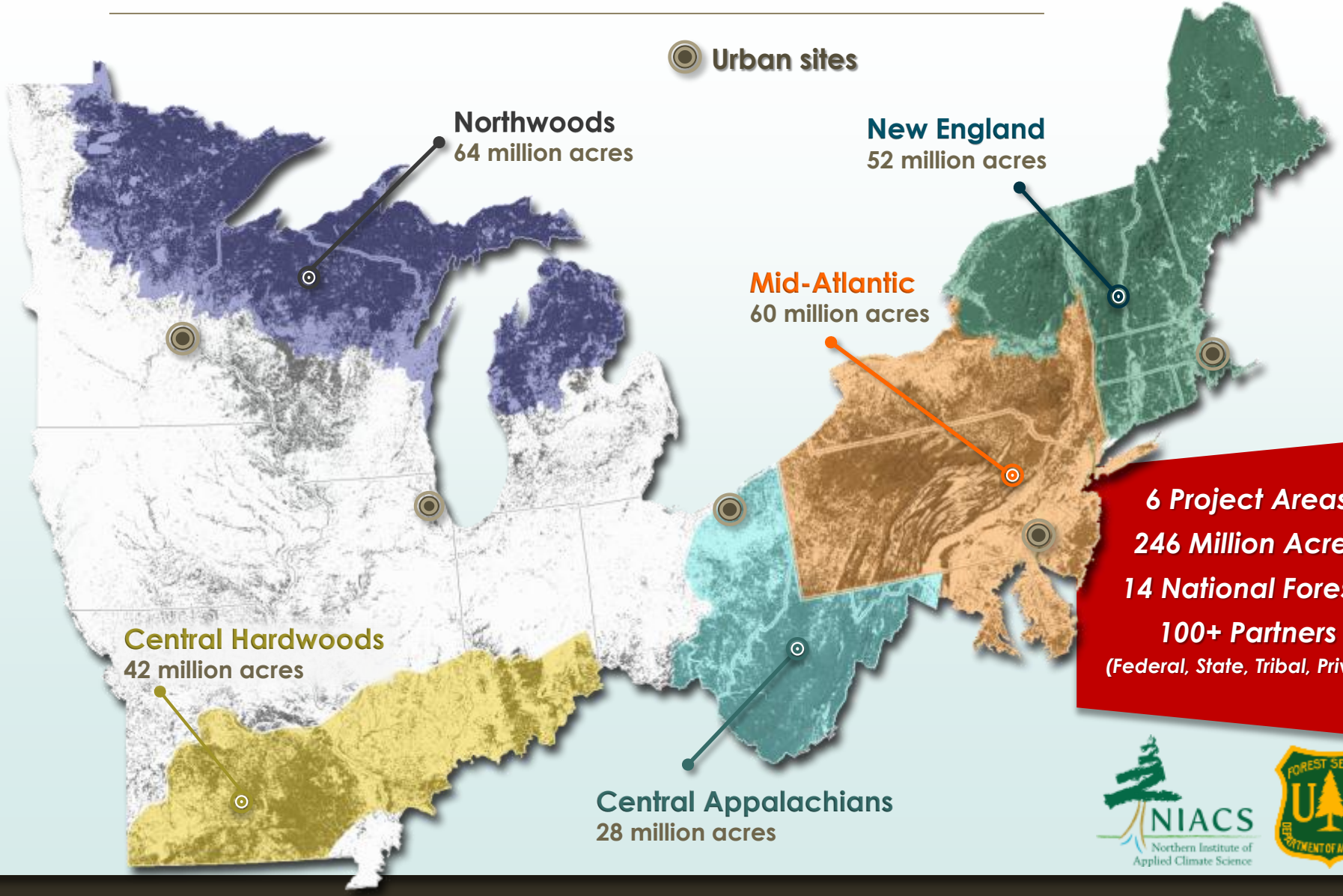
CLIMATE CHANGE **RESPONSE** FRAMEWORK



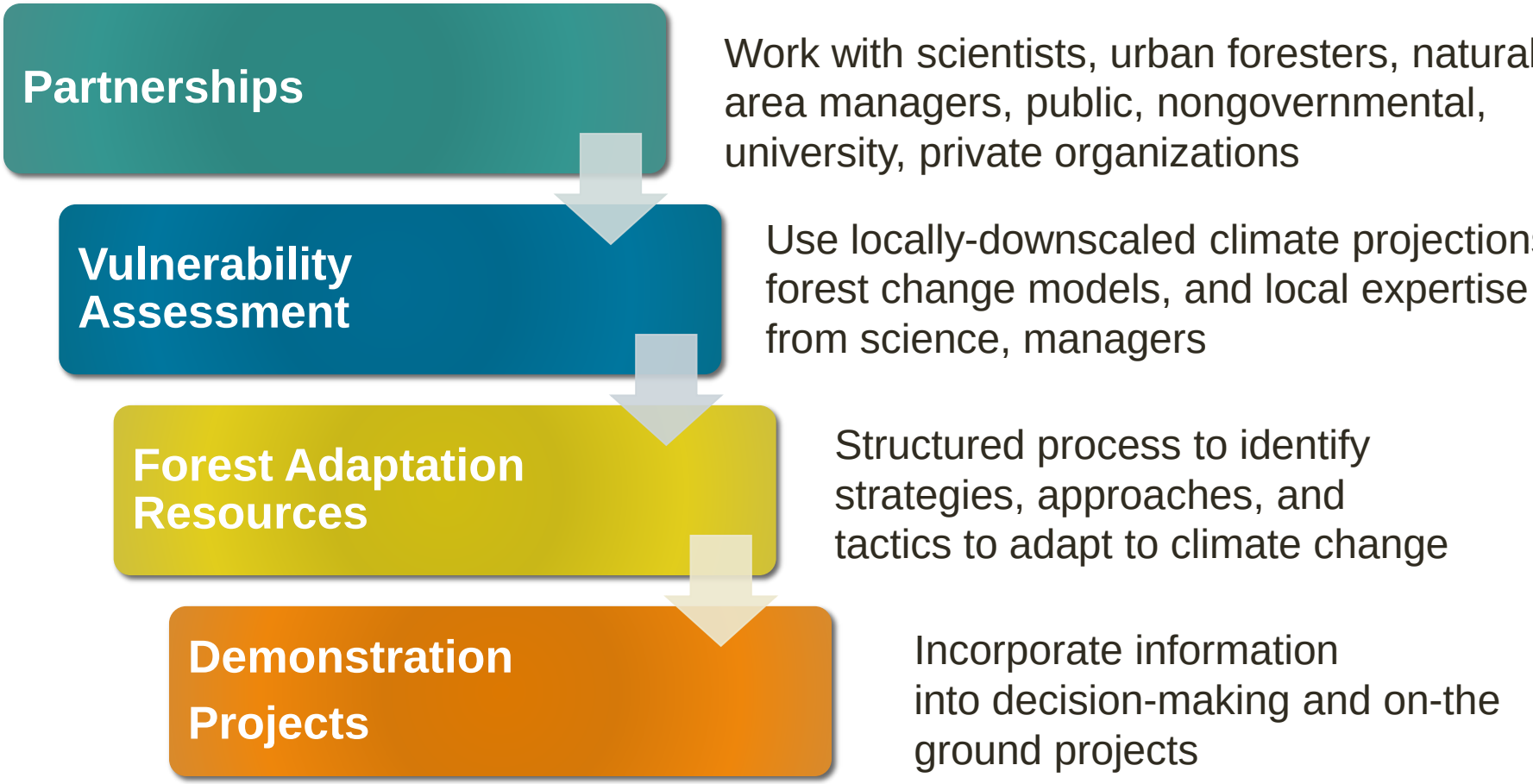
Climate-Informed Conservation and Forest Management

forestadaptation.org

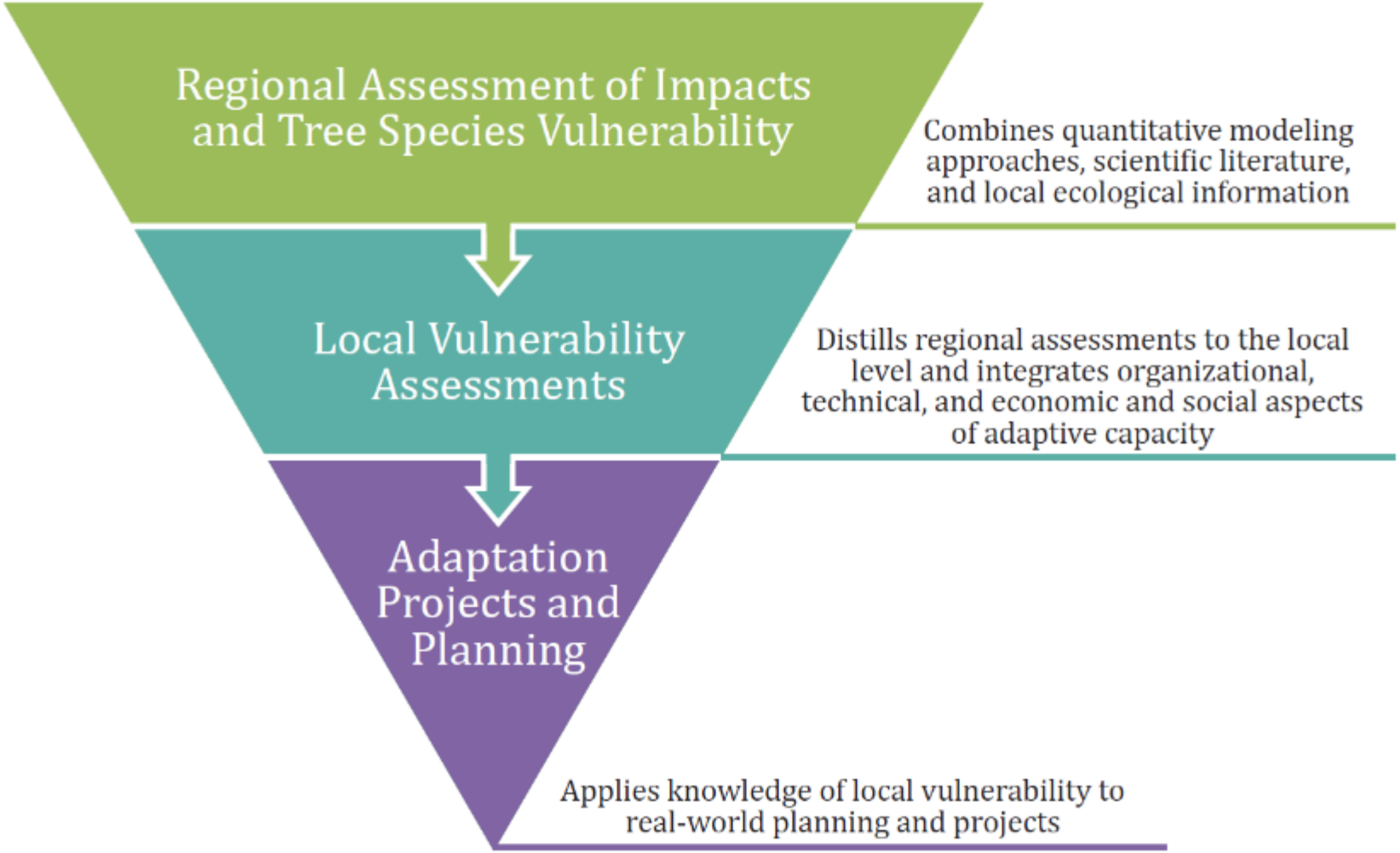
Climate Change Response Framework Goal

- Integrate local information about climate change impacts into natural resource management decisions and planning

CCRF: General Approach

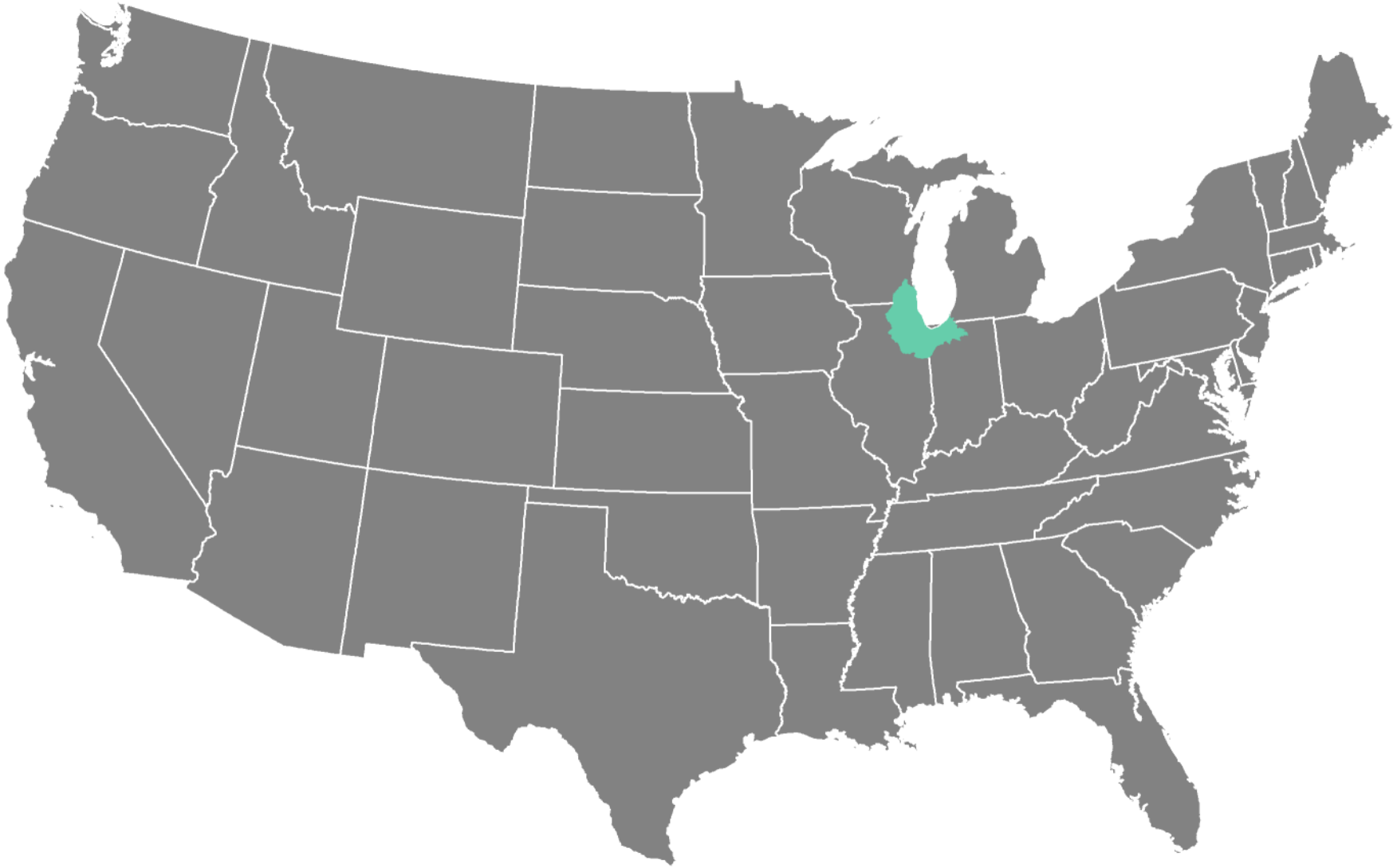


Urban Forestry
Climate Change Response Framework



Pilot Urban area: Chicago Wilderness

2014-present



KEY PARTNERS

CHICAGO REGION TREES INITIATIVE

Our Trees.
Our Communities.
Our Future.

GREENING *Infrastructure*

ClimateACTION

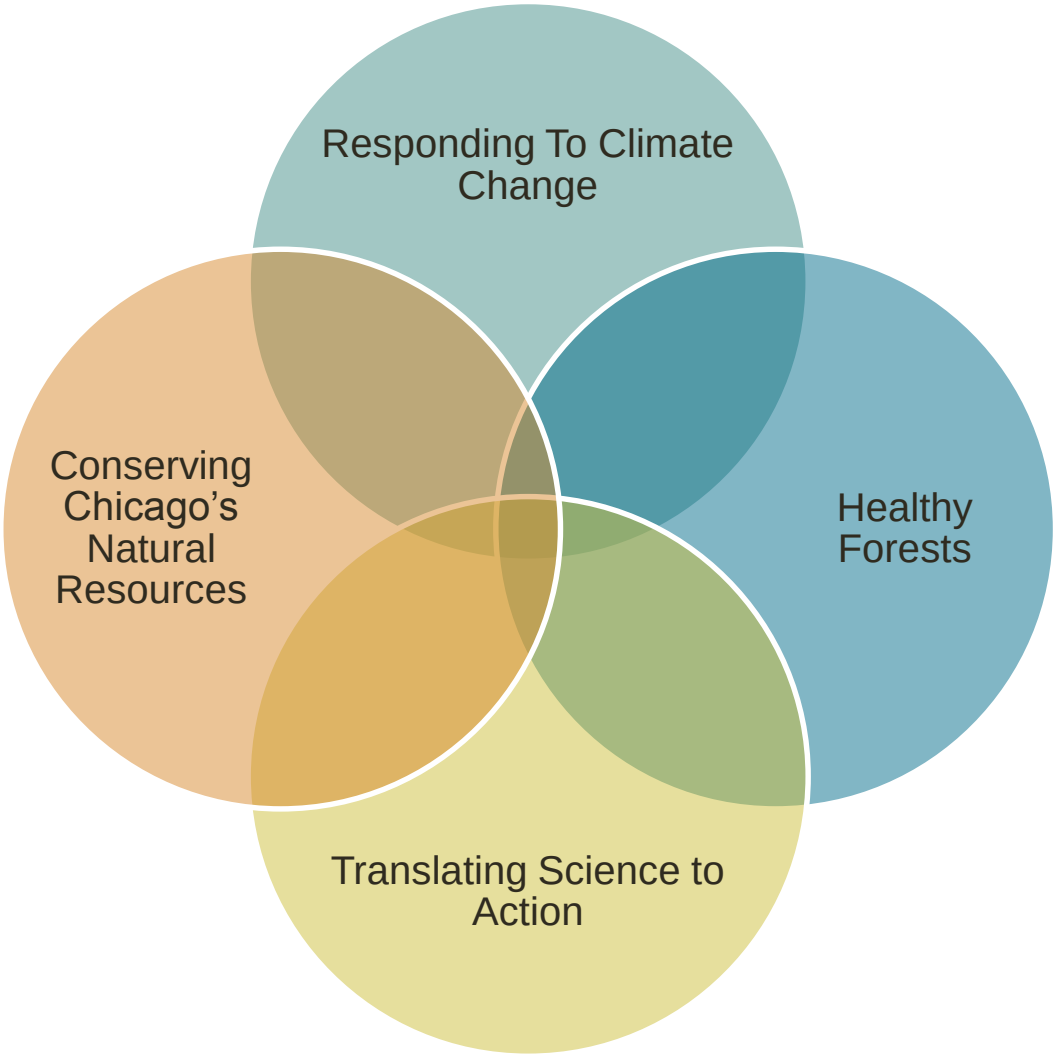
Chicago Wilderness

A regional alliance dedicated to protecting nature and enriching life

How do you think these organizations would benefit from participating in this project?

(type in chat box)

Overlapping Goals and Missions



Building Relationships

- 2013
  - Asked Field Museum adaptation scientist to review forest adaptation strategies list for report
  - Field Museum scientist asked local Chicago Wilderness partners if list could be modified for urban areas
  - Chicago Wilderness partners worked together to modify list
  - Field Museum scientists came back to NIACS to ask if they would work with us to share/apply list
  - NIACS brought in other Forest Service partners to discuss an "urban framework" project
- 2014
  - Initial stakeholder input meeting to define project goals/roles
  - Built on existing MOUs/relationship with Chicago Wilderness and Morton Arboretum

PROJECT TEAM

	ORGANIZATIONS	KEY ROLES	NUMBER	TIME CONTRIBUTIONS (% FTE)
PROJECT COORDINATOR	US Forest Service/Northern Institute of Applied Climate Science	Manage project, lead author of reports, design and lead workshops, key lead on project design	1	50
LOCAL REPRESENTATIVE(S)	Field Museum, Morton Arboretum	Engage local community, write large report sections, help organize and execute workshops	2	10-15
KEY COLLABORATORS	US Forest Service, Field Museum, Morton Arboretum, Chicago Botanic Garden, Chicago WIlderness	Provide model projections, input on scientific process, contribute writing, workshop assistance	10	5-10
OTHER CONTRIBUTORS	Municipal, County foresters and natural resource managers	Contribute expertise, data or images; participate in workshops	20	1-5

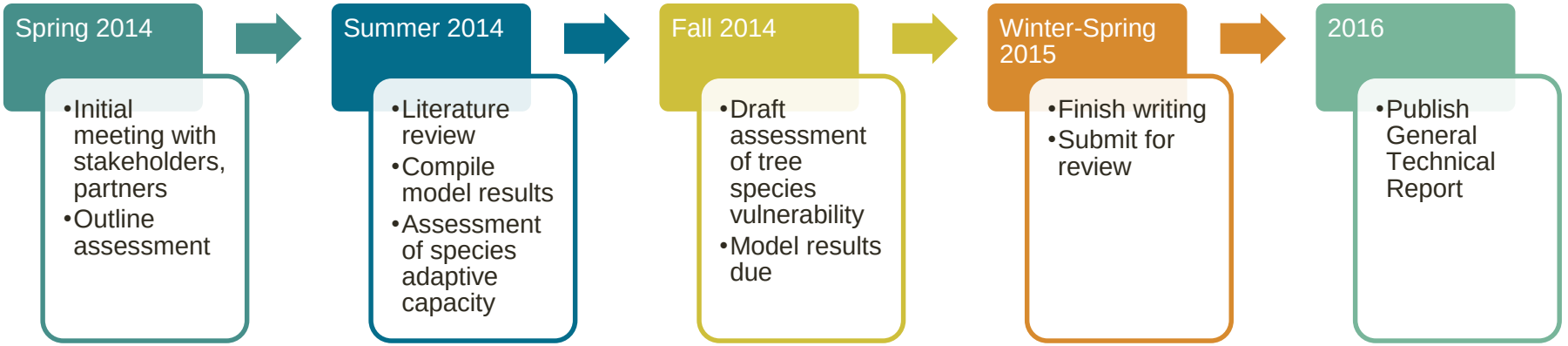
Budget

- Applied for competitive grant through Northeastern Area State and Private Forestry (US Forest Service), but was not funded
- Made use of existing operating funds for salary, travel
- Morton Arboretum donated conference space
- Chicago Wilderness, Morton Arboretum donated lunches for workshop participants

Step 1: Regional Assessment

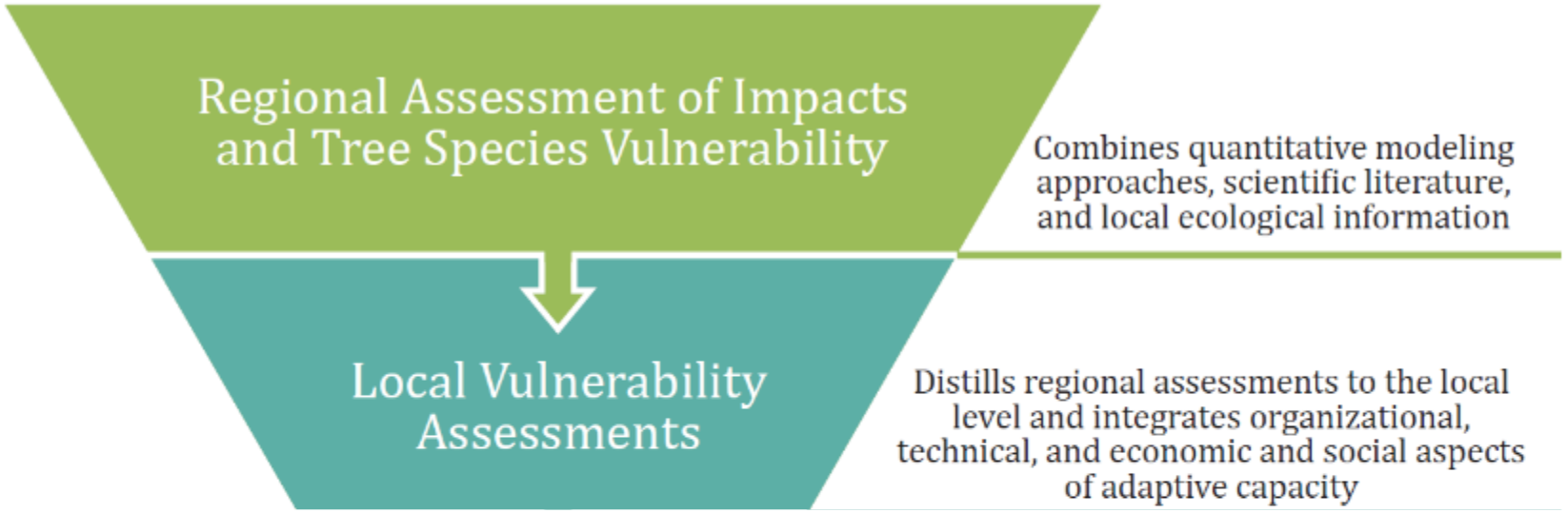
Combines quantitative modeling approaches, scientific literature, and local ecological information

Assessment Process

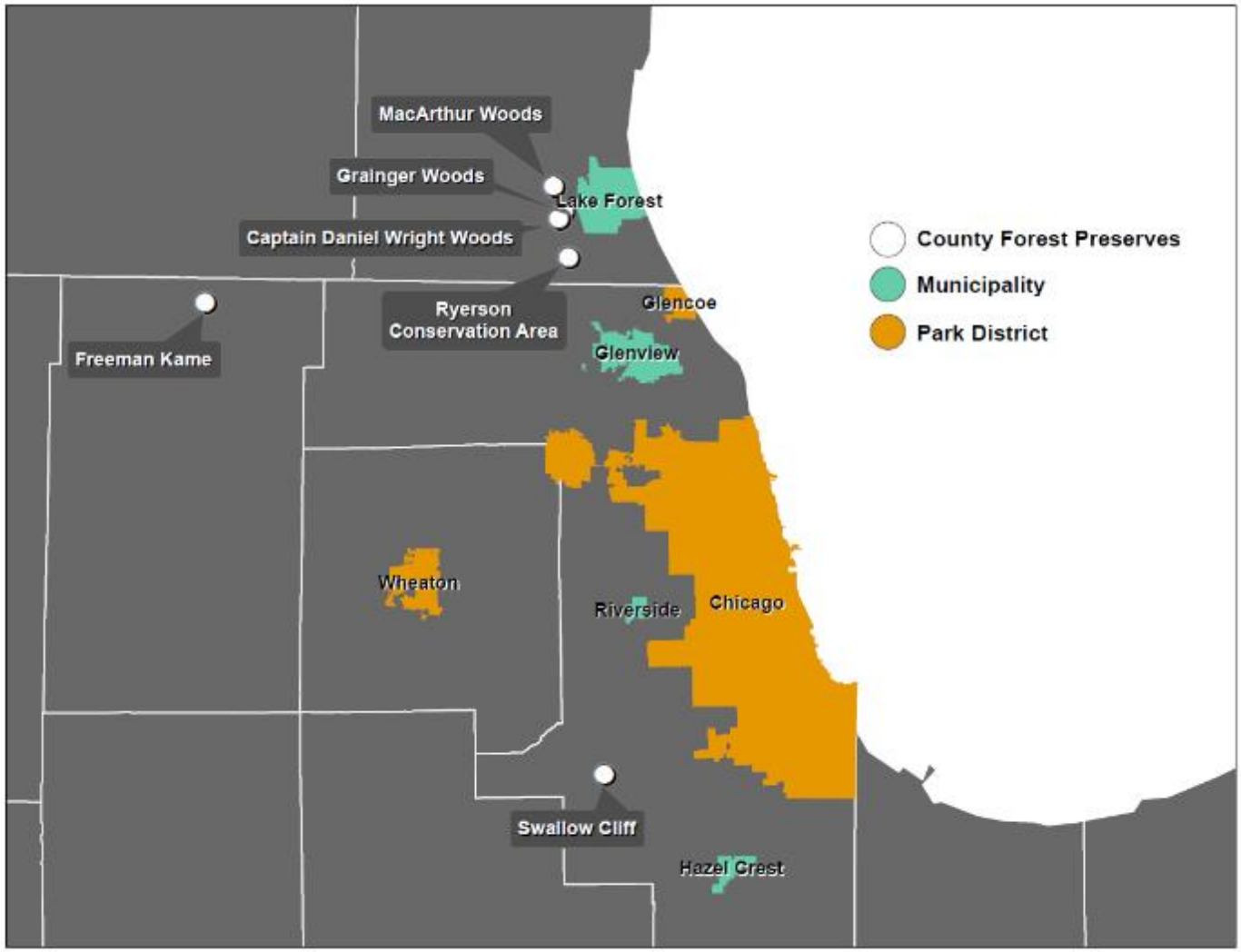


- Made use of existing models and data
- Built on previous efforts (Chicago Climate Action Plan, Biodiversity Recovery Plan)
- Divided up the writing to make it manageable

Step 2: Local Assessments



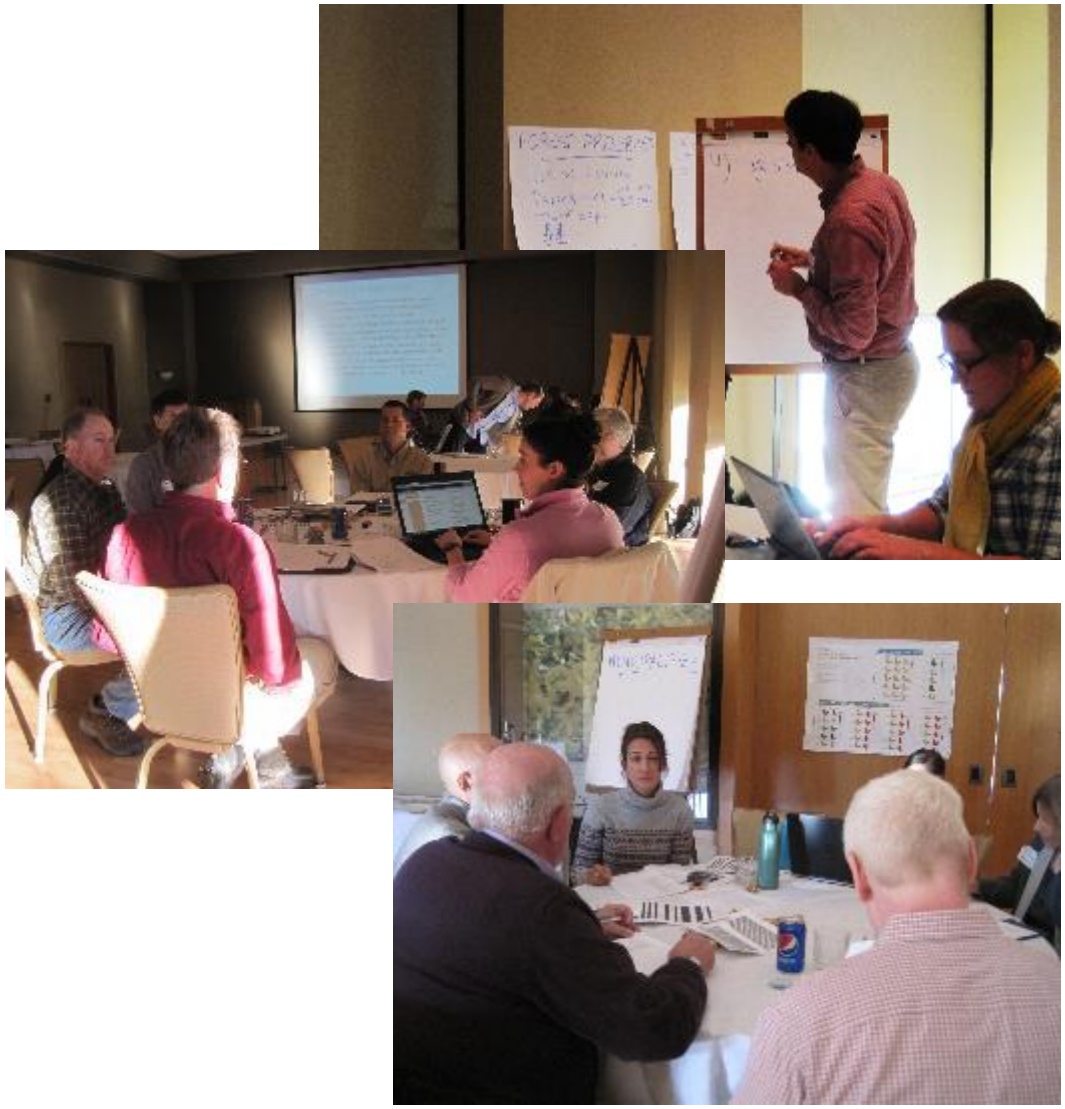
Pilot Communities



People recruited through Chicago Region Trees Initiative, personal calls

Vulnerability Workshop

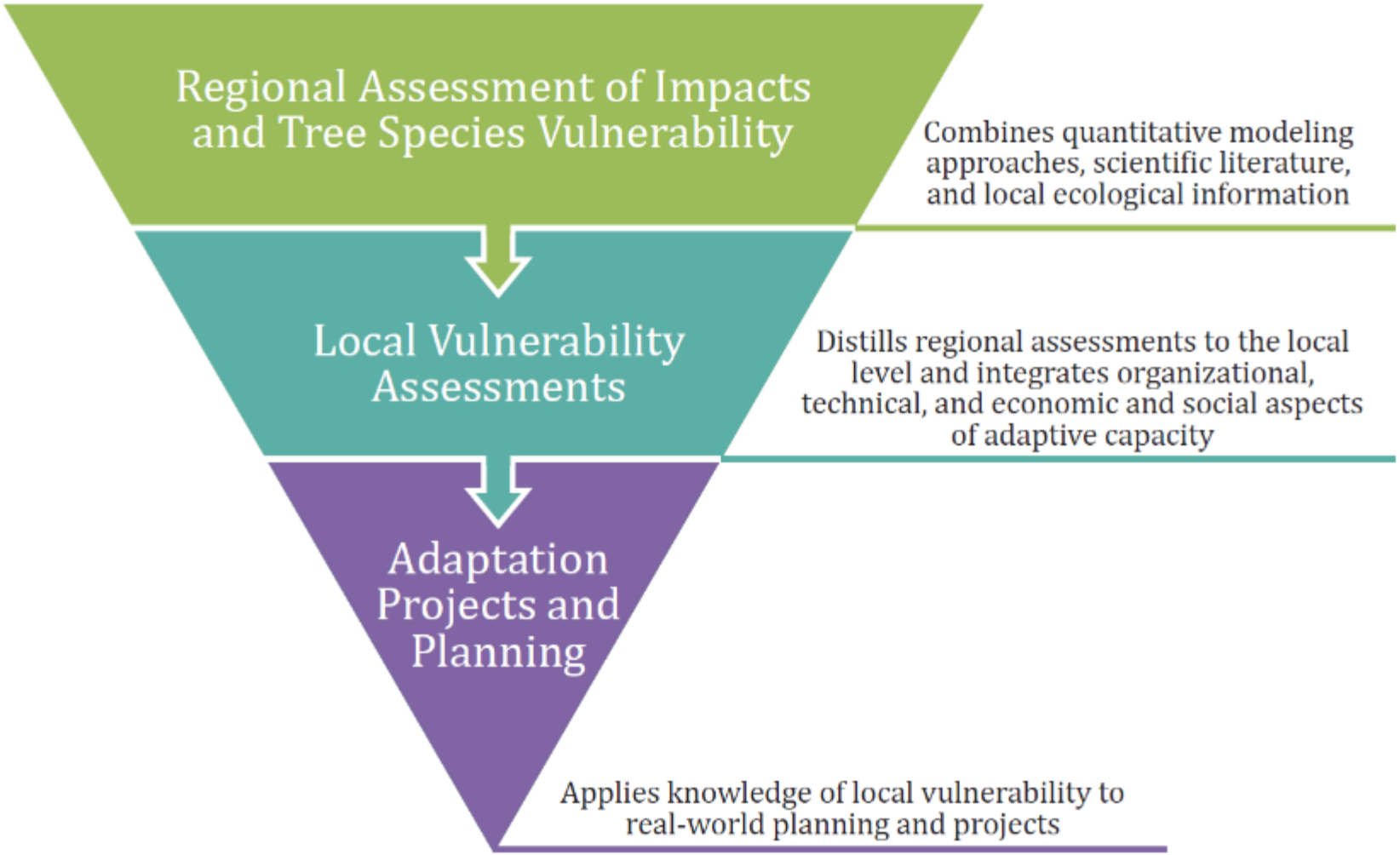
- Presentations on climate change, tree impacts
- Provided information on local changes in heat and hardiness zones, tree species vulnerability
- Facilitated local assessment process



Facilitated Worksheet Approach

Regional Impact	Local Consider-ations	Explanation	Overall Effect	Confidence
Example: increase in heavy rain events	Example: Is your area on a flood plain? (y/n)	Example: *Part of the area is in a flood plain near the river, but most is not.*	Rating: *positive, neutral, negative*	Rating: *low, medium, high*

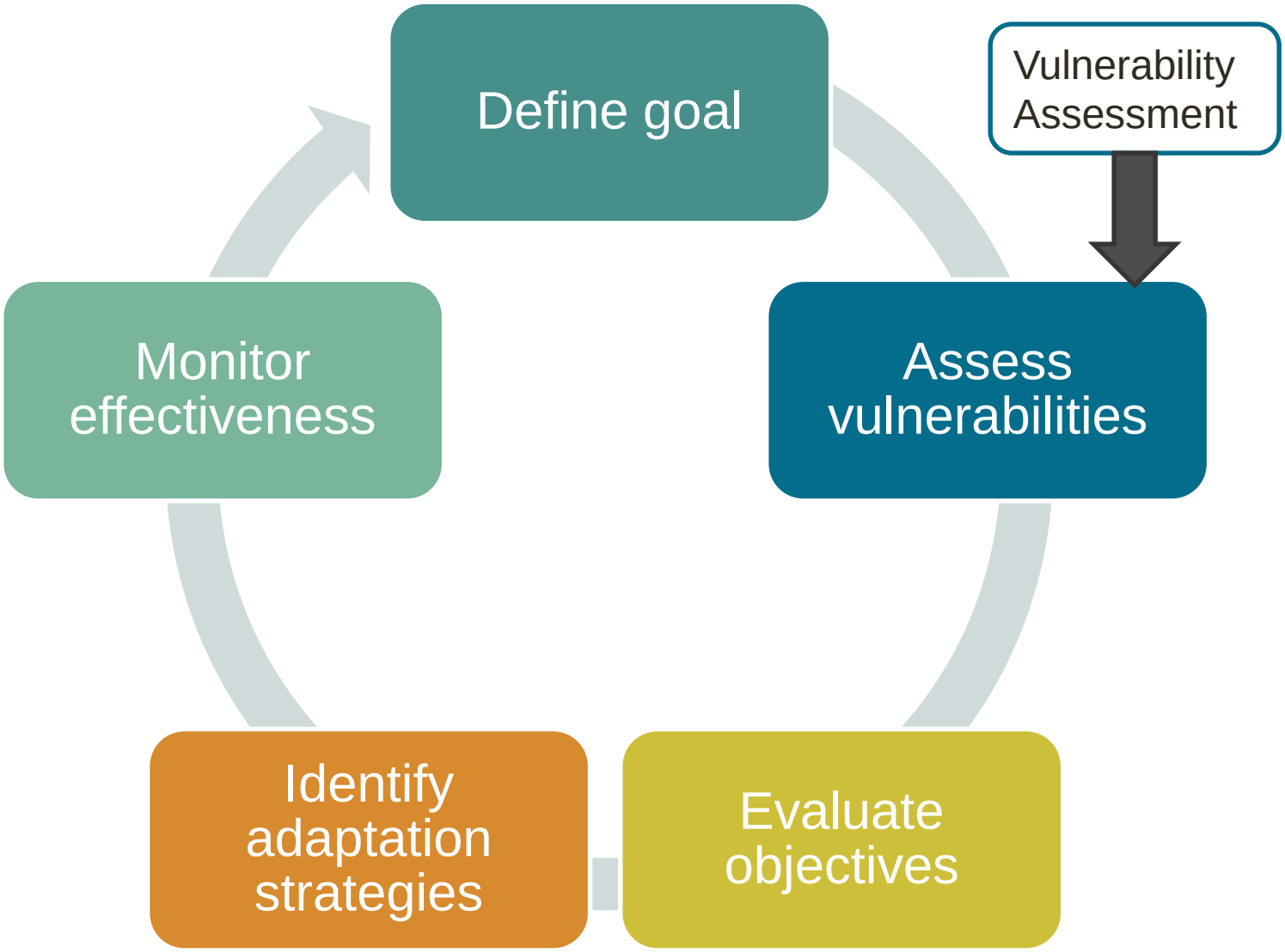
Step 3: Adaptation Projects



Adaptation Workshop

- Same participants from vulnerability workshop
- Bring a real world project
- Presentations on adaptation concepts
- Facilitate participants through structured process

Adaptation Workbook Process



Adaptation Projects-Continued

- Projects written up as case studies on our website (forestadaptation.org)
- Applied for funding to support "demonstration sites" through Wildlife Conservation Society Adaptation Fund

Pilot Outcomes

- ✓Increased knowledge of local climate change impacts.
- ✓Structured process to incorporate climate considerations.
- ✓Greater familiarity with adaptation concepts.
- ✓Empowerment: everyone can do something.

"This is a great process to go through. It breaks from the typical "Putting out fires" philosophy" –participant evaluation

"I think that the climate change topic can be intimidating and that many urban foresters will think there is nothing they can do. [We are] connecting how their current practices are actually a step in the right direction." –participant evaluation

Lessons Learned

- ✓Find local organizations with overlapping missions
- ✓Capitalize on existing efforts and data
- ✓Small contributions by many organizations can make a big difference
- ✓Large written assessments unsustainable: summarize key points!

Project Expansion: 2016