



# Moving beyond climate change impacts to adaptation actions

The time is ripe

Planning tools exist

Models for moving beyond planning to action

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GOOD news...  
...less about whether climate is changing



BAD news...

Roughly 4 in 10 Americans feel  
"helpless" and "sad"  
about climate change

Yale Project on Climate Change  
Communications (2013)



The sky is  
falling!

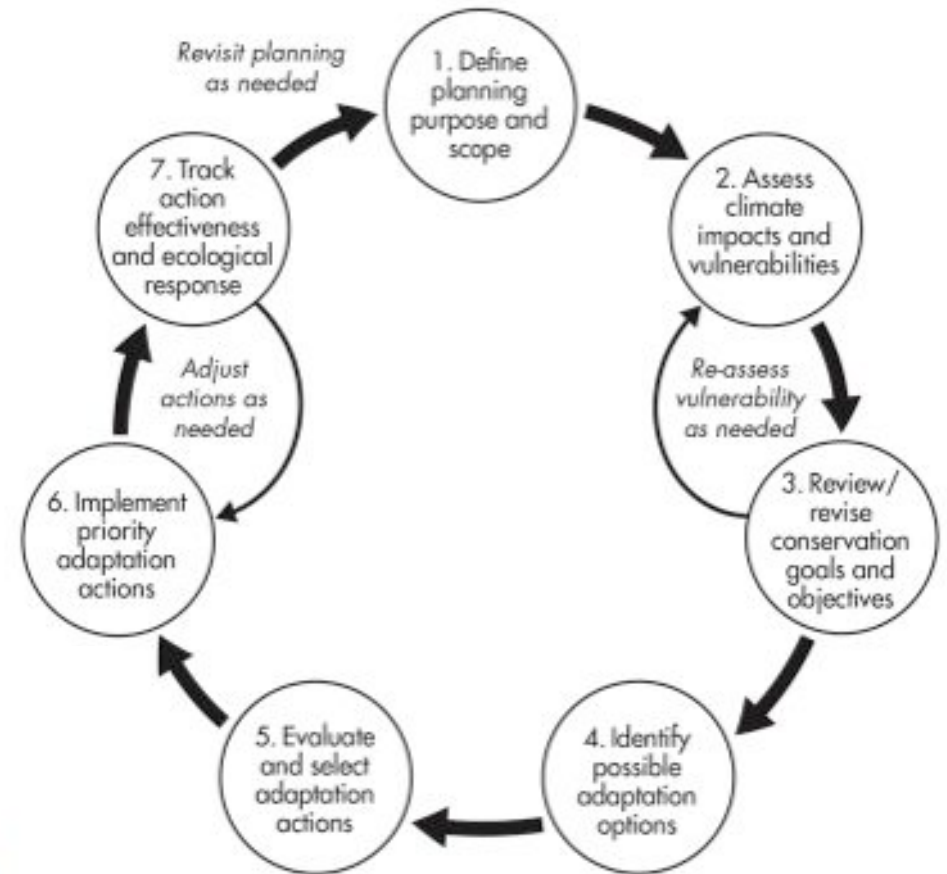
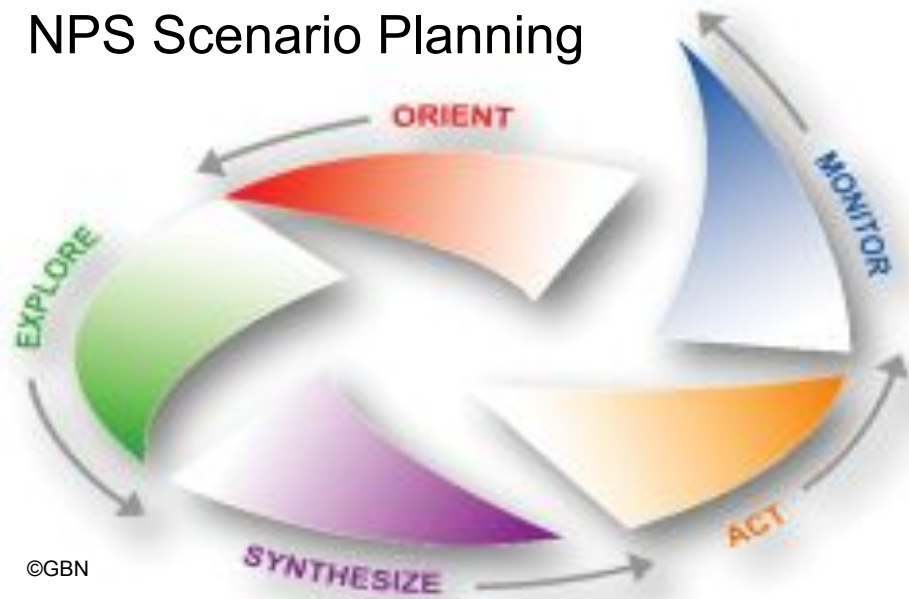


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# Climate Planning Processes

## NPS Scenario Planning



Climate-Smart  
Conservation Cycle



Geos Institute

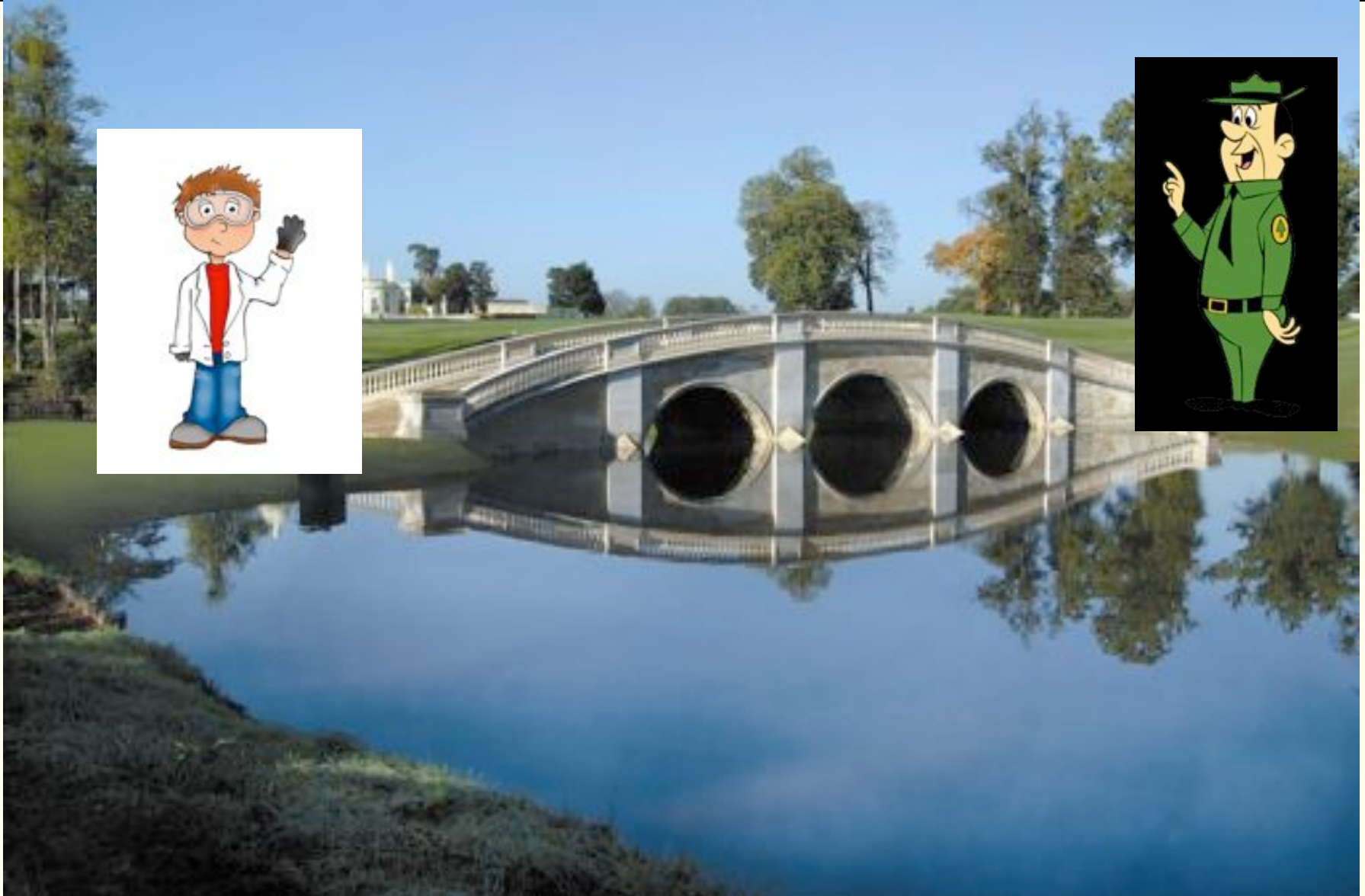
Many similarities:

**participatory** and **iterative**  
processes...

...for generating  
**place-based adaptation**  
**strategies**

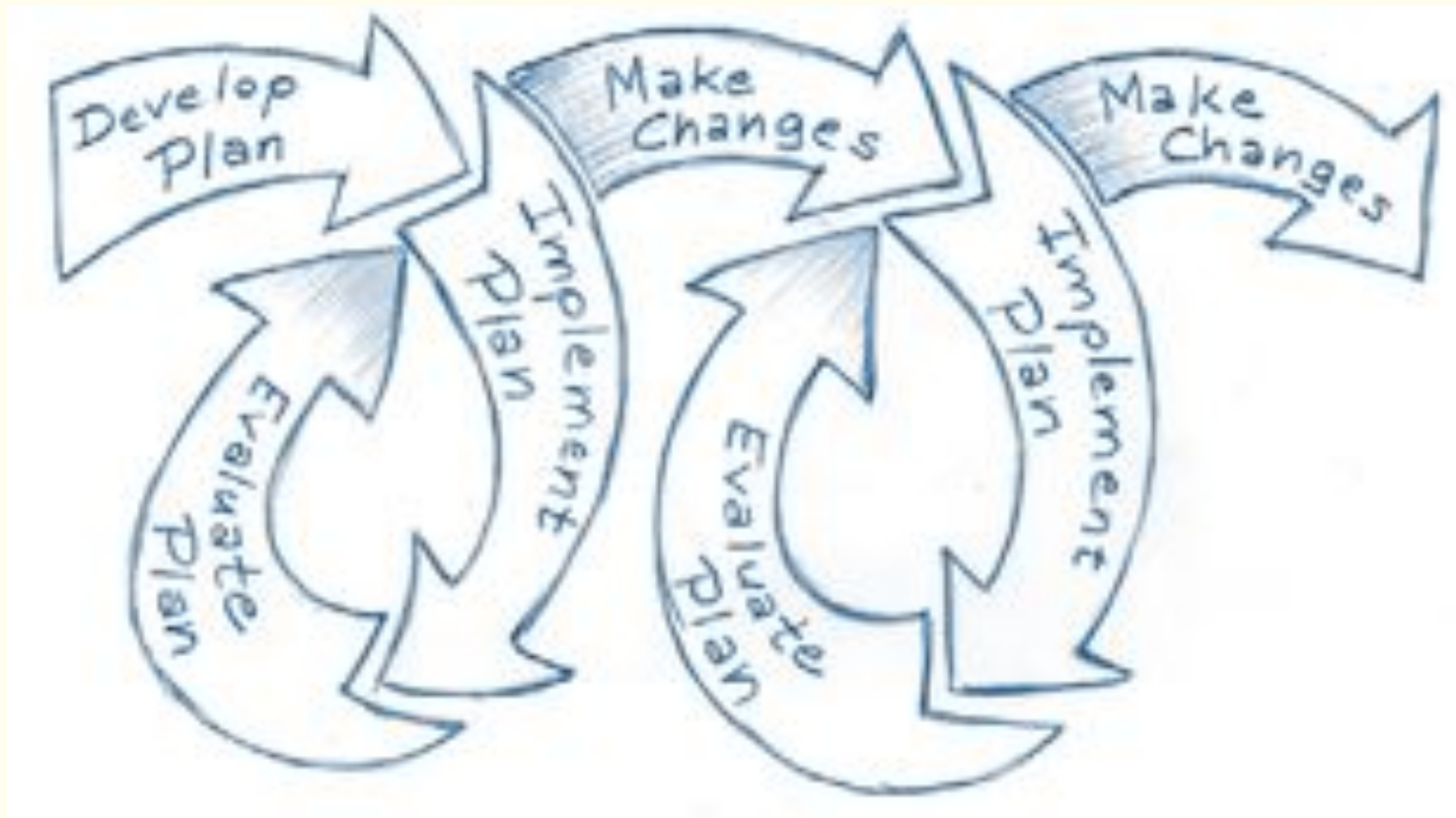


# Participatory: Bridging science & management





# Iterative: Incorporate new information and adjust





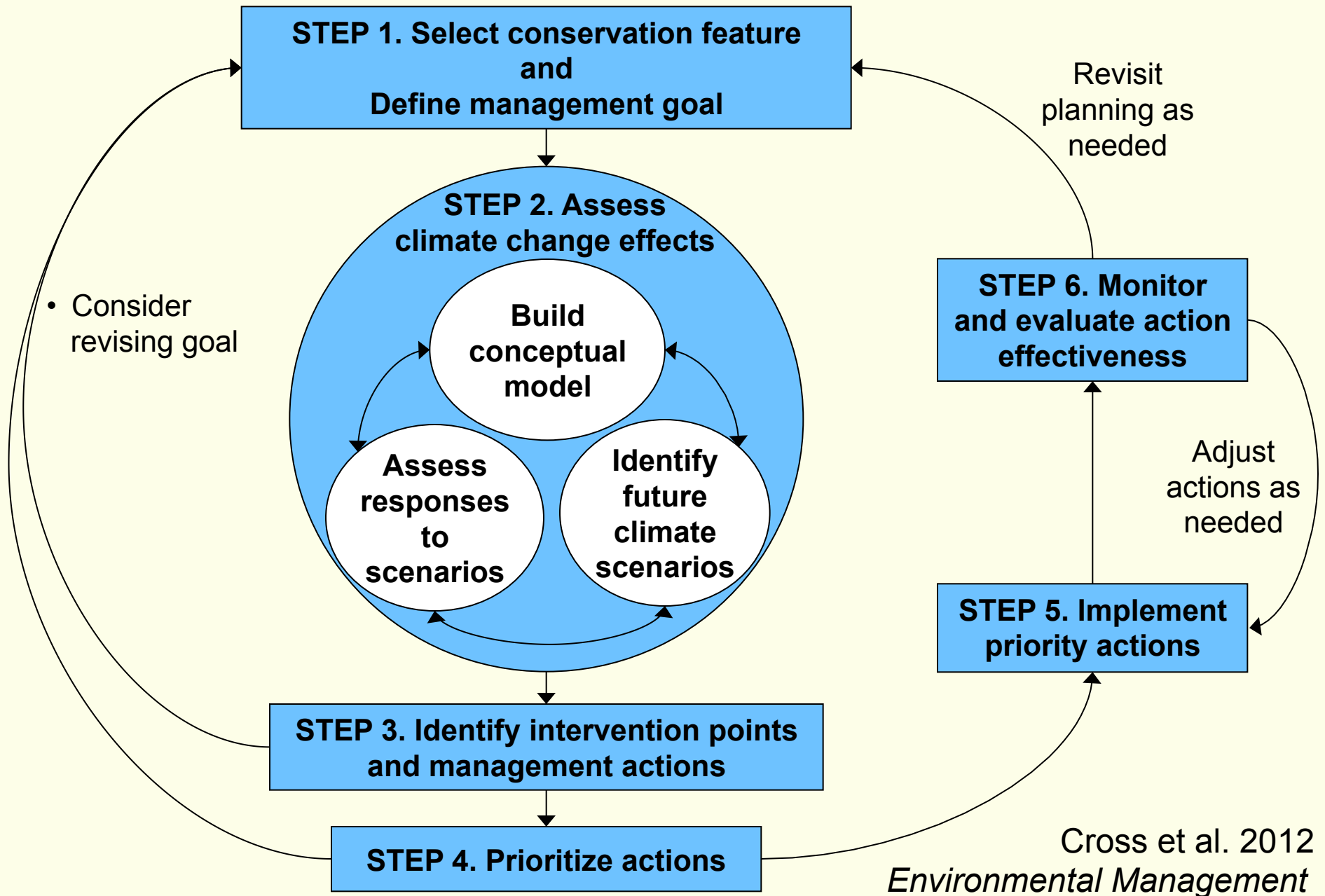


# Place-based adaptation strategies

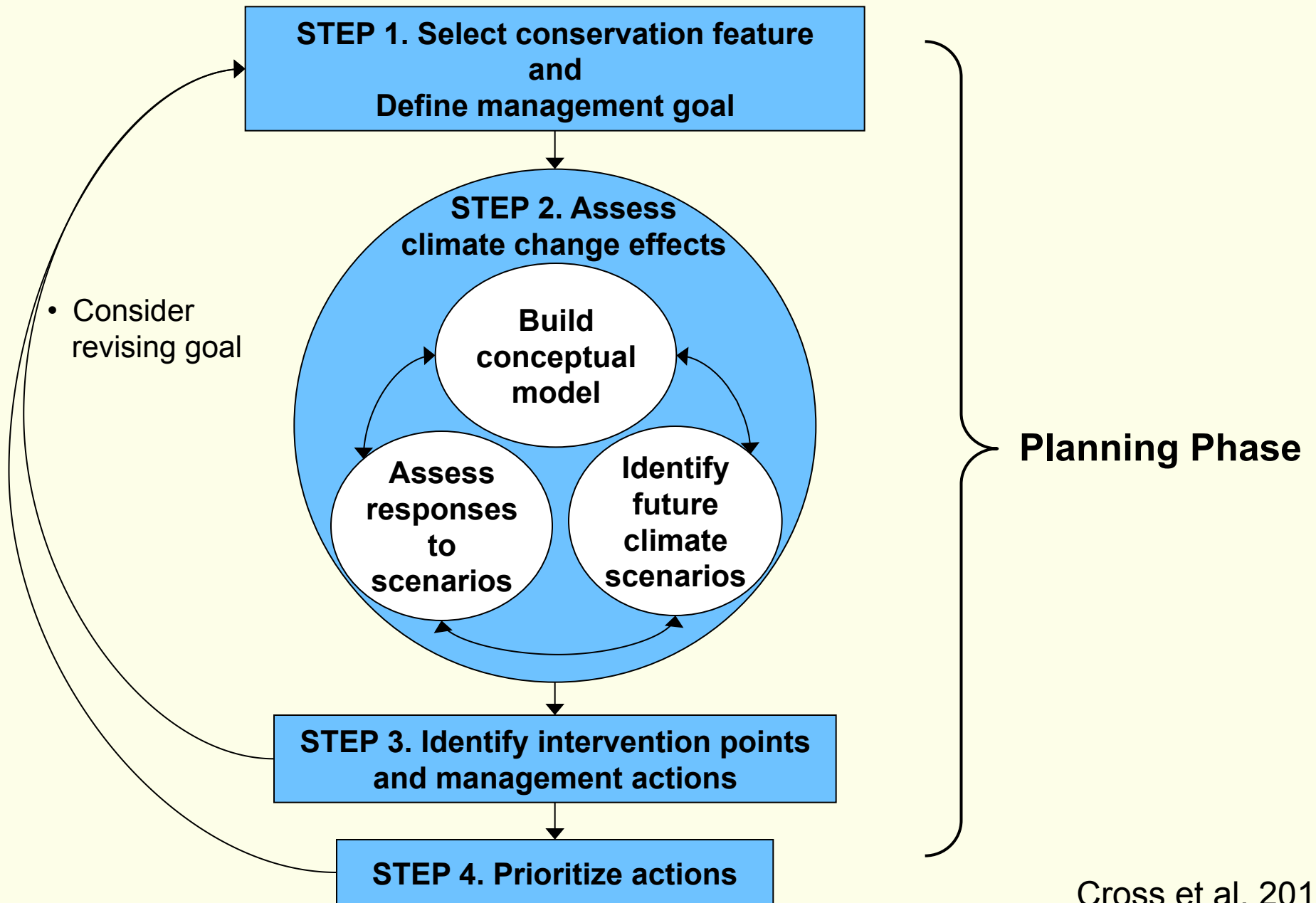
**“What to do”  
to achieve management goals  
in light of climate change?**



# Adaptation for Conservation Targets (ACT) framework

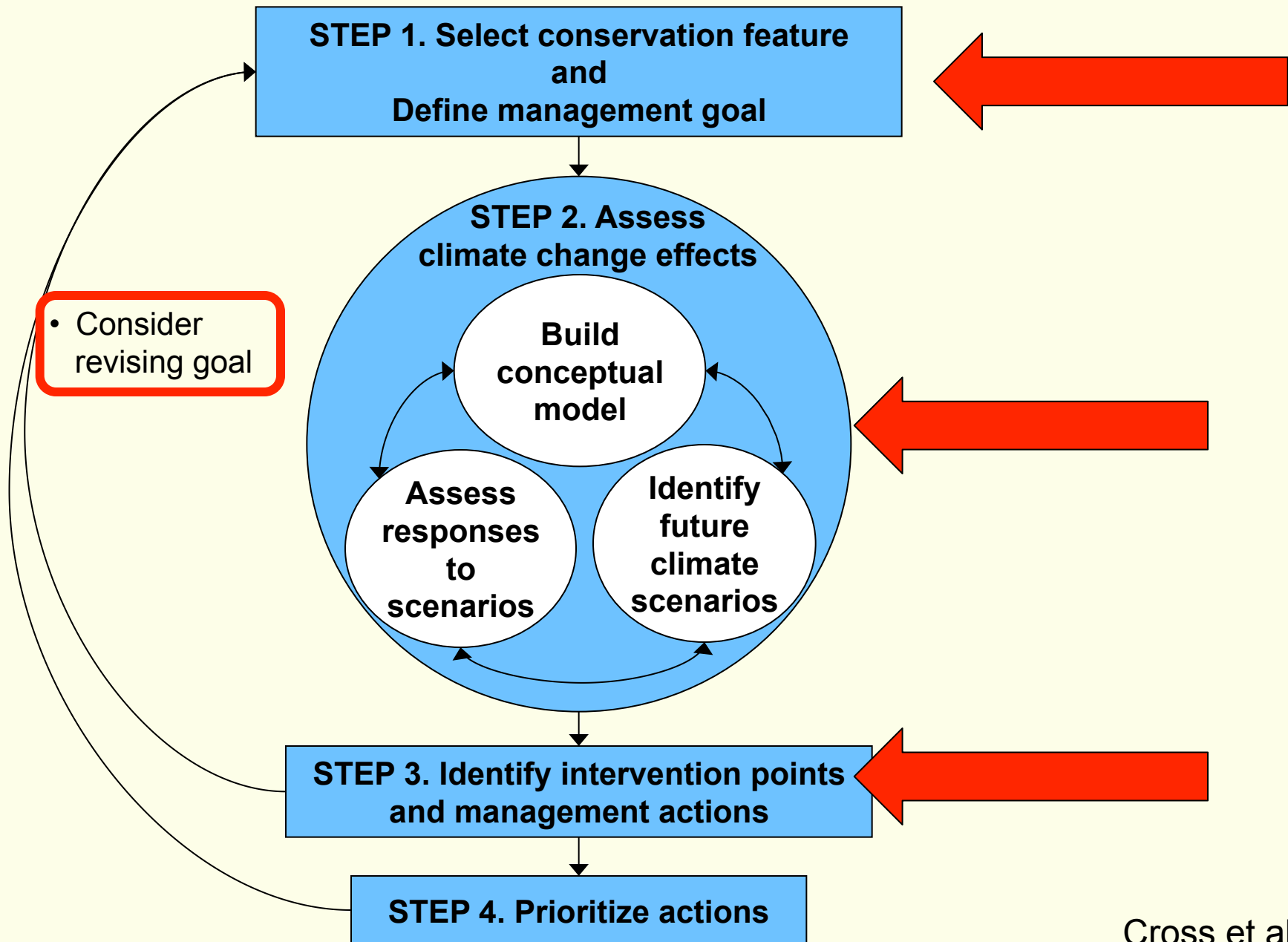


# Adaptation for Conservation Targets (ACT) framework



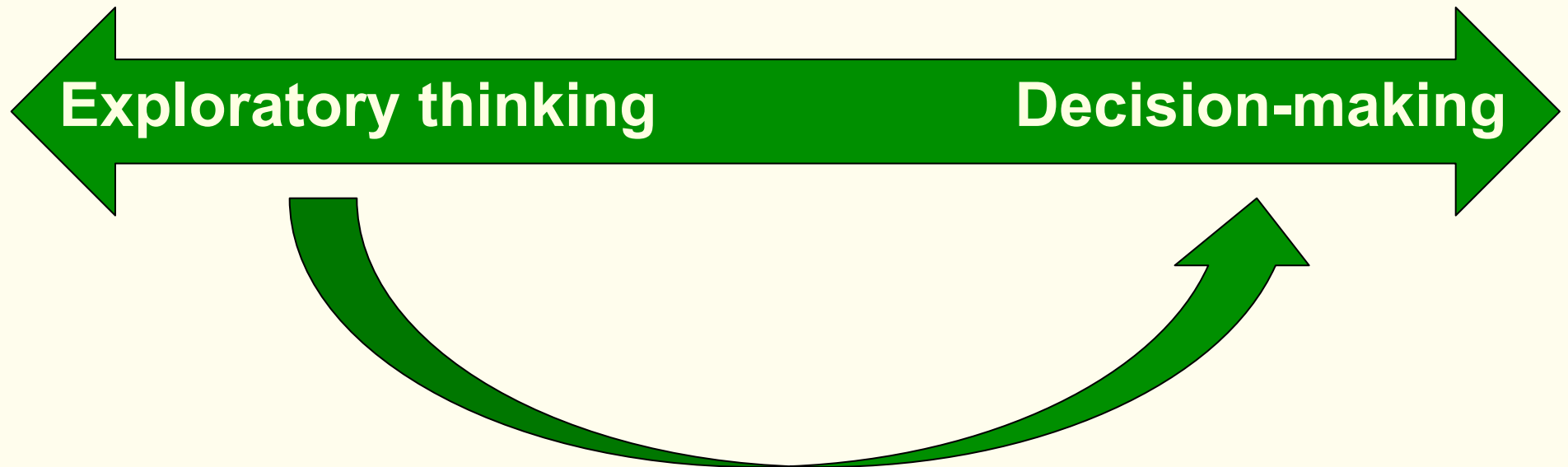


# Adaptation for Conservation Targets (ACT) framework





# Exploratory thinking and decision-making





# Moving from planning to action



WCS



J. Burrell



J. Burrell



TNC





# Moving from planning to action

What makes a management action a “climate change adaptation action”?

Clearly “connect the dots” between climate change impacts, proposed actions, and anticipated long-term adaptation outcomes



# Moving from planning to action

Is climate change adaptation different from current management?

Not necessarily...but need to ask critical questions about:

**WHY**

**WHAT**

**WHERE**

**WHEN**

**URGENCY / PRIORITY**



# Moving from planning to action

More good news...

...there is a growing number of projects  
implementing adaptation actions



# Native trout conservation



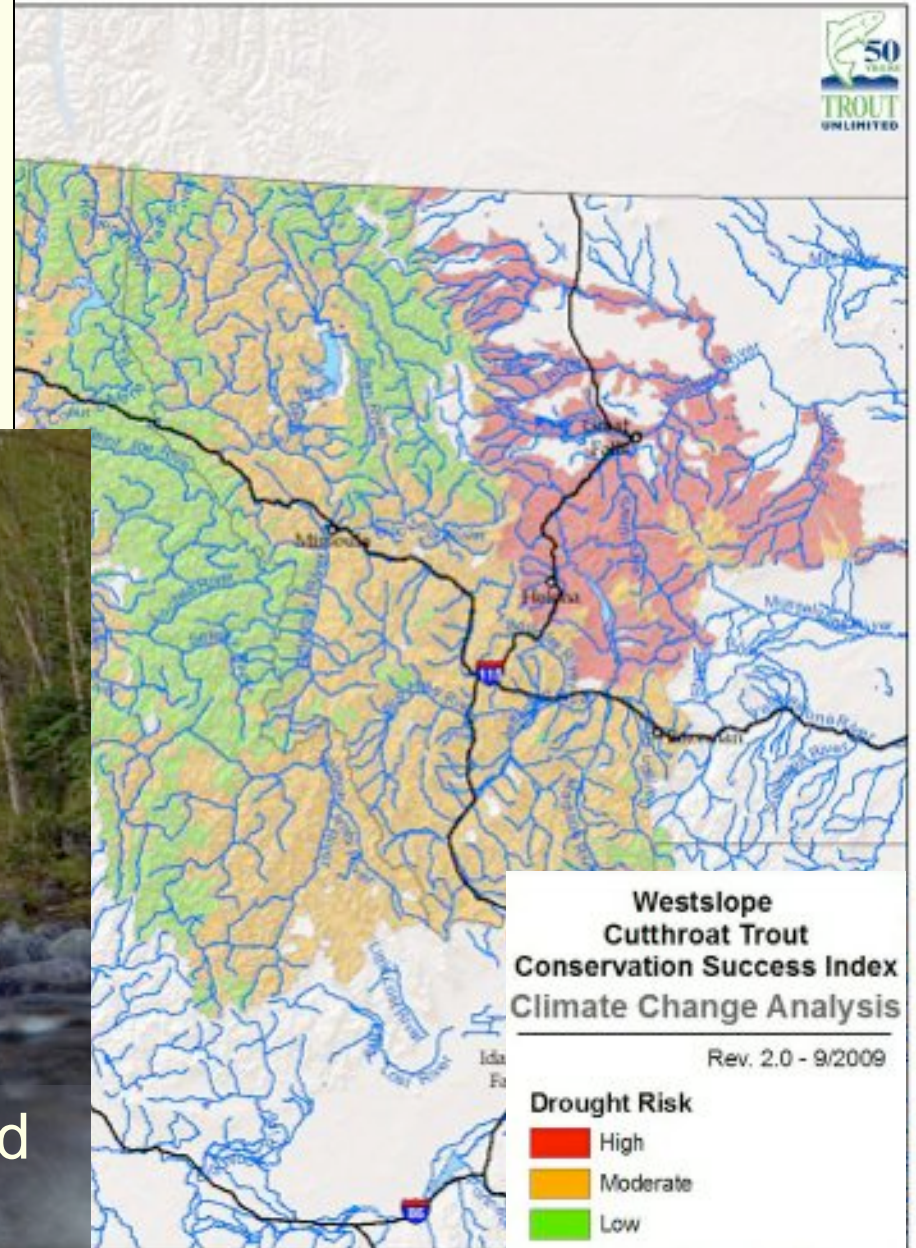


# Native trout conservation

Trust for Public Land, Trout Unlimited, MT Fish Wildlife & Parks, The Nature Conservancy, Vital Ground Foundation



>18,000 acres of climate-informed easements in NW Montana



# Native trout conservation



*Montana Fish,  
Wildlife & Parks*



JOSEPH TOMELLER

Restoration activities in Madison River tributaries with upper reaches currently too cold for Westslope Cutthroat Trout (e.g., no fish or low growth rates)



©Zach Brown

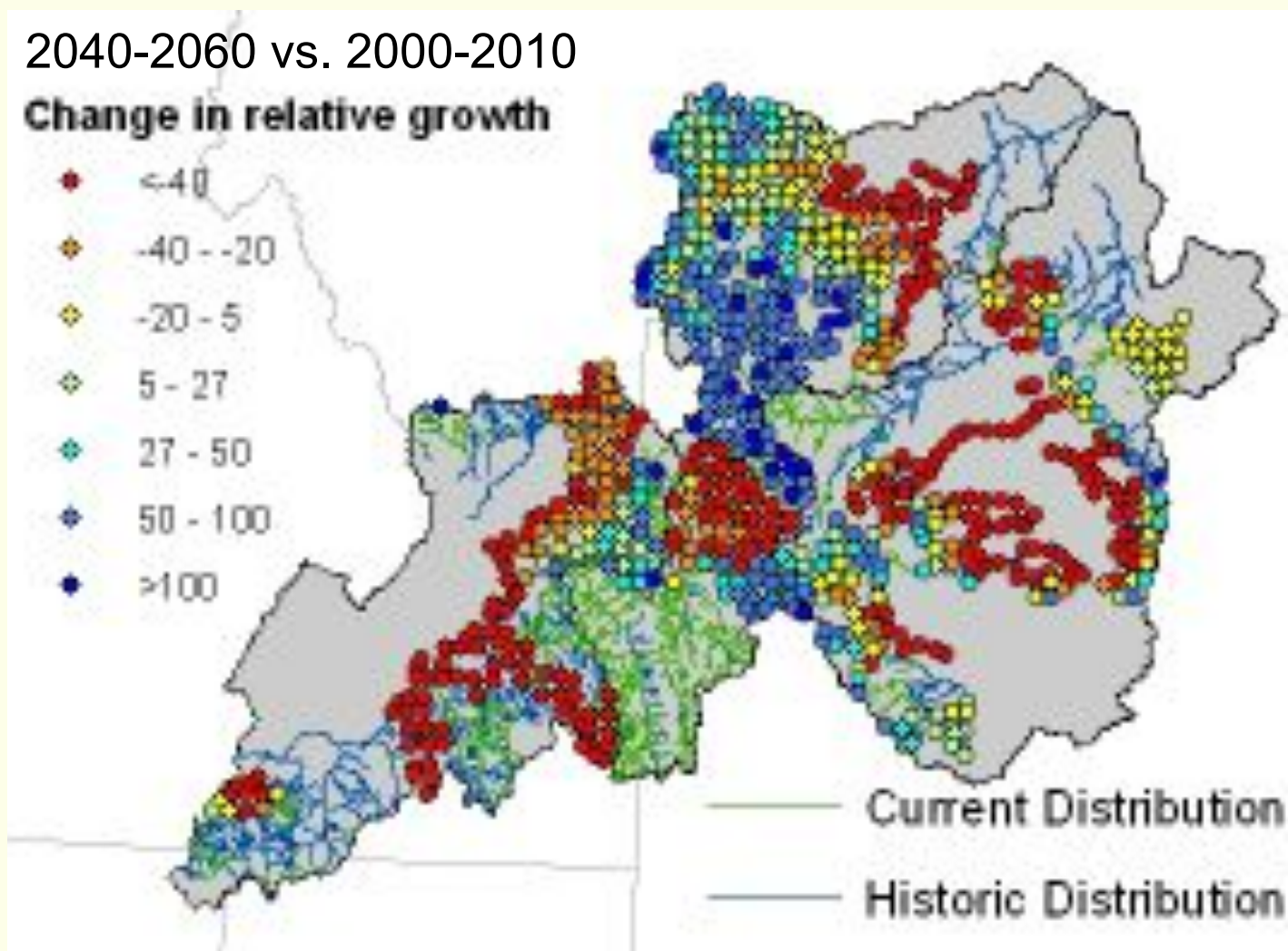


# Native trout conservation

## Prioritizing Yellowstone Cutthroat Trout conservation



Multi-state  
YCT Working  
Group



Al-Chokhachy et al. (in review)

# Forest management





# Forest management

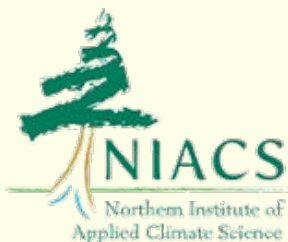


Northern Minnesota

Climate-informed forestry = helping northern forests transition to an uncertain future



©Stephen Handler



# Forest management



Southern  
Indiana

The Nature  
Conservancy



Reduce dominance of  
highly-vulnerable trees  
that prefer moist  
conditions and increase #  
of drought-tolerant trees



Thanks!

