

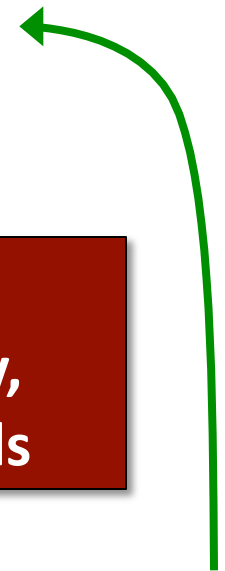
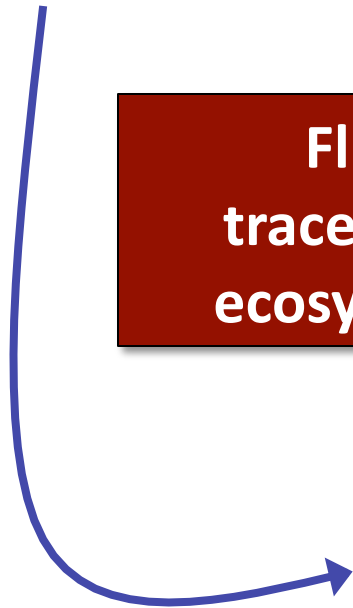
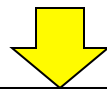
# Climate change and regional carbon fluxes in heterogeneous landscapes

- We study **regional** ecosystem-atmosphere exchanges of climate-system-relevant quantities
  - Greenhouse gases, water, energy, aerosols, momentum

**Micrometeorology / Boundary-Layer Meteorology**  
**Atmosphere and Oceanic Sciences**

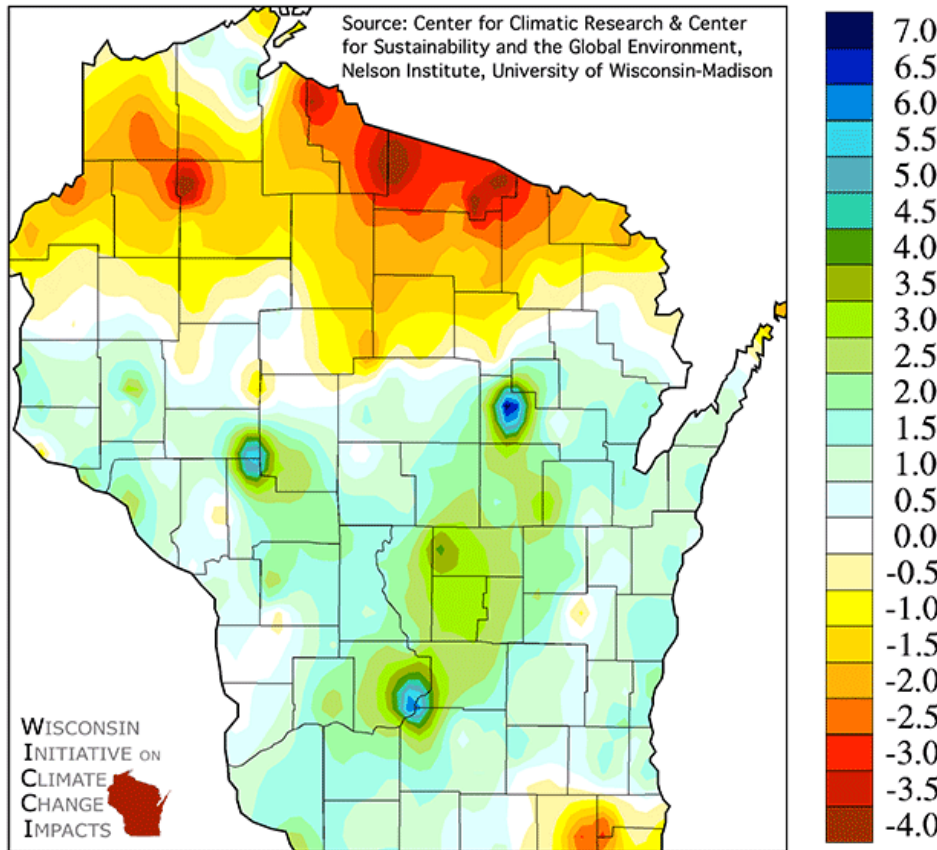
**Flux towers, ecophysiology, remote sensing,  
tracer-transport inversions, boundary layer theory,  
ecosystem model data assimilation, climate models**

**Ecosystem Ecology**  
**Terrestrial and Aquatic Biogeochemistry**

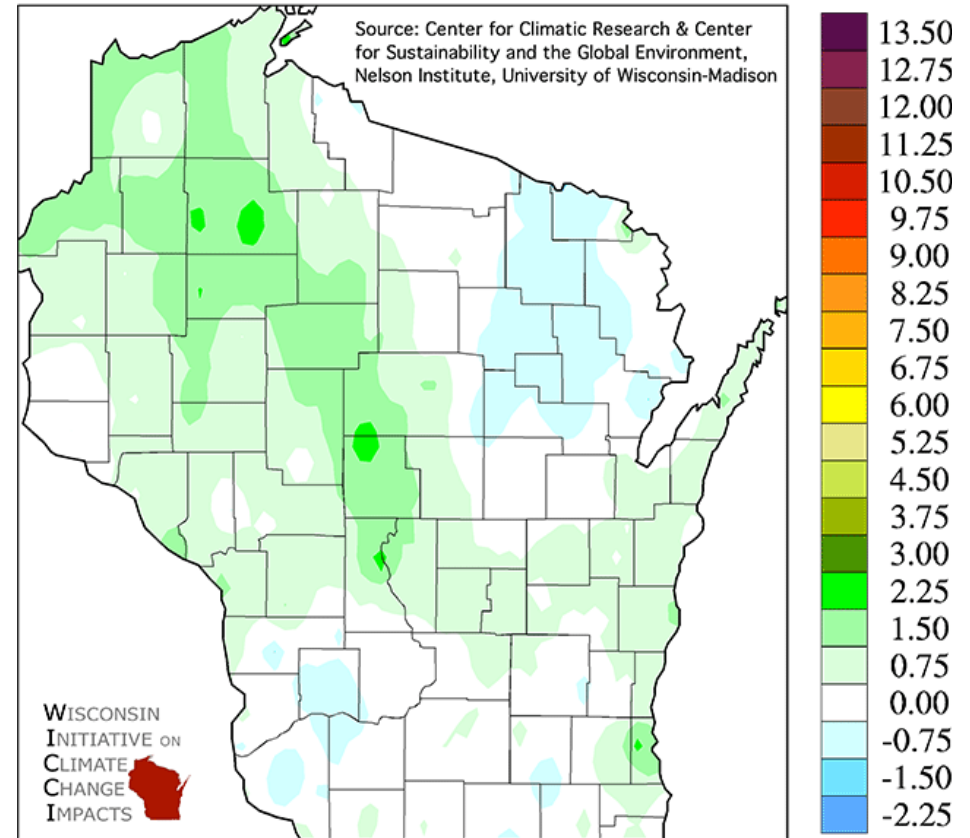


# Why Northwoods?

Change in Summer Average Precipitation (inches) from 1950 to 2006



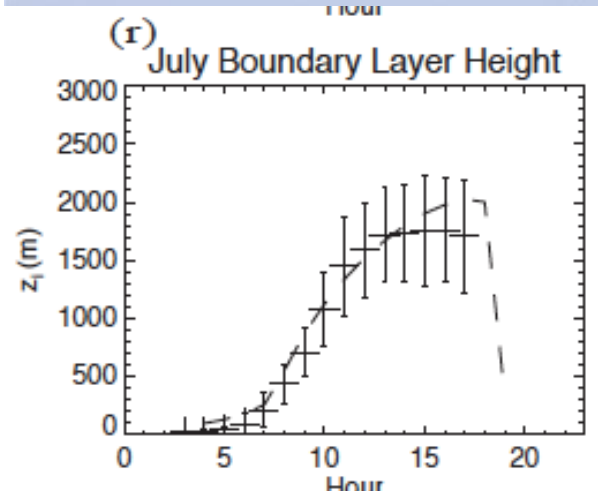
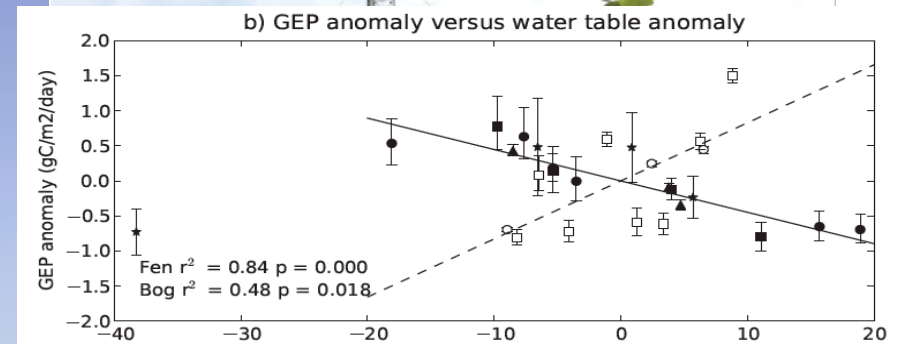
Change in Summer Average Temperature (°F) from 1950 to 2006



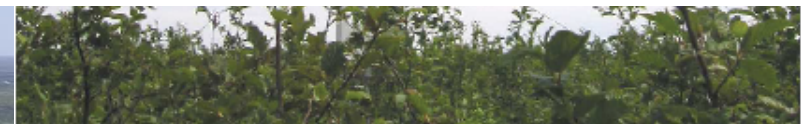
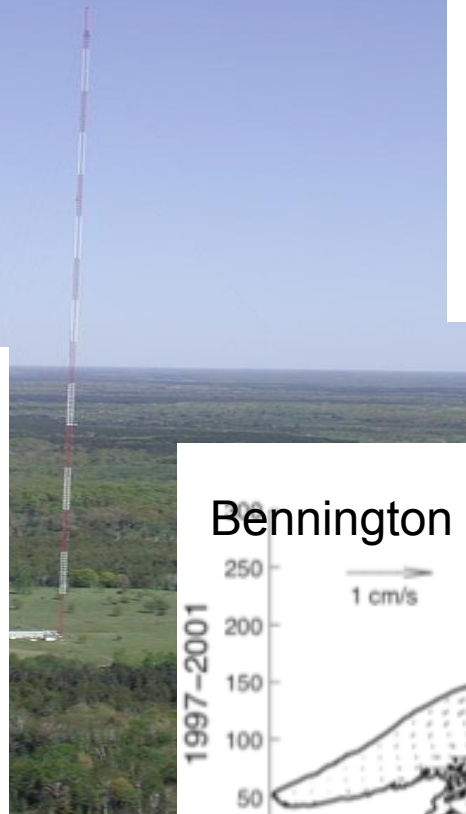
WICCI (2009) <http://www.wicci.wisc.edu/>

# Our Science in the Northwoods

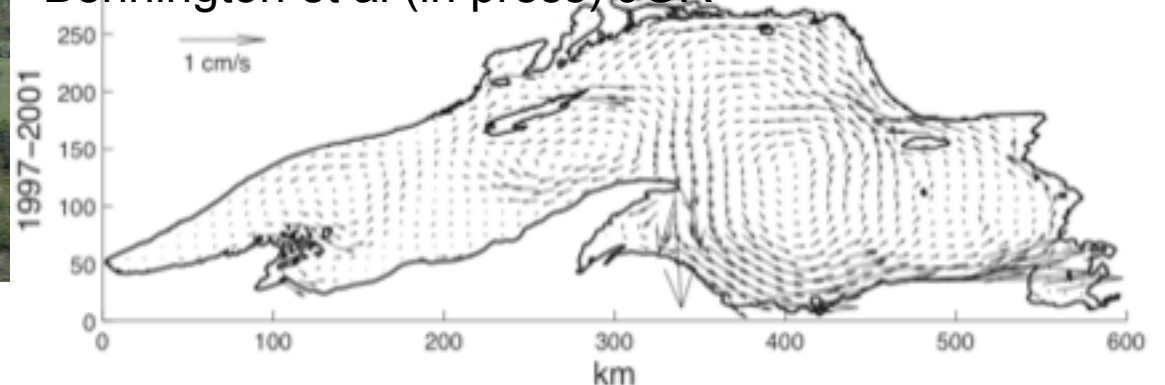
- ChEAS, PBL, CyCLeS



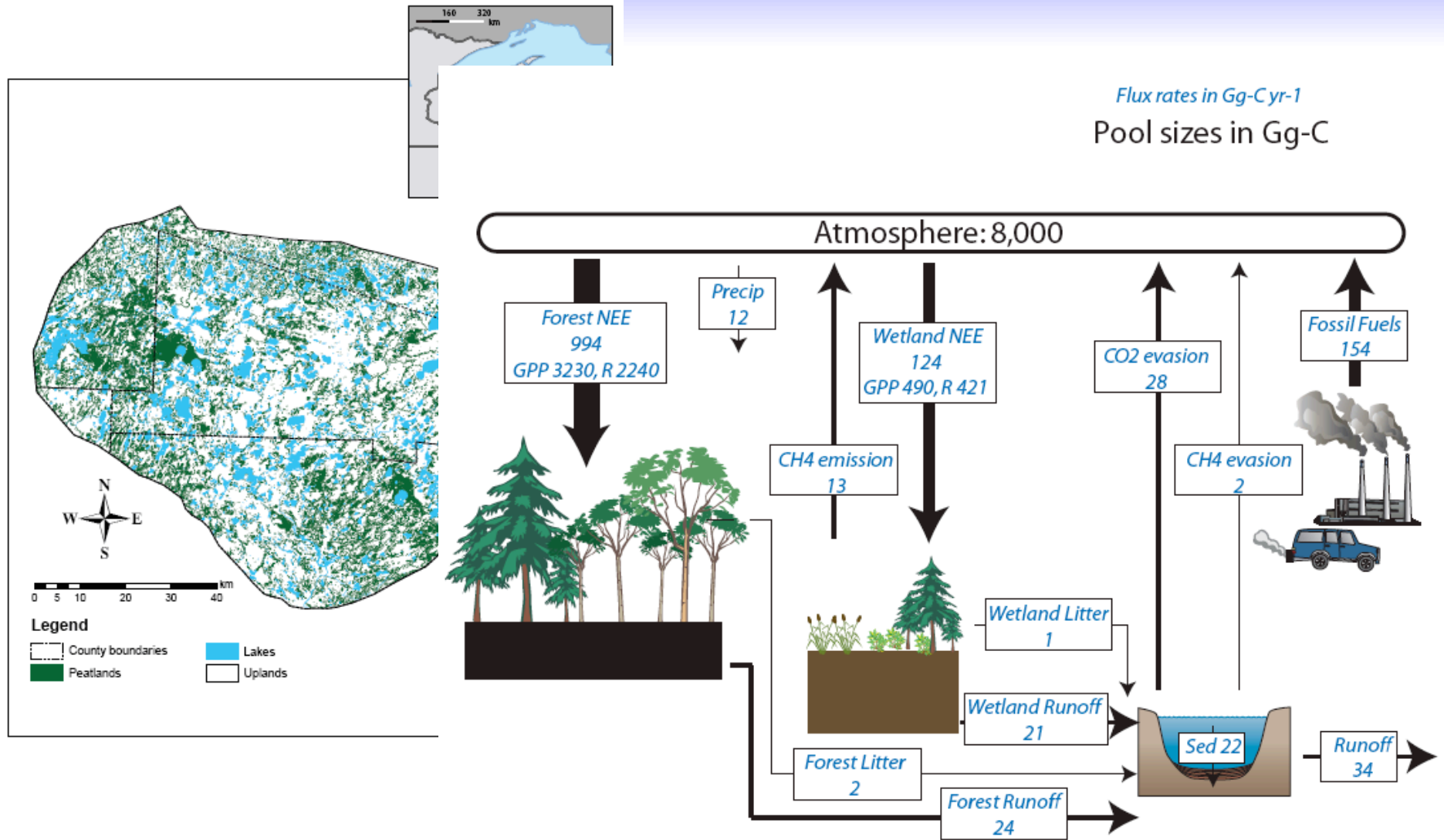
Bagley et al (in prep)



Mean Summer Currents  
Bennington et al (in press) JGR



# Terrestrial-Aquatic Linkages



Buffam et al (2010) GCB Forests: 64,000

Wetlands: 158,000

Surface Waters: 162,000

# Ideas for Collaboration

## Current/Future Research:

- Regional methane cycling (NSF)
- Land management and carbon in a changing climate (DOE/USDA/FOE)
- Continuous lake-atmosphere flux obs (LTER)
- Others?

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