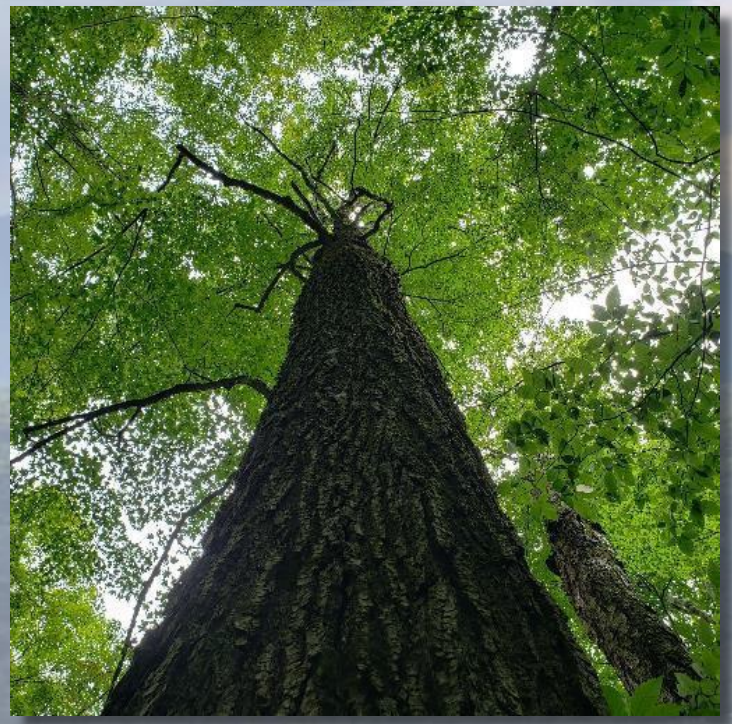
A Revised Geospatial Analysis to Identify Candidate Sites for Designation as a Catskill Research Forest

SHARED GROUND: COLLABORATIVE APPROACHES TO CATSKILL ENVIRONMENTAL RESEARCH
OCTOBER 22-24, 2025, DISCOVERY LODGE, BELLEAYRE MOUNTAIN



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Dedicated Research Sites | Research Forests

- Dedicated research sites support long-term, collaborative approaches to interdisciplinary research and monitoring programs.
  - Biological Field Stations, Long Term Ecological Research Sites (LTER), Experimental Forests, Research Forests
  - Example: US Forest Service Experimental Forests, Hubbard Brook Experimental Forest (NH)

- Lovett 2013. Prospectus for a Research Forest in the Catskill Region
  - Recognized the significance of the Catskill Mountains
  - Promoted collaborative, long-term

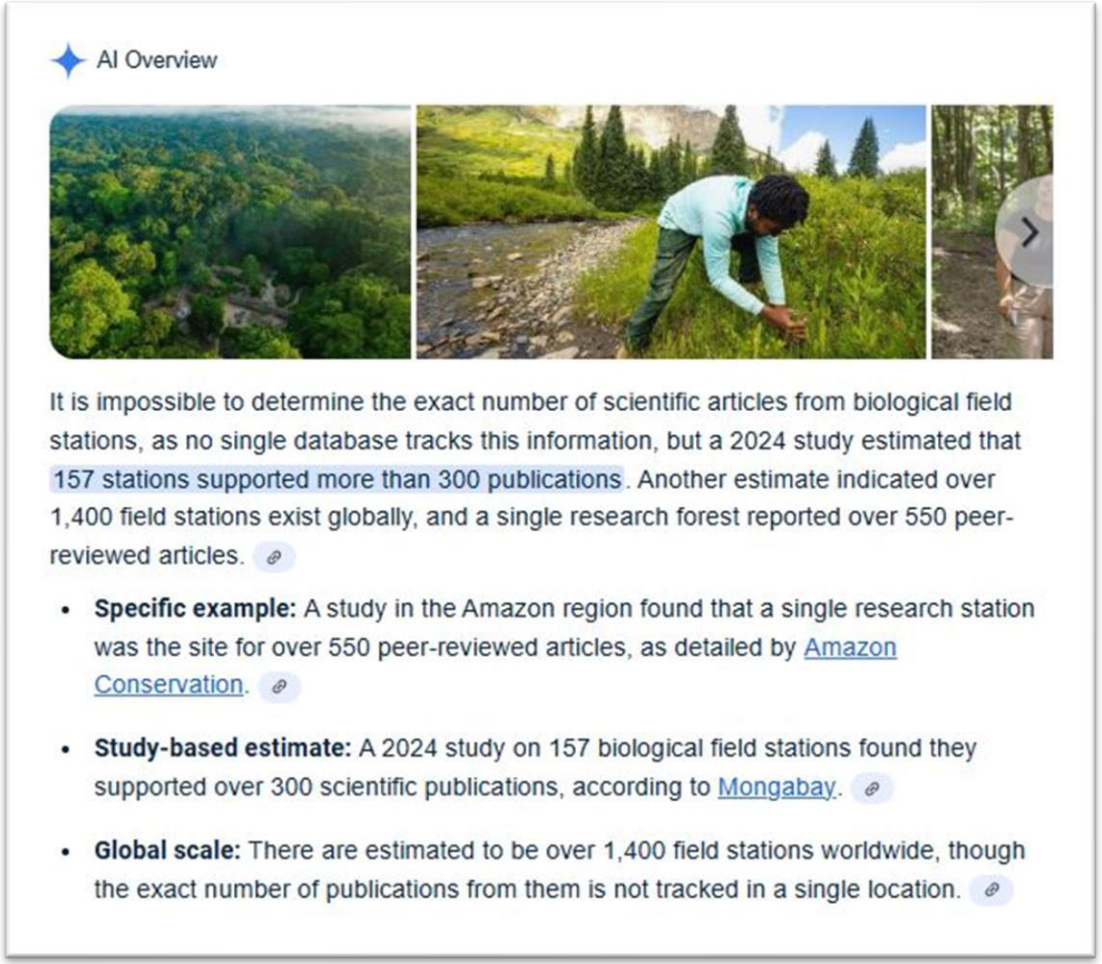
Dedicated Research Sites | Research Forests

- Criteria and Purpose (Lovett 2013):
  - Protected lands support long-term research
  - Watershed-based with instrumentation
  - Representative of a “typical” Catskill forest
  - Capitalize on historical research and ongoing monitoring
  - Convenient access
  - Support manipulative field experiments
- Pine Roehrs (2013/2014) Catskill Research Forest Siting Study
- Catskill Science Collaborative 2025 RFP – Catskill Research Fellowships

Revised Geospatial Analysis

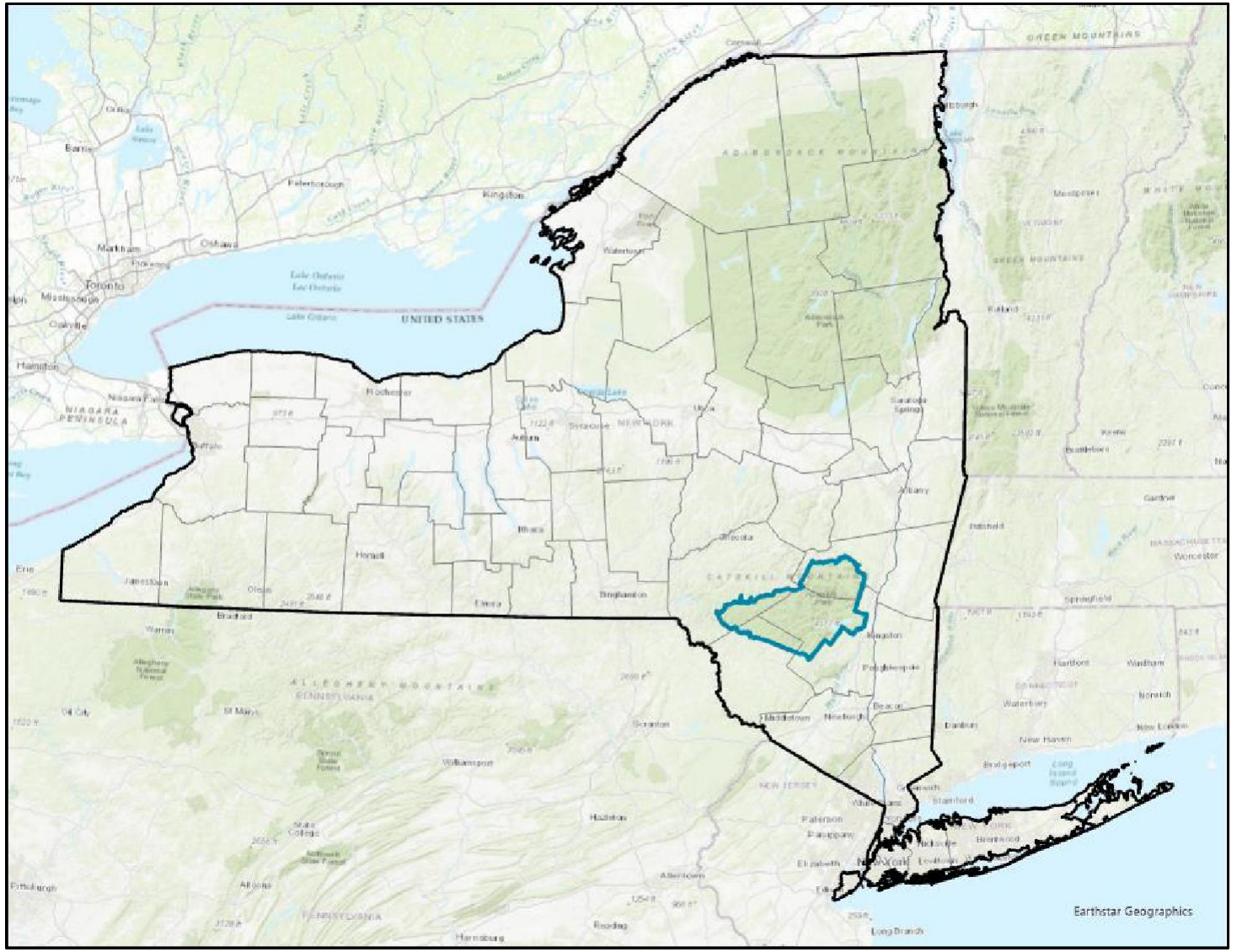
<u>Project Objectives:</u>

- Identify top-tier, candidate sites for evaluation and designation as an official research forest
- Revise and expand the focal area from 2014 study
- Revisit exclusionary and preferential criteria using updated geospatial data (*e.g. land acquisitions*)



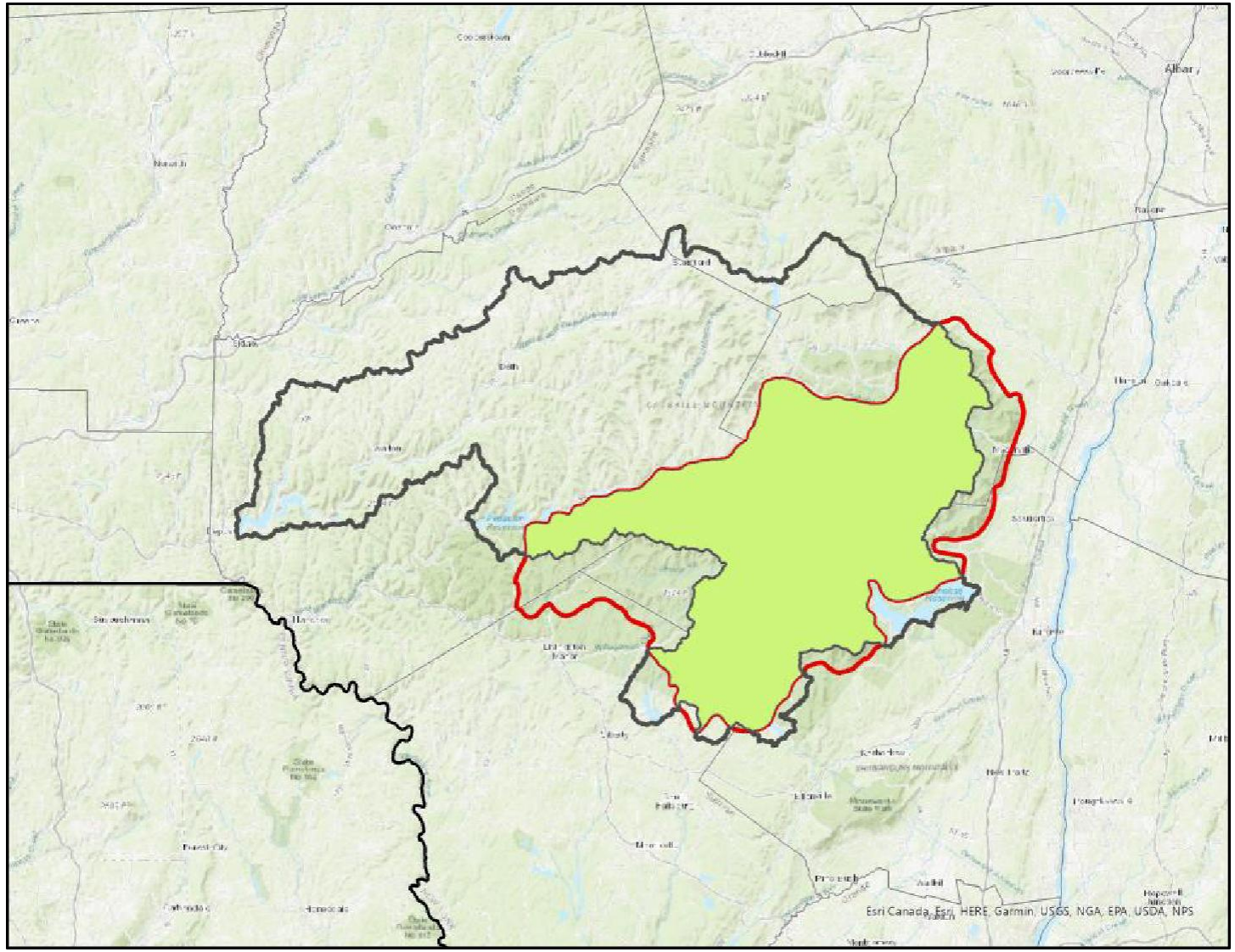
Study Region | New York State

- New York State
- Catskill Region



Study Region | Study Area 2014

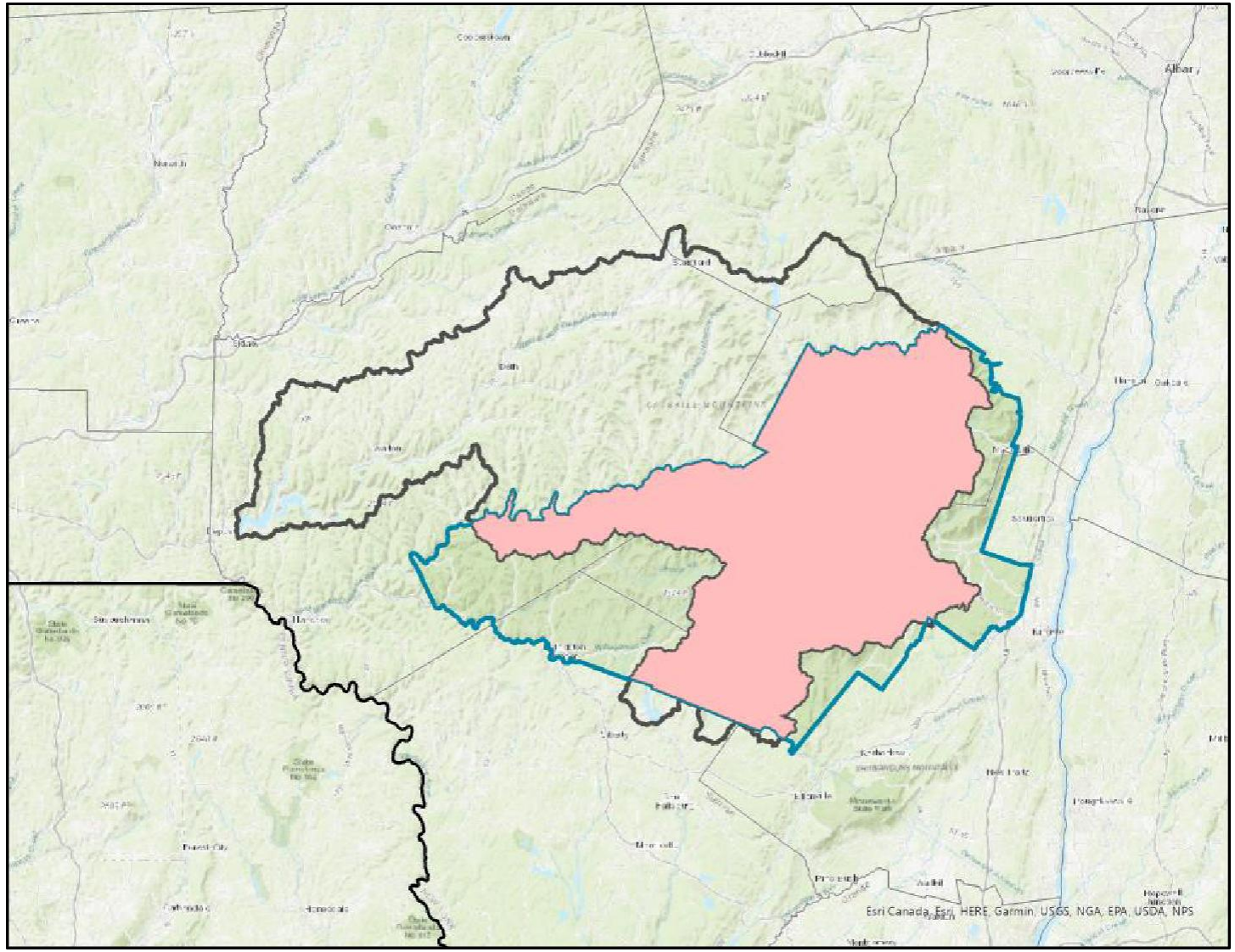
- EPA Ecoregion
- NYCDEP West of Hudson Watersheds
- Catskill Park



Study Region | Study Area 2025

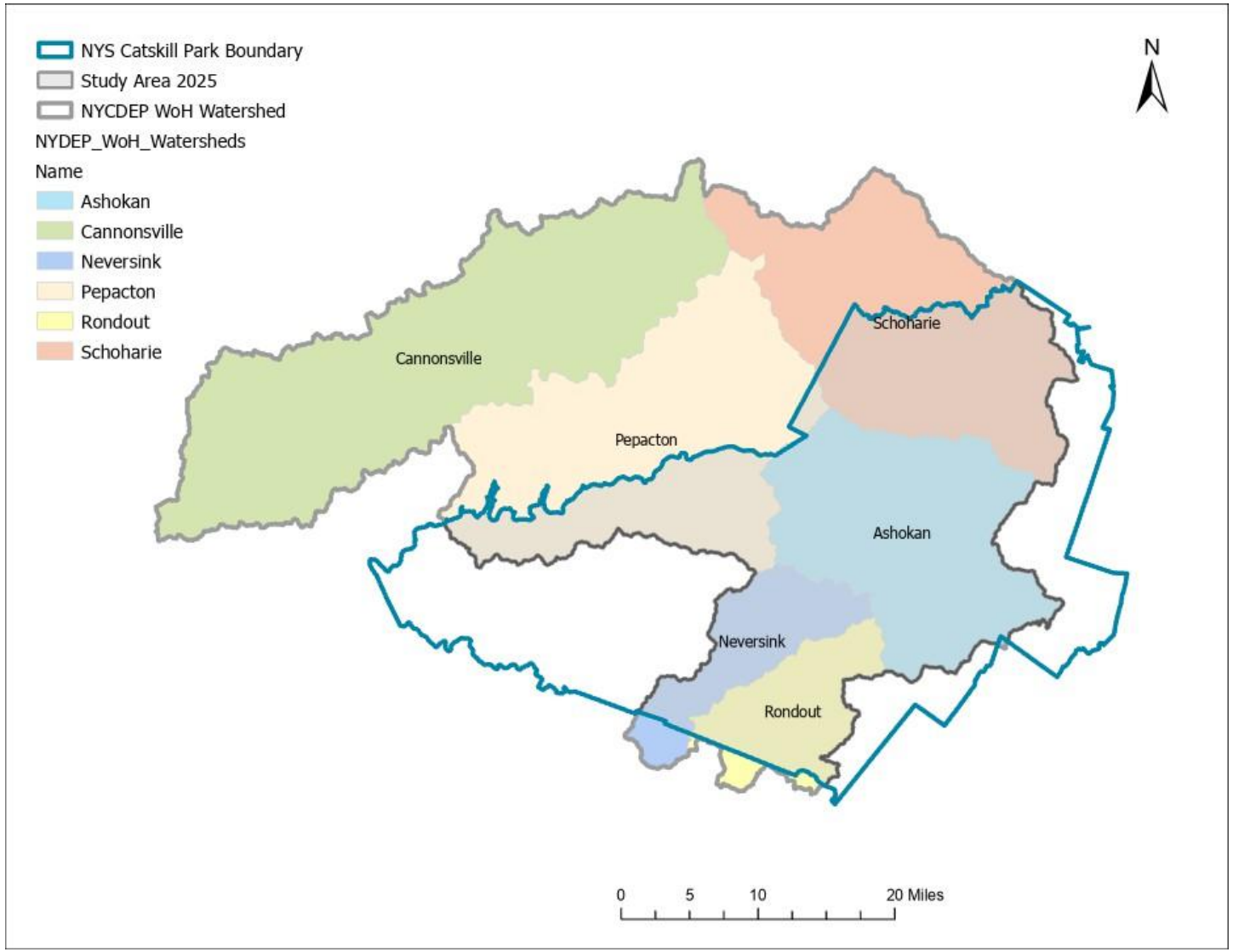
- EPA Ecoregion

- NYCDEP West of Hudson Watersheds
- Catskill Park



Study Region | Watershed Framework

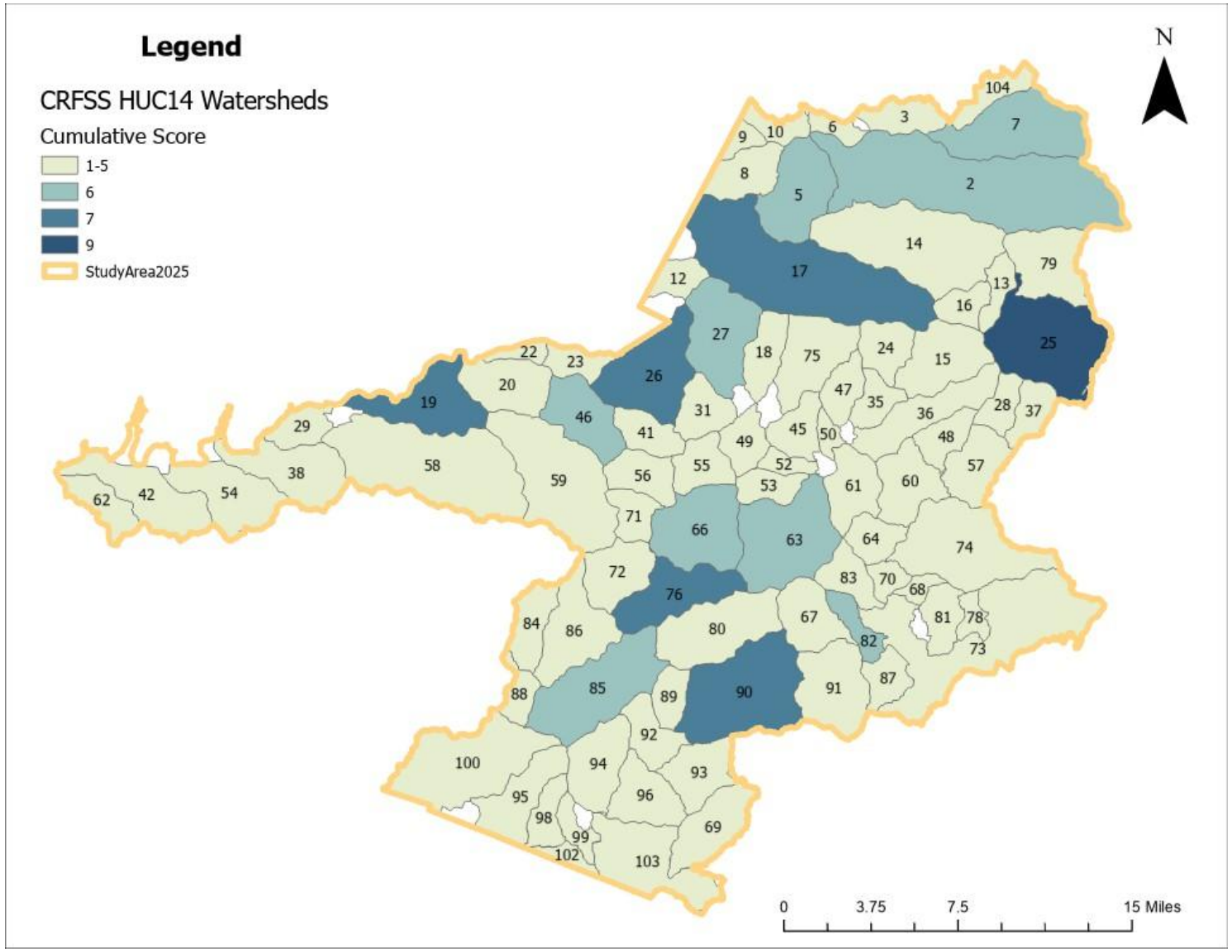
- USGS Watershed Boundary Dataset (WBD), Hydrologic Unit (HU's) Classification:
  - Nested, Hierarchical Nested Classification System
  - HUCodes (HUC) 2-12-digit codes
- NYCDEP WoH Watershed Basins



Preferential and Exclusionary Criteria

Criteria:

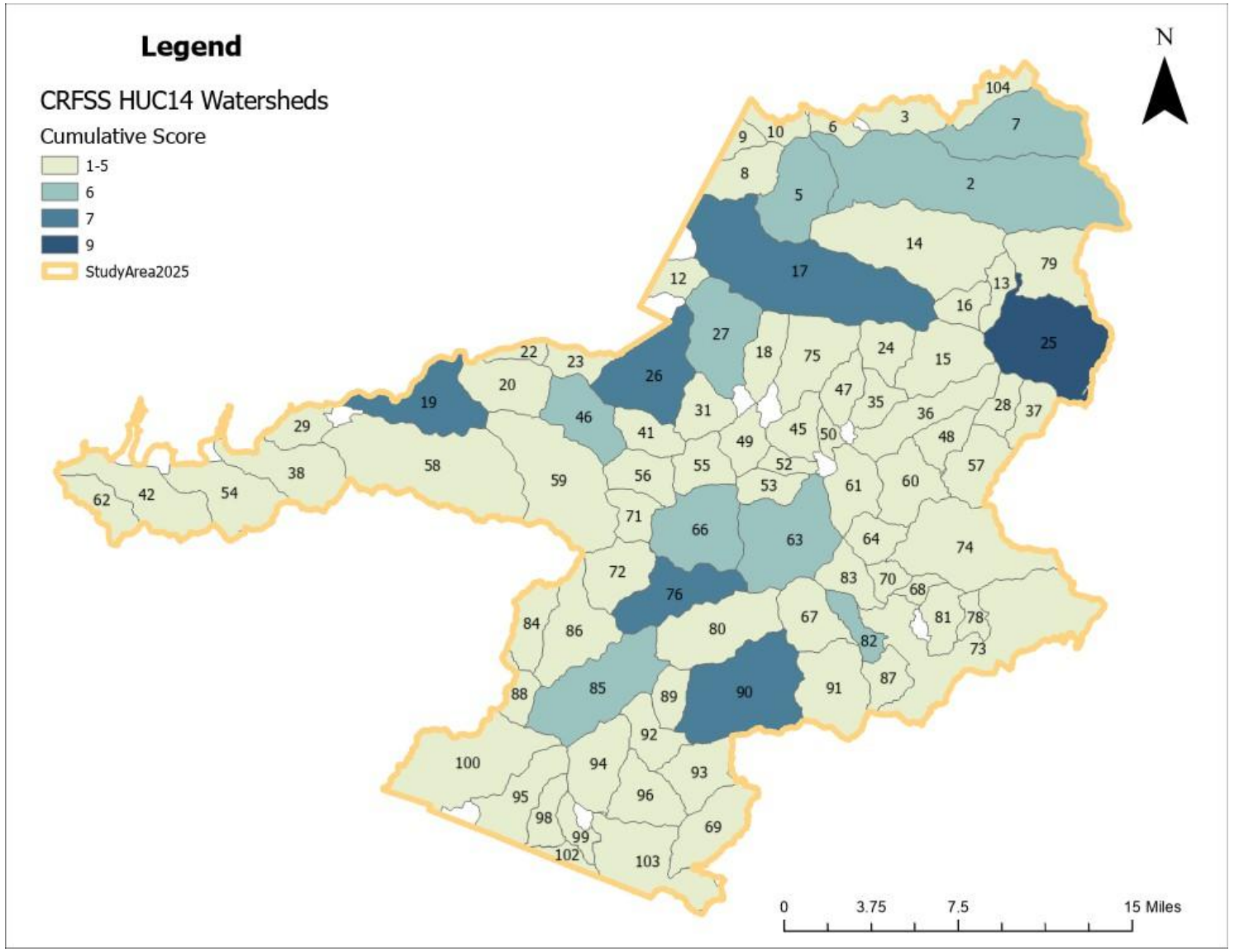
- Protected & Wildland
- Spruce/Fir & First Growth Forests
- Wetlands Complexity
- Research Flexibility
- USGS Stream Gauges
- MET Stations
- Site Accessibility



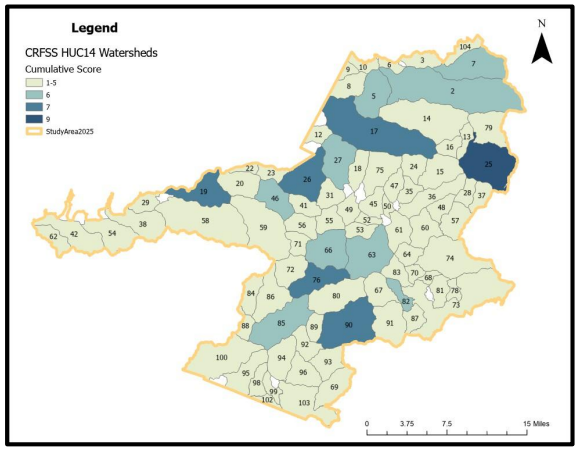
Results |Candidate Sites (Preliminary)

- Preliminary Ranks:

DEP WoH Basins	Id	Area (acres)	Cumulative Score
Schoharie	25	11088.5	9
Schoharie	17	19752.3	7
Pepacton	19	6779.9	7
Ashokan	26	7969.3	7
Neversink	76	6097.2	7
Rondout	90	11521.2	7



Conclusions & Future Steps



- Preliminary ➔ Continue the conversation
- Two Approaches
  - Preferential and Exclusionary (similar to Roerhs 2014)
  - Study Region Comparison (resource selection framework)
    - (1) Characterize the study region
    - (2) Compare watersheds
    - (3) Select similar, representative sites
- Administrative vs. Physical site
- Land Donors? Politicians?

Thank you!

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- administered by NYSDEC, awarded through Catskill Science Collaborative (CSC) coordinated by the Cary Institute for Ecosystem Studies.
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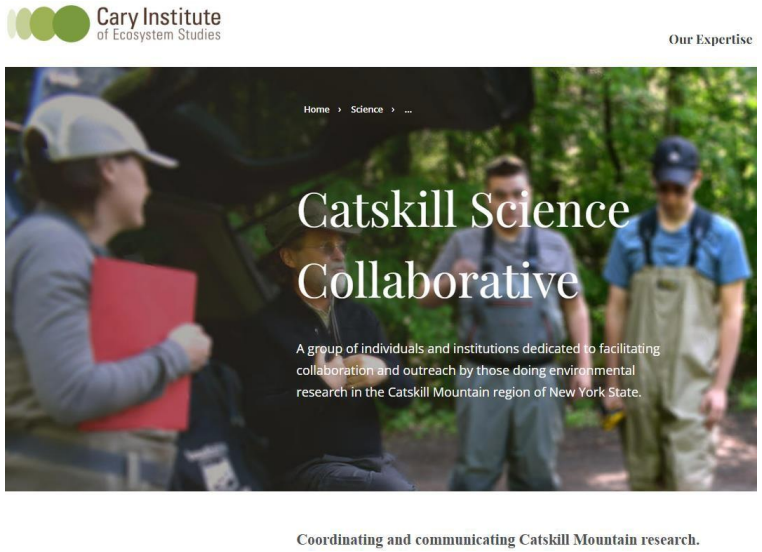
- Thank you to Josh Ginsburg and Joy Damon for coordinating and supporting the CSC program!
- Thank you to CERM Planners and Organizers!



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Wildland Urban Interface

- The Wildland-Urban Interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation. This makes the WUI a focal area for human-environment conflicts such as wildland fires, habitat fragmentation, invasive species, and biodiversity decline. Using geographic information systems (GIS), we integrated U.S. Census and USGS National Land Cover Data, to map the Federal Register definition of WUI (Federal Register 66:751, 2001) for the conterminous United States from 1990-2020. These data are useful within a GIS for mapping and analysis at national, state, and local levels.

The 1990-2020 wildland-urban interface of the conterminous United States - geospatial data (4th Edition)

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