

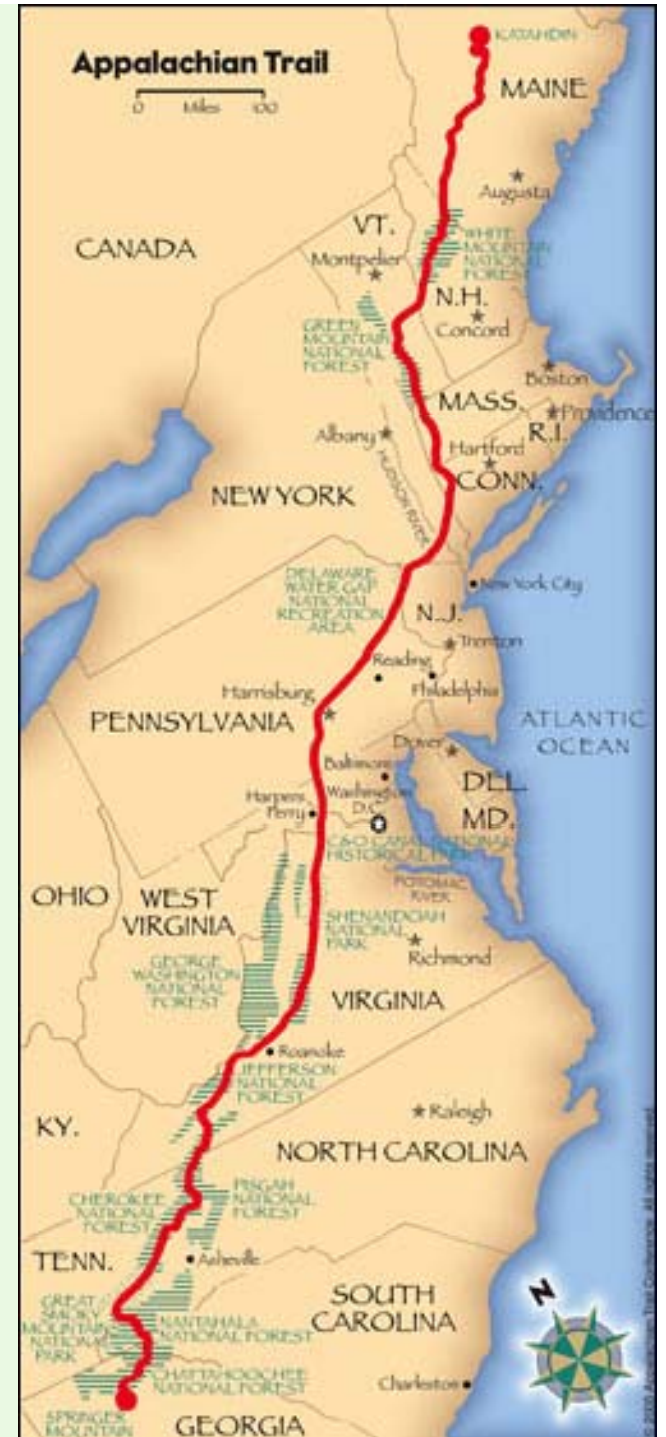
Appalachian Trail MEGA-Transect Deposition Effects Proposed Study

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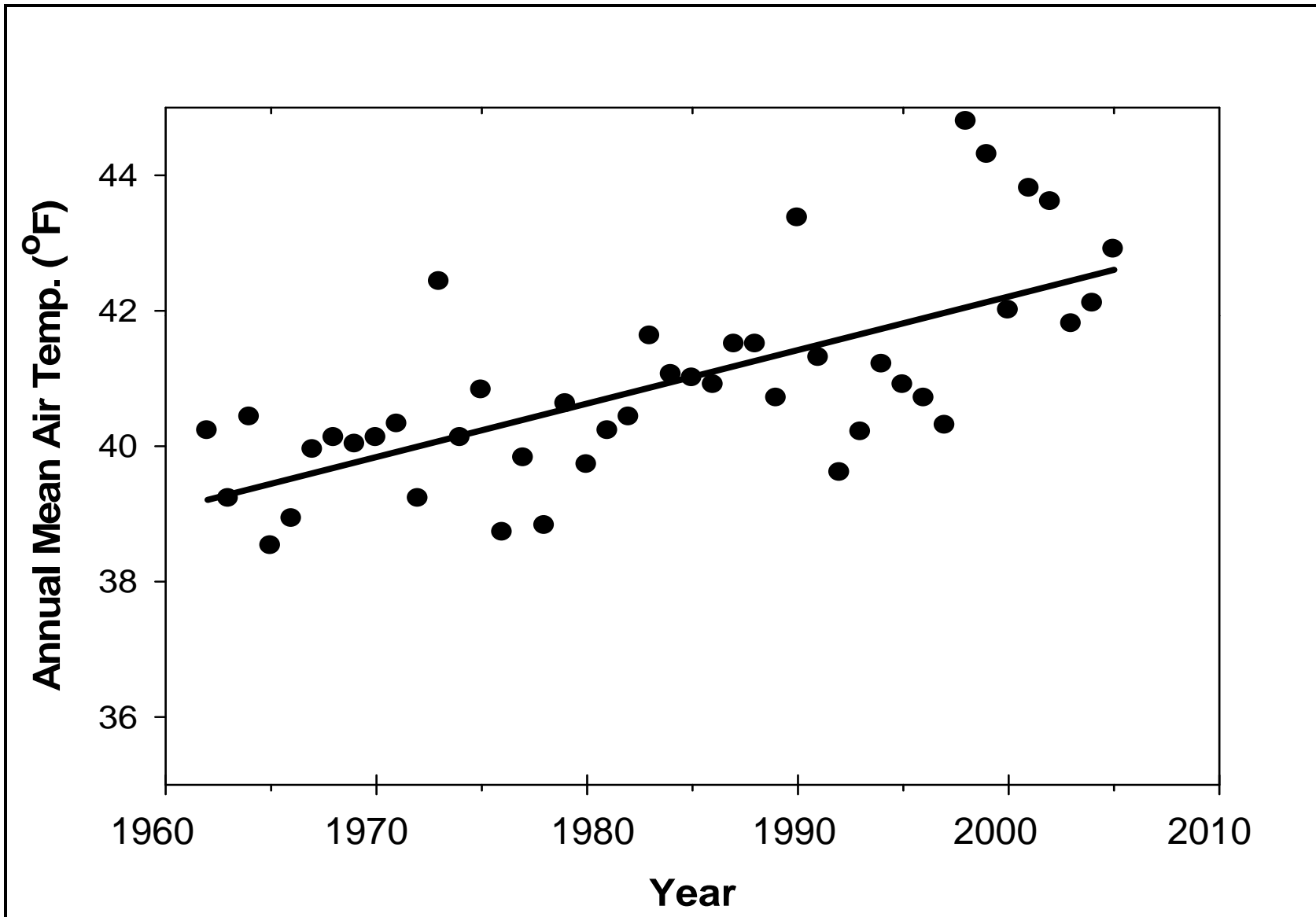
Appalachian Trail MEGA-Transect as a Monitoring Tool

1. Spans over 2000 miles north to south.
2. Includes a wide range of climatic and elevational gradients.
3. Represents a wide array of ecological diversity.
4. It travels along ridgetops—highly sensitive ecosystems that contain many rare species.





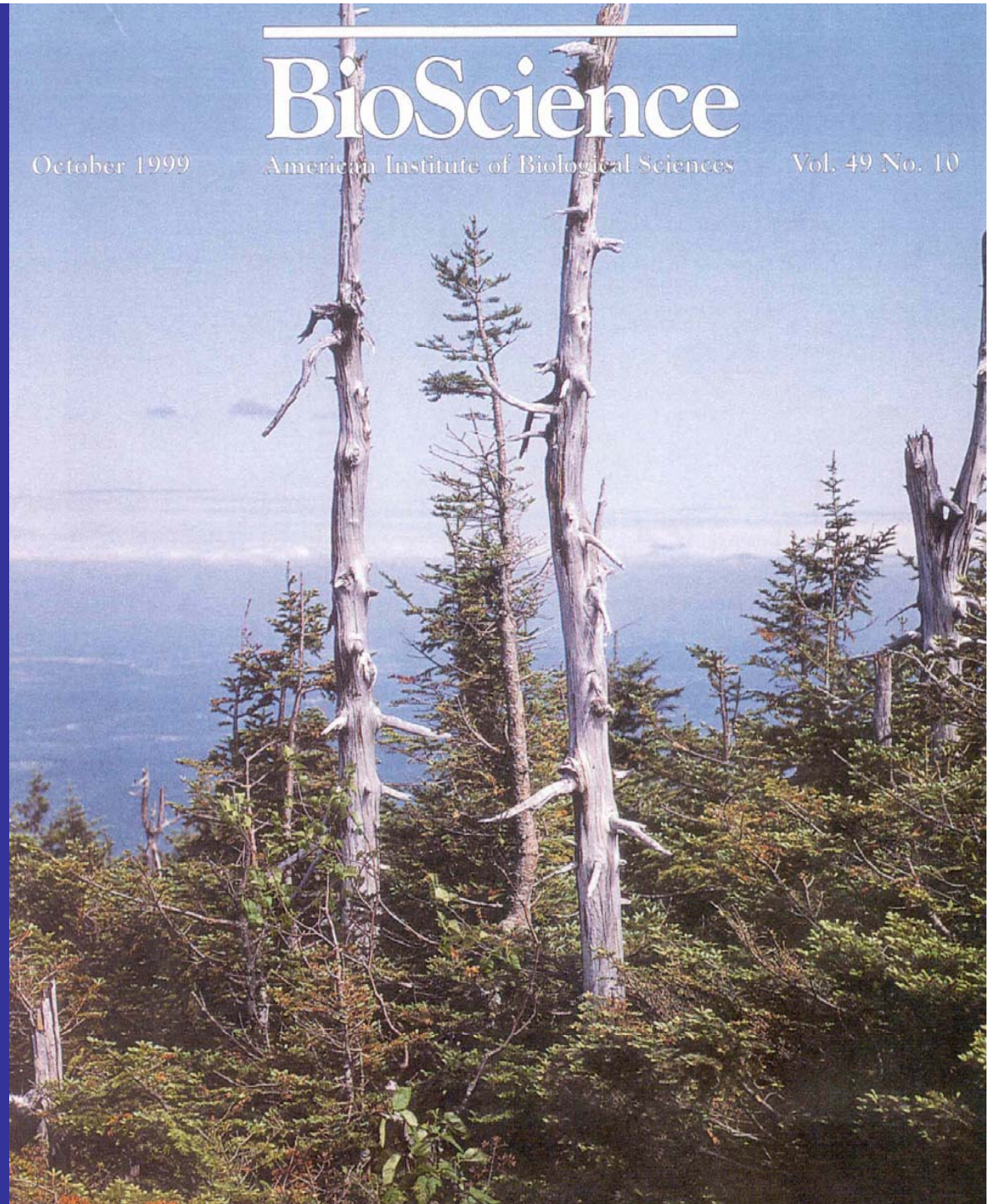
Slide Mountain, Catskill Mountains, NY



**High Elevation
Mortality Estimates
1970-1990**

Adirondack/Green
Mountains > 50%

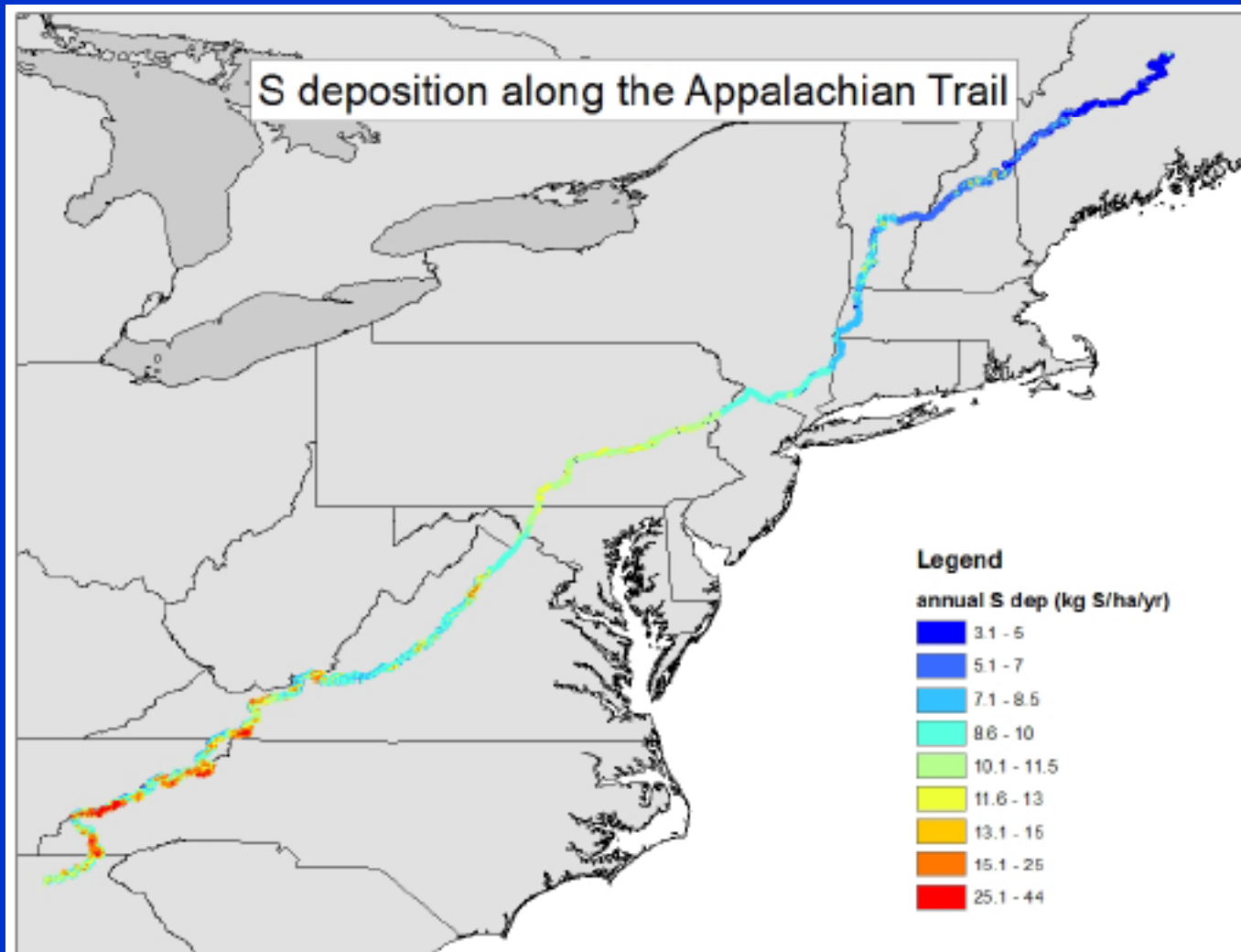
White Mountains
25%



Freezing Injury of Red
Spruce Needles, 2003,
Near Old Forge, NY



LandMod Deposition Model Results



Source: K.C. Weathers et al. DRAFT Total sulfur deposition
DO NOT CIRCULATE

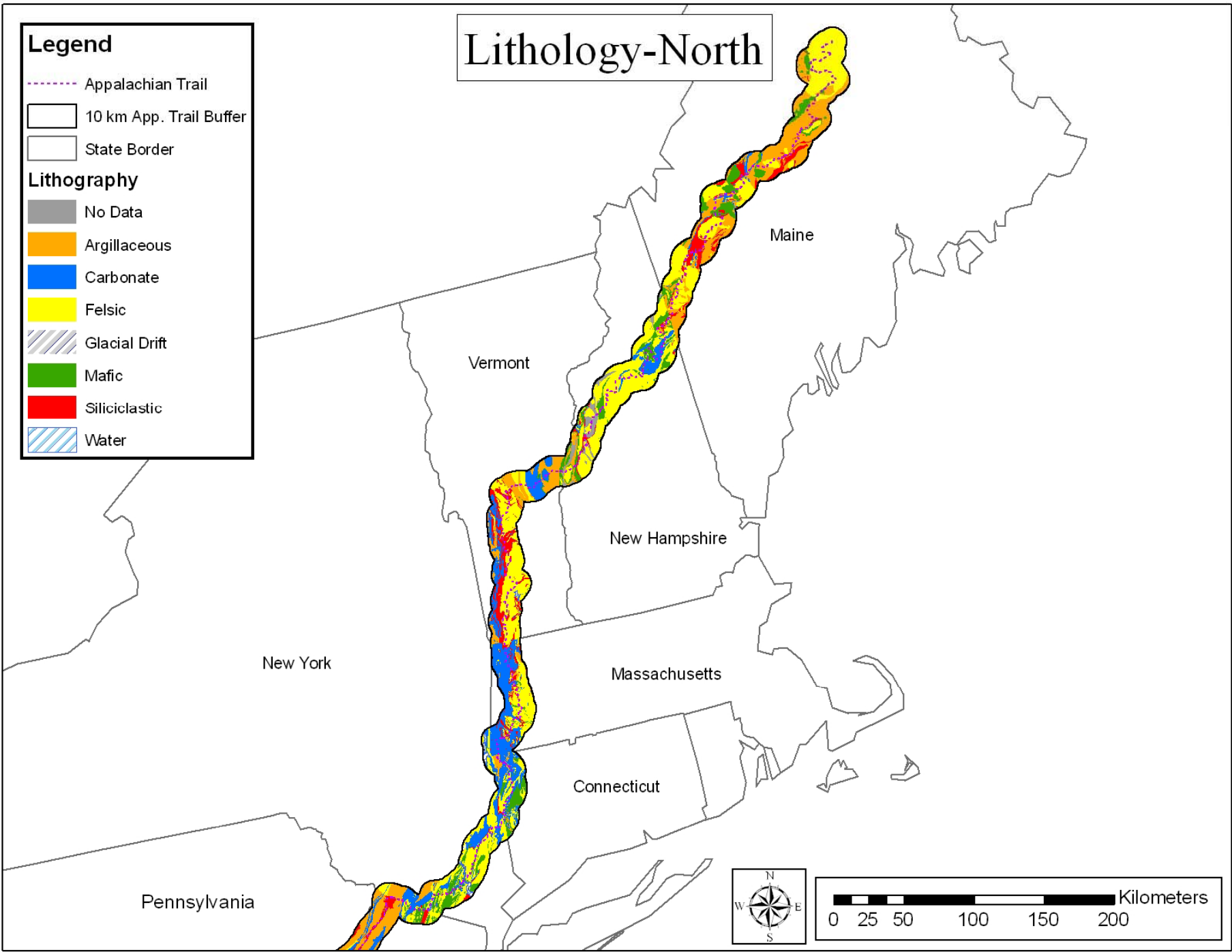
Lithology-North

Legend

- Appalachian Trail
- 10 km App. Trail Buffer
- State Border

Lithology

- No Data
- Argillaceous
- Carbonate
- Felsic
- Glacial Drift
- Mafic
- Siliciclastic
- Water

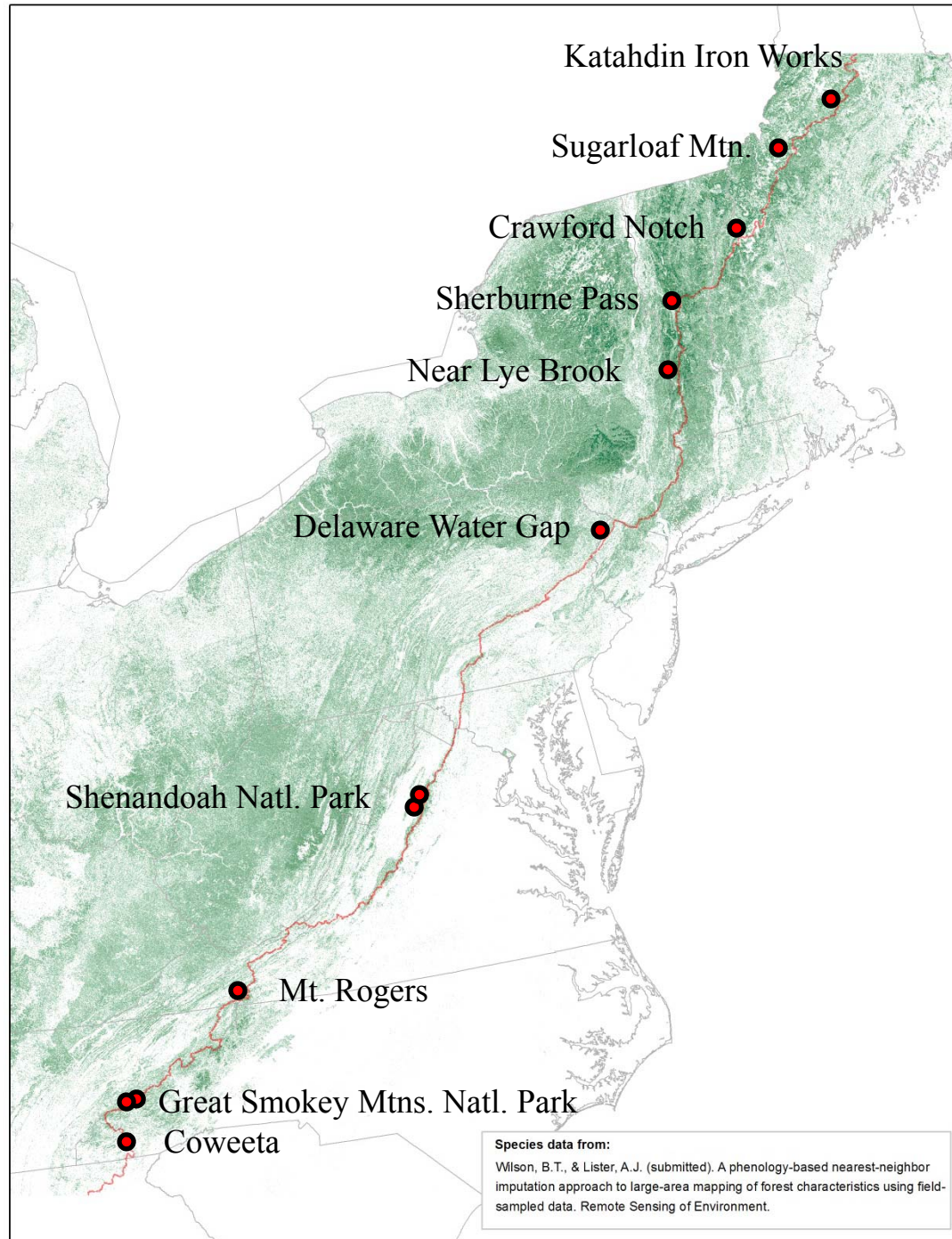


3-Tiered Sampling Design

- **Level 1:** intensive sampling at 12 sites.
- **Level 2:** soil and surface water sampling at 48 sites.
- **Level 3:** surface water sampling at 200 sites.

Level 1 Sampling

- Atmospheric Deposition monitoring (4 sites)
- Full soil profile sampling
- Soil core sampling
- Wood plugs for biochemical analysis
- Tree cores for dendrochronology
- Overstory and understory measurements
- Surface water samples



Sampling Schedule

1. Initial site visits and plot selections in April – early June 2010.
2. Level 1 and Level 2 sampling (excluding water sampling) in summer 2010 and 2011.
3. Water sampling spring 2010 – spring 2012.

Technology Transfer

- final agency summary report
- a fact sheet of project highlights
- manuscripts for the peer-reviewed literature
- GIS coverages
- presentations at professional meetings
- Archived soils for future analysis
- Soils data available on public webpage