

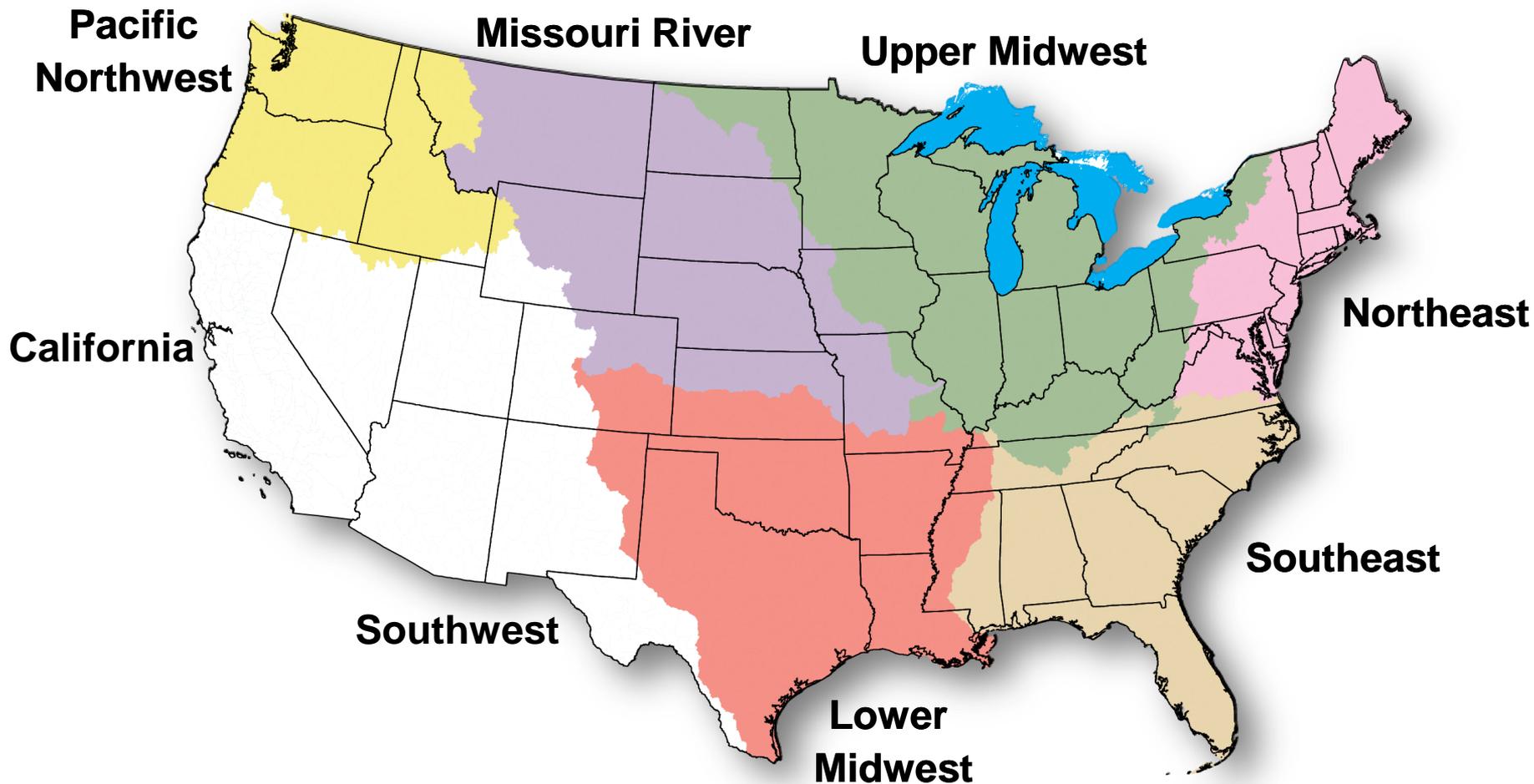
New Science to Help Managers Prioritize Nutrient Reduction Actions

U.S. Geological Survey
National Water Quality Assessment

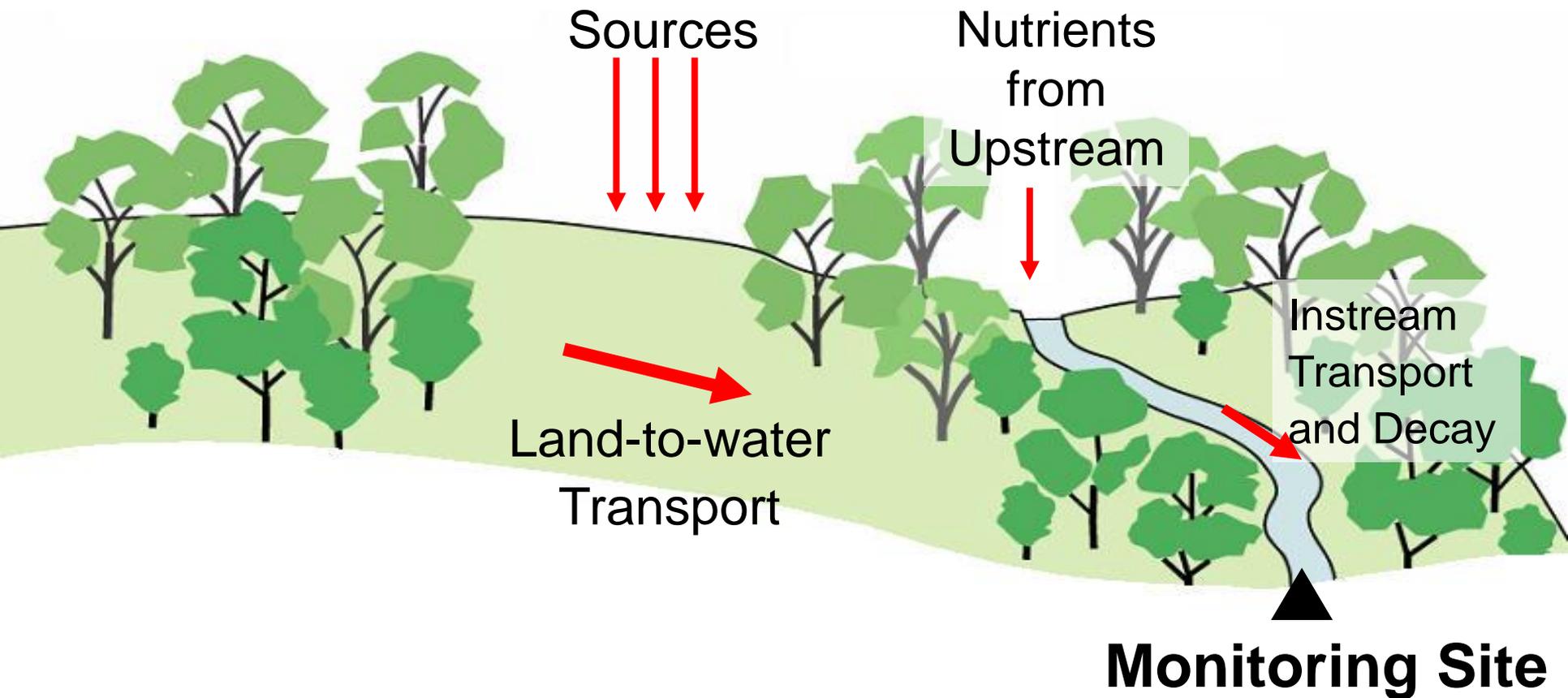


National Water Quality Assessment Program

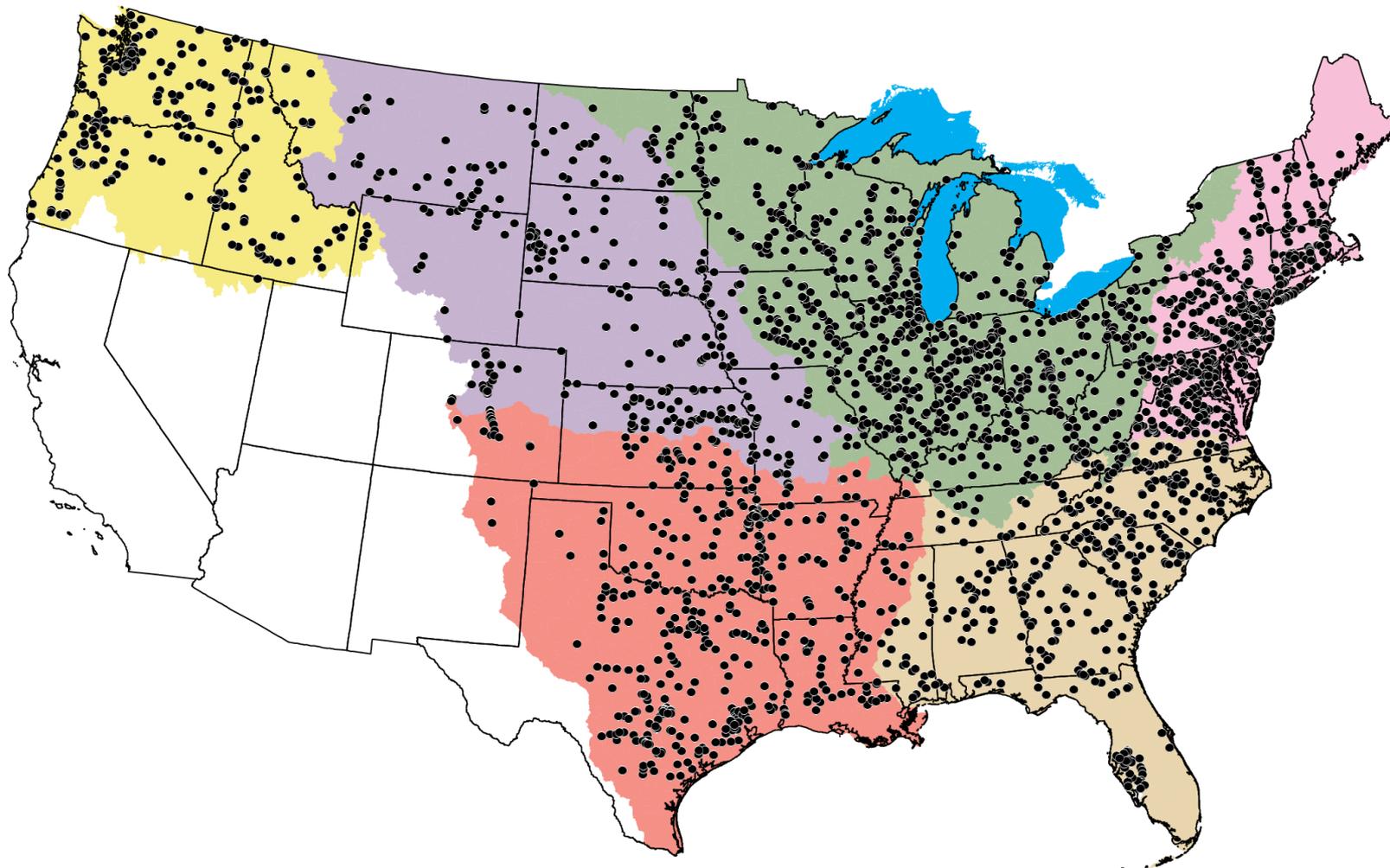
Surface Water Status and Trends Regions



Integration of Monitoring Data with Information on Watershed Characteristics and Nutrient Sources



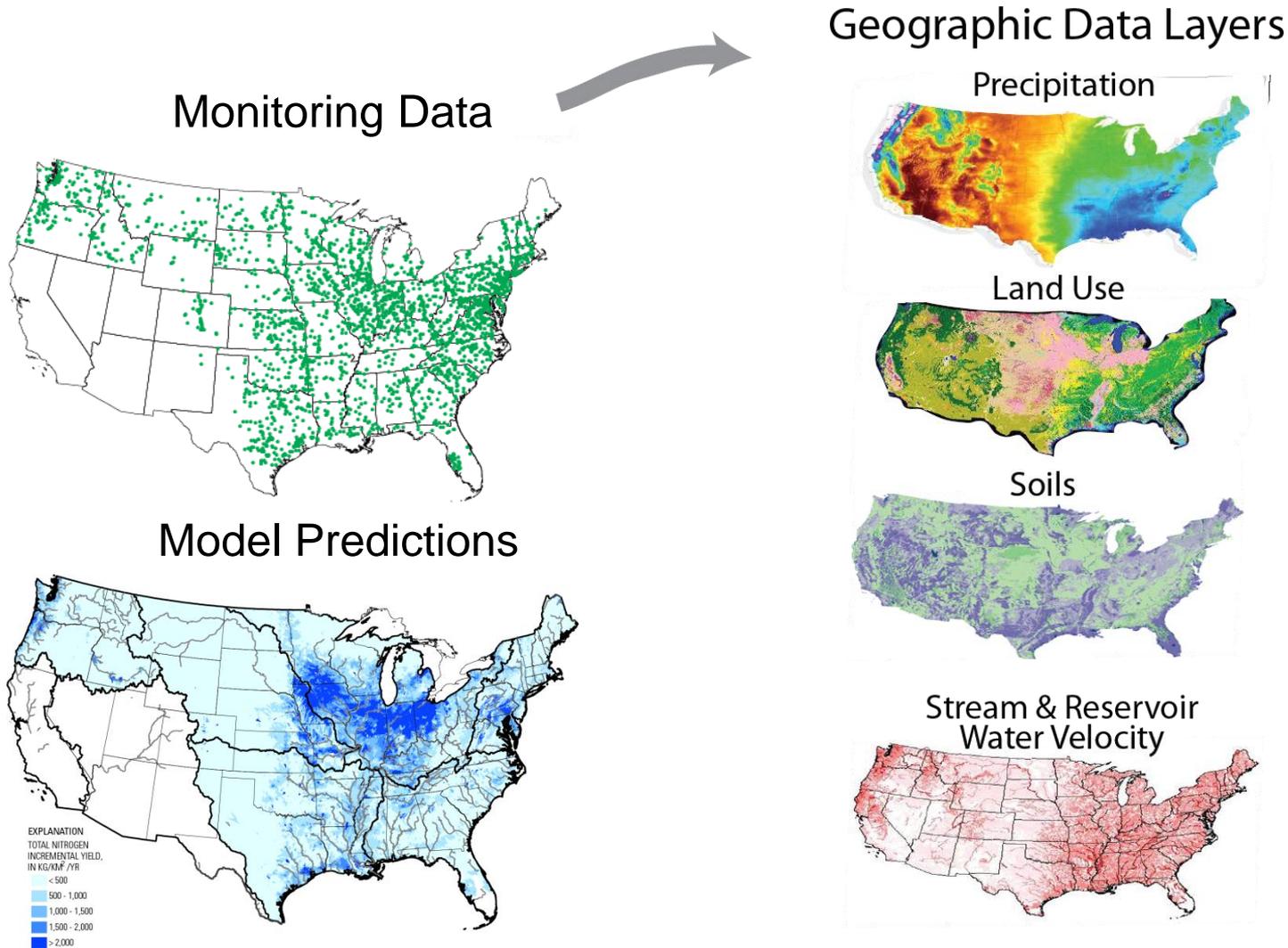
Monitoring Data Are Critical for Modeling



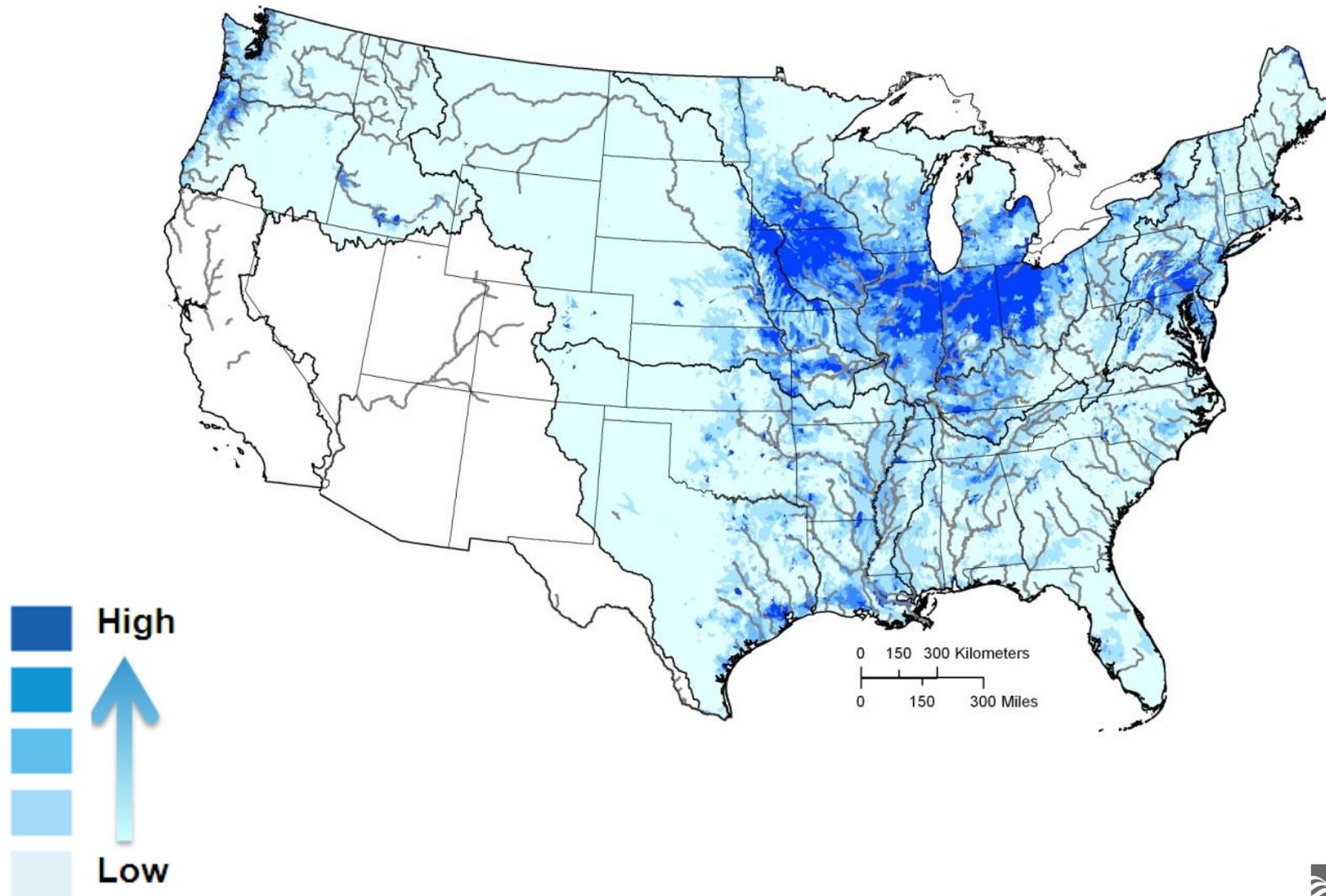
2,700 calibration sites with data from 73 agencies

Integration of Monitoring Data with Information on Watershed Characteristics and Nutrient Sources

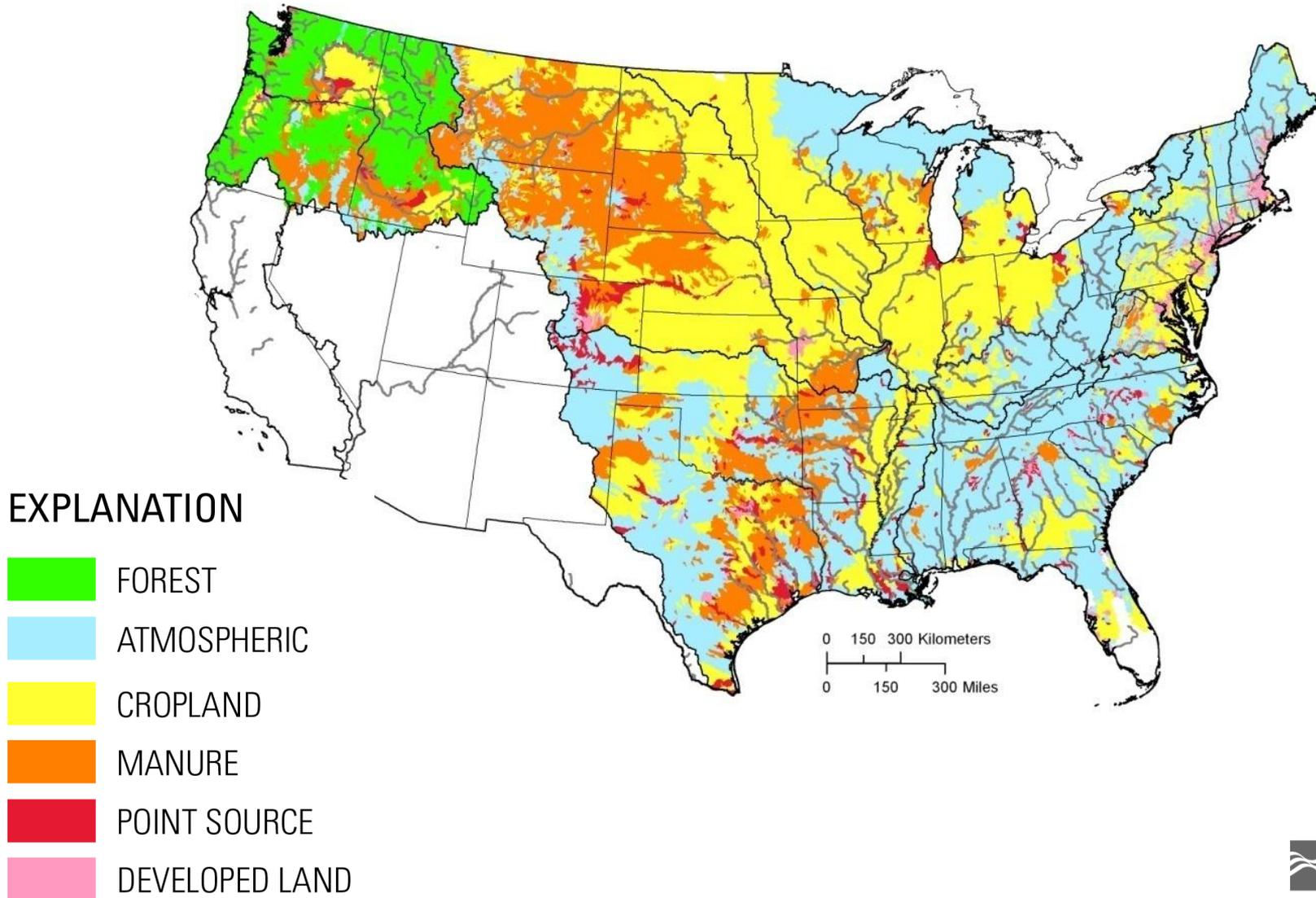
(*SPAtially Referenced Regression on Watershed Attributes*)



Total Nitrogen Yields

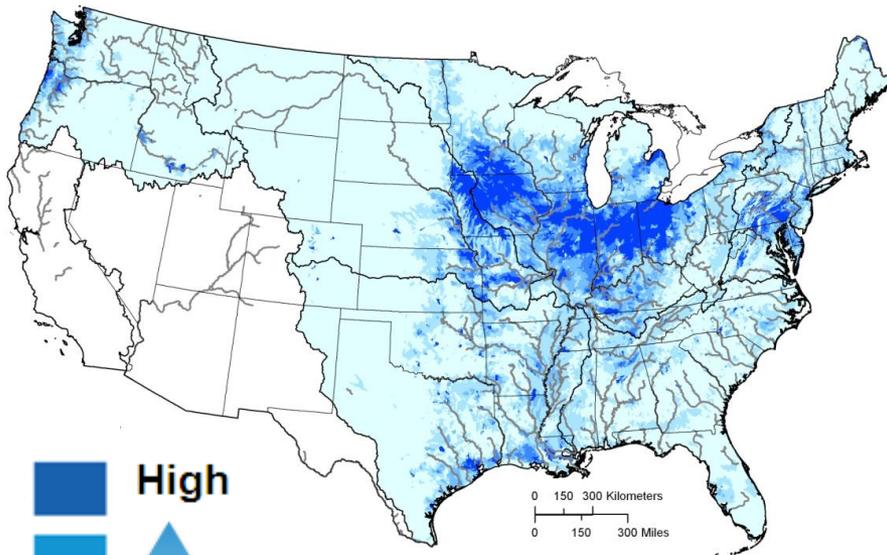


Largest Nitrogen Sources

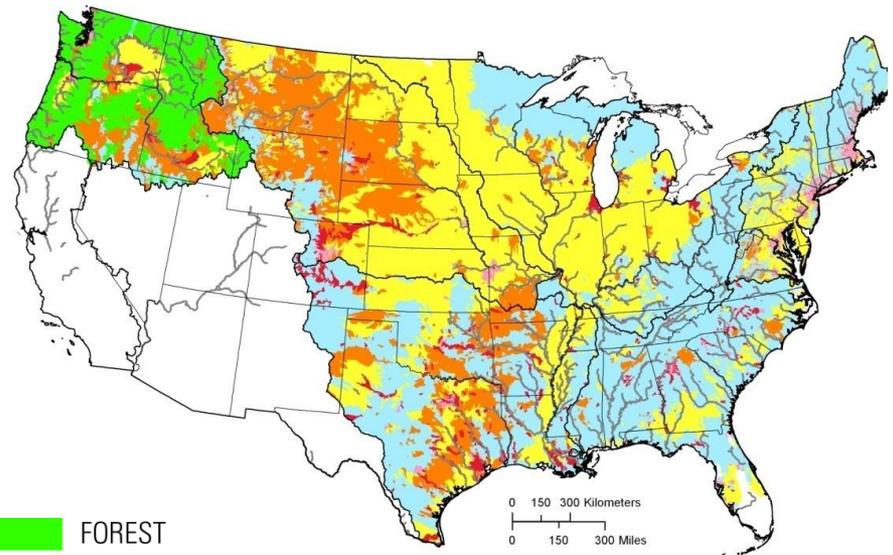


Total Nitrogen Yields and Sources

Yields



Largest Sources



New SPARROW Decision Support System



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SPARROW Decision Support System MRB03 Nitrogen

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Display Results | Downstream Tracking | Change Inputs

Find a reach... | Export Data... | Session | Layers

Hide Header/Footer | SPARROW Model / Videos

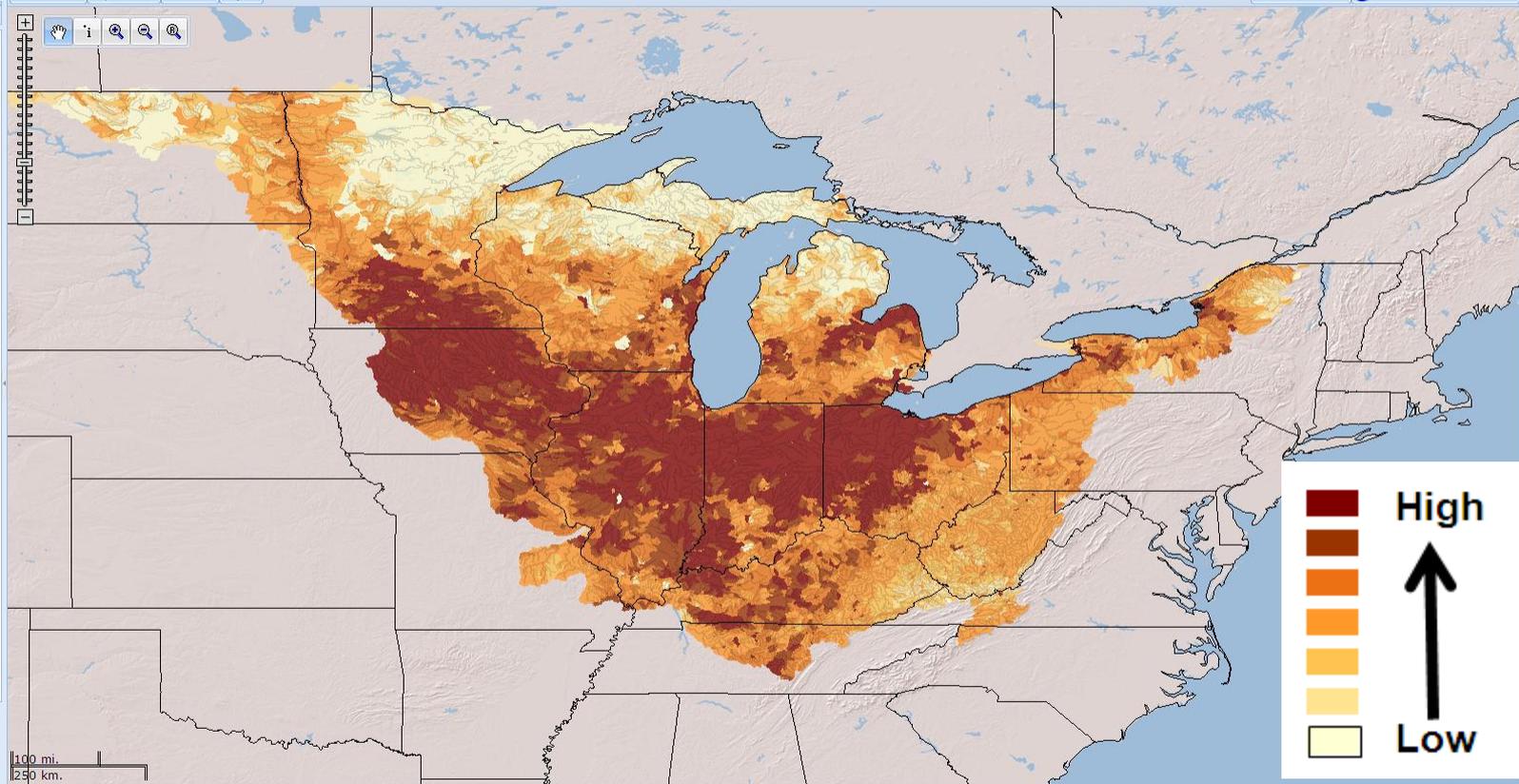
Map the model results by reach or catchment.

1. Select a Data Series
Data Series
Incremental Yield
Comparison To Original Model
Do Not Compare

2. Select a Model Source
Model Source
All
Map Units: Mass Percent

3. Select the map display options
Display: Reaches Catchments
 Calibration Sites
 Reach Overlay
 HUC8 Overlay

Binning for Map Color and Legend
7 Custom Bins
 Auto binning [Edit Custom Bins...](#)



Currently mapping **Incremental Yield**.
The map is up to date.

[Update Map](#)

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U.S. Department of the Interior | U.S. Geological Survey

URL: <http://water.usgs.gov/nawqa/sparrow/dss/>

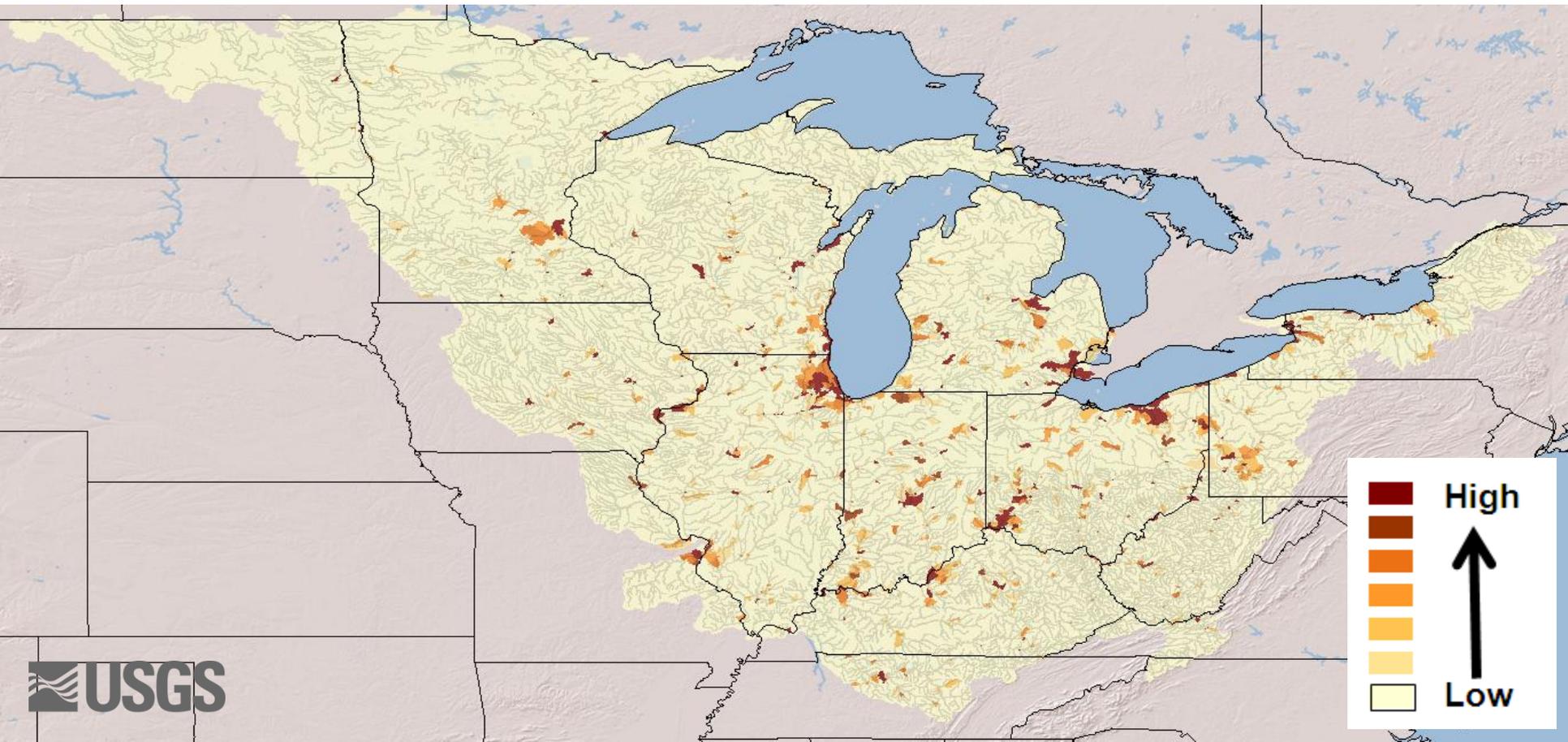
Page Contact Information: SPARROW DSS Administrator

Page Last modified: 29/09/2011 16:34:26 (Version: 1.5.1-SNAPSHOT (29/09/2011 16:34:26) - Public Production)



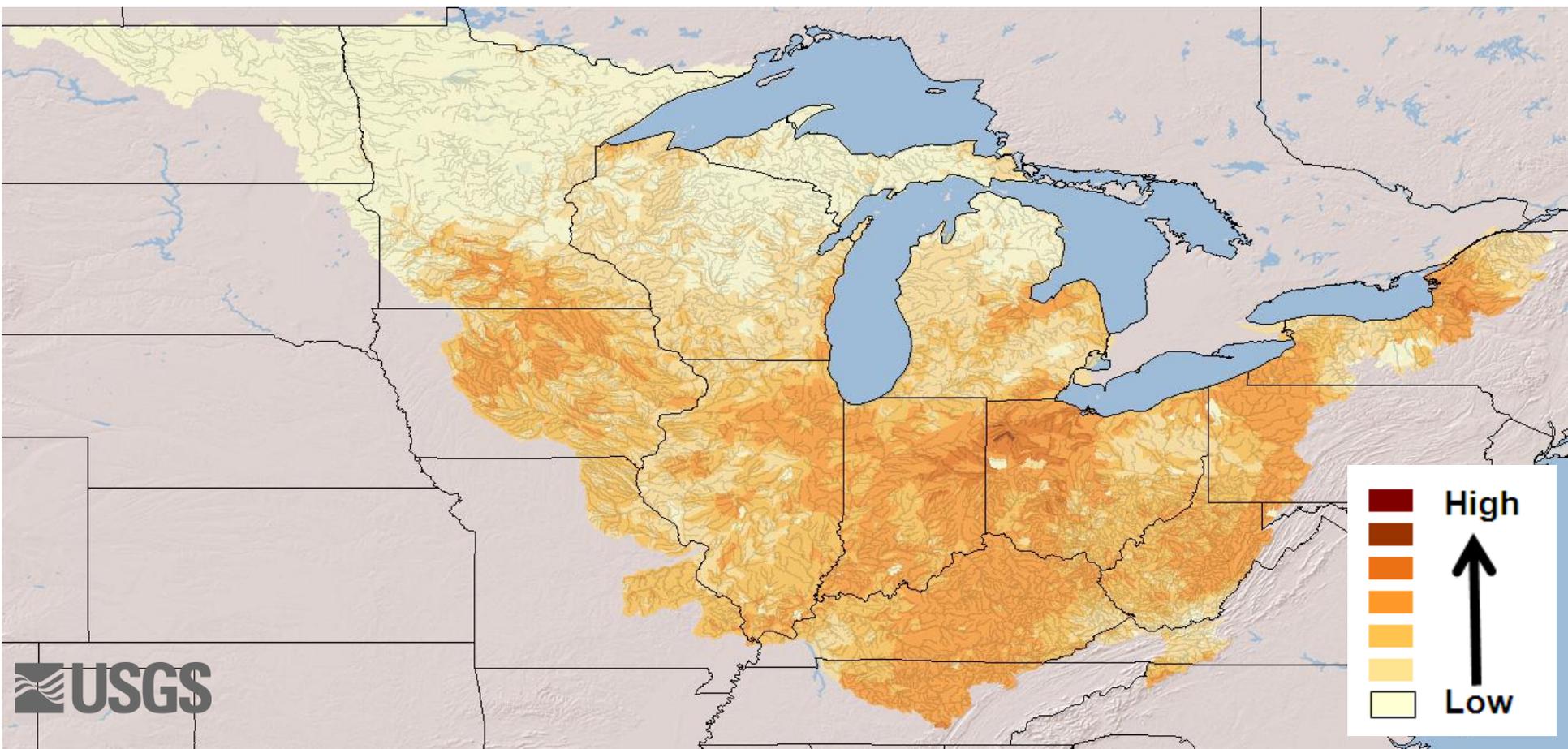
Amounts and Sources of Nitrogen to Streams in the Upper Mississippi/Great Lakes Basin

Point Sources



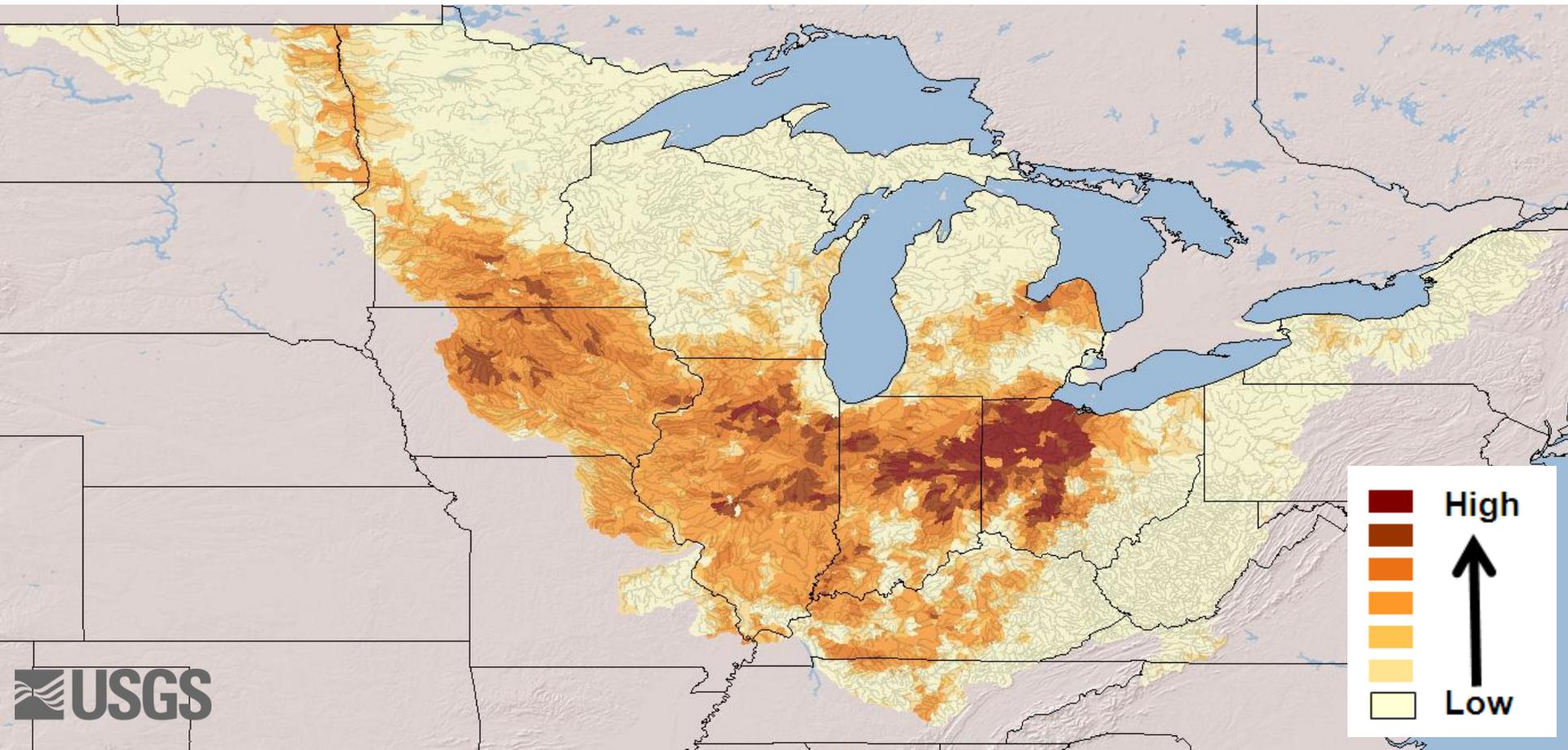
Amounts and Sources of Nitrogen to Streams in the Upper Mississippi/Great Lakes Basin

Atmosphere



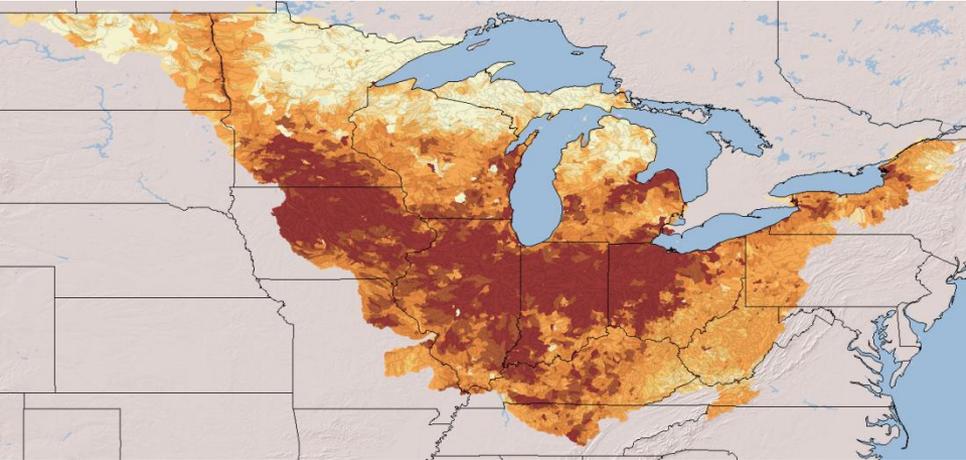
Amounts and Sources of Nitrogen to Streams in the Upper Mississippi/Great Lakes Basin

Agricultural Fertilizers

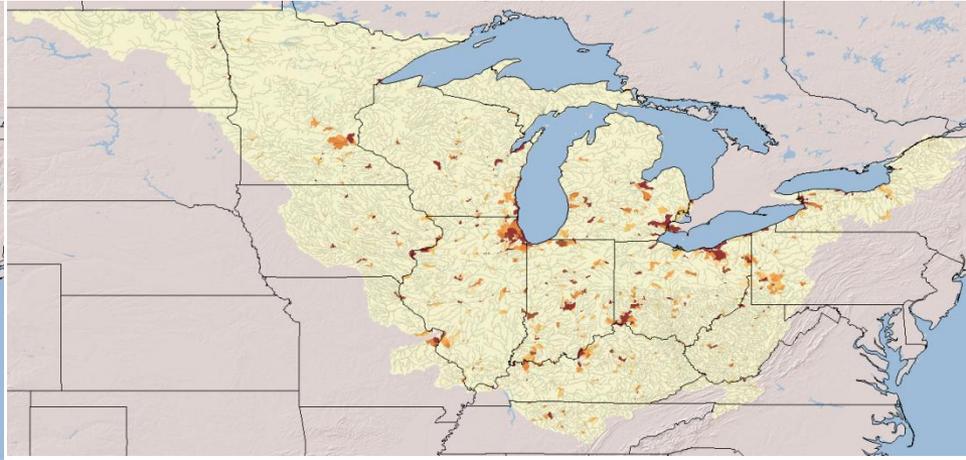


Amounts and Sources of Nitrogen to Streams in the Upper Mississippi/Great Lakes Basin

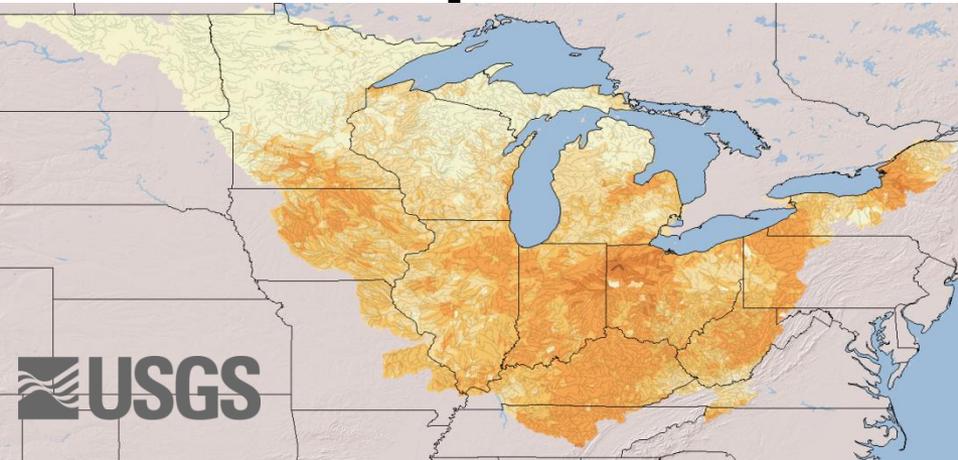
All Sources



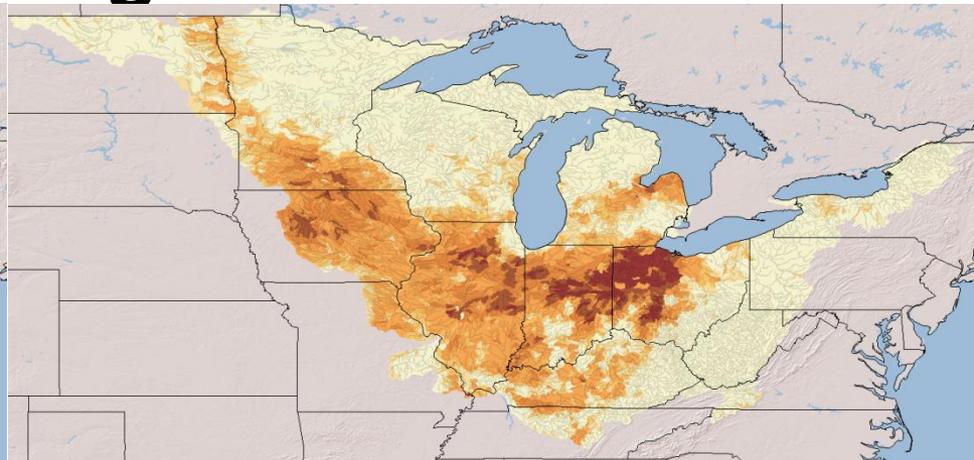
Point Sources



Atmosphere

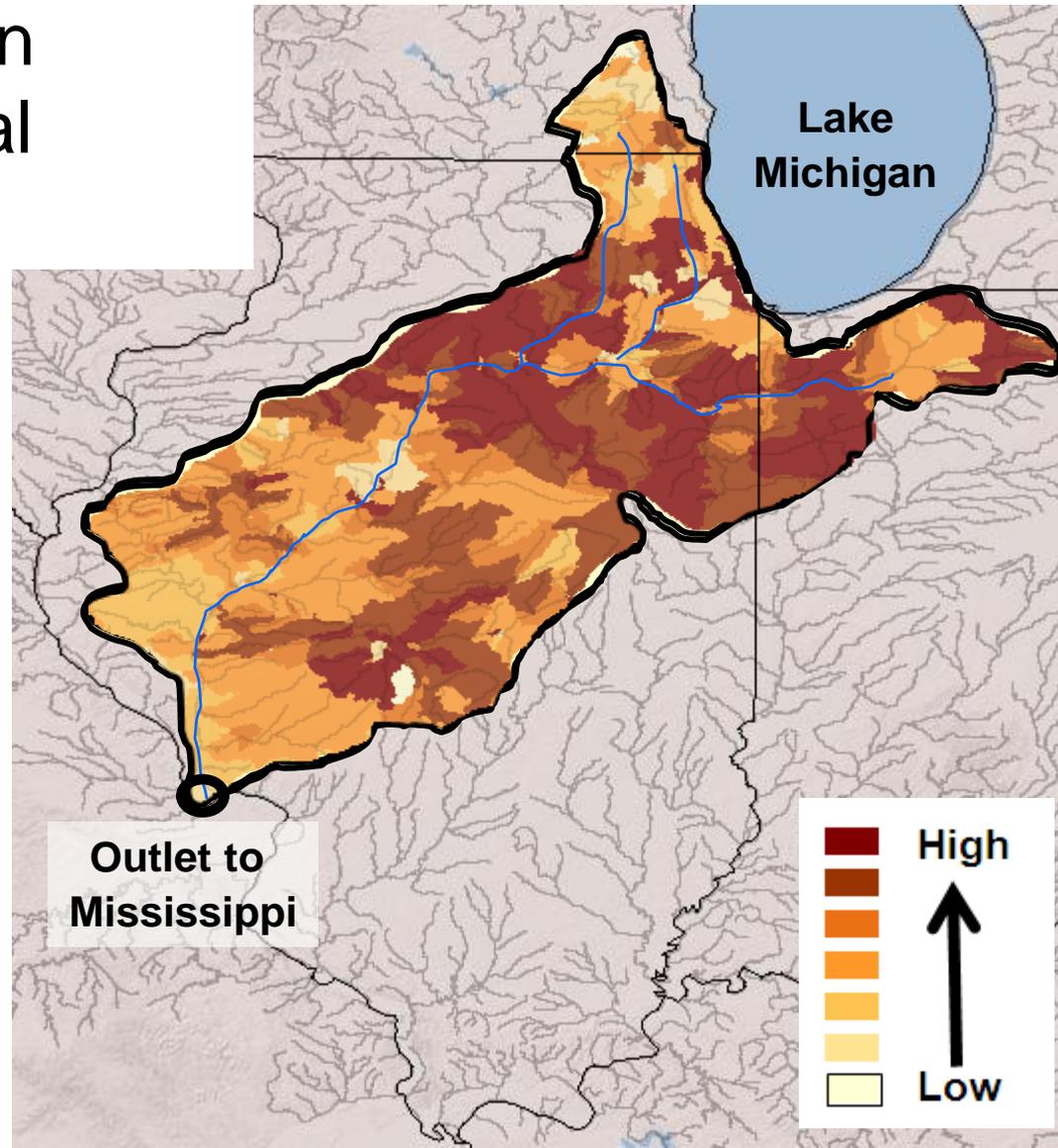


Agricultural Fertilizers

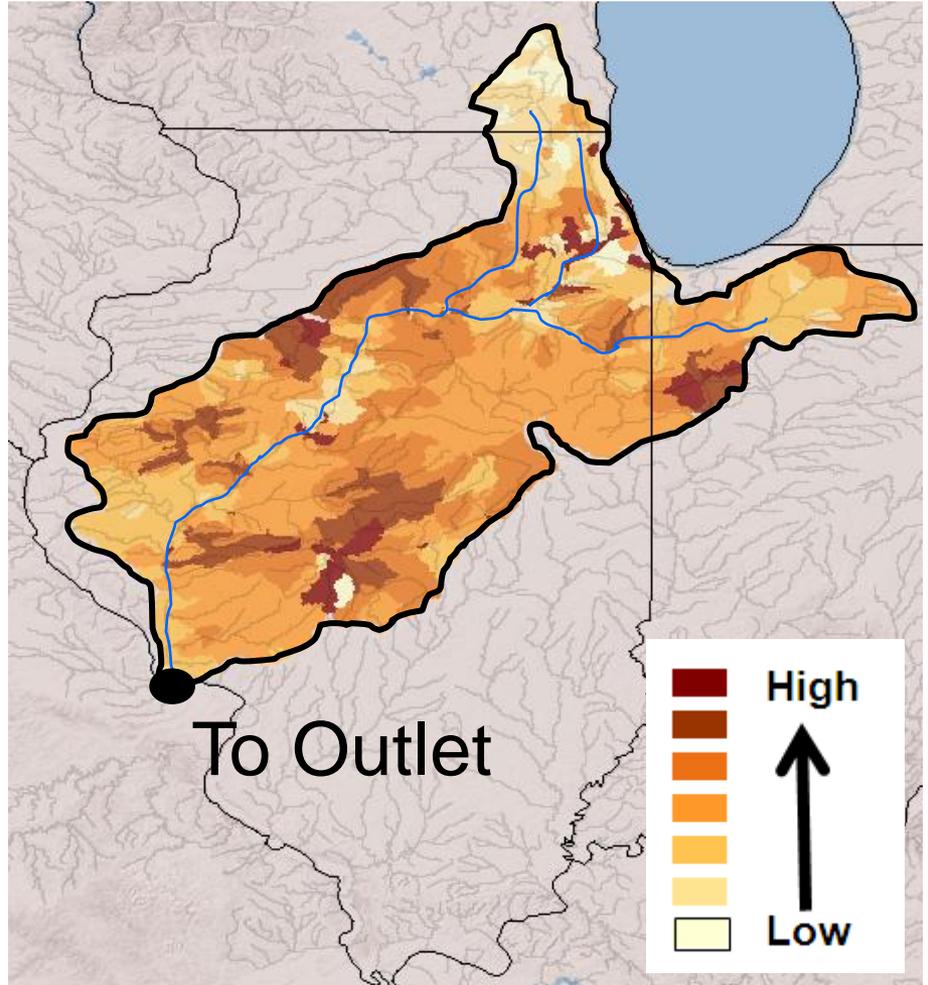
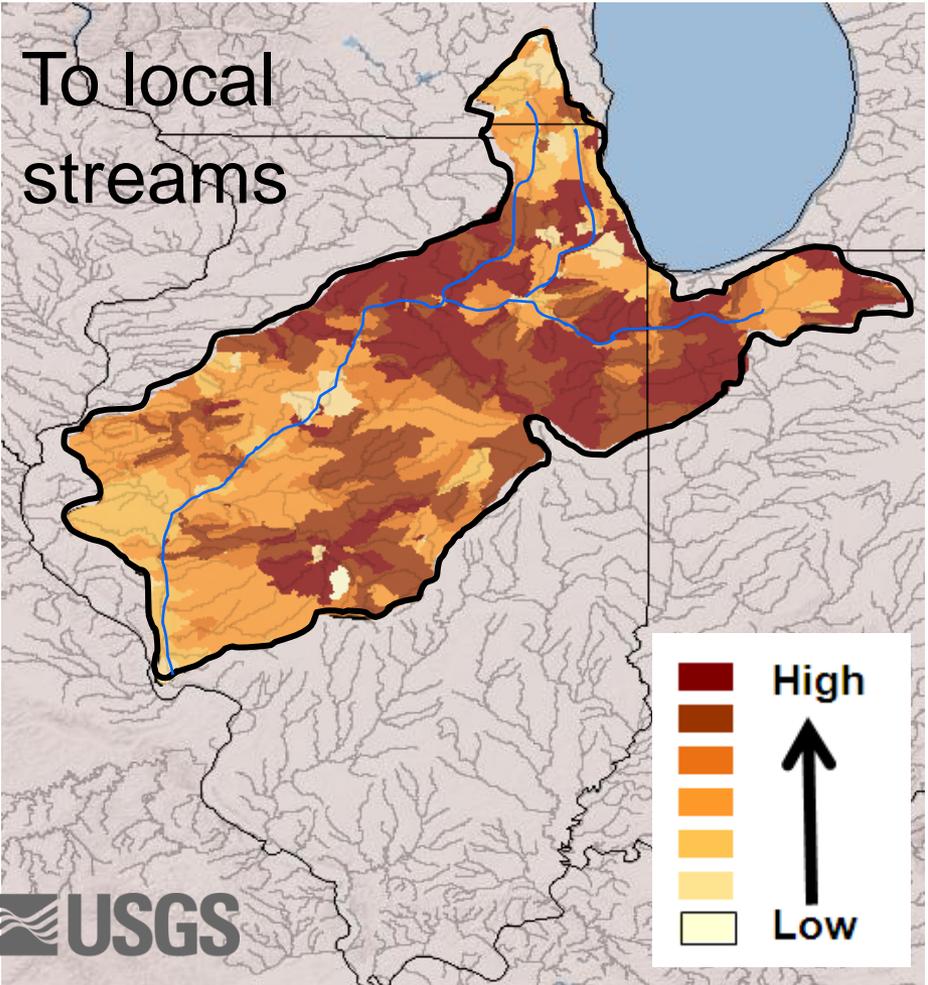


Illinois River Basin

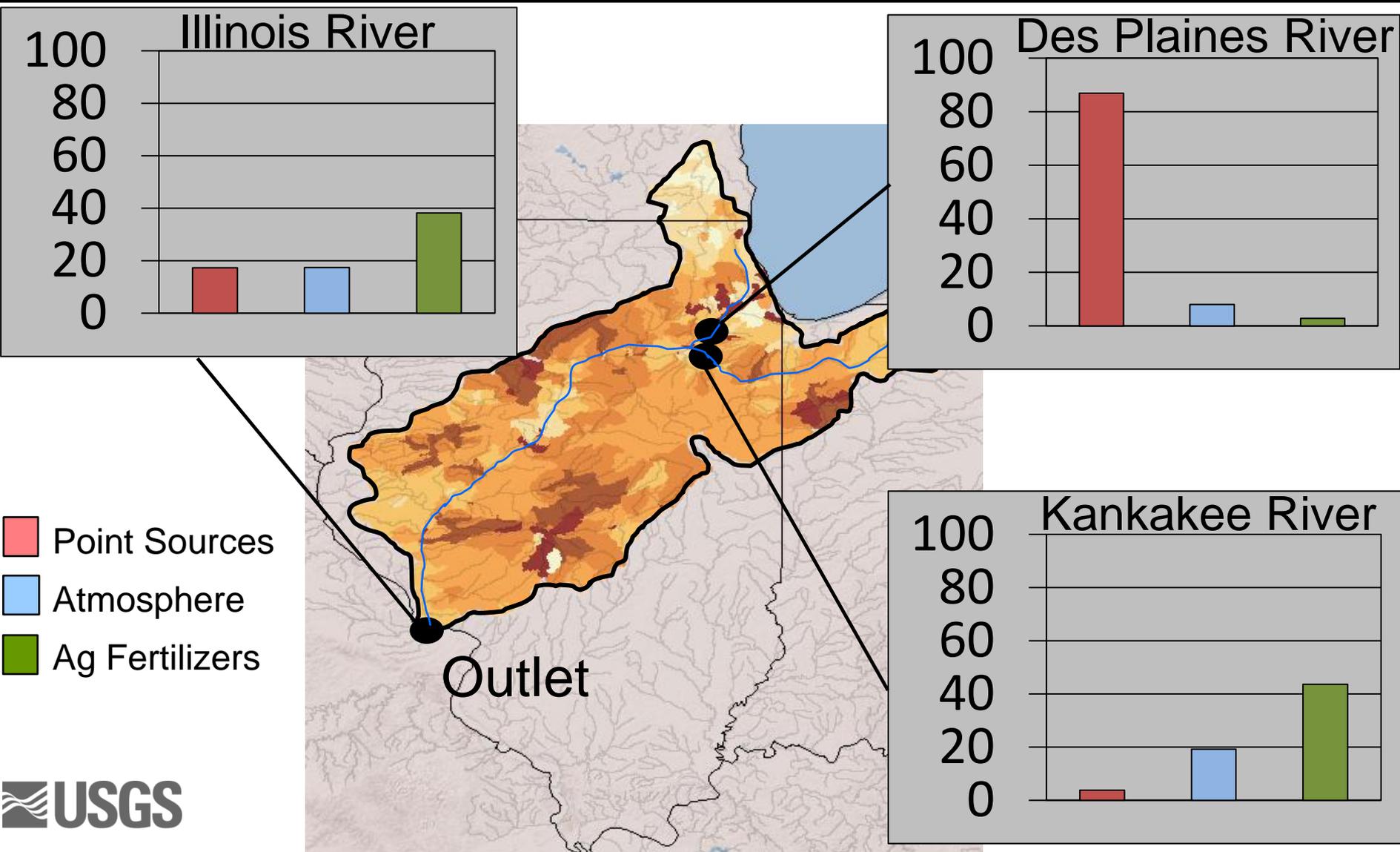
Total Nitrogen
Yields to local
streams



Illinois River Basin—Total Nitrogen Yields



Which sources are contributing the largest amounts of nitrogen? – Location Matters



- Point Sources
- Atmosphere
- Ag Fertilizers

Nutrient Reduction Scenarios

Illinois River Basin

Conclusion for Scenario 1 – Reducing individual source inputs by 25% provides at most 10% reduction in load at the outlet.

Conclusion for Scenario 2 – Reducing multiple sources by 25% provides more significant (18%) reduction in load at the outlet.

How can this information be used?



- * Prioritize Areas for Nutrient Reduction
- * Identify Important Sources of Nutrients
- * Test Long-Term Benefits of Reductions