

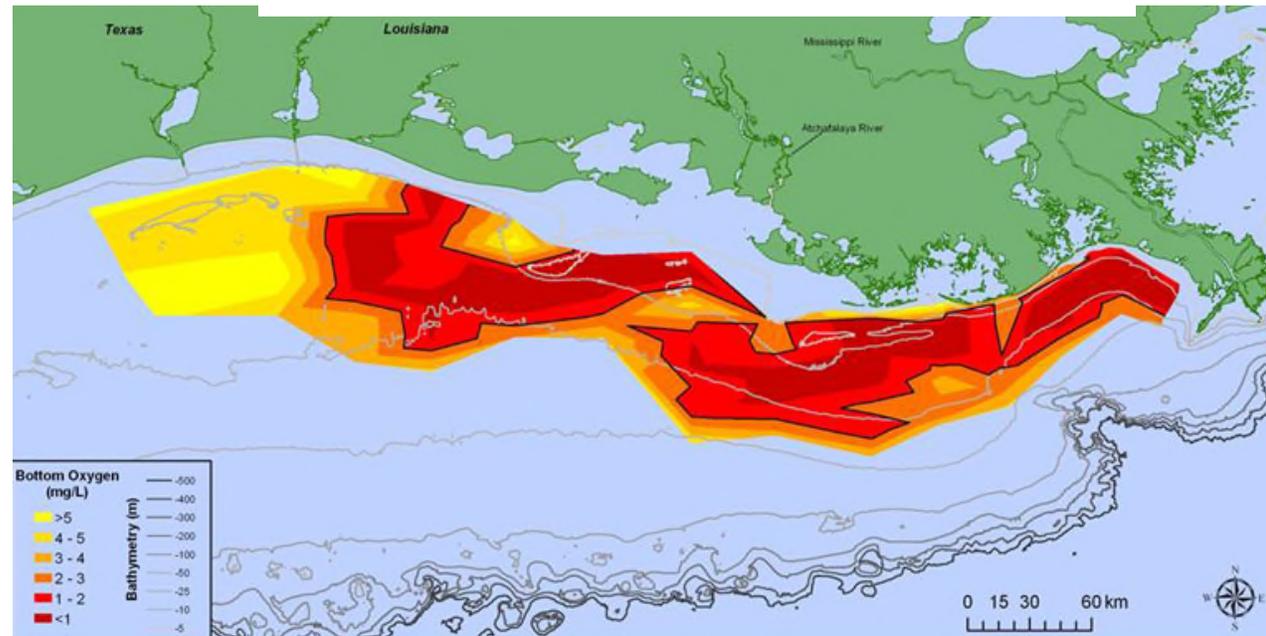
Mississippi River Basin Monitoring Collaborative



Hypoxia in the Gulf of Mexico



Average Size of Hypoxia Zone over last 5 years: 17,000km²

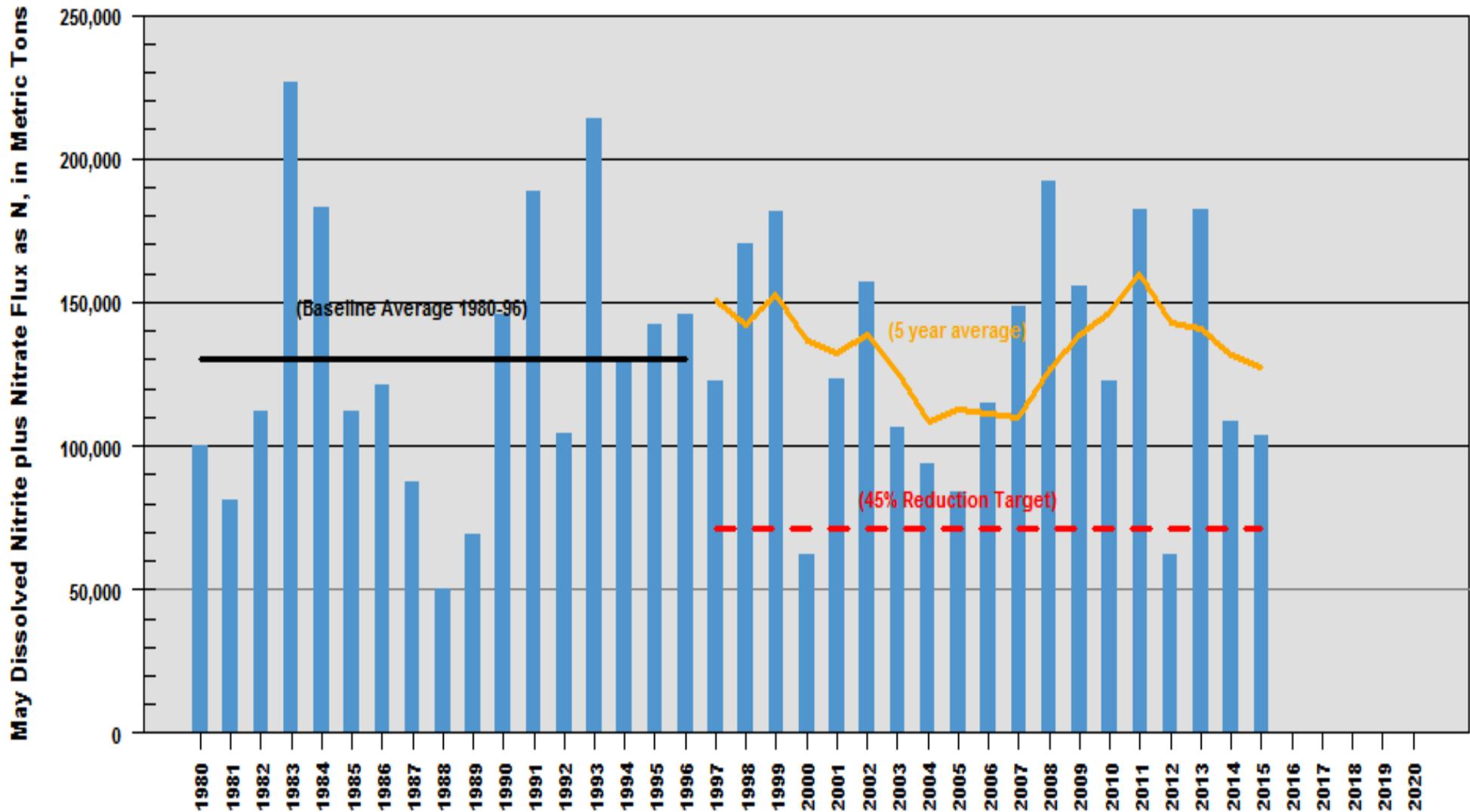


Mississippi River—Gulf of Mexico Watershed Nutrient Task Force



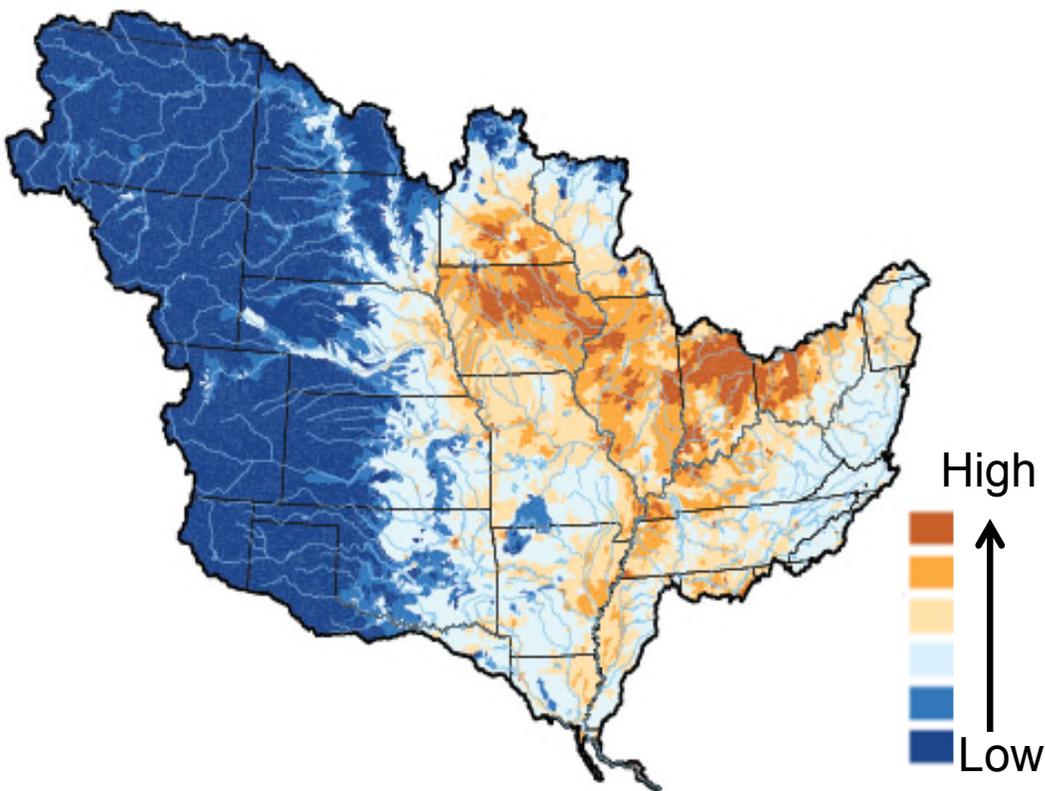
Minnesota
Wisconsin
Ohio
Missouri
Mississippi
Louisiana
Kentucky
Arkansas
Iowa
Illinois
Indiana
Tennessee

Mississippi/Atchafalaya River Basin May Nitrate Loads



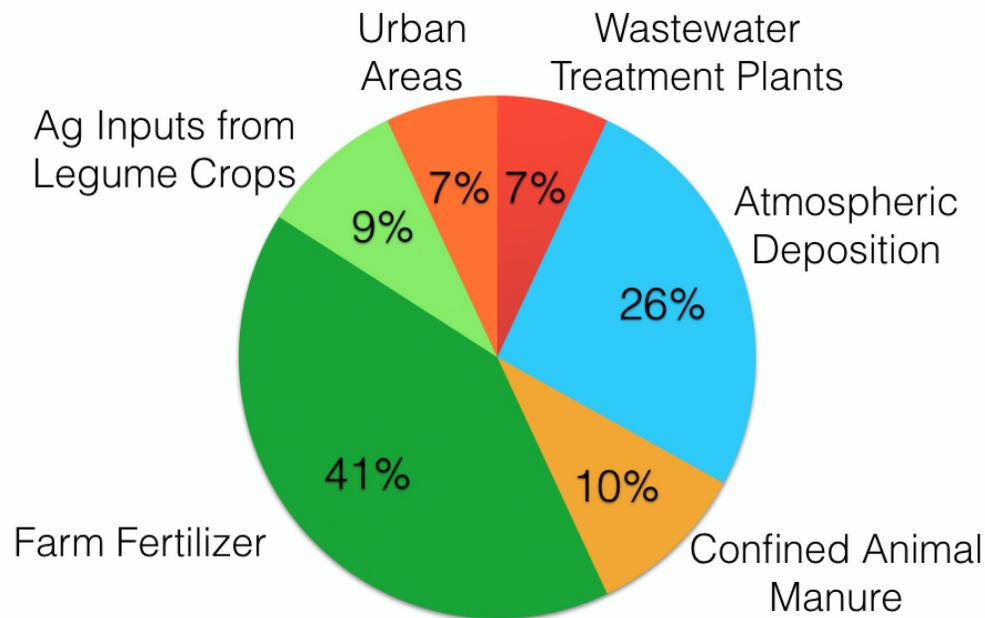
Nitrogen loading to the Gulf of Mexico from the Mississippi River Basin

Areas with the Highest Yields of Nitrogen transported to the Gulf



Sources of Nitrogen to the Gulf

Sources of Nitrogen Delivered to the Gulf of Mexico

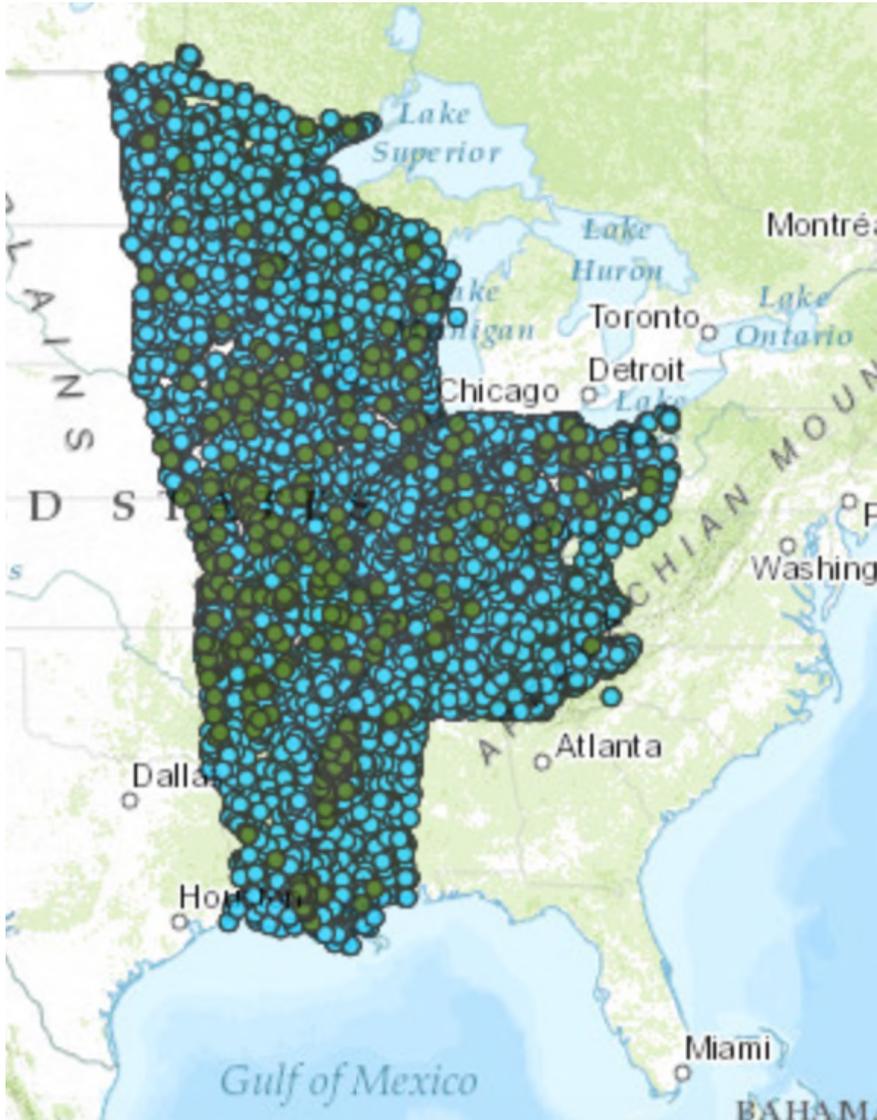


Mississippi River Basin Monitoring Collaborative

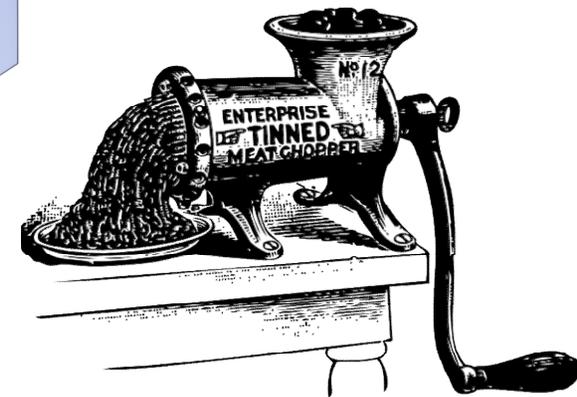
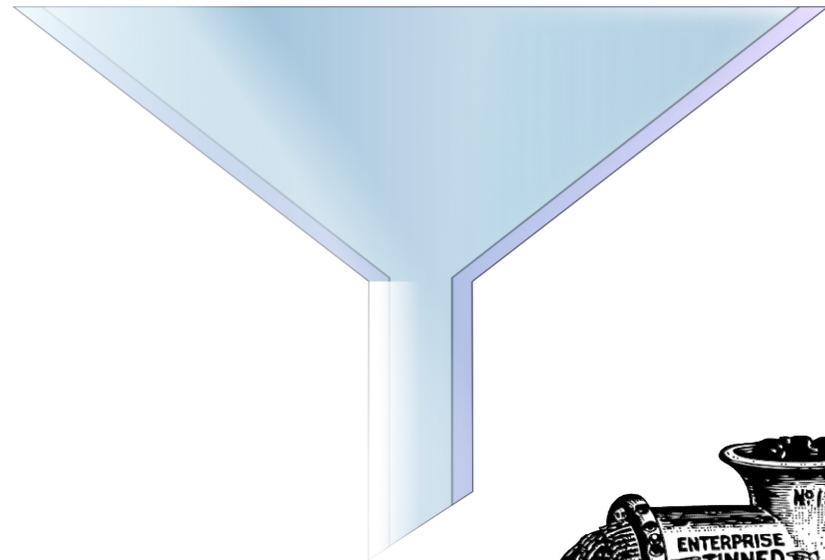
Establish a nutrient monitoring network using existing monitoring sites and resources that can be used to

- *quantify changes in nutrient concentrations and loads in streams and rivers,*
- *determine data gaps, and*
- *promote a more uniform, accessible collection of monitoring data and information.*

Nutrient Data Filtering in 12 Task Force States



**670,000 nutrient records
48 agencies**



Water Quality Monitoring Filtering

Nitrate and Total Phosphorus

- Monthly
- Bimonthly
- Quarterly

With 5 or more years of data

About 1,500 sites met these coarse filtering criteria.

Streamflow Information

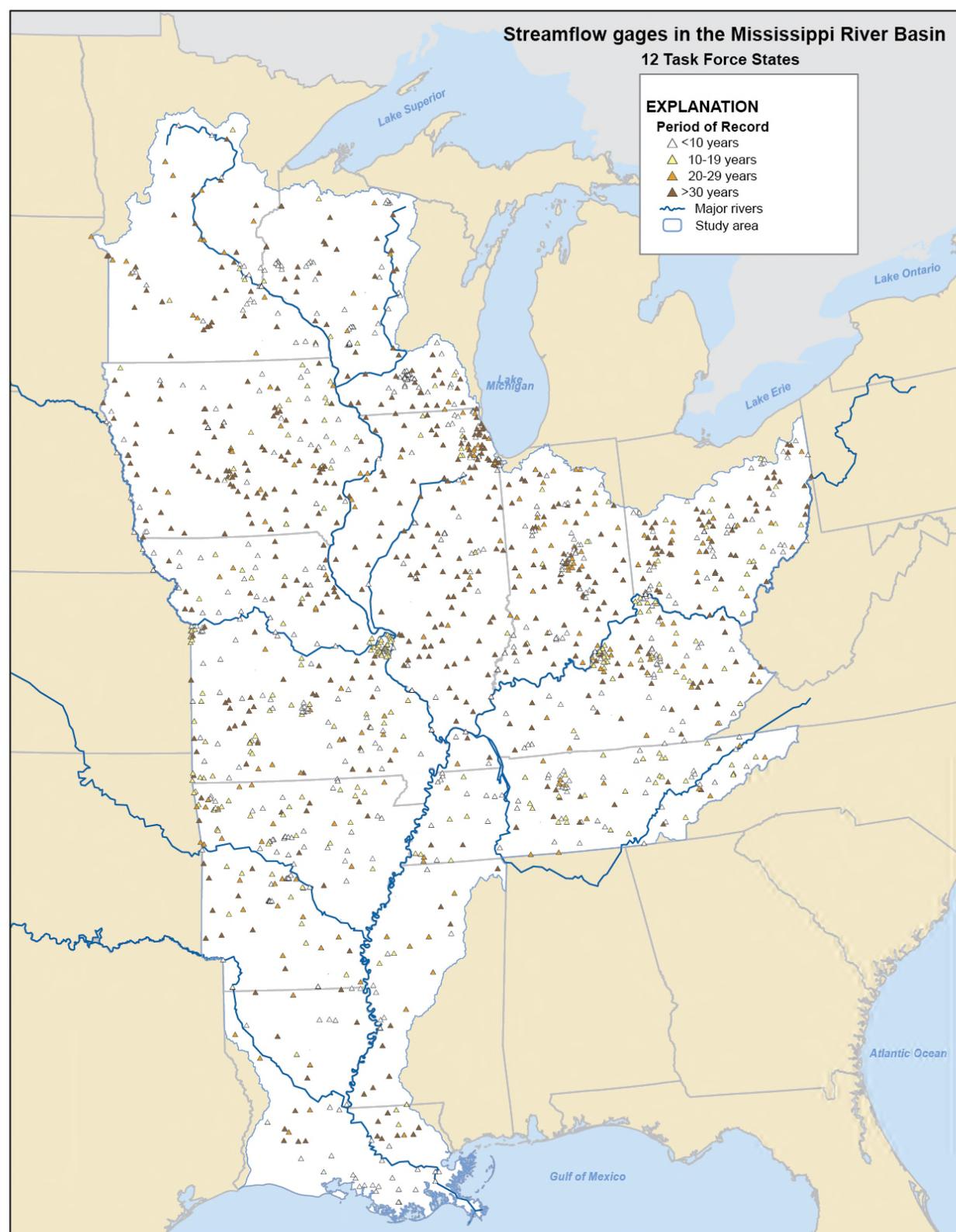
About 1500 active gages

1/3 < 10 years of data

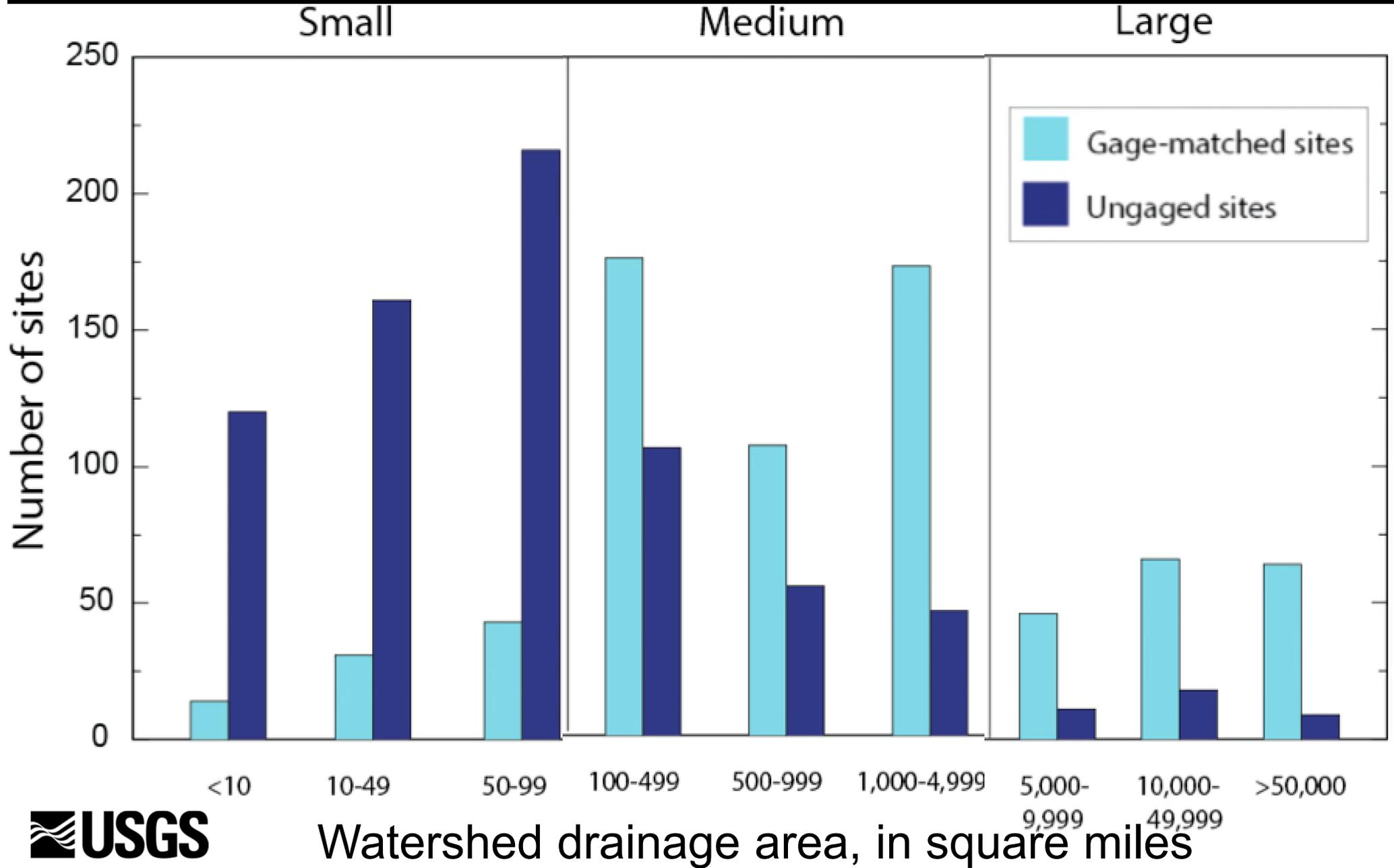
1/2 > 20 years of data

1/3 > 50 years of data

About half of the Water Quality sites are located at or near a gage.

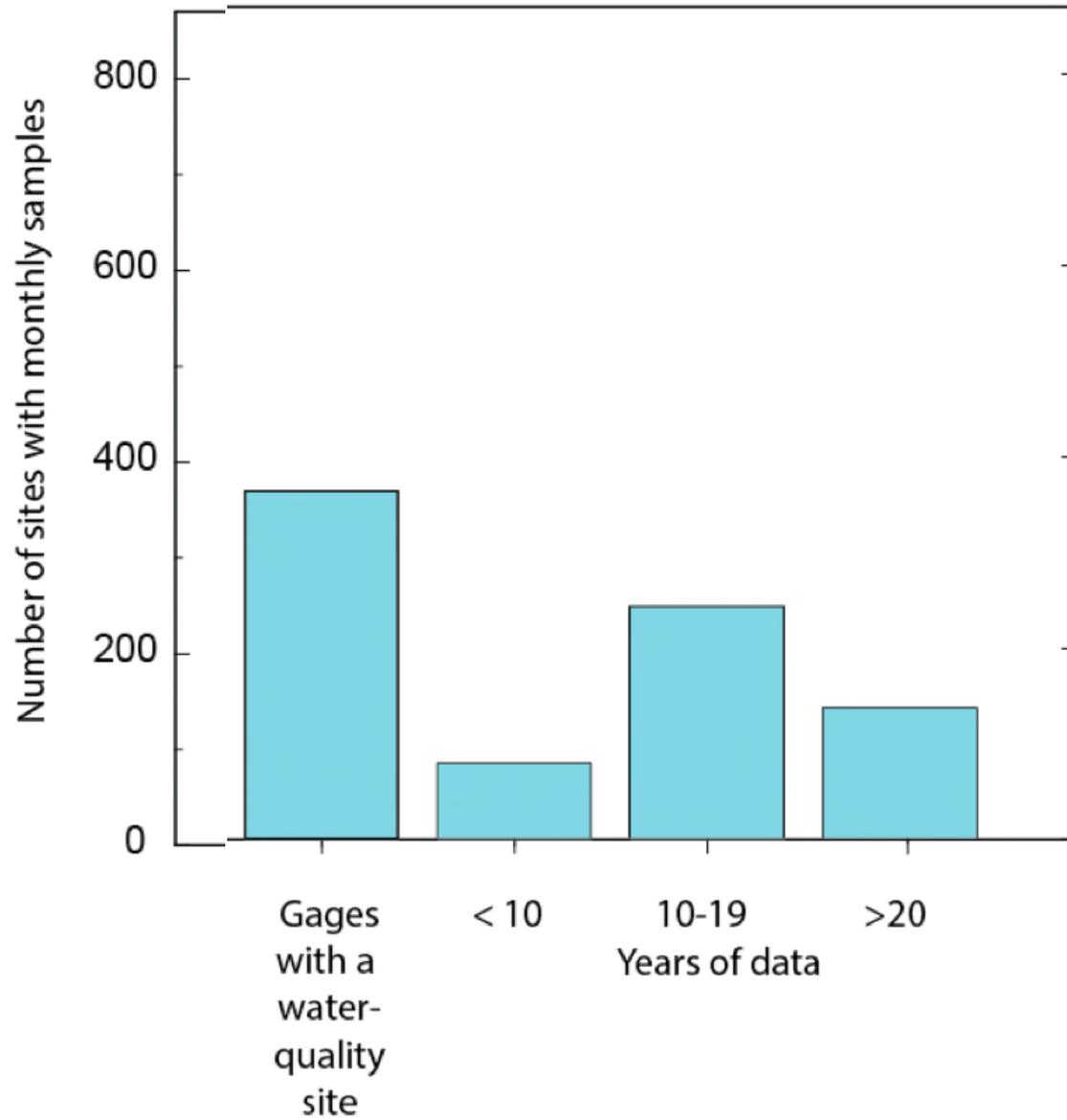


Long-term Nutrient Monitoring

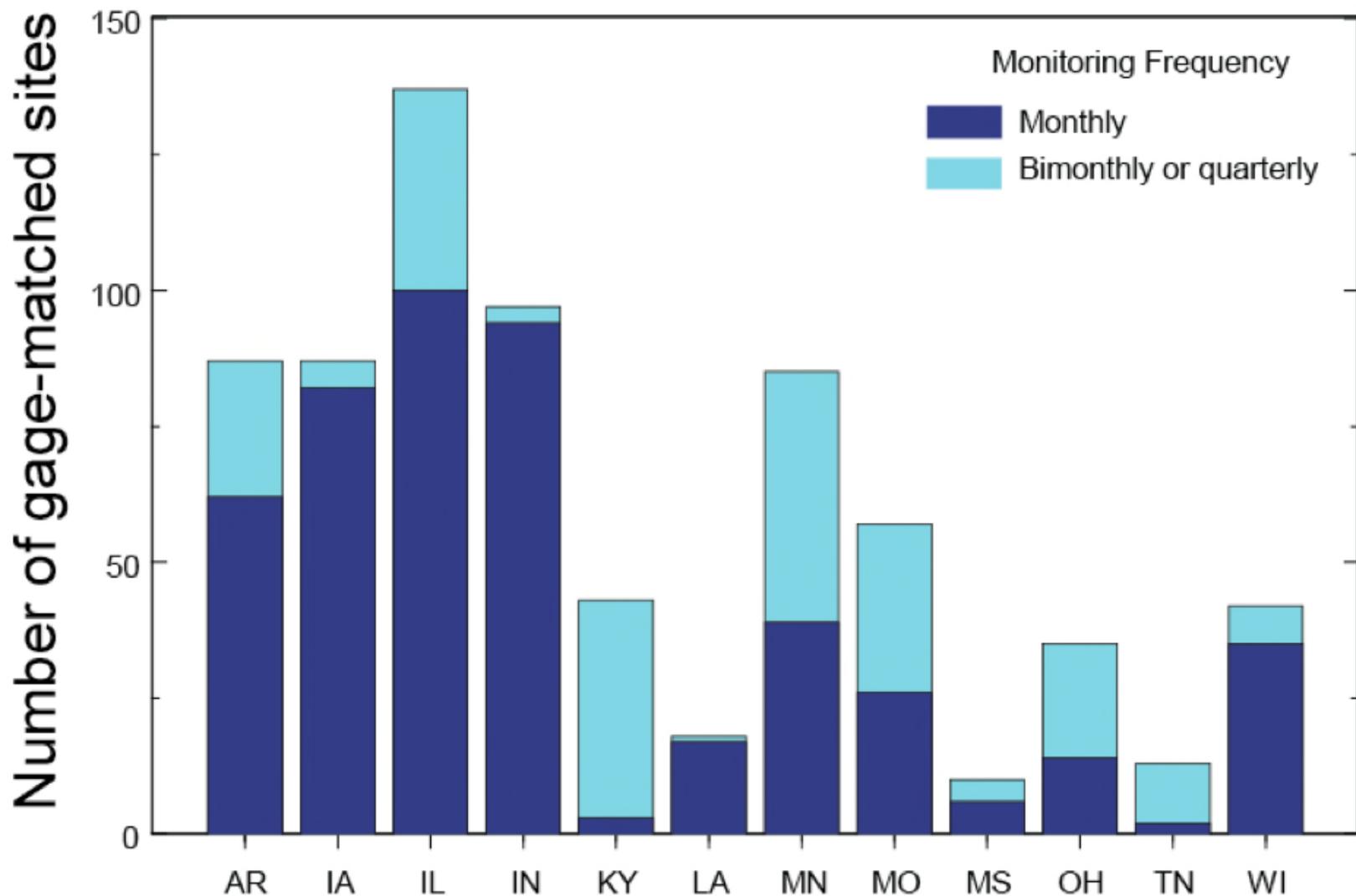


Watershed drainage area, in square miles

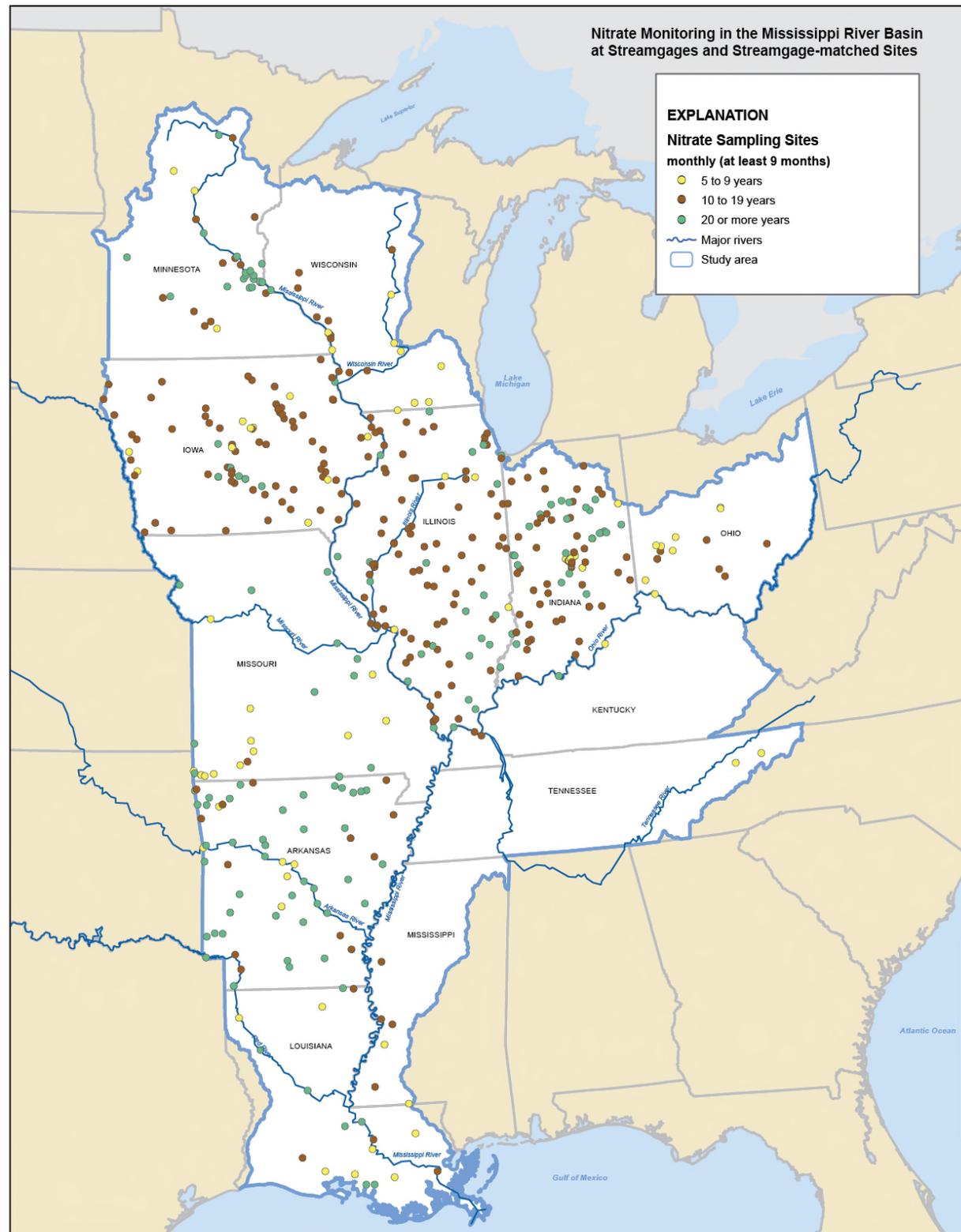
About 360 sites with a streamgauge and monthly sampling for nitrate with 10 or more years of data



Sites with at least five years of data and active at least one year from 2008-2012

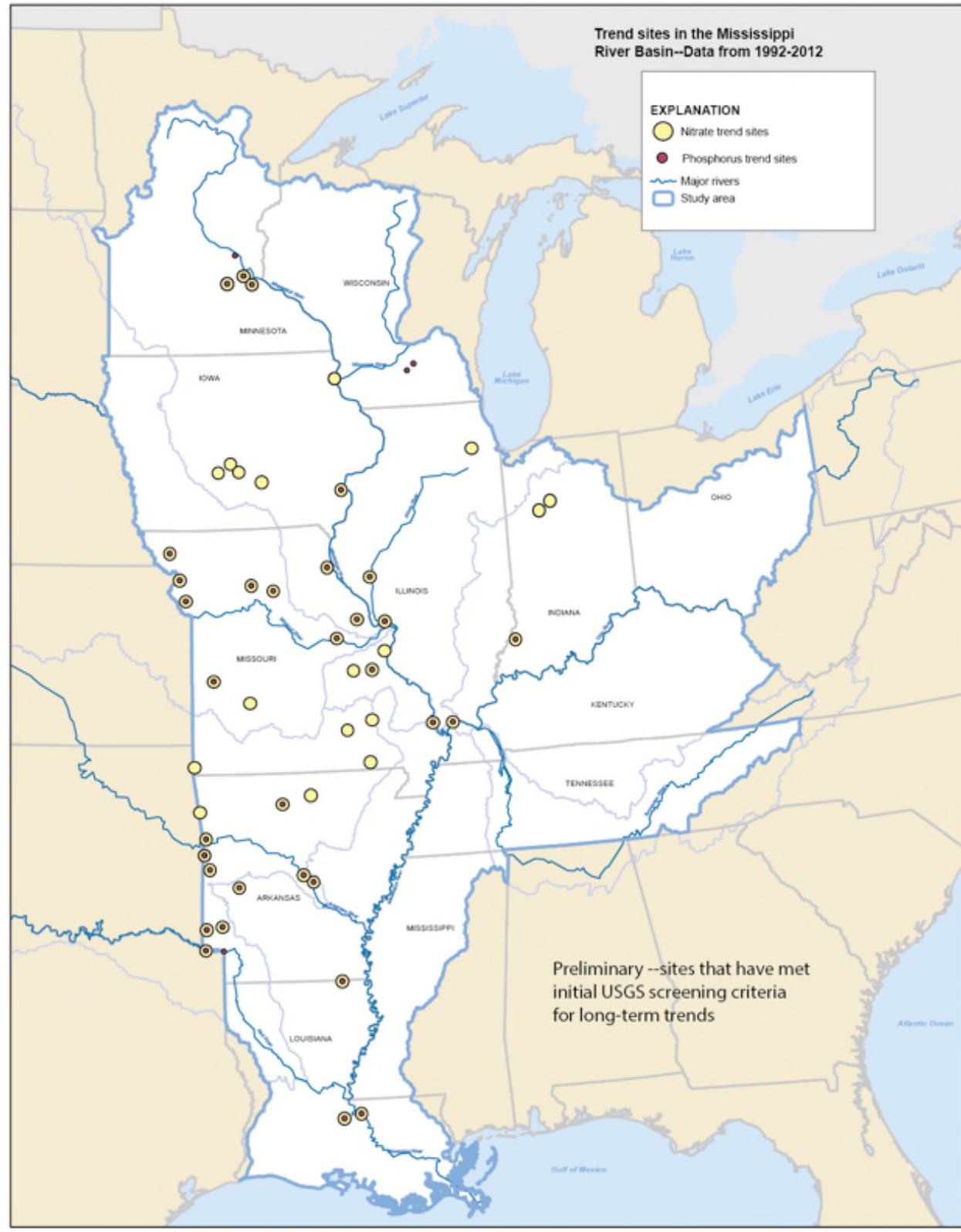


Monthly Nitrate Monitoring at/near Streamgages



USGS Long-Term Trend Assessment Sites 1992 to 2012— **PRELIMINARY LIST**

71 sites for nitrate
42 sites for phosphorus



Mississippi River Basin Monitoring Collaborative – Next Steps

Water Quality Monitoring Report

- ID long-term nutrient monitoring network in Mississippi River Basin
- State and Federal Monitoring Fact Sheets

Ongoing efforts

- Explore opportunities for consistency in constituents monitored and data storage using Water Quality Data Portal
- Engage Land Grant Universities through SERA-46 to increase the number of long-term monitoring sites in small watersheds discoverable on the Water Quality Portal

Tracking Water Quality of the Nation's Rivers and Streams

The USGS National Water-Quality Assessment (NAWQA) Project is characterizing the status and trends of the Nation's surface-water quality through a National Water Quality Network.

This website provides data on national ambient water-quality conditions. The data are reported systematically and updated annually. [Learn more...](#)

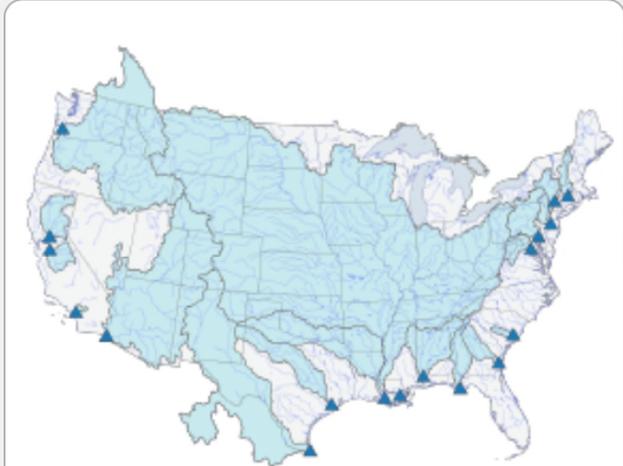
Rivers and Streams Across the United States Water Quality Summaries



Mississippi River Basin Relative Nutrient Loading from Tributaries



Coastal Rivers Nitrate Loads and Yields



<http://cida.usgs.gov/quality/rivers/home>

Station ID: 07373420

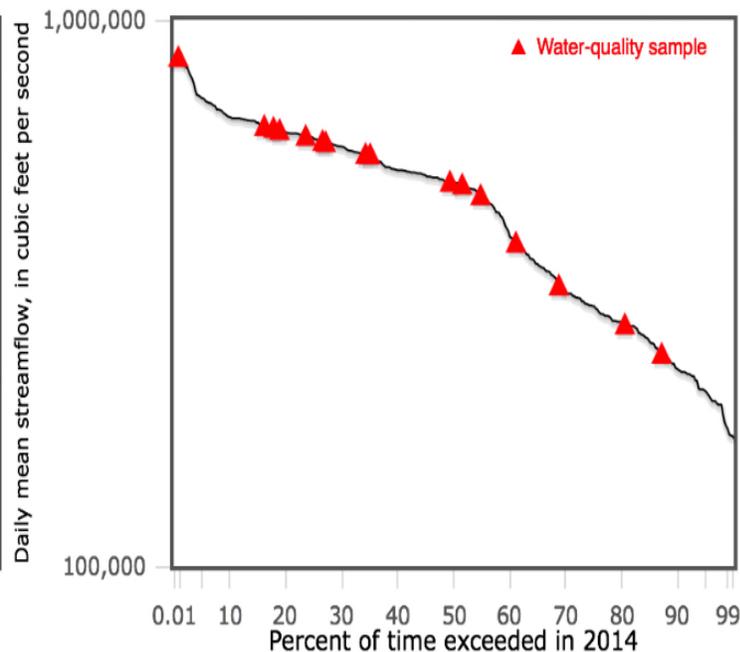
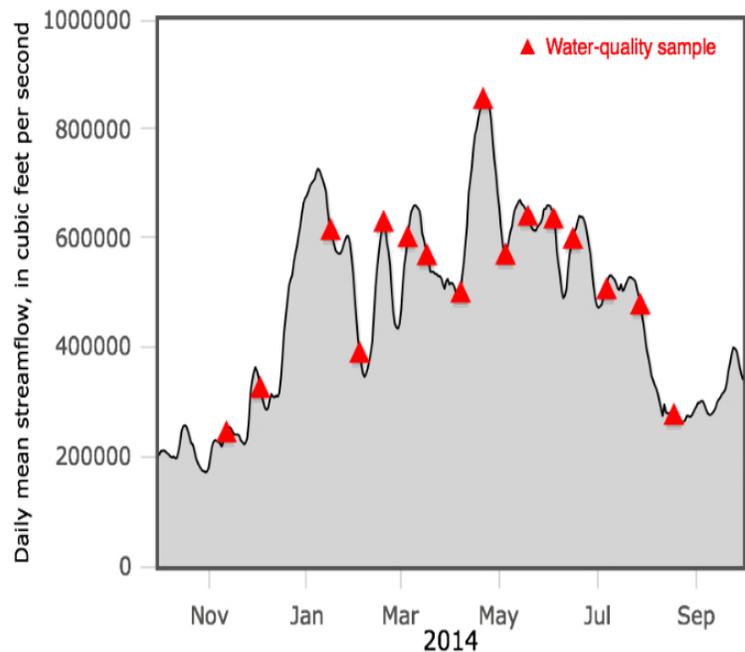
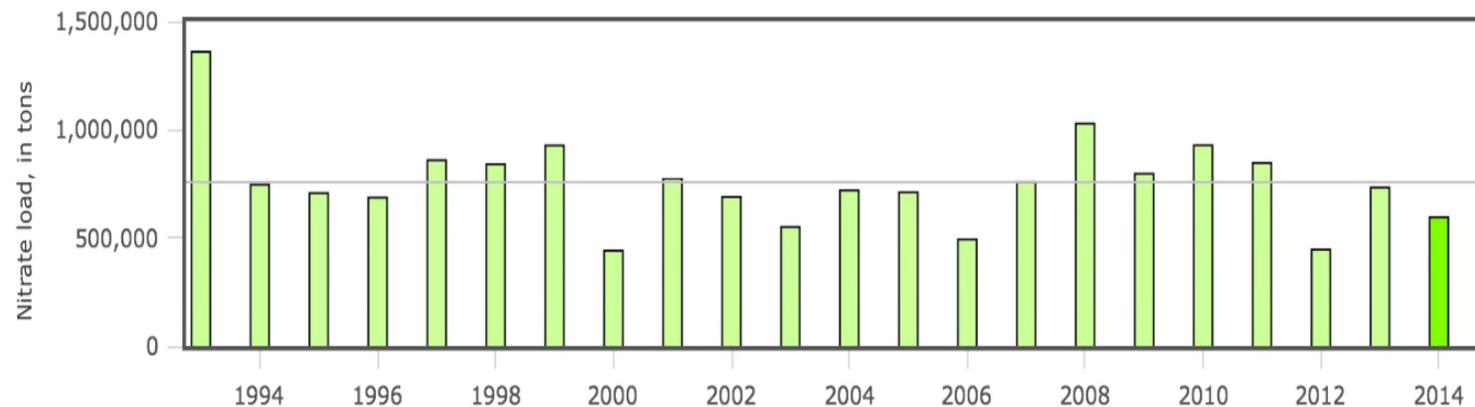
[Download Data](#)

Mississippi River Outlet

[Back to Map](#)

← Summary Graphs

- Select All
- Streamflow
 - Annual
 - Hydrograph/Flow duration
- Total Nitrogen
 - Sample concentrations
 - Annual concentrations
 - Annual load
- Nitrate
 - Sample concentrations
 - Annual concentrations
 - Annual load
- Total Phosphorus
 - Sample concentrations
 - Annual concentrations
 - Annual load
- Suspended Sediment
 - Sample concentrations
 - Annual concentrations
 - Annual load



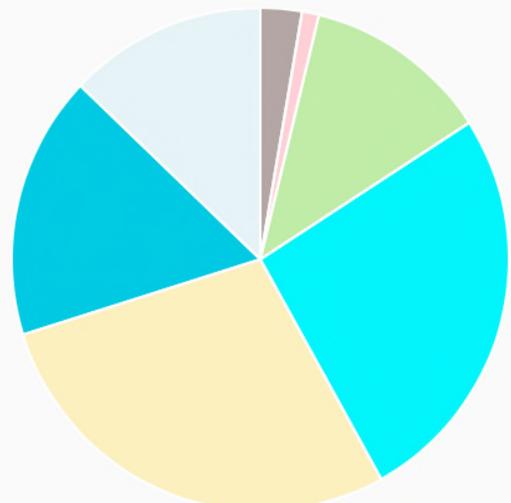
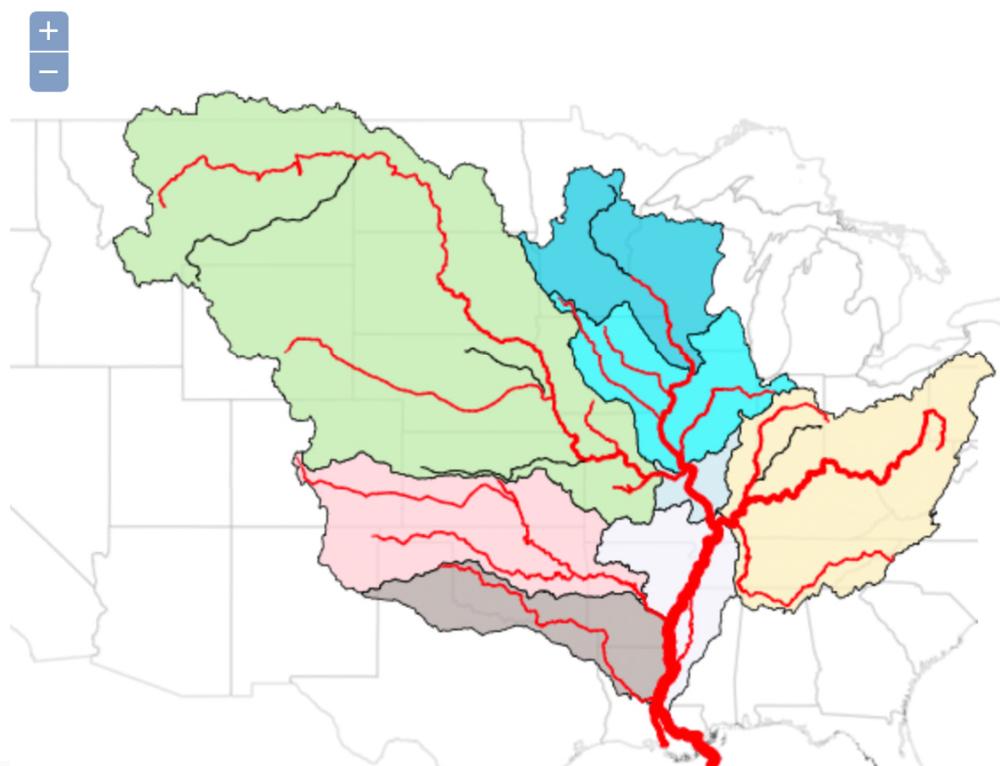
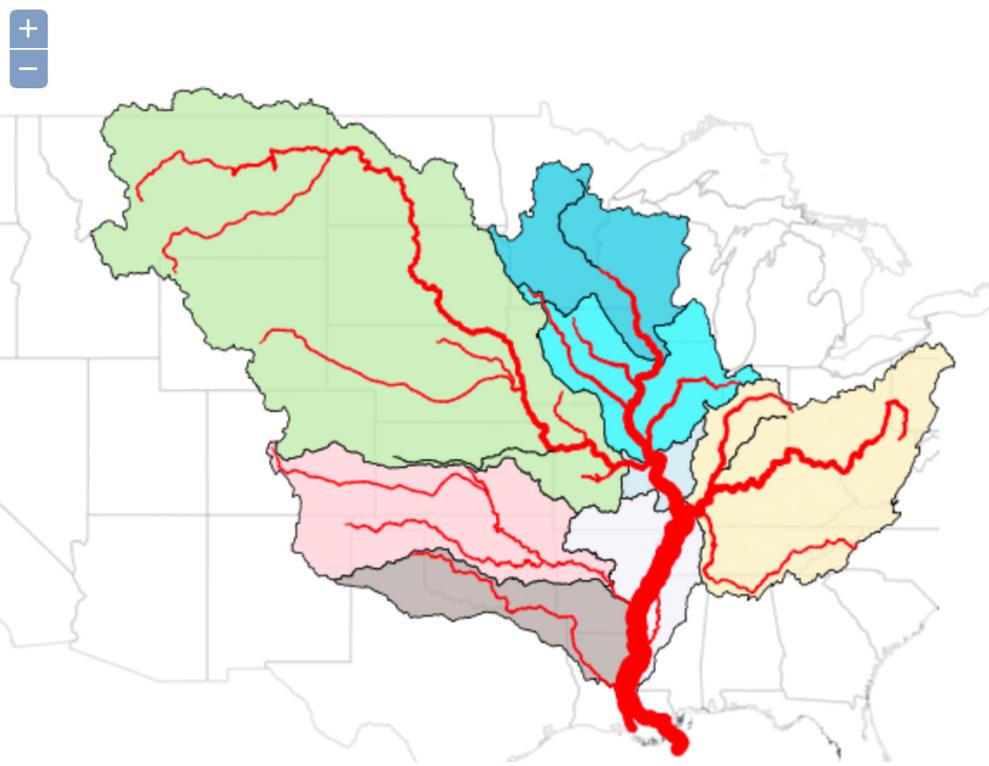
Annual Nitrate Loads

2011-Wet Year

2012-Dry Year

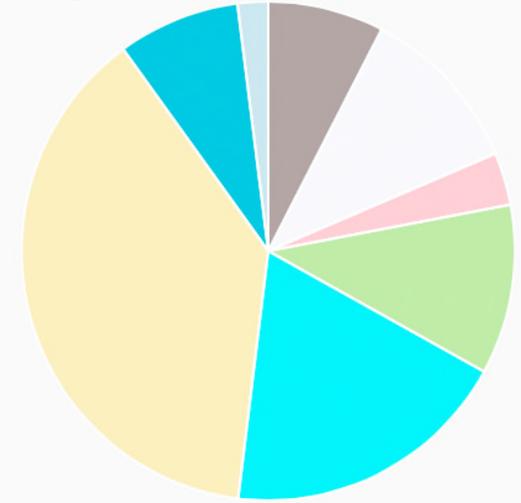
Annual Load Nitrate 2011

Annual Load Nitrate 2012



- Red/Atchafalaya Rivers (2.7%)
- Arkansas River (1.1%)
- Missouri River (12.1%)
- Upper Middle Mississippi (26.1%)
- Ohio River (28.3%)
- Upper Mississippi (17.0%)
- Lower Middle Mississippi (12.9%)

- Red/Atchafalaya Rivers (7.6%)
- Lower Mississippi (11.0%)**
- Arkansas River (3.4%)
- Missouri River (11.0%)
- Upper Middle Mississippi (18.9%)
- Ohio River (38.0%)
- Upper Mississippi (8.0%)
- Lower Middle Mississippi (2.0%)





Great Lakes to Gulf VIRTUAL OBSERVATORY

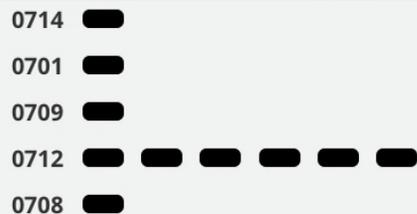
HOME

COMPARE

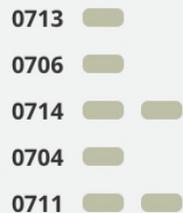
DOWNLOAD

ABOUT ▾

Epa Polutant Loading (EPA)



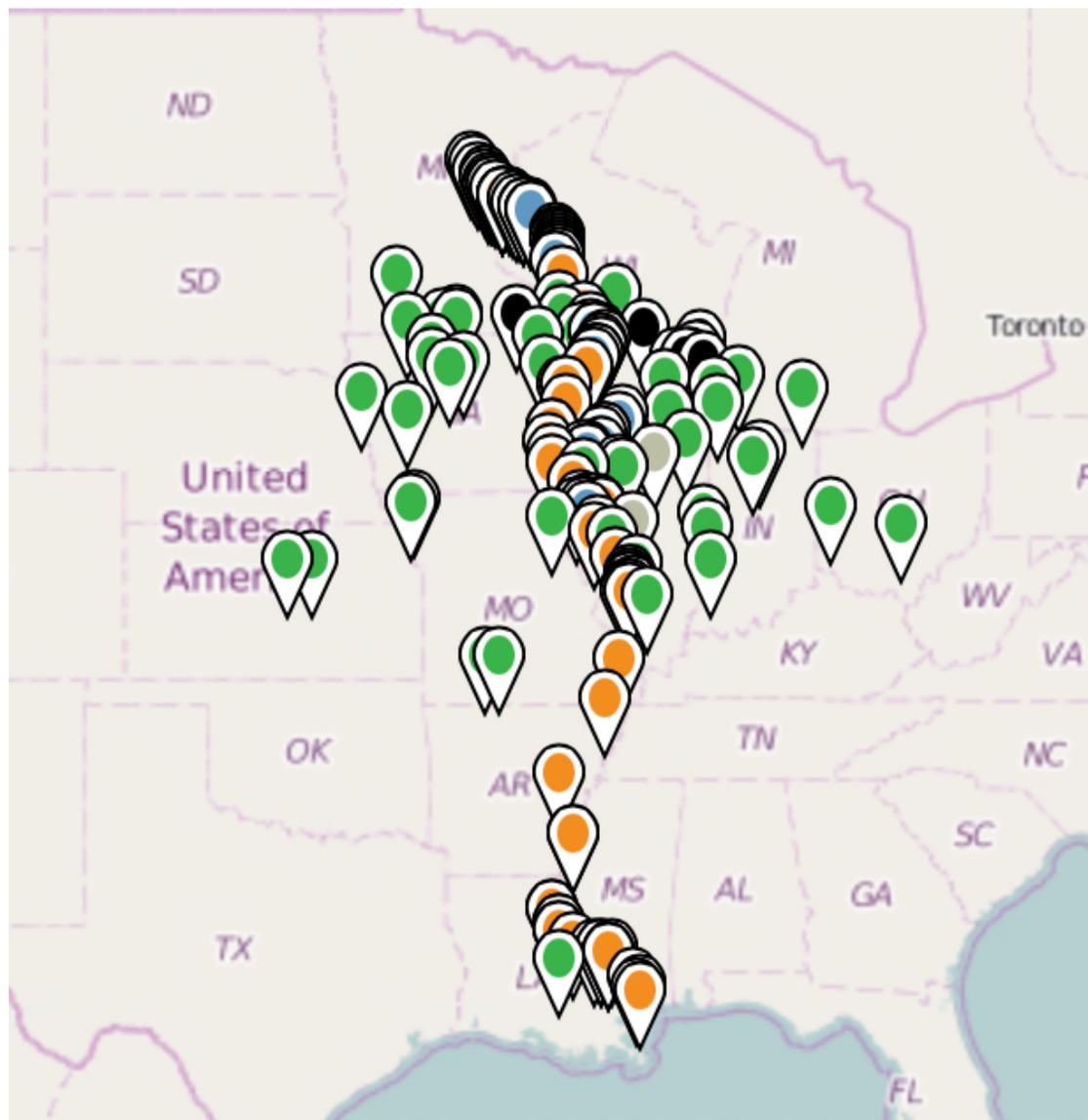
Great Rivers Ecological Observation Network (GREON) (i)



National Oceanic and Atmospheric Administration (NOAA) (i)



Upper Mississippi River Restoration (UMRR LTRM) (i)



Mississippi River Basin Monitoring Collaborative



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