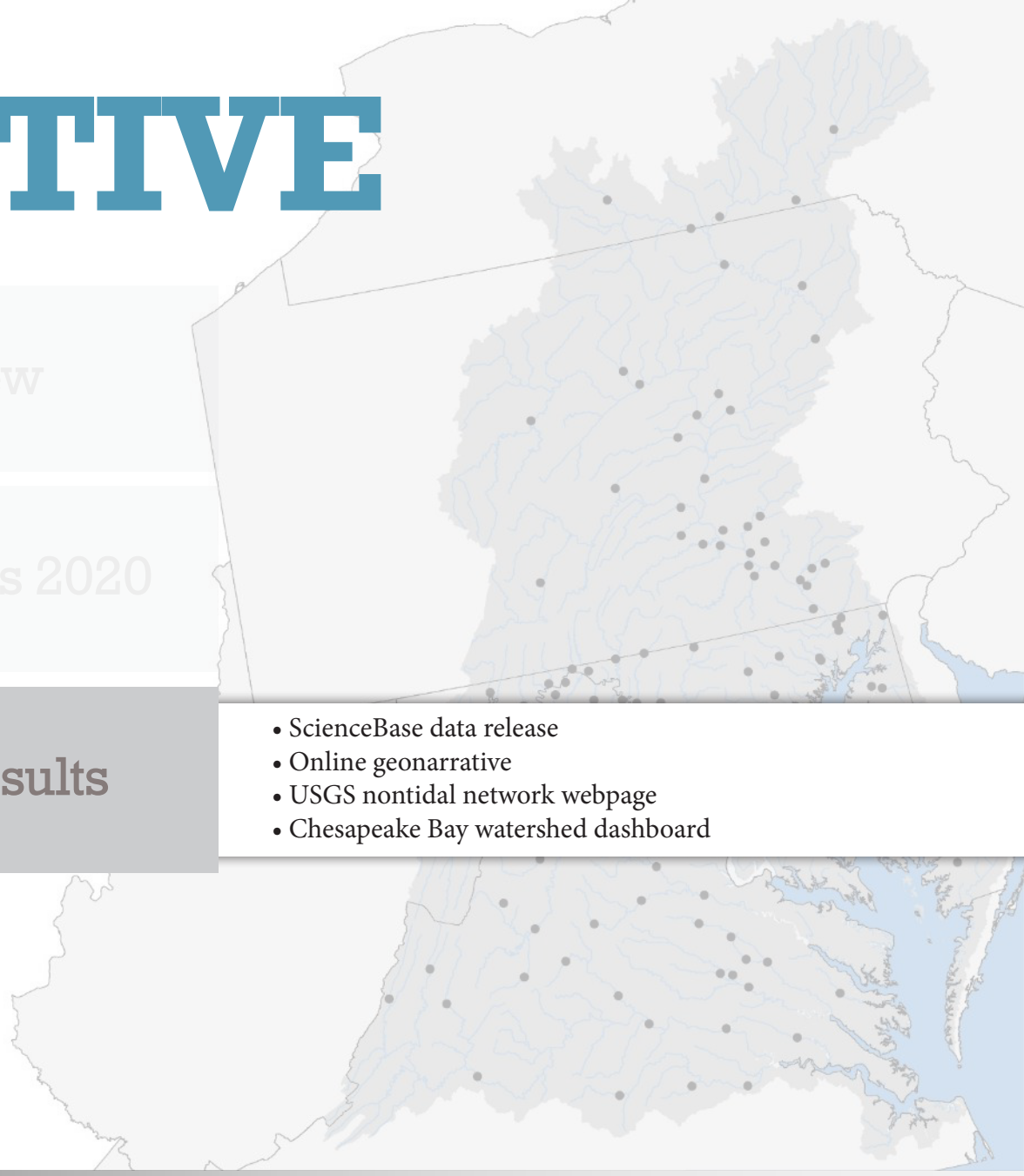
OBJECTIVE

Overview

Trend Results 2020

Sharing Results

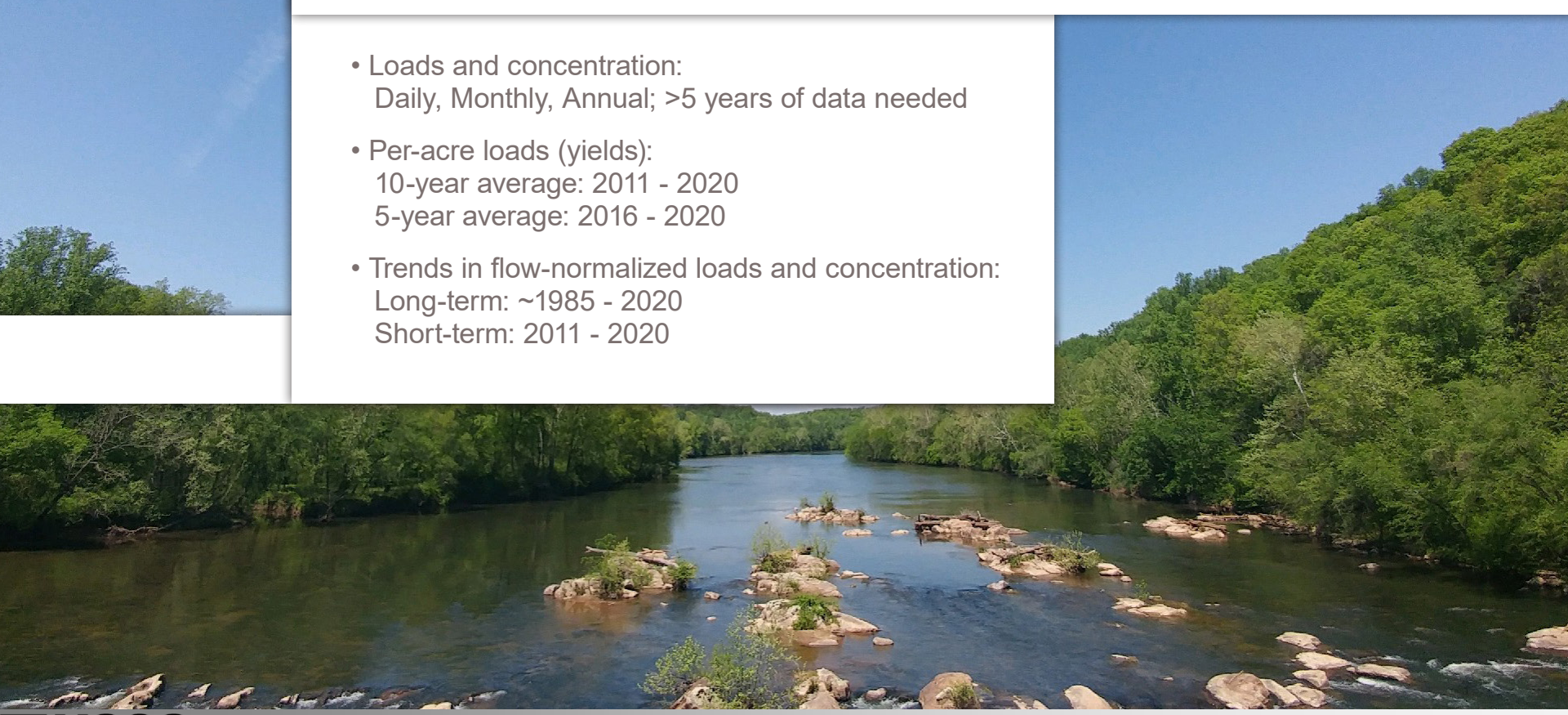
- ScienceBase data release
- Online geonarrative
- USGS nontidal network webpage
- Chesapeake Bay watershed dashboard



Load and trend results have been computed through 2020

WHAT do we COMPUTE and SHARE?

- Loads and concentration:
  Daily, Monthly, Annual; >5 years of data needed
- Per-acre loads (yields):
  10-year average: 2011 - 2020
  5-year average: 2016 - 2020
- Trends in flow-normalized loads and concentration:
  Long-term: ~1985 - 2020
  Short-term: 2011 - 2020



Nitrogen, phosphorus, and suspended-sediment loads and trends measured at the Chesapeake Bay Nontidal Network stations: Water years 1985-2020

View

Dates

Publication Date : 2022-07-25
Start Date : 1984-10-01
End Date : 2020-09-30

Citation

Mason, C.A., Colgin, J.E., and Moyer, D.L., 2022, Nitrogen, phosphorus, and suspended-sediment loads and trends measured at the Chesapeake Bay Nontidal Network stations: Water years 1985-2020: U.S. Geological Survey data release, https://doi.org/10.5066/P96H2BDO.

Summary

Nitrogen, phosphorus, and suspended-sediment loads, and changes in loads, in major rivers across the Chesapeake Bay watershed have been calculated using monitoring data from the Chesapeake Bay Nontidal Network (NTN) stations for the period 1985 through 2020. Nutrient and suspended-sediment loads and changes in loads were determined by applying a weighted regression approach called WRTDS (Weighted Regression on Time, Discharge, and Season). The load results represent the total mass of nitrogen, phosphorus, and suspended sediment that was exported from each of the NTN watersheds and were estimated using the WRTDS method with Kalman filtering. To determine the trend in loads, the annual load results are flow normalized to integrate out the year-to-year variability in river discharge. The trend in load is derived from the flow-normalized load timeseries and represents the change in load resulting from changes in sources, delays associated with storage or transport of historical inputs, and (or) implemented management actions. Four data tables are provided that describe nitrogen, phosphorus, and suspended-sediment conditions across the NTN: (1) Annual Loads, (2) Monthly Loads, (3) Trends in Annual Loads, and (4) Average Yield (mass per unit area). Additionally, essential WRTDS Input and Output files are provided.

Child Items (6)

- Chesapeake Bay Nontidal Network 1985-2020: Annual loads
- Chesapeake Bay Nontidal Network 1985-2020: Average annual yields
- Chesapeake Bay Nontidal Network 1985-2020: Monthly loads
- Chesapeake Bay Nontidal Network 1985-2020: Short- and long-term trends
- Chesapeake Bay Nontidal Network 1985-2020: WRTDS input data
- Chesapeake Bay Nontidal Network 1985-2020: WRTDS output data

Map »

Spatial Services

ScienceBase WMS :
https://www.sciencebase.gov/catal

Communities

- USGS Data Release Products

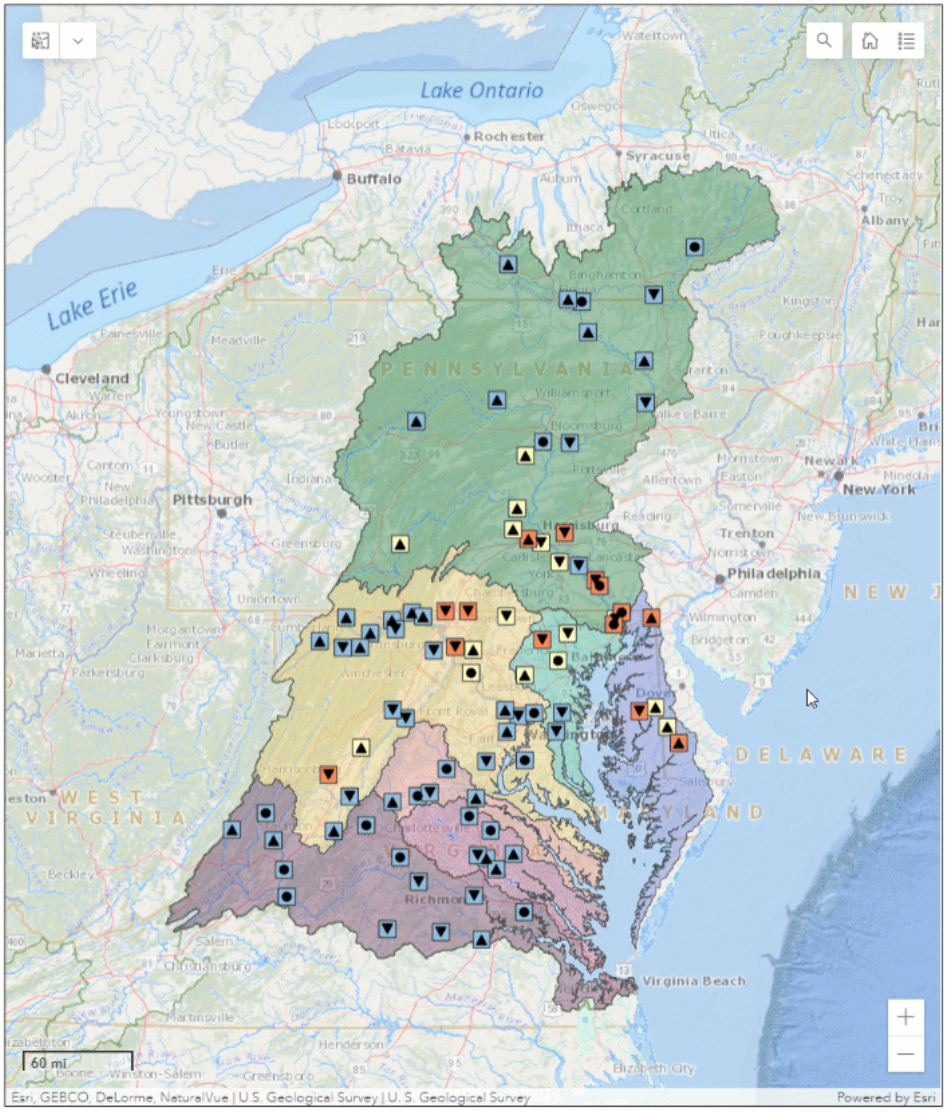
Tags

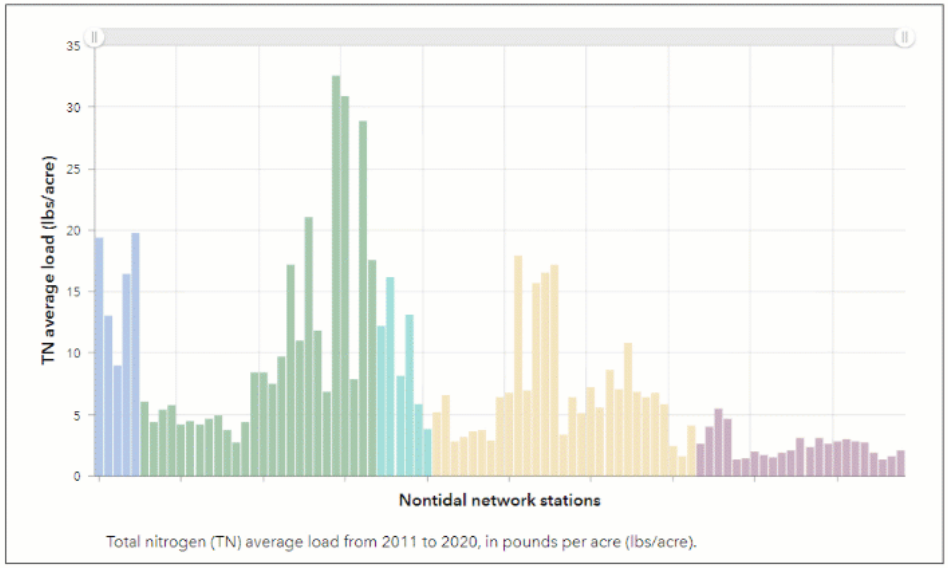
Harvest Set : USGS Science Data Catalog (SDC)
Theme : Kalman filtering, WRTDS, WRTDS-K, load analysis, nitrogen, nutrients, phosphorus, rivers, suspended sediment, trends, water quality, weighted regression
Place : Chesapeake Bay Watershed, Delaware, Maryland, New York, Pennsylvania, United States, Virginia, Washington DC, West Virginia
USGS Scientific Topic Keyword : Hydrology, Water Quality, Water Resources

Interactive web page with data dashboards for TN, TP, and SS

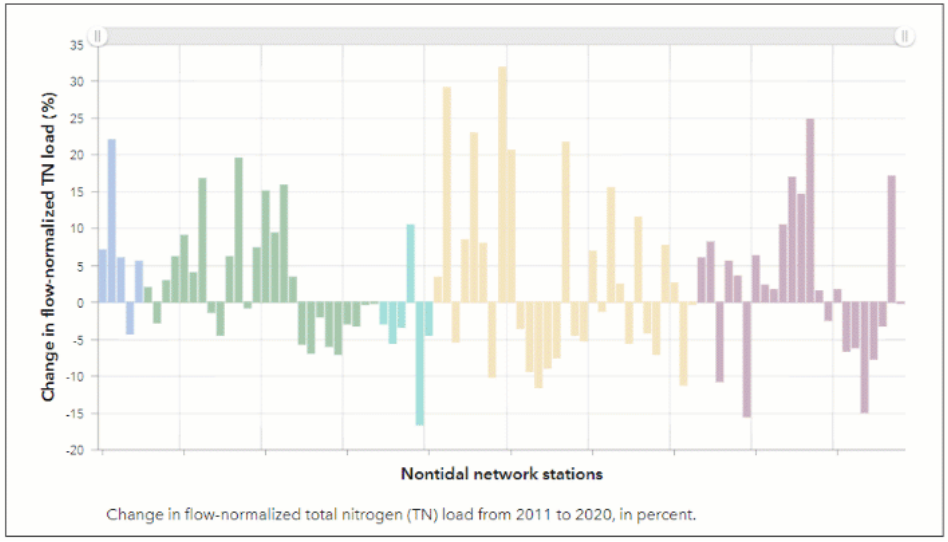
va.water.usgs.gov/geonarratives/ntn

Graph tool | Query tool





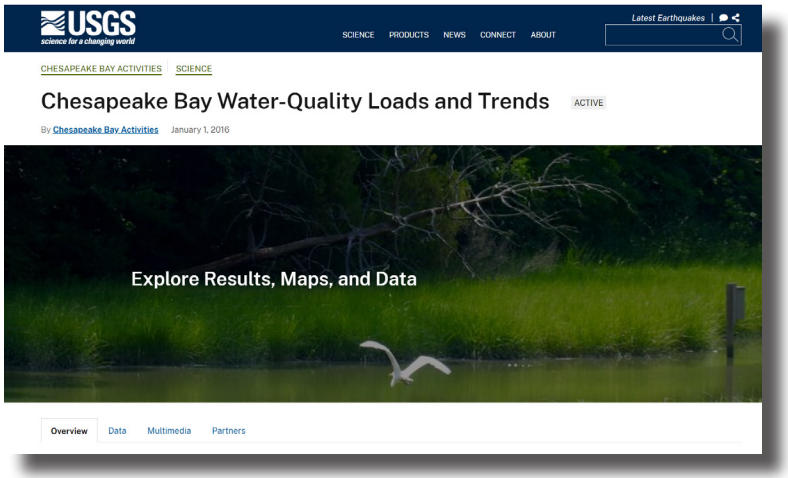
Total nitrogen (TN) average load from 2011 to 2020, in pounds per acre (lbs/acre).



Change in flow-normalized total nitrogen (TN) load from 2011 to 2020, in percent.

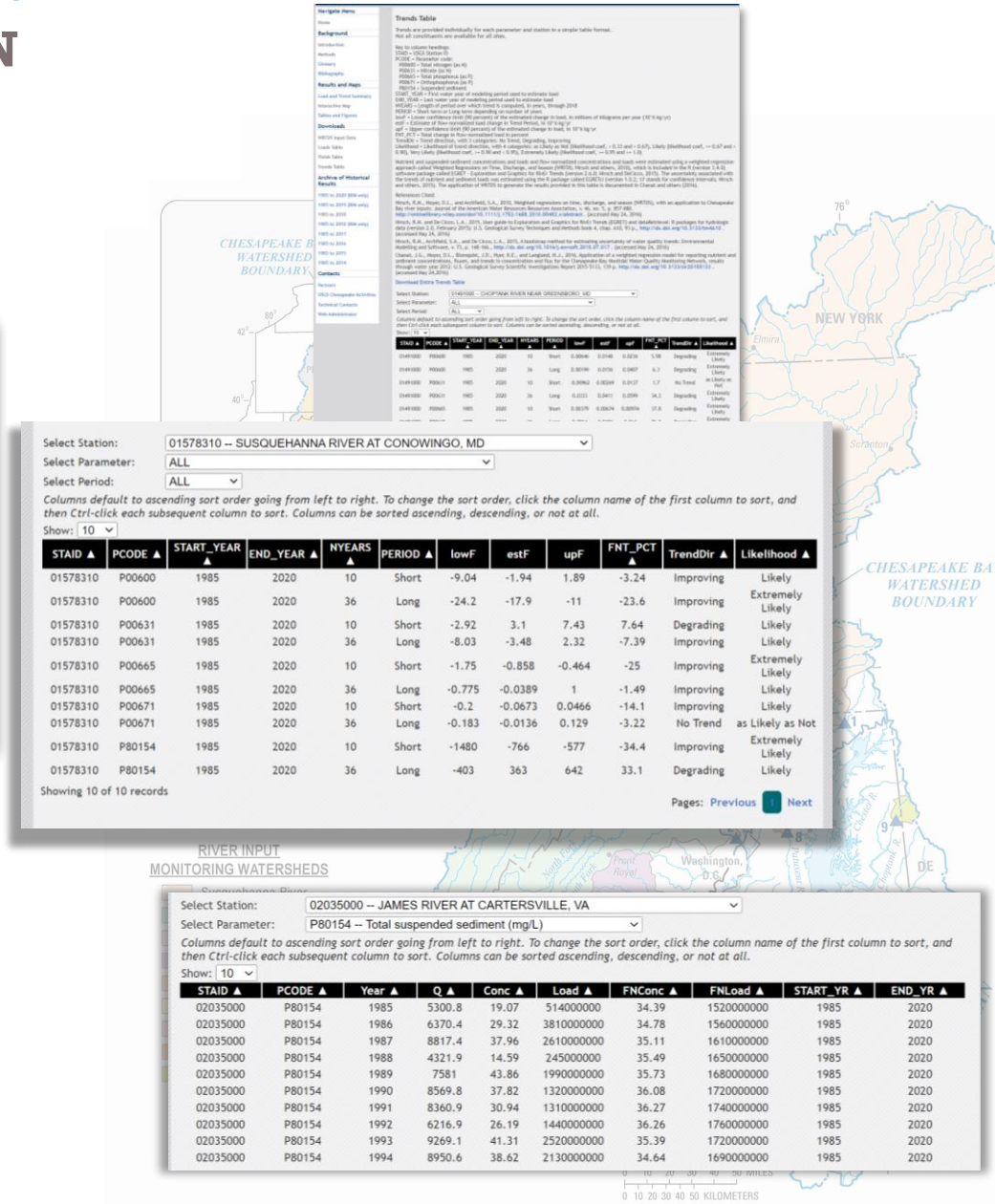
The monitoring webpage has been updated with 2020 RIM and NTN results and a new URL

usgs.gov/CB-wq-loads-trends



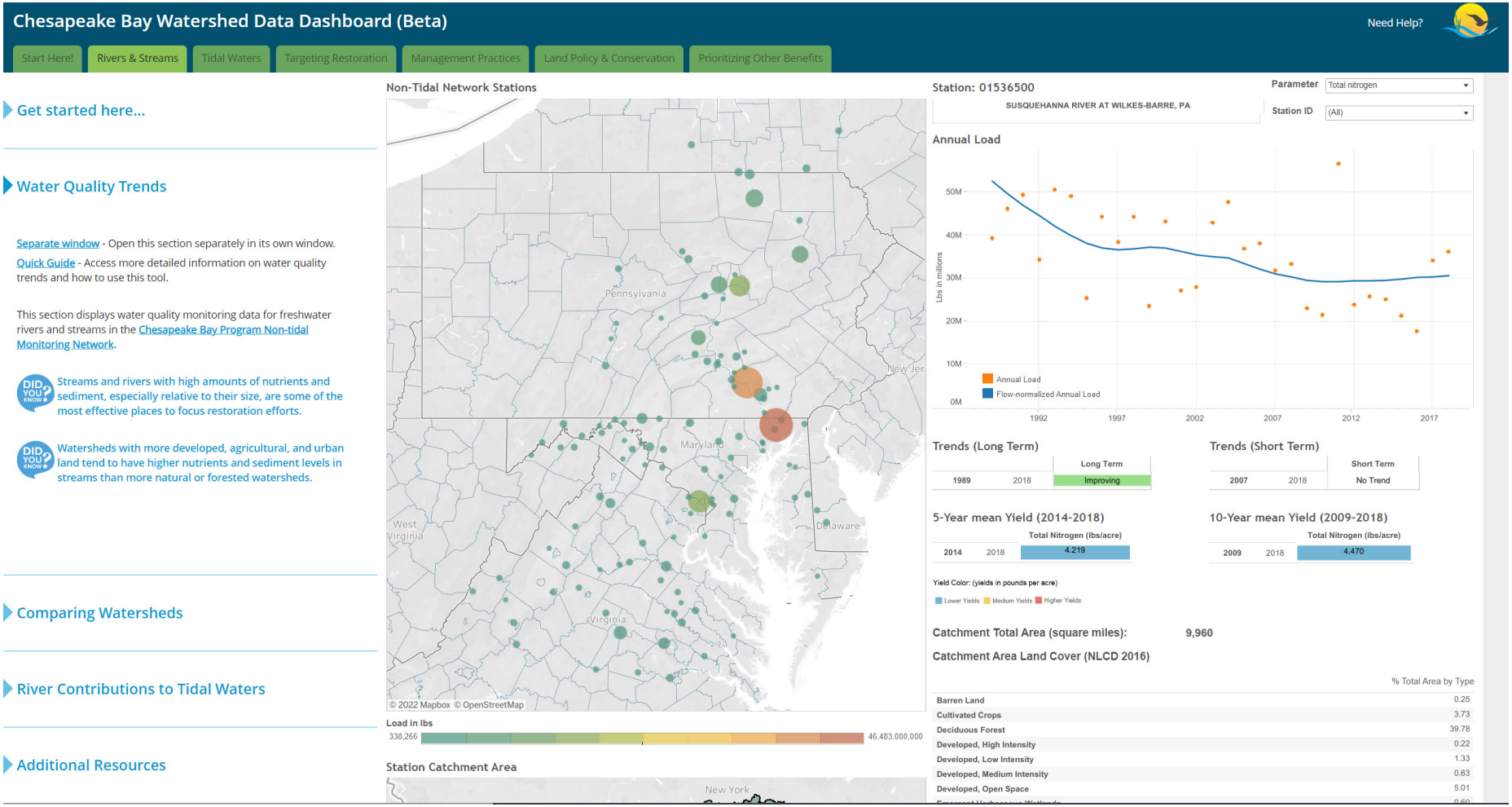
Secondary link is still active:
cbrim.er.usgs.gov

The websites contain load, yield, and trend results for Total Nitrogen, Nitrate/ Nitrite, Total Phosphorus, Orthophosphate, and Suspended Sediment at individual monitoring stations.



The Chesapeake Bay Watershed Data Dashboard is currently being updated

gis.chesapeakebay.net/wip/dashboard



Questions?

CITATION:

Mason, C.A., Colgin, J.E., and Moyer, D.L., 2022, Nitrogen, phosphorus, and suspended-sediment loads and trends measured at the Chesapeake Bay Nontidal Network stations: Water years 1985-2020: U.S. Geological Survey data release, https://doi.org/10.5066/P96H2BDO

SHARED RESOURCES:

USGS NTN 2020 ScienceBase data release (above citation)

USGS NTN 2020 Interactive webpage

USGS NTN Loads and Trends website (current and historic)

Chesapeake Bay dashboard