Tributary Summary

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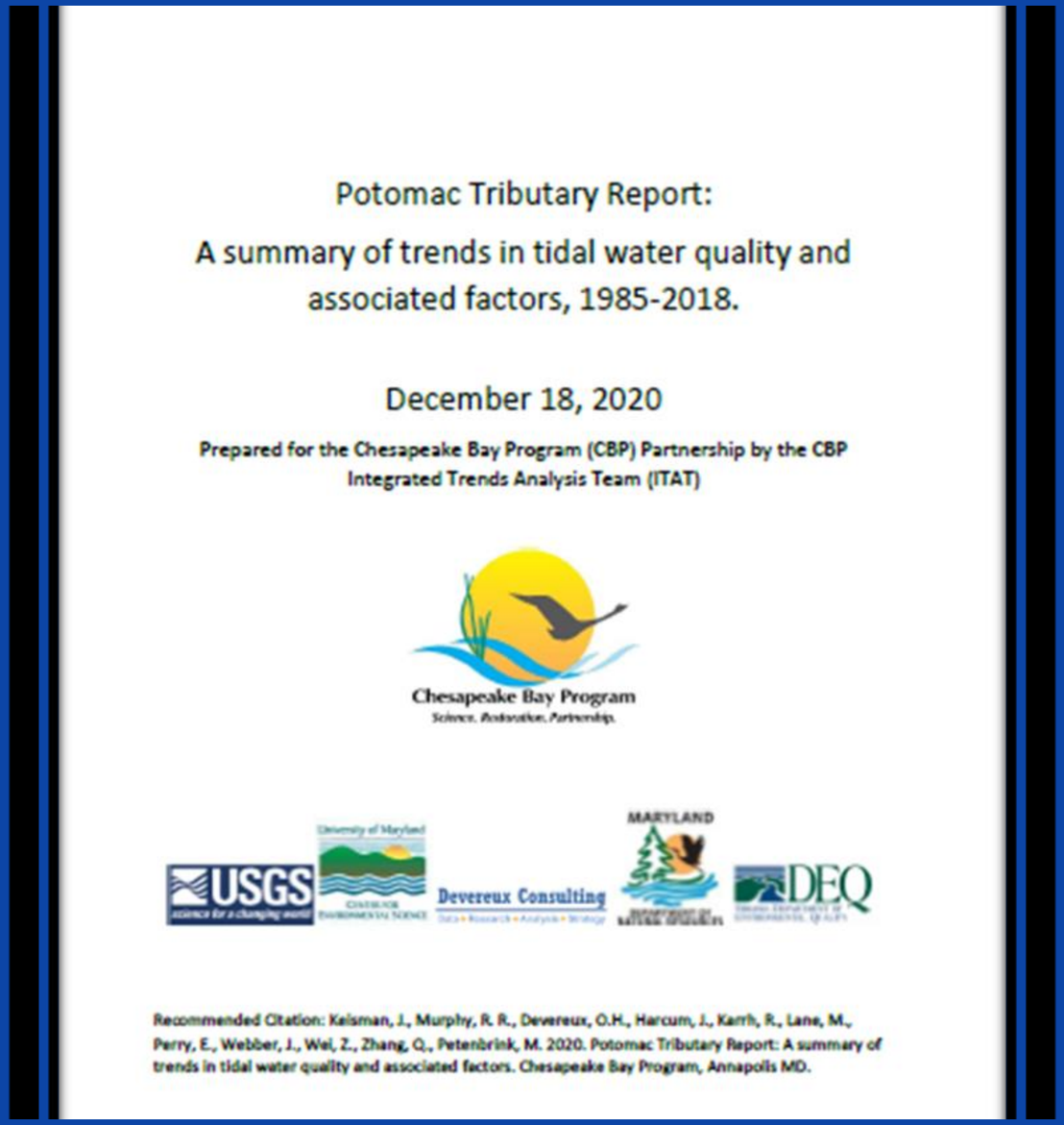
Joint Factors &
ITAT Retreat
10/25/23

1) How tidal water quality has changed over time,

2) How and which factors may influence water quality change over time, and

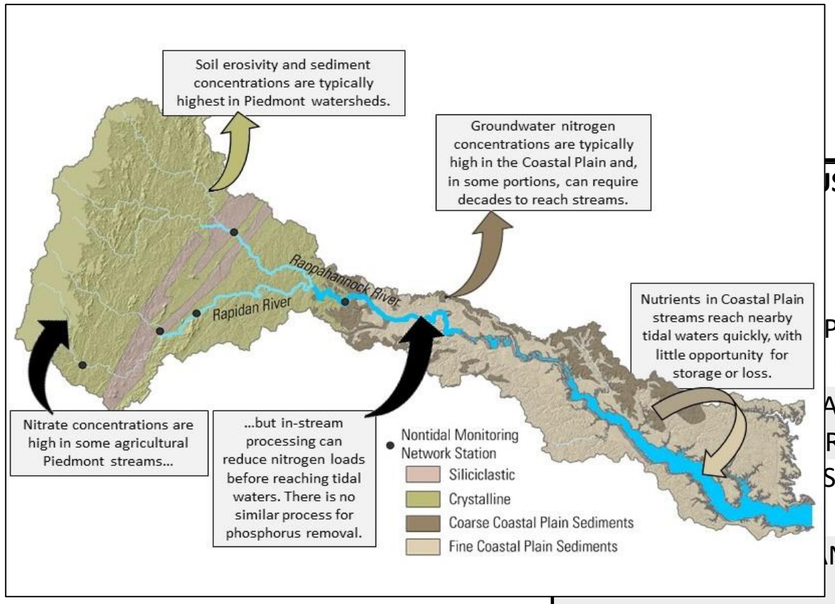
3) connecting observed changes in aquatic conditions to its drivers.



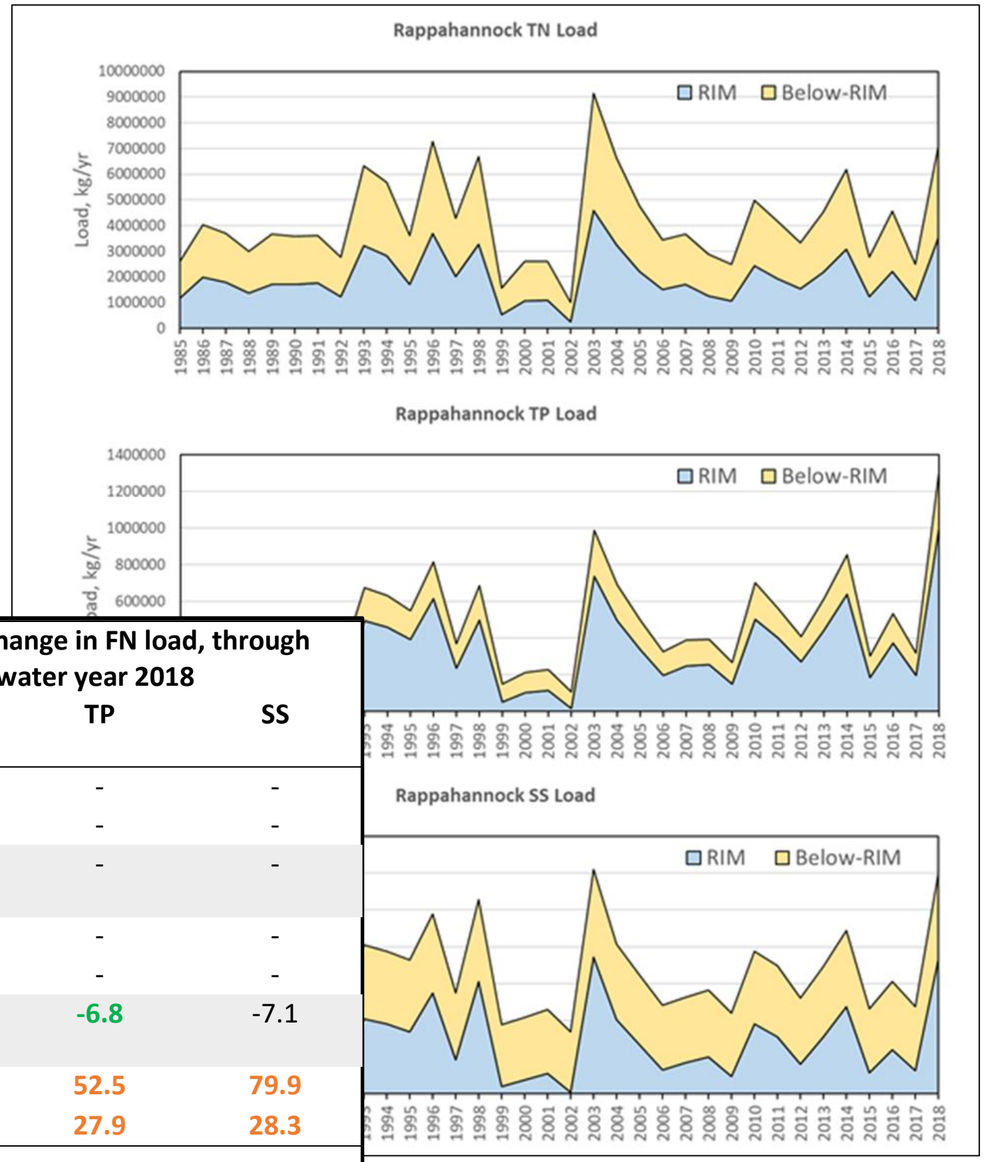
What are the Tributary Summaries?

A compilation of information by tributary or region on:

- Tidal water quality and trends,
- **Watershed characteristics and changes**



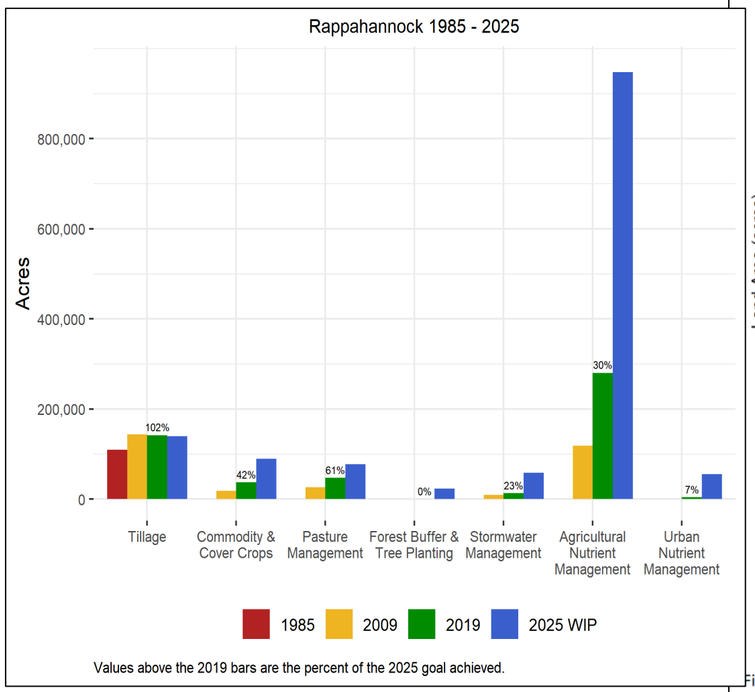
	USGS Station Name	Trend start water year	Percent change in FN load, through water year 2018 TN	TP	SS
	PAHANNOCK RIVER AT REMINGTON, VA	1985	24.4	-	-
		2009	15.4	-	-
	APIDAN RIVER NEAR RUCKERSVILLE, VA	2009	-5.1	-	-
	SON RIVER NEAR LOCUST DALE, VA	1985	2.5	-	-
		2009	3.5	-	-
	N RIVER NEAR CULPEPER, VA	2009	-8.9	-6.8	-7.1
01668000	RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA	1985	-12.7	52.5	79.9
		2009	6.3	27.9	28.3



What are the Tributary Summaries?

A compilation of information by tributary or region on:

- Tidal water quality and trends,
- Watershed characteristics and changes,
- **Landscape drivers.**



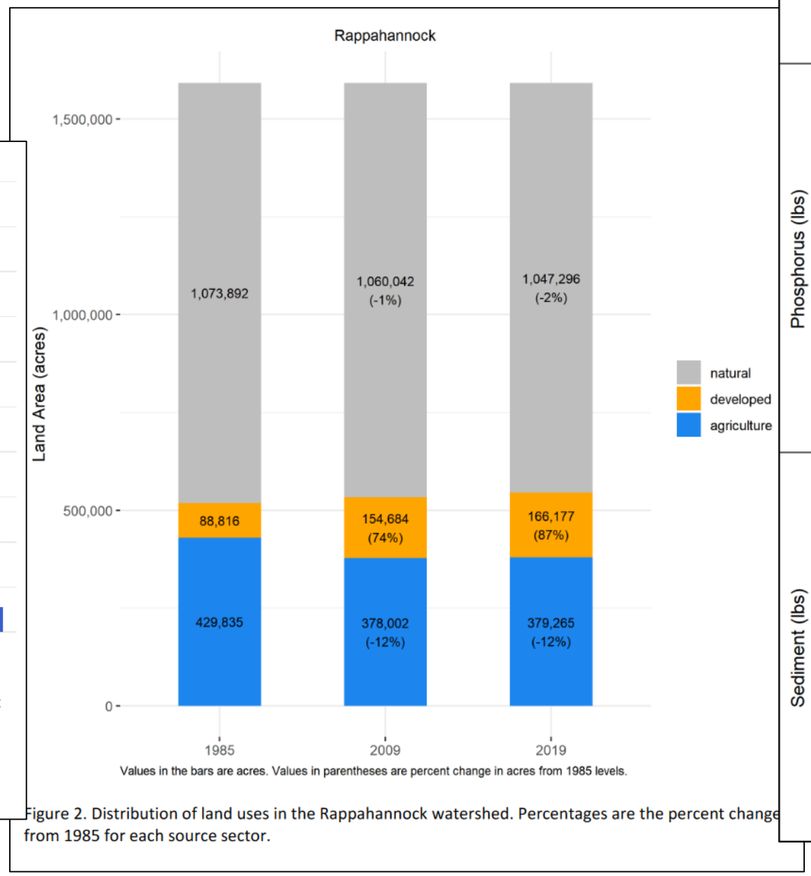
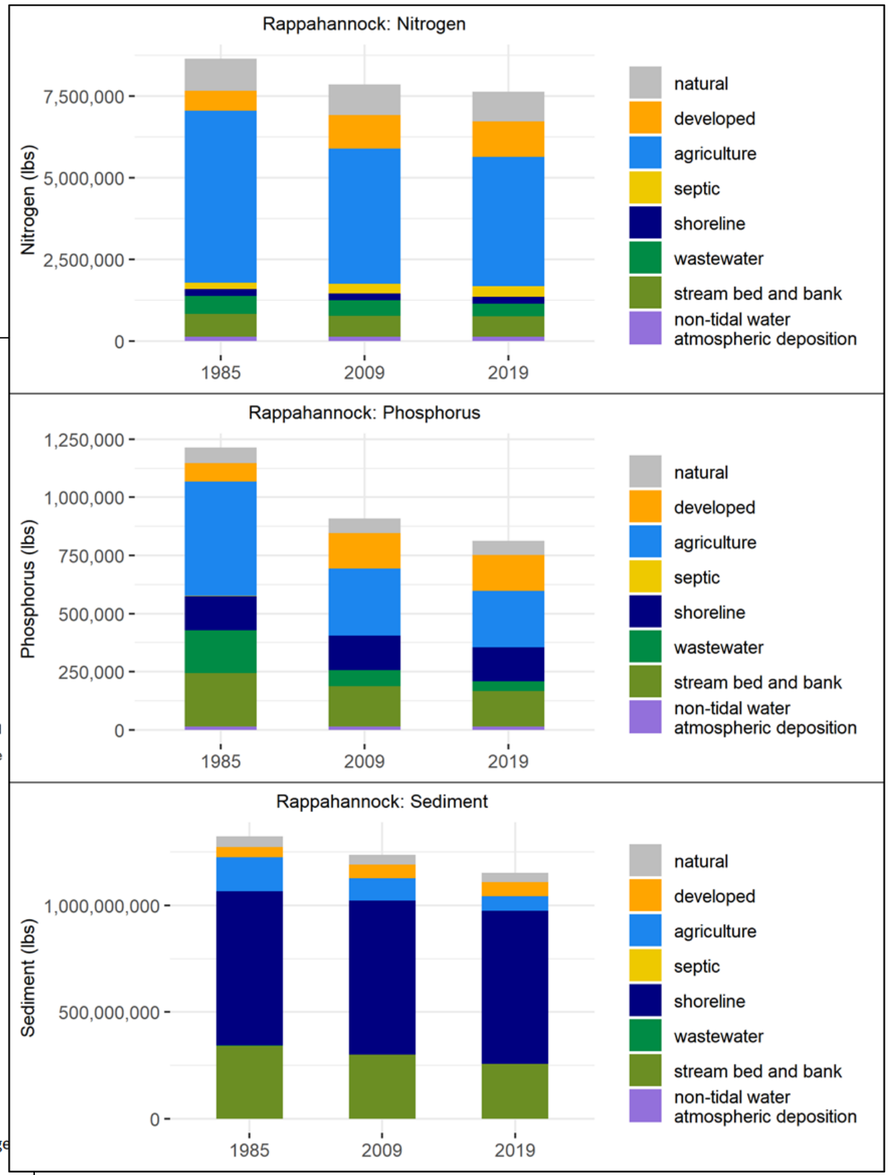


Figure 2. Distribution of land uses in the Rappahannock watershed. Percentages are the percent change from 1985 for each source sector.



Who is the audience for the tributary summaries?

- Technical managers within jurisdiction agencies
  - Local watershed organizations
- Federal, state, and academic researchers

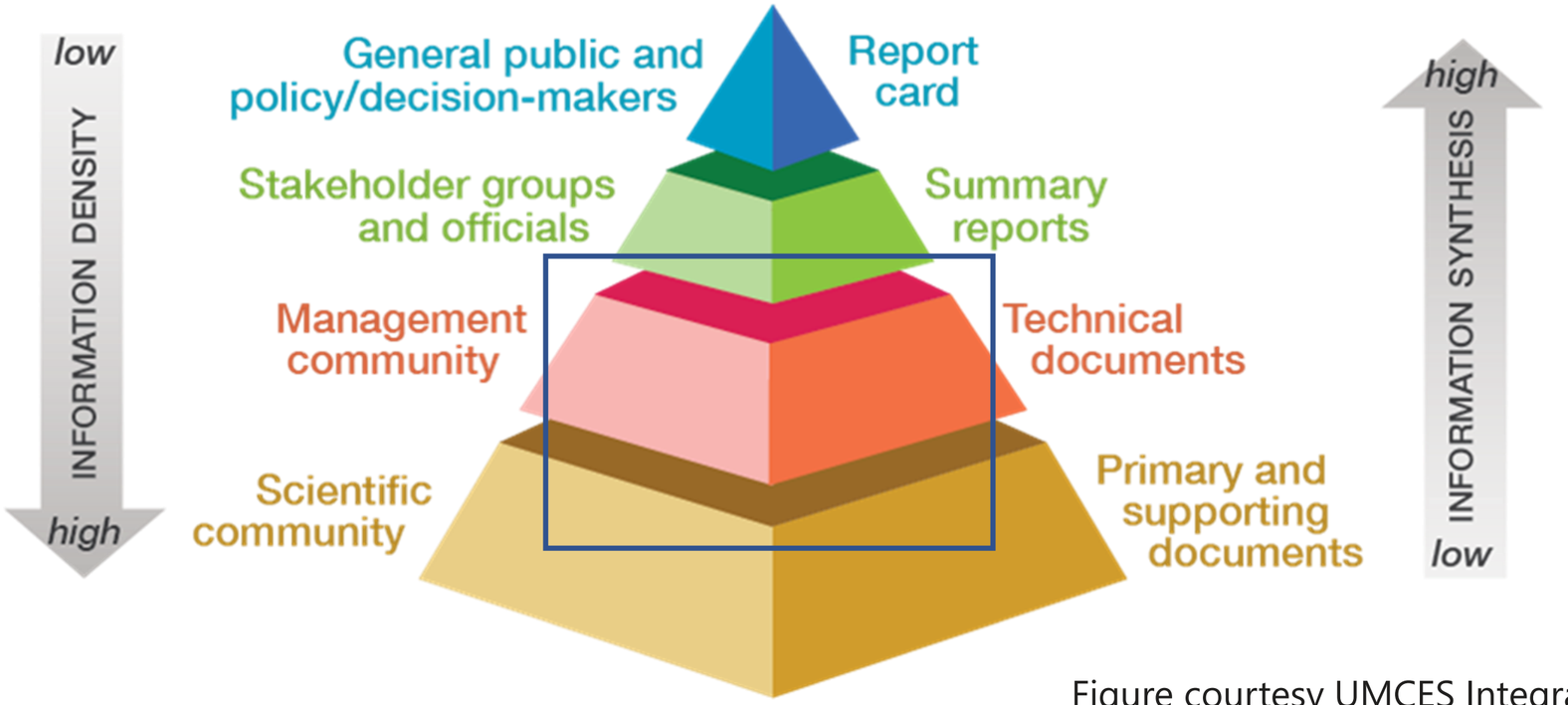
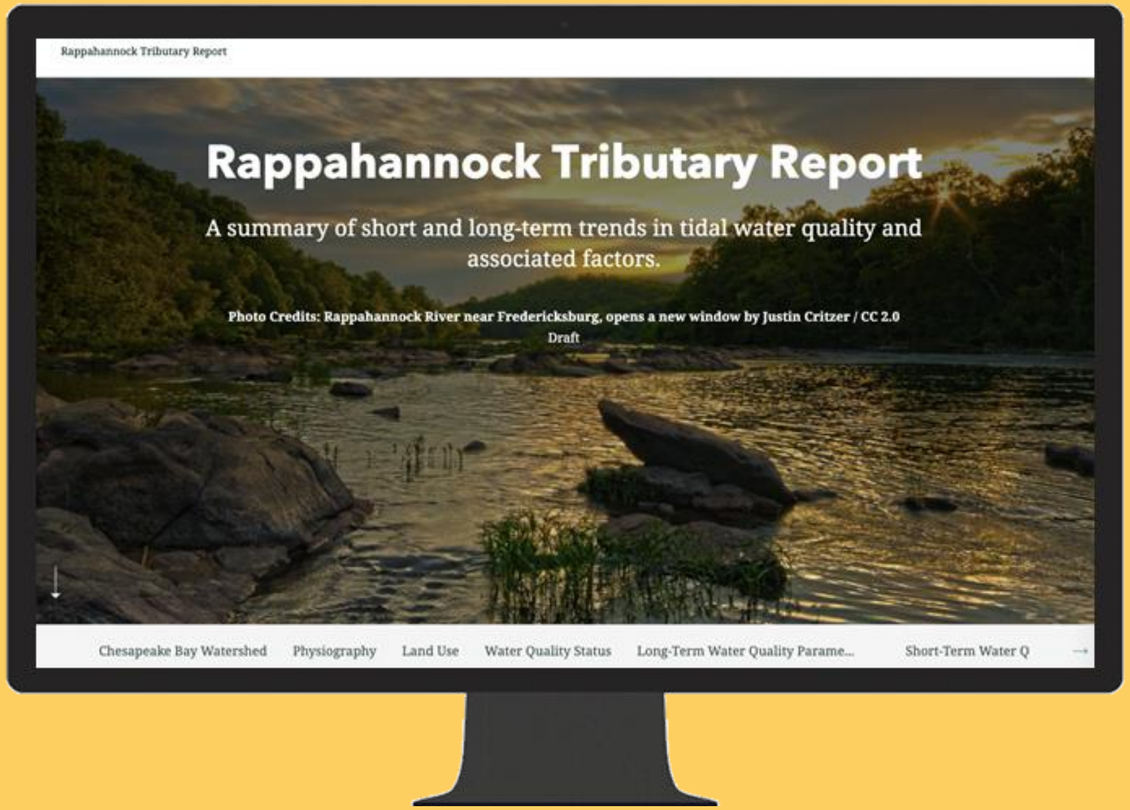


Figure courtesy UMCES Integration and Application Network, ian.umces.edu

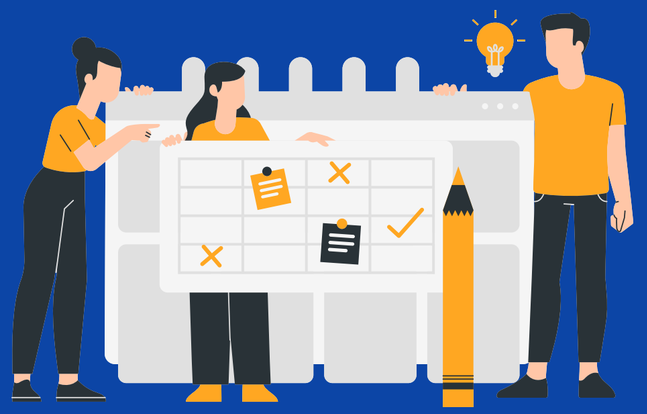


Tributary Summary Storymap

C-StREAM Intern created a template StoryMap that can easily be replicated for the 12 tributaries as the reports are updated

~~DESIGN FOR~~

DESIGN TOGETHER



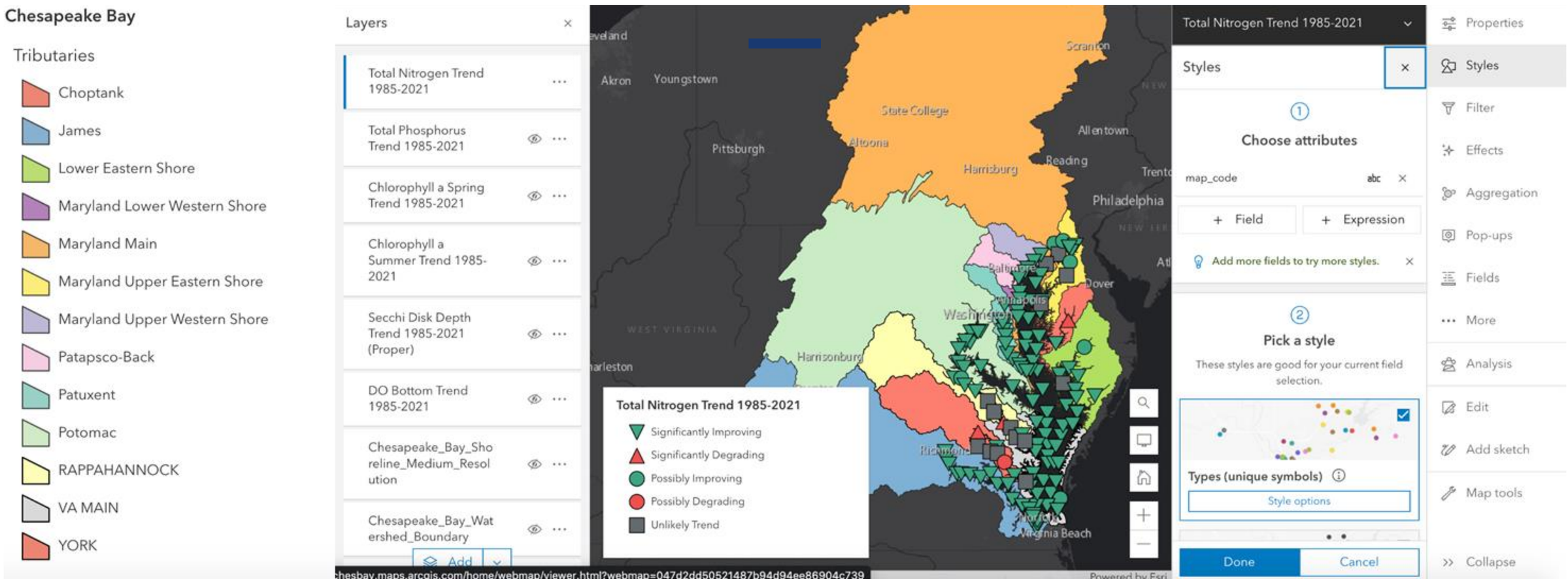
friends • of • the RAPPAHANNOCK

Nanticoke Watershed Alliance

Wicomico Environmental Trust

Clean Water, Smart Growth

TEMPLATE TO CREATE DYNAMIC MAPS OF WATER QUALITY



Chesapeake Bay Watershed | Physiography | Land Use | Water Quality Status | Long-Term Water Quality Parame... | Short-Term Water Quality Param... →

Total Nitrogen

Significantly In

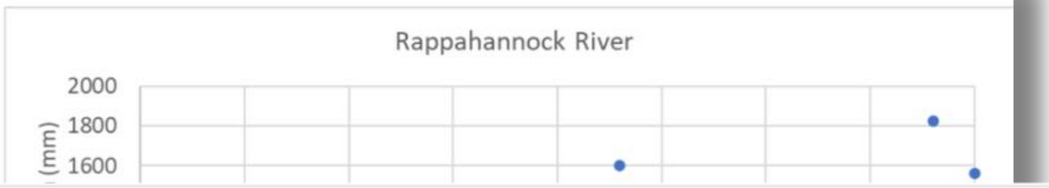
= **Decreasing** Nitrogen Con
Improving Water Qu

Significantly D

= **Increasing** Nitrogen Conc
Degrading Water Qu

Extreme Weather and Increased Precipitation

Extremes in rainfall - whether too much or too little - can have varying effects on the Bay ecosystem. During large rain even increases, delivering more fresh w Bay and decreasing the Bay's salin Stormwater runoff delivers nitrog phosphorus, and sediment into riv Bay causing an increase in nutrientconcentrations, which cre and feed algal blooms. During per rainfall or extended drought, the c freshwater flows results in saltier affecting habitats and aquatic spe



uality Status | Long-Term Water Quality Parame... | Short-Term Water Quality Param... | Factors Affecting Trends | Climate Change | For the Community

For the Community

This section serves as a resource tab that includes links to work done and data collected by smaller organizations. It can offer the state of a tributary on a smaller scale and also makes it easier to update the story map. This puts into context other aspects that are impacting water quality trends that are not consistent across all the tributaries.

Friends of the Rappahannock is a non-profit, grassroots conservation organization that works to educate everyone about the Rappahannock River and advocate for policies that will protect and restore its health.

They educate on the safety of fish consumption, have programs on river stewardship, and host recreational, community-oriented, and educational events. Their vision includes a community where citizens partake in personal stewardship over river resources and local governments manage land use and runoff to protect and enhance riparian habitats, downstream waters, scenic viewsheds, and historical resources.

- 12 Storymaps
- Updated with Tributary Summaries
- Any groups we should share them with?