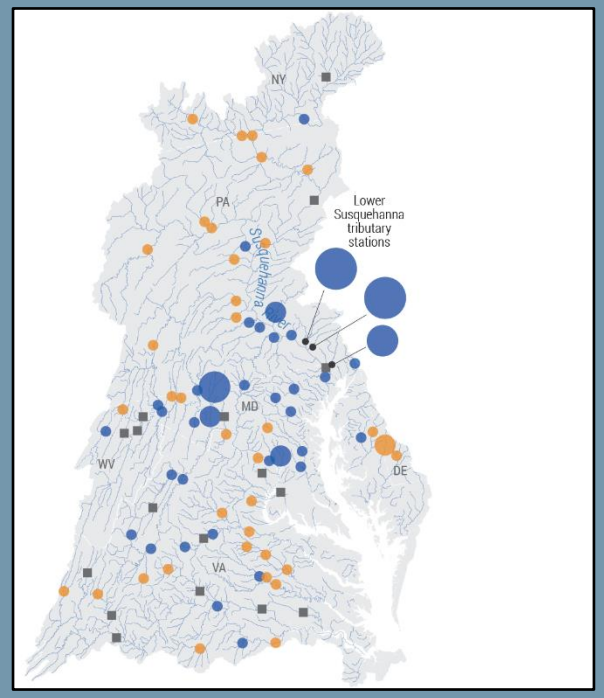
Preview of the Oct 12 WQ GIT Monitoring Meeting:

How Monitoring Data and Findings Can Help Water-Quality Decisions

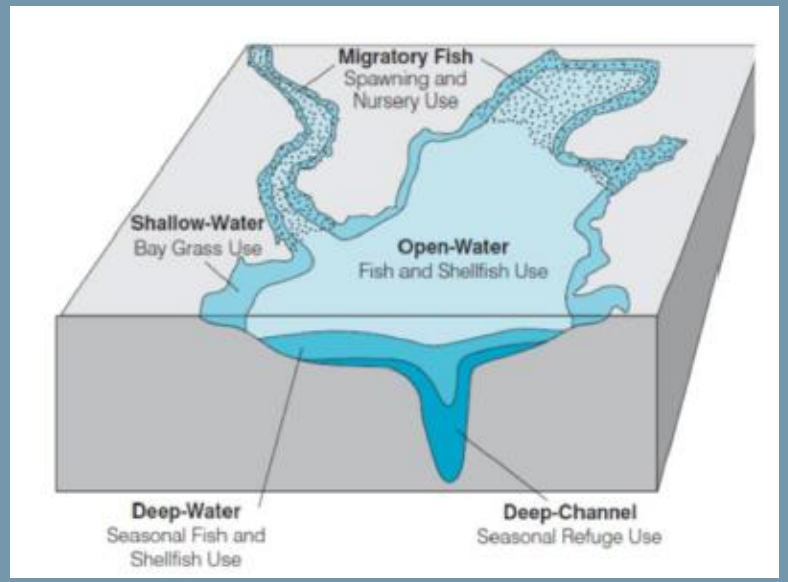


Lee McDonell, USEPA

And

Scott Phillips, USGS

WQ GIT Call Oct 12, 2021



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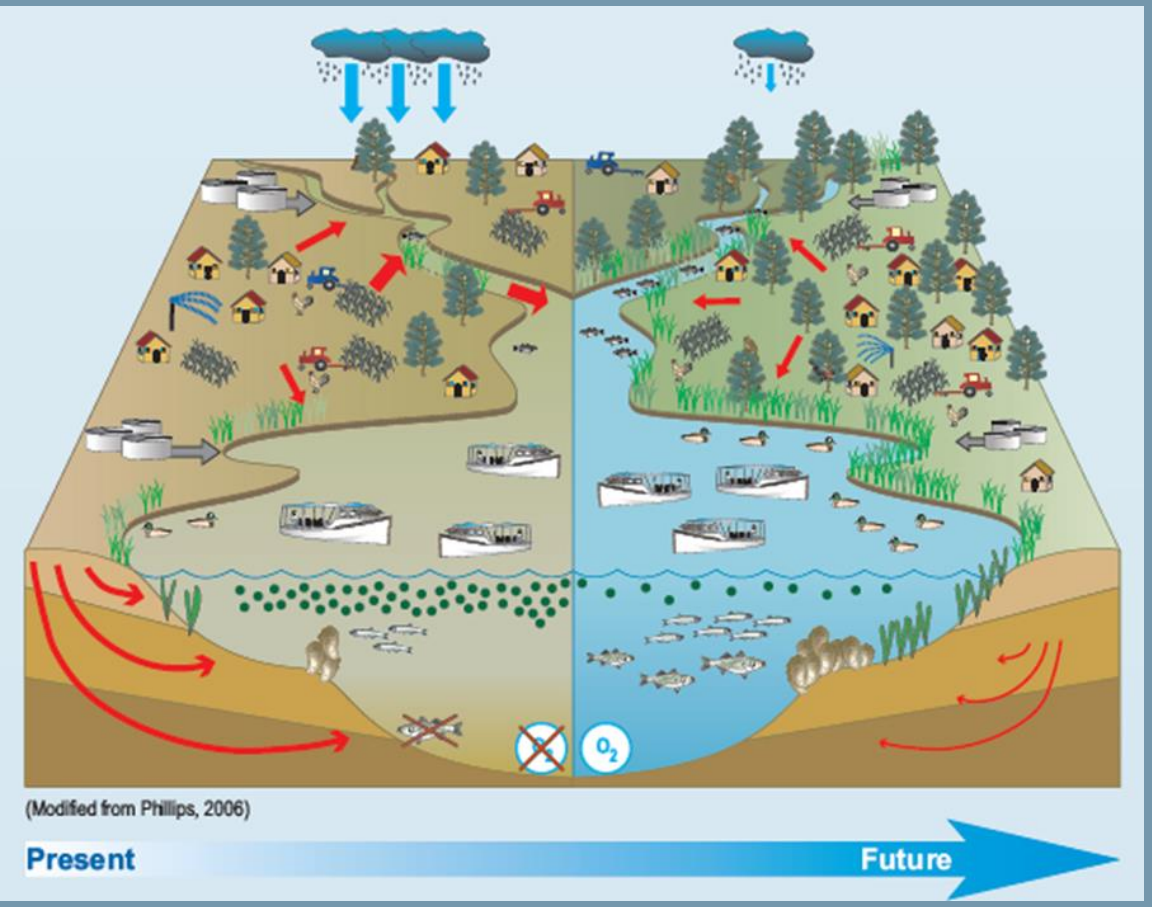
Meeting the Bay TMDL and Attaining Water-Quality Standards



The CBP, led by the WQ GIT, needs to:

- Have practices in place by 2025 for nutrient and sediment load allocations
- Address the future impacts of climate change and population growth
- Attain water-quality standards
  - DO, clarity/SAV and chlorophyll
  - Improve conditions for aquatic life
- Apply CBP Water-Quality Management Strategy

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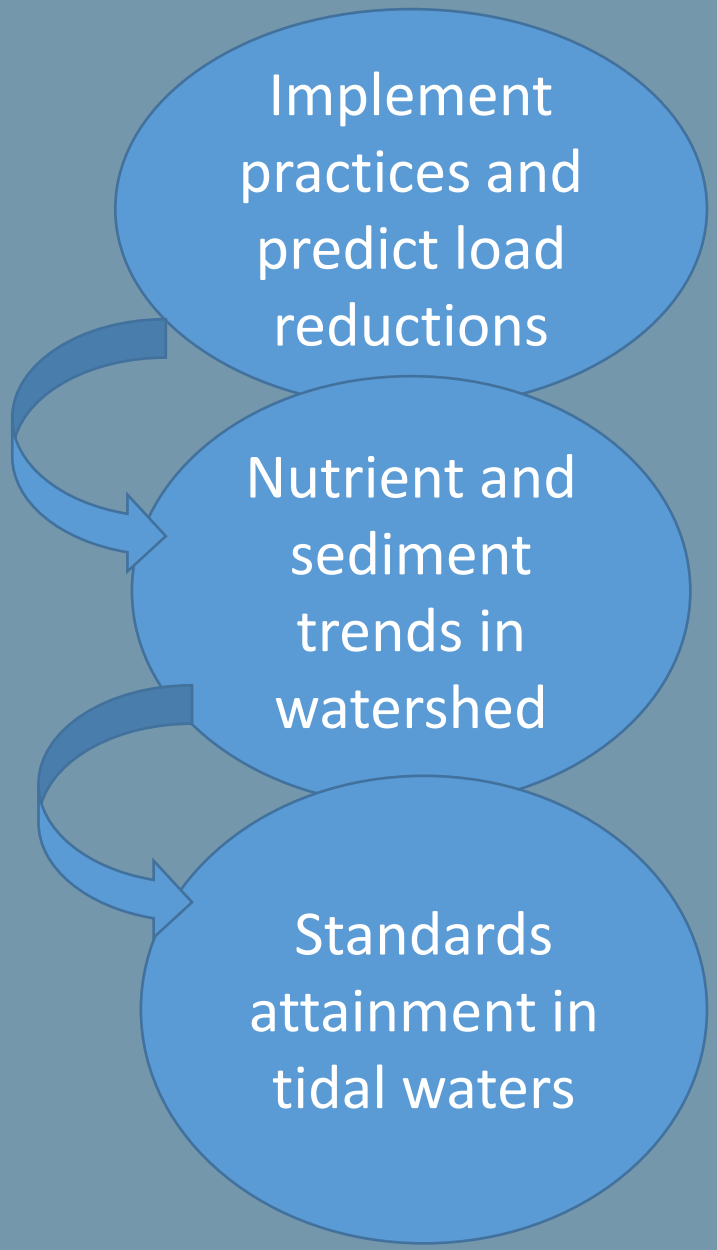
CBP WQ Management Strategy



- Addresses both WQ GIT outcomes
  - WIP 2025
  - Standards Attainment and Monitoring
- Assessing progress:
  - Predict nutrient and sediment load reductions from implemented practices
  - Trends in watershed
  - Attainment of standards
- Learn and adjust

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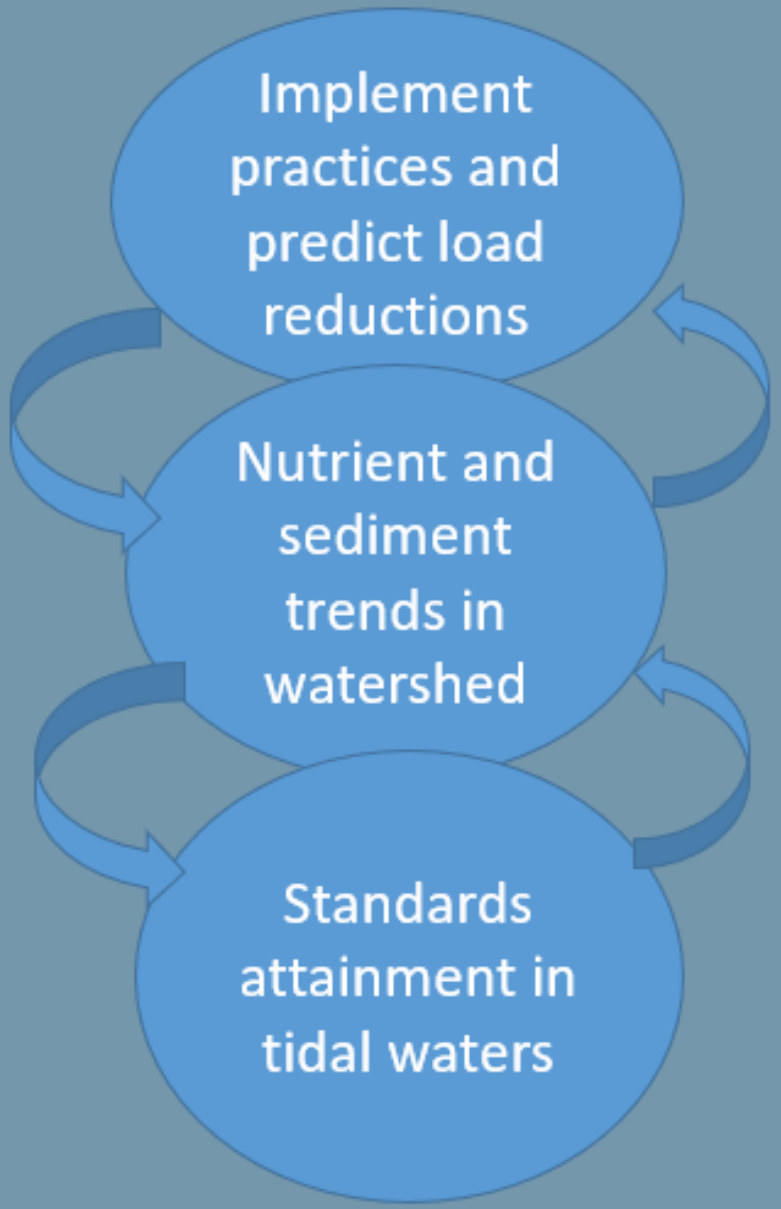
How Can Monitoring Data and Results Help?

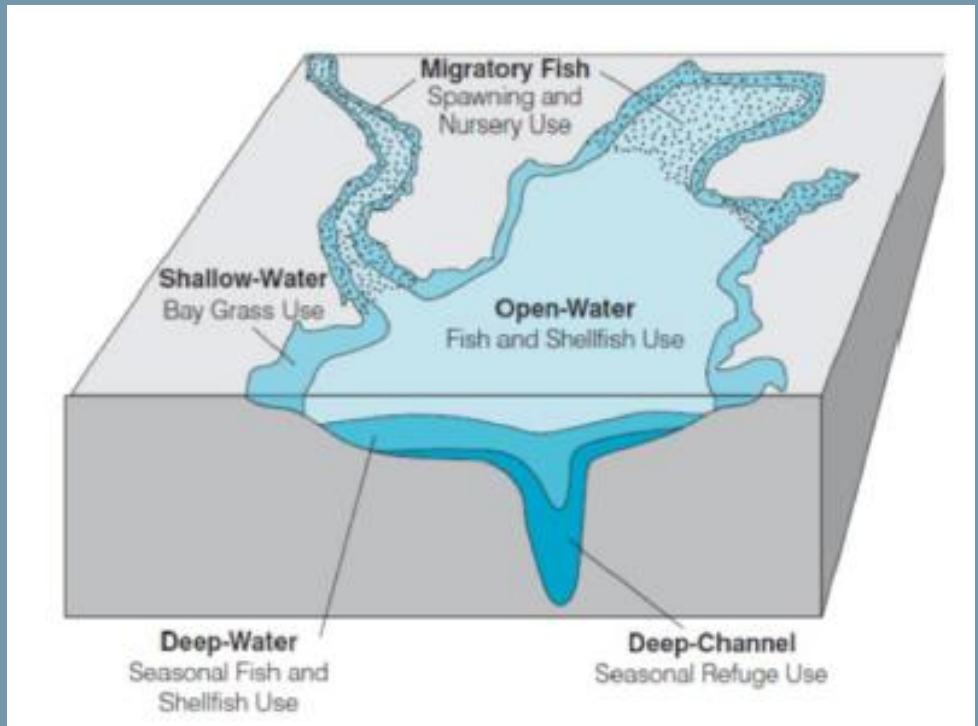


- Document water-quality response to practices
- Explain factors affecting response
- Use insights to adjust…
  - Places and types of practices
  - Approaches and programs
- Engagement between scientists and implementors

Management Applications of Monitoring

- Short-Term (through 2025):
  - Help target places and types of practices.
  - Consider additional benefits to local streams and rivers
  - Adjust approaches and programs

- Longer term (post 2025)
  - How to increase the rate of standards attainment
  - Address climate change and increased loads due to growth.
  - New policies

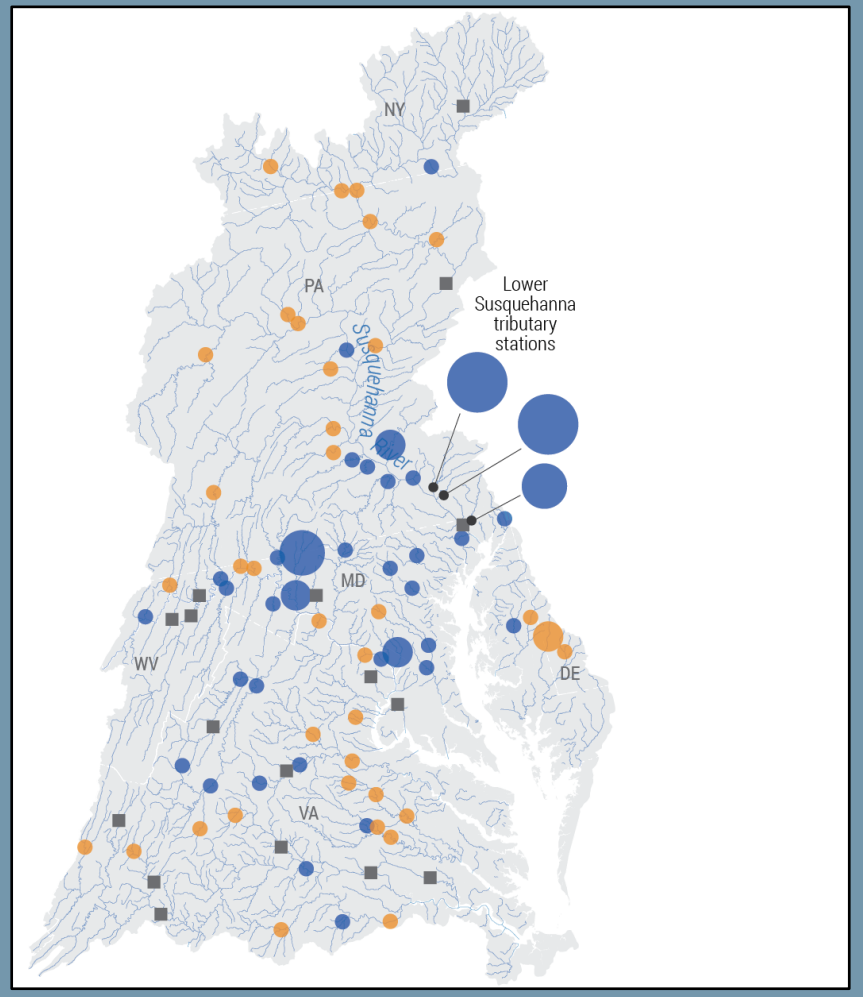


USEPA, Designed Uses

Watershed Water-Quality Response

- **Implementation** over the past decade, projected load reduction from practices:
  - 5% for nitrogen
  - 13% for phosphorus
  - Increased implementation needed by 2025

- **Watershed Response**: Mixed
  - Nitrogen: 41% improving, similar worsening
  - Phosphorus: 44% improving and 32% worsening



Hyer and others 2021

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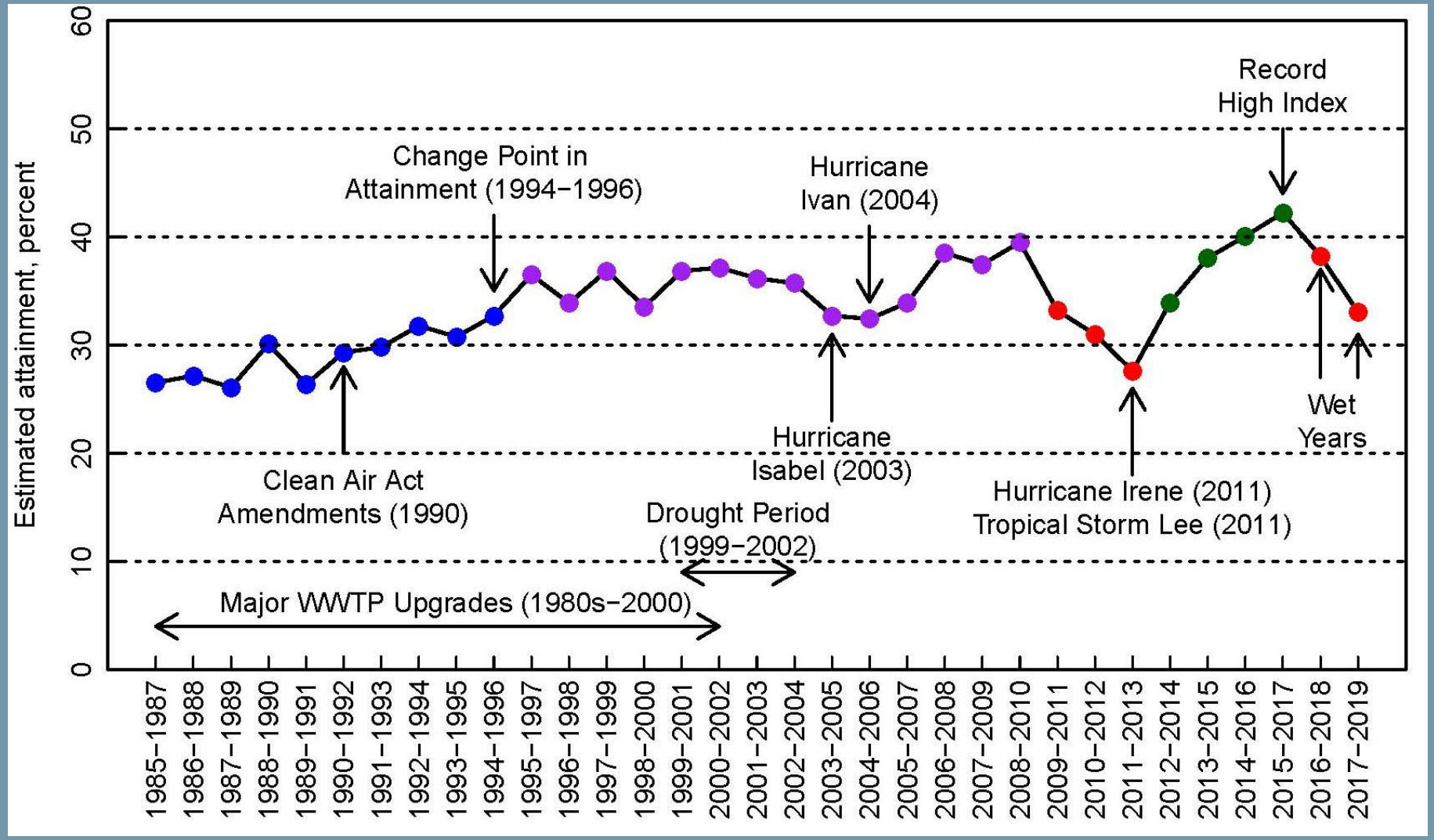
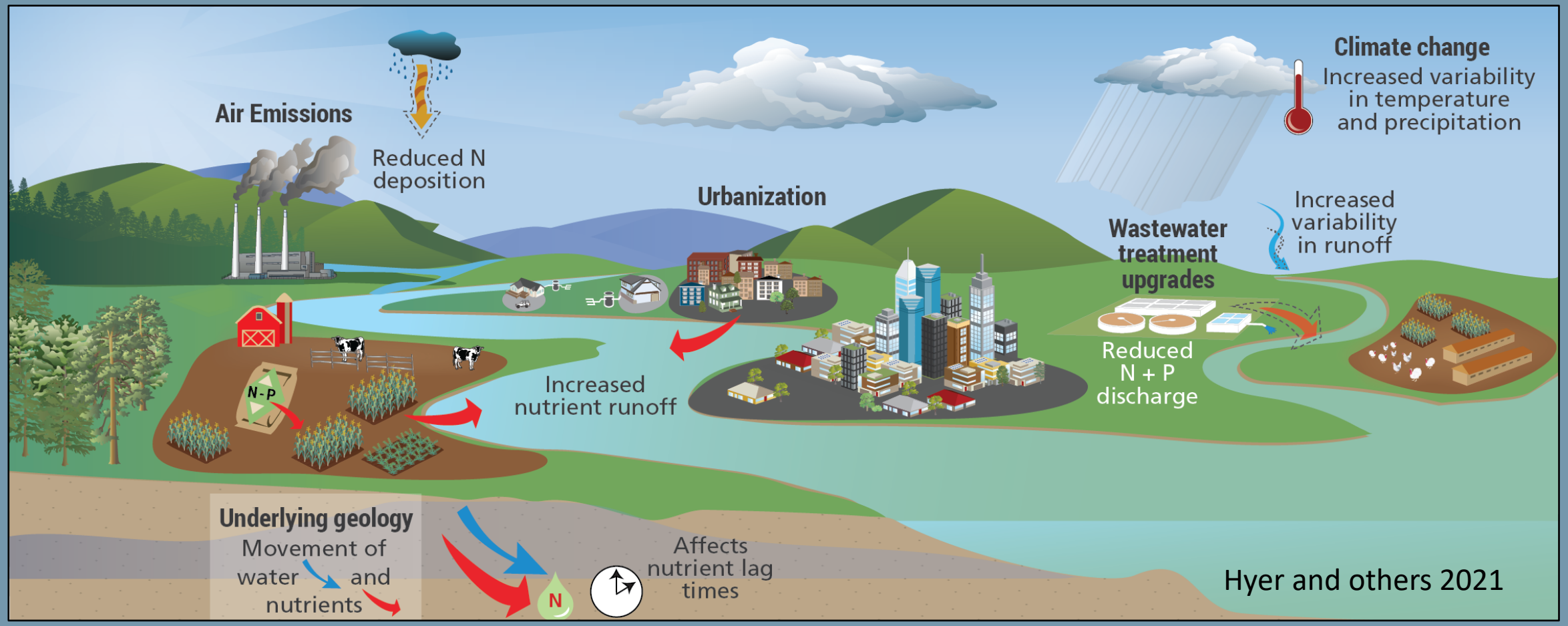
Standards Attainment

Standards Attainment

- Upper 20's to high of 42
- Currently 33%
- Take over 100 years at current rate





Sources:

- Wastewater
- Air deposition
- Urban development
- Agricultural lands

Practices:

- Reduction
- Retention

Transport:

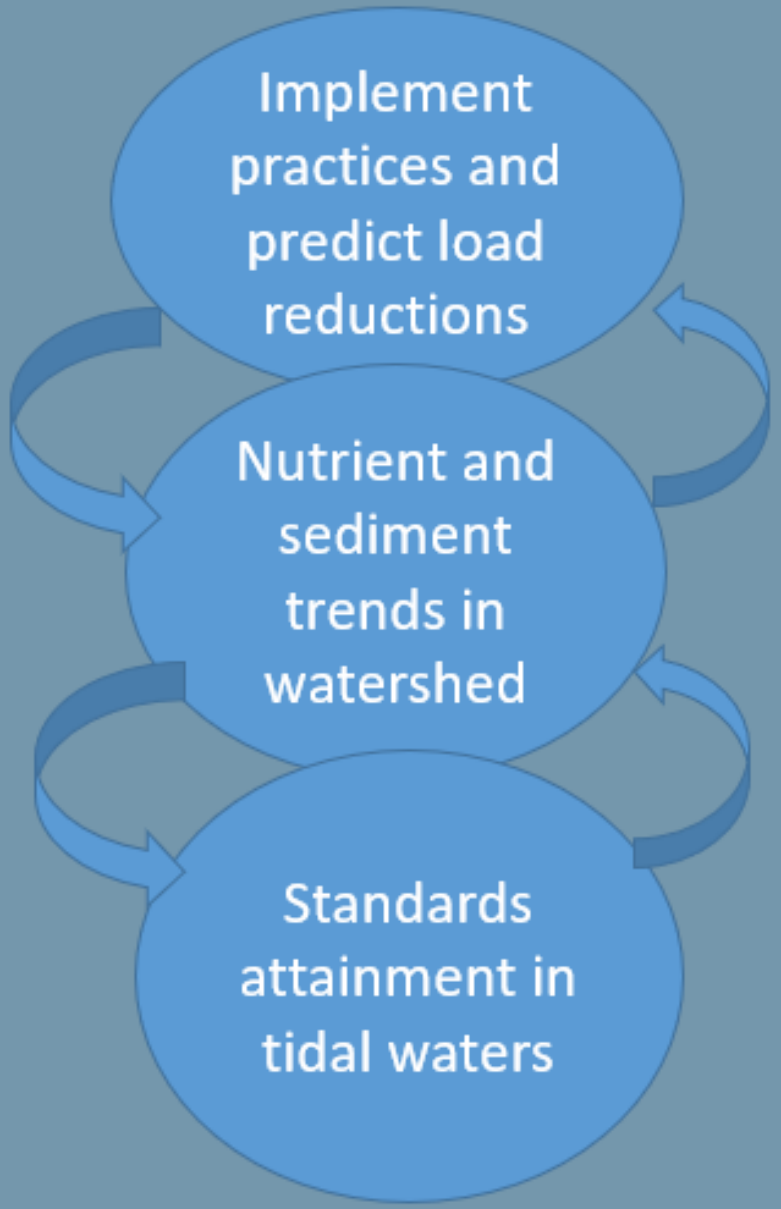
- Loss during travel
- Legacy Nutrients
- Climate Change

Tidal waters

- Load reduction
- Estuary processes
- Climate change

Decisions and Engagement

- Using monitoring to inform decisions
  - Increase implementation
  - Benefits to local streams and rivers
  - Adjust approaches and programs
- Summarizing science
  - Presentations
  - Synthesis Products
  - Tools
- Engagement to apply findings
  - WQ GIT meetings
  - Jurisdictional meetings and direct interaction
  - EPA-NRCS-USGS collaboration
- What can be improved?



Today's Agenda

Learning more about monitoring results for decision making

- Watershed trends and change
- Standards attainment and tidal water quality change
- Tributary summaries

Provide feedback

- Additional technical analysis
- Products and approaches for more effective engagement
- Issues for longer term (post 2025)

Oct 25-26: Use of monitoring to enhance new models

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Next Steps and Wrap Up

- Summarize your feedback on technical issues and engagement approaches
- Develop next steps for enhanced engagement
- Bring results and steps back to WQ GIT and others

- More information:
- Water Quality Goal Implementation Team (GIT 3) | Chesapeake Bay Program
- Scientific, Technical Assessment and Reporting (STAR) | Chesapeake Bay Program
- Chesapeake Bay Activities (usgs.gov)

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