# Chesapeake Bay Monitoring

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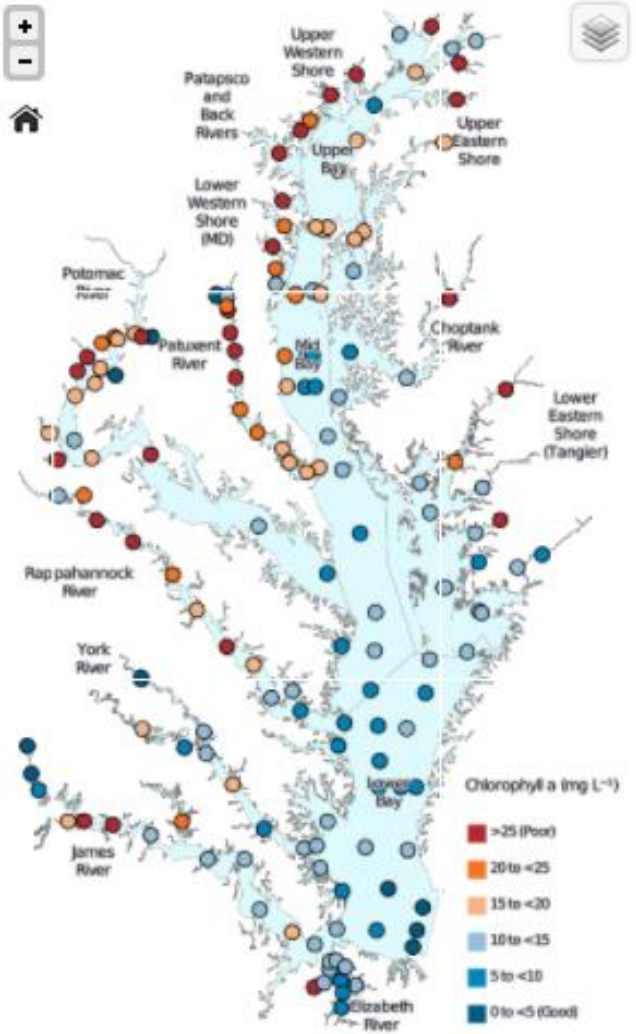
Science and Technical Advisory Committee

Dec 2013

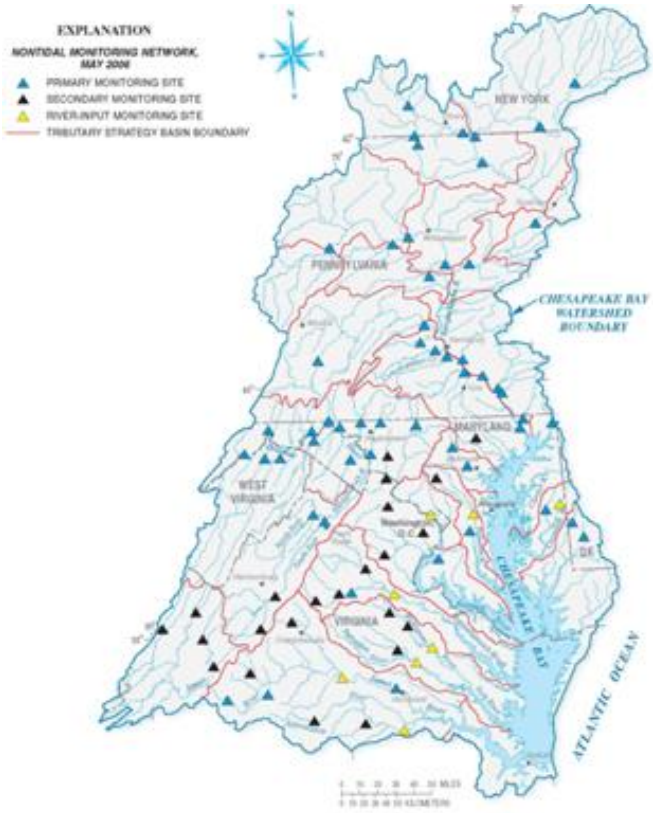
# Institutional monitoring needed

- CBP sponsored monitoring provides the skeletal backbone of additional monitoring (e.g., citizen science monitoring)
- High quality, timely, accessible data with continuity is essential
- Piecemeal data does not replace integrated monitoring



# Monitoring funding context

- Monitoring efforts have been curtailed over time; lean programs
- MRAT (Monitoring Realignment Action Team); 2009, ~$1 M reallocated from tidal to non tidal monitoring
- MRAT process -> Tidal & non-tidal better integrated

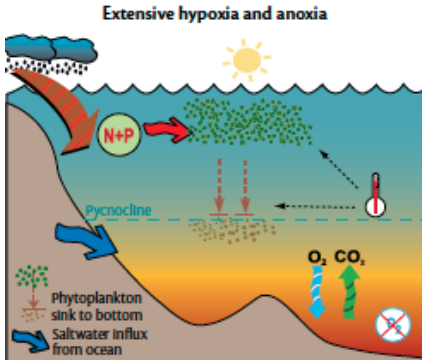


# Effective monitoring requires significant resources

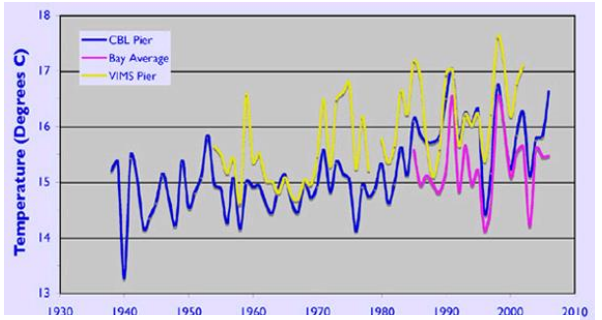
- Field work is expensive (people, equipment, vehicles, boats)
- Data analysis is time intensive (database development & maintenance, statistical analyses)
- Recurring costs are subject to inflationary pressures

# Highlights from 25 years of tidal water quality monitoring program

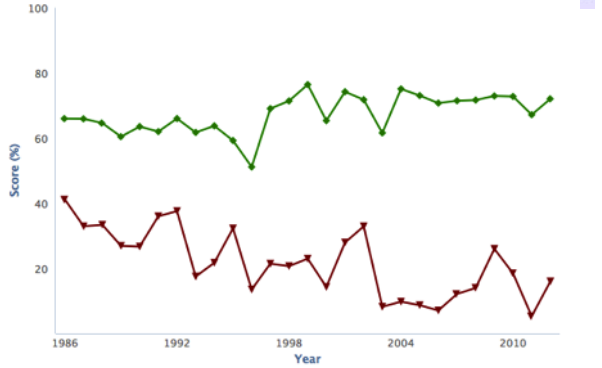
- Identification of eutrophication causes and impacts




- Climate trends and impacts (e.g., DO, SAV)

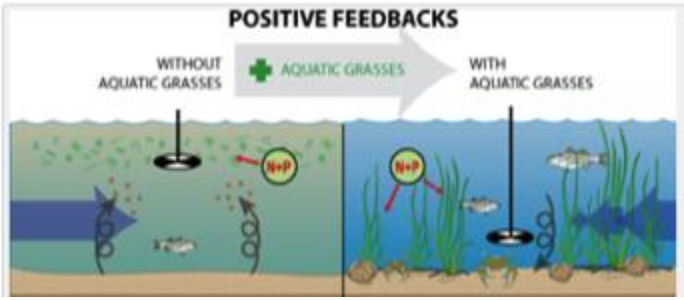



- Status and trends of key indicators (e.g., improving nutrients, degrading clarity)

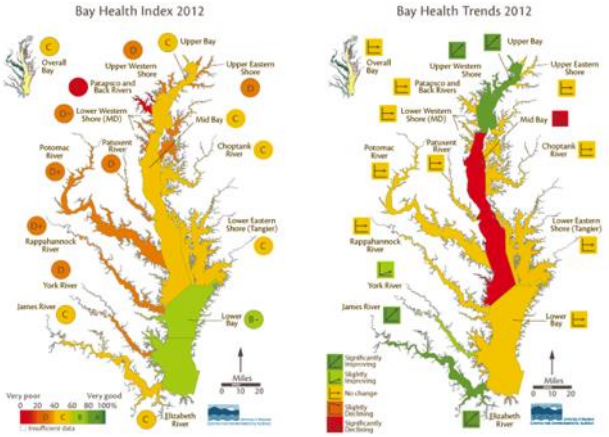


# Highlights from 25 years of tidal water quality monitoring program

- Ecological thresholds ‘tipping points’ & feedbacks



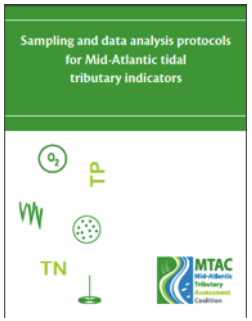

- Input to report cards, Bay Barometer, research programs

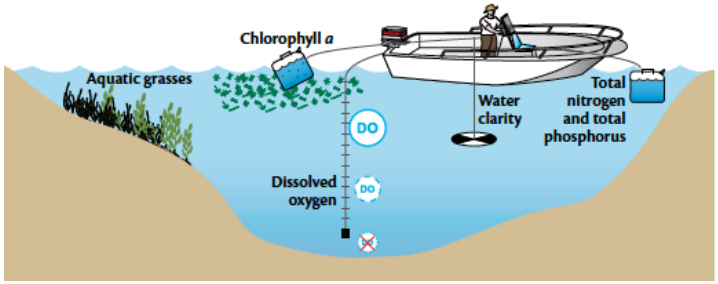



- Water quality criteria assessment

# Citizen science can augment but CANNOT replace institutional monitoring

- Coordination needed
- Training needed; personnel turnover issue
- Continuity essential
- QA/QC issues
- There are some difficult and dangerous locations where trained personnel are needed



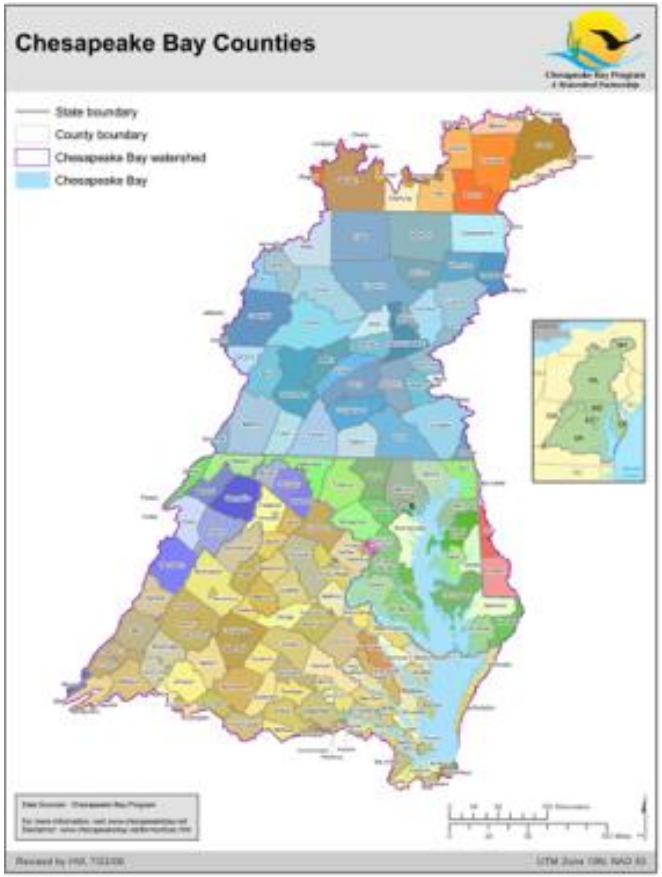

MTAC
Mid-Atlantic Tributary Assessment Coalition

# Technology can augment but CANNOT replace in situ sampling

- Purchase price of technology can be prohibitive
- Technology requires calibration, maintenance, operational costs
- Some features (e.g., nutrient samples) need to be sampled on site
- We are already using techn to augment monitoring as much as possible

# Local jurisdictions CANNOT contribute to funding shortfalls (on the short term)

- Cost sharing is already happening
- Internal funding restrictions reduce ability to reallocate implementation funds to monitoring
- Overall reduced budgets mean that local jurisdictions funds are already committed

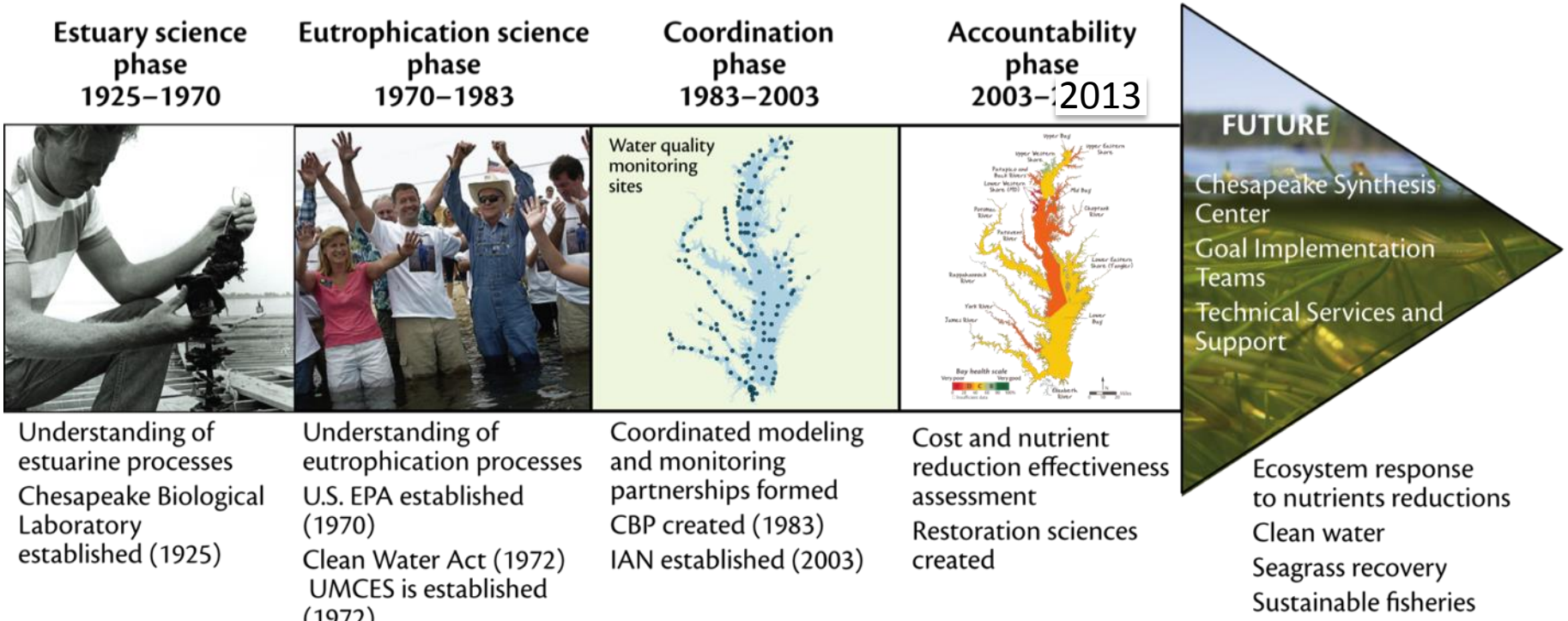


# But, can local jurisdictions contribute to funding shortfalls? (on the long term)

- Local jurisdictions increasingly tasked with costly implementation
- Timely & accurate feedback critically needed
- Feedback can reduce costs and result in more effective actions

# 2013: Important historical moment

- Voluntary to regulatory transition
- Adoption of adaptive management approach; change in monitoring needs
- Federal : State : Local budgets & mandates changing



# STAC monitoring concerns

- ‘Monitoring for attainment’ focus needs to shift to ‘monitoring for adaptive management’ (What is working?)
- Integration of citizen science and modern technologies needs to occur
- Major monitoring overhaul likely necessary, not just minor tweaks
- New Bay Agreement should clearly articulate goals, outcomes, strategies to identify monitoring needs