

The Chesapeake Bay Sentinel Site Cooperative

A regional collaborative network to monitor sea level change impacts and build coastal resilience

Sarah Wilkins, Maryland Sea Grant Extension



Chesapeake Bay Sentinel Site Cooperative



Blackwater Wildlife Refuge

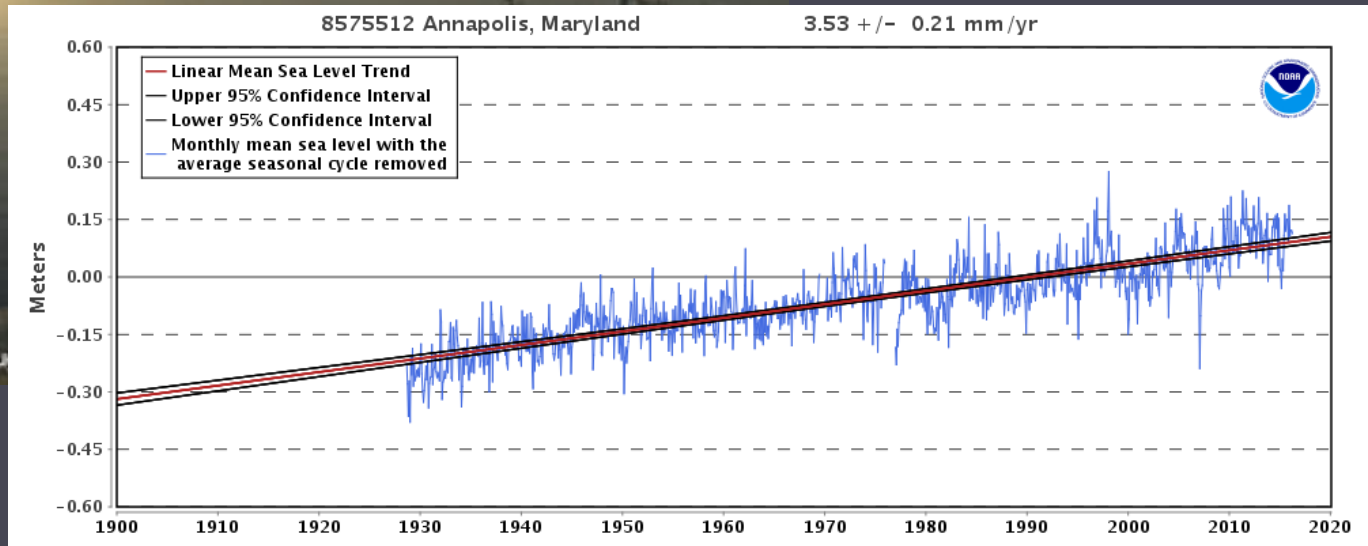
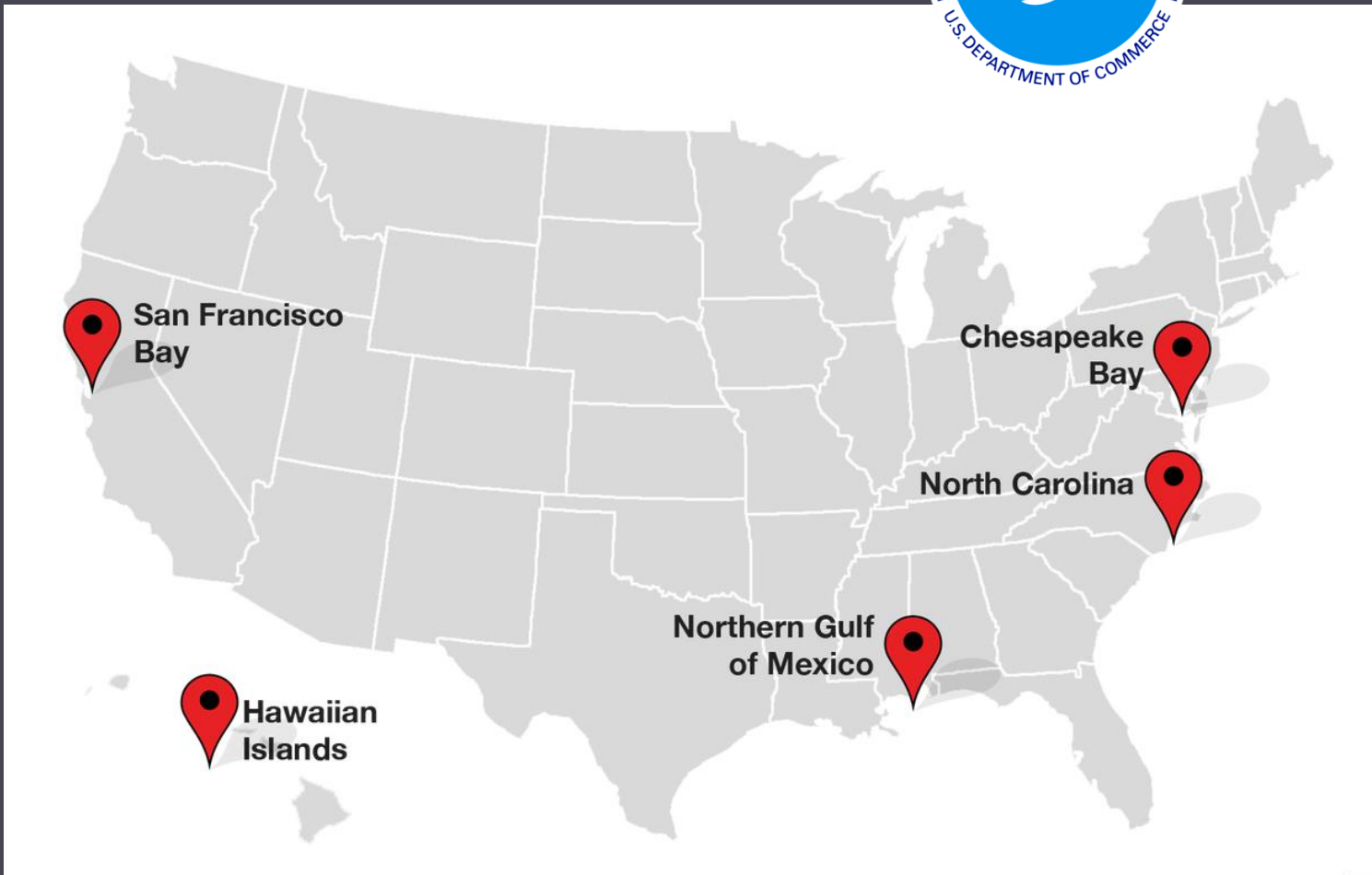


Photo Credit: Scott Neville, Washington Post



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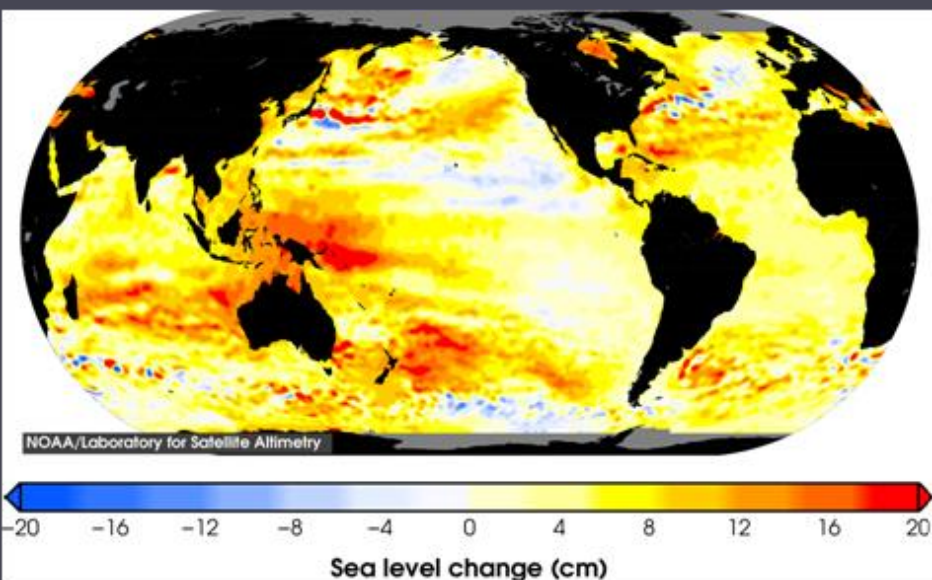
National Sentinel Site Program



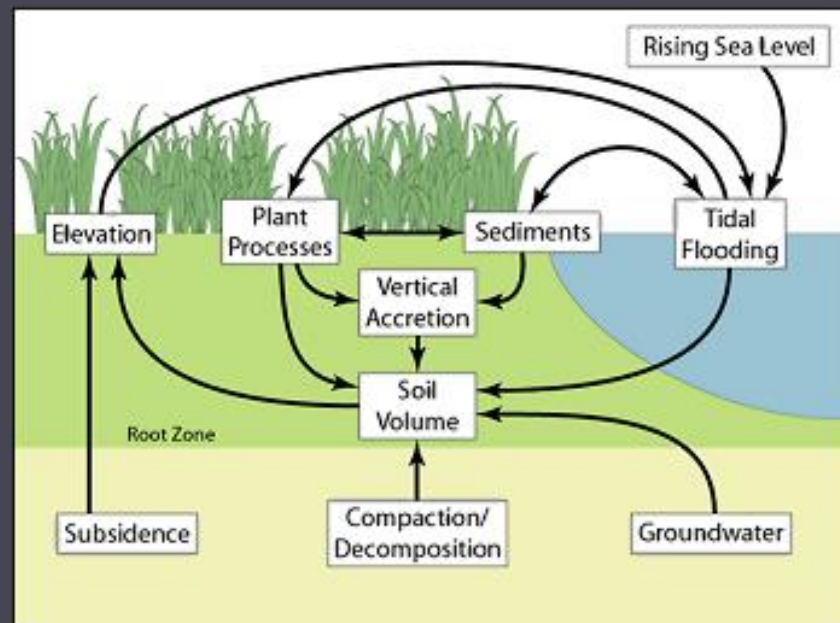
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Global Change with local implications...

Total sea level change since 1993



Source: NOAA's Laboratory for Satellite Altimetry



Source: DCERP, Currin

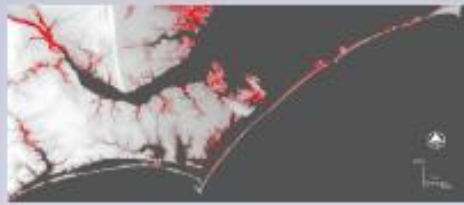


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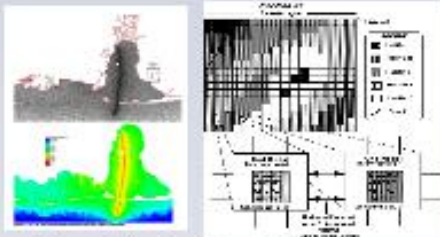
Sentinel Sites: Local Responses to global change



Observe & Monitor

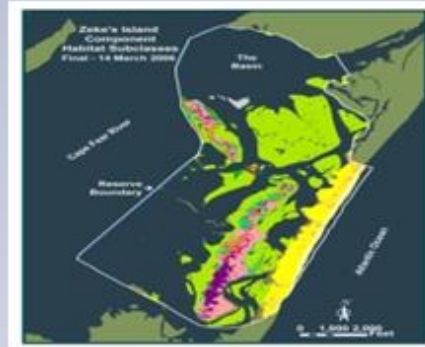


Applied Research



Models & Predictions

Science



Spatial Analysis & Visualization



Information Transfer

Service



Management & Decision Making



Education & Outreach

Stewardship



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CBSSC Sentinel Sites

Smithsonian Environmental Research Center

CBNERR-Maryland

Poplar Island

Blackwater NWR

Assateague Island National Seashore

CBNERR-Virginia

VCR-LTER site

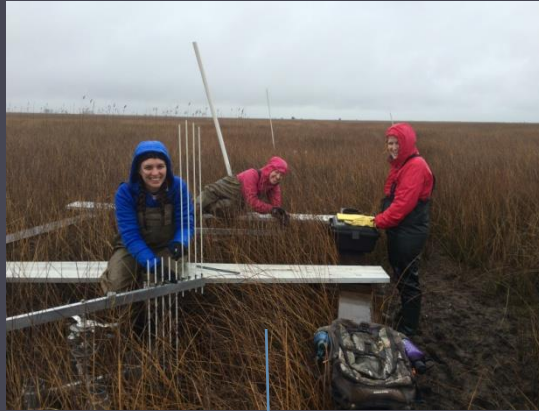


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SERC



CBNERR-MD



Poplar Island



Assateague Is.

CBNERR-VA



Blackwater NWR



VCR-LTER



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CBSSC Partners

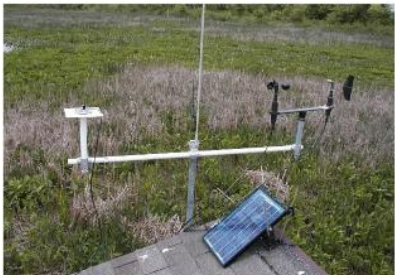


Smithsonian Environmental
Research Center



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CBSSC Assets



Weather station instrumentation



Telemetry unit



Surface elevation Table (SET)



Continuous water quality monitoring station



Marsh transects

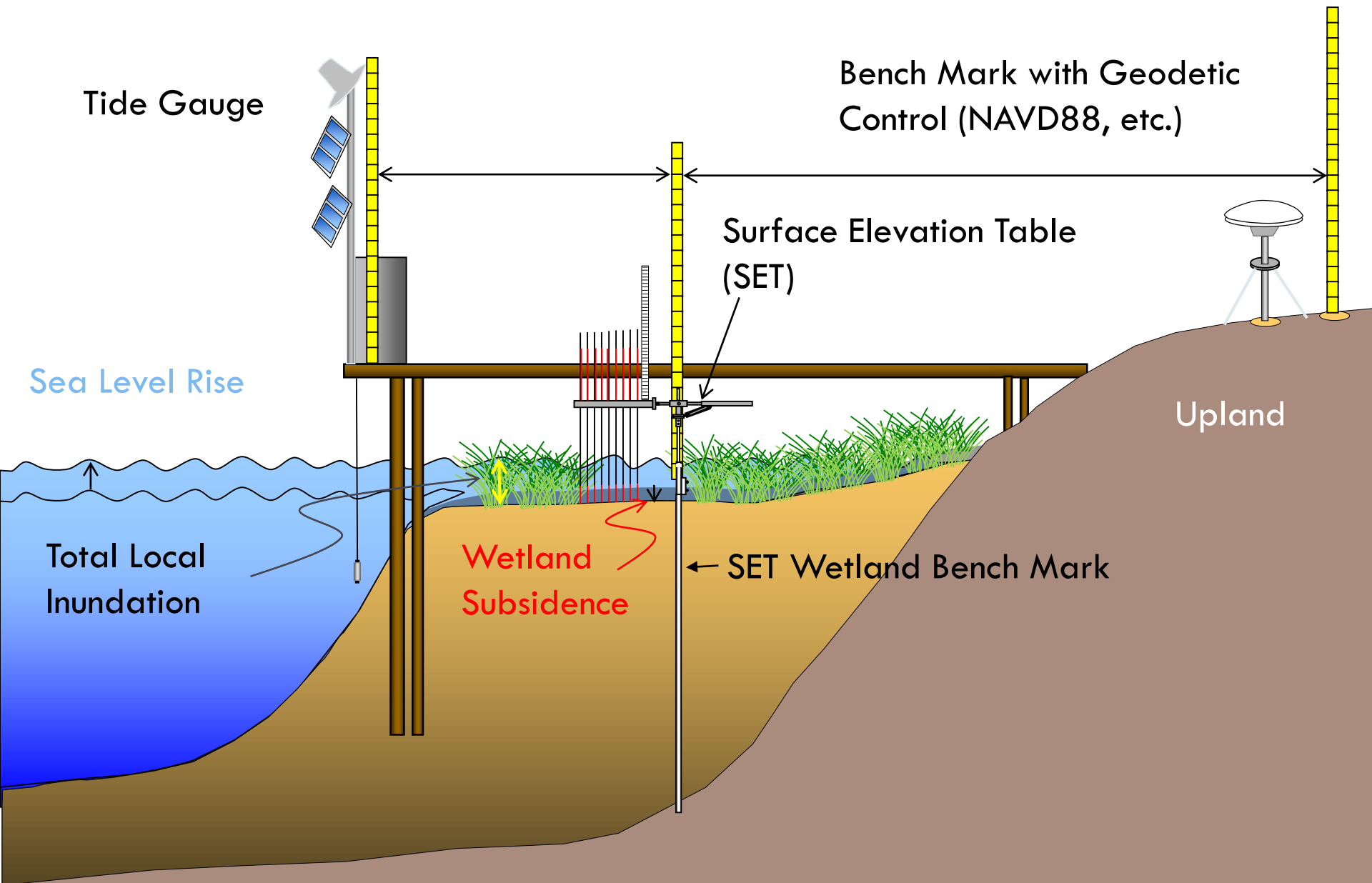
Water levels



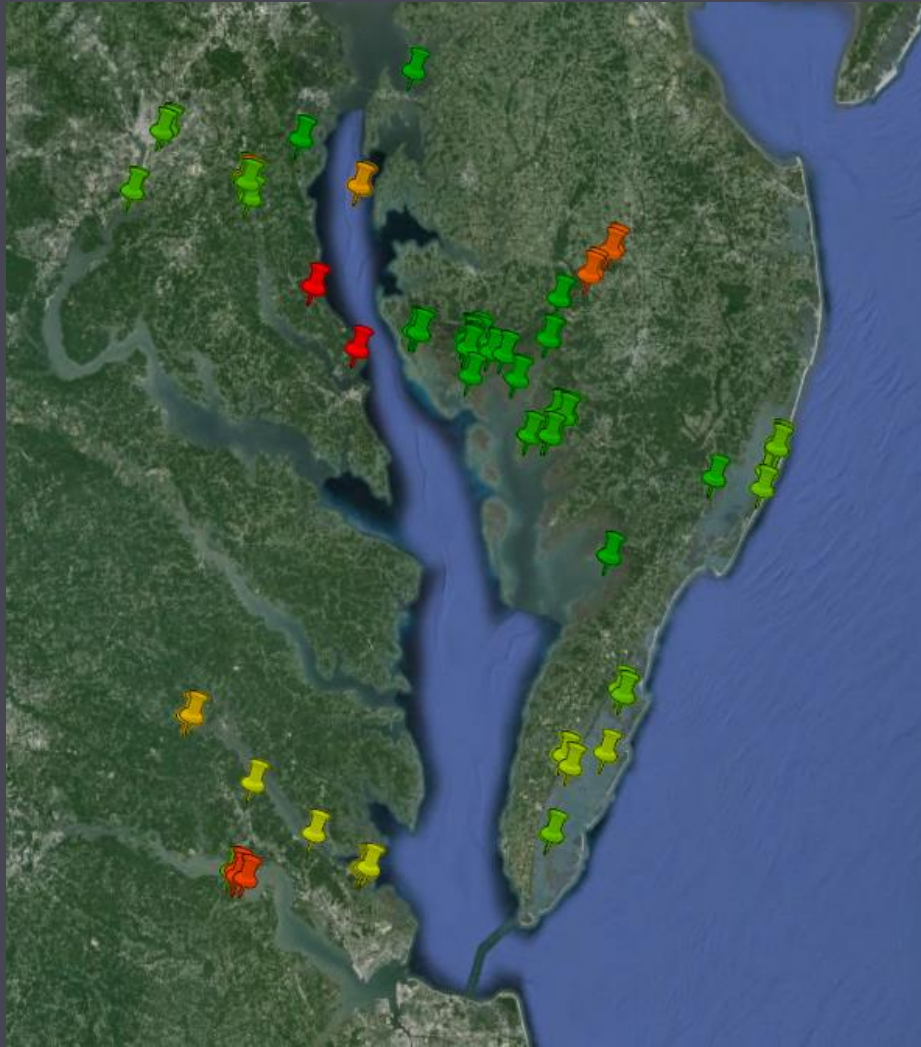
High accuracy surveying



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Chesapeake Bay SETs

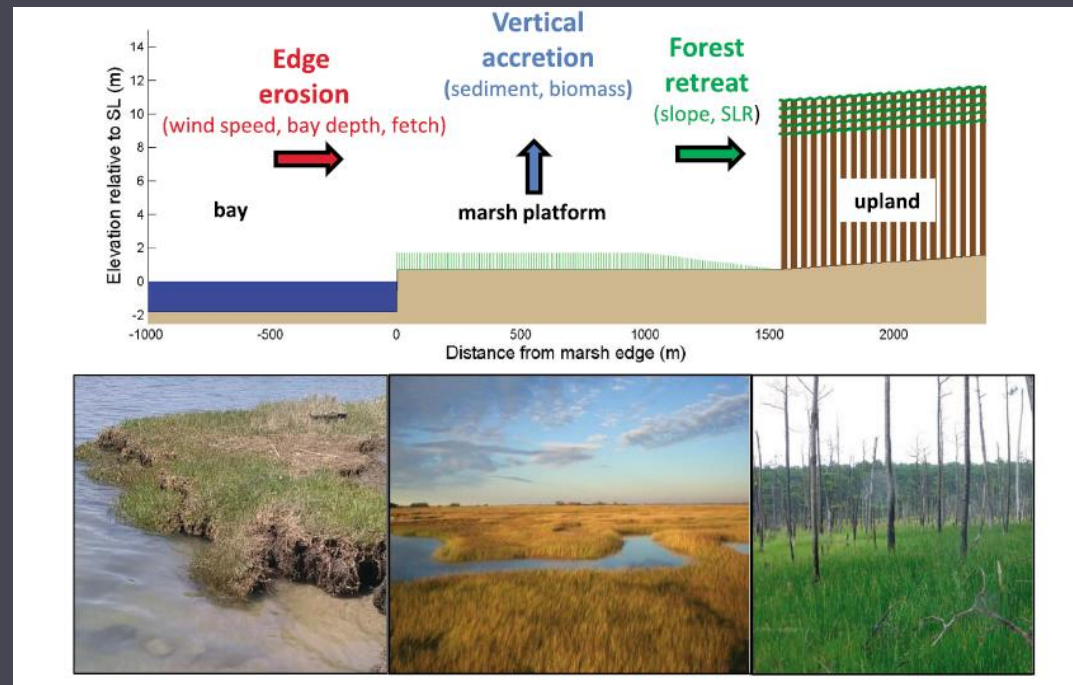


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Priority: Gain a better understanding of marsh change and resilience under changing sea levels



Source: Blackwater NWR



Source: Kirwan, M. L., D. C. Walters, W. G. Reay, and J. A. Carr (2016), Sea level driven marsh expansion in a coupled model of marsh erosion and migration, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL068507.16



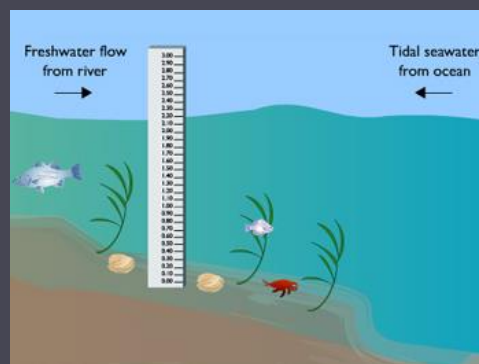
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New and Ongoing Efforts

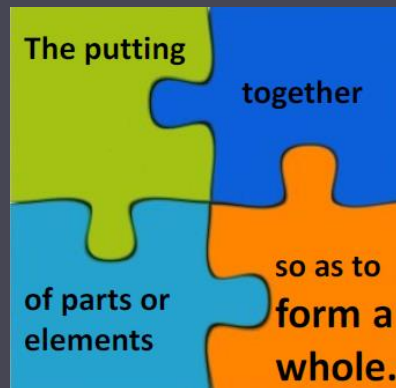
- Data and Infrastructure Inventory



- Water Level Trainings



- Sentinel Site syntheses



Questions?



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