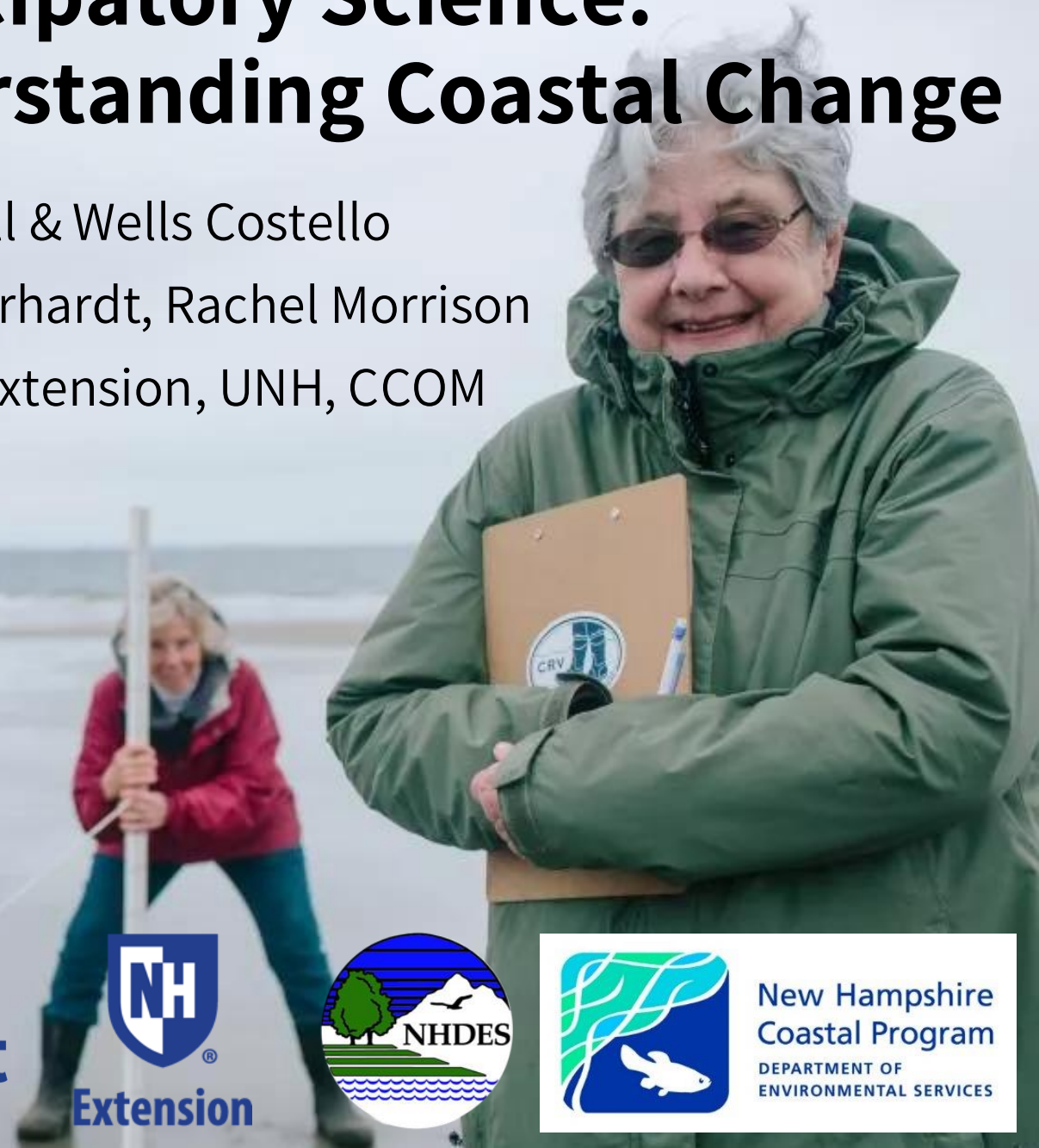


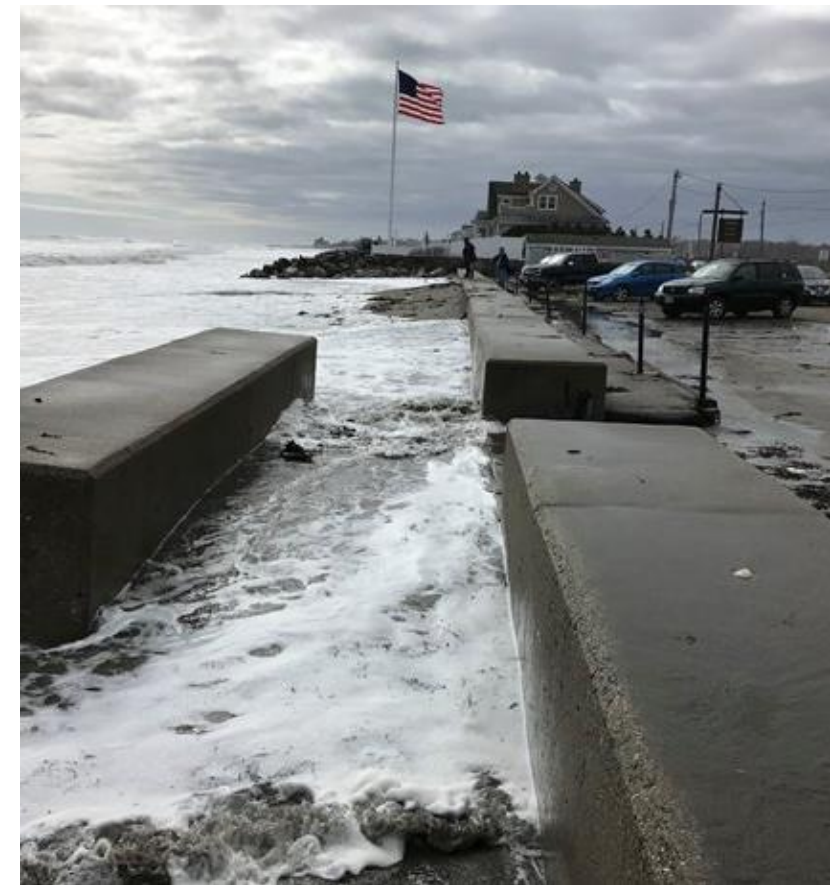
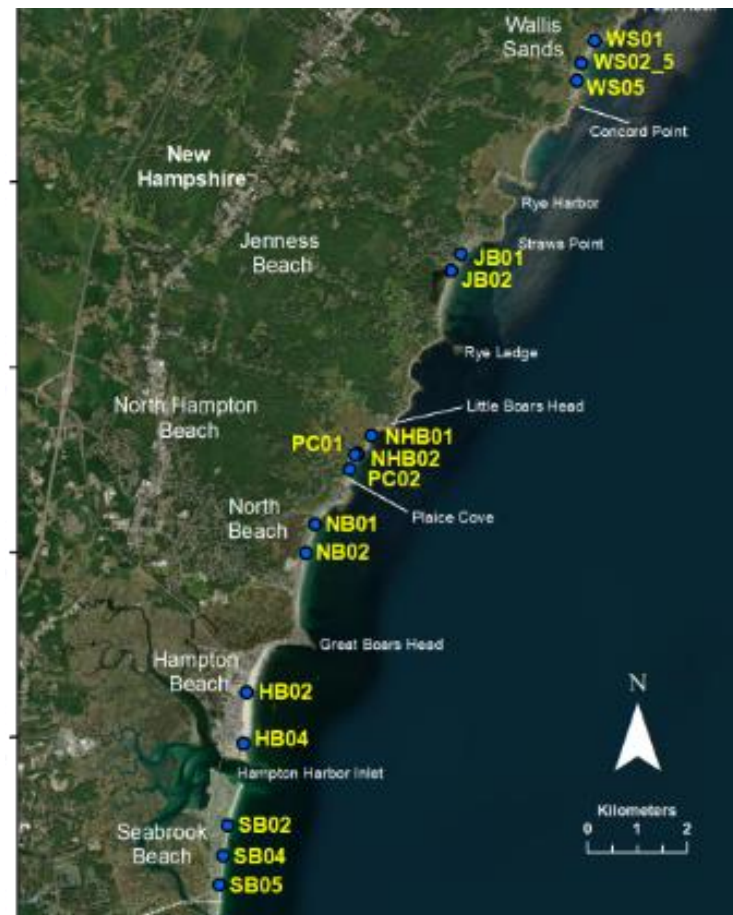
The Power of Participatory Science: Beach Profile Data for Understanding Coastal Change

Suzannah Buzzell & Wells Costello

Larry Ward, Alyson Eberhardt, Rachel Morrison

NH Sea Grant, UNH Extension, UNH, CCOM





Why Beach Profiling?

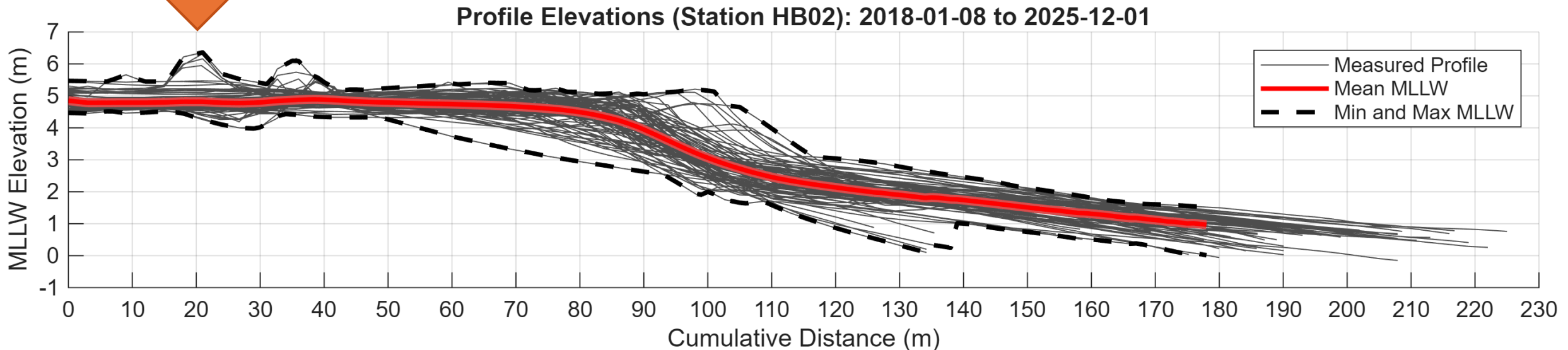
Two key words: Erosion & Accretion

What is a Profile?



What kind of data are we picking up?

- Human manipulation of the beach
- Storm response and recovery
- Erosion and accretion cycles





NH Volunteer Beach Profile Monitoring Program

Who?

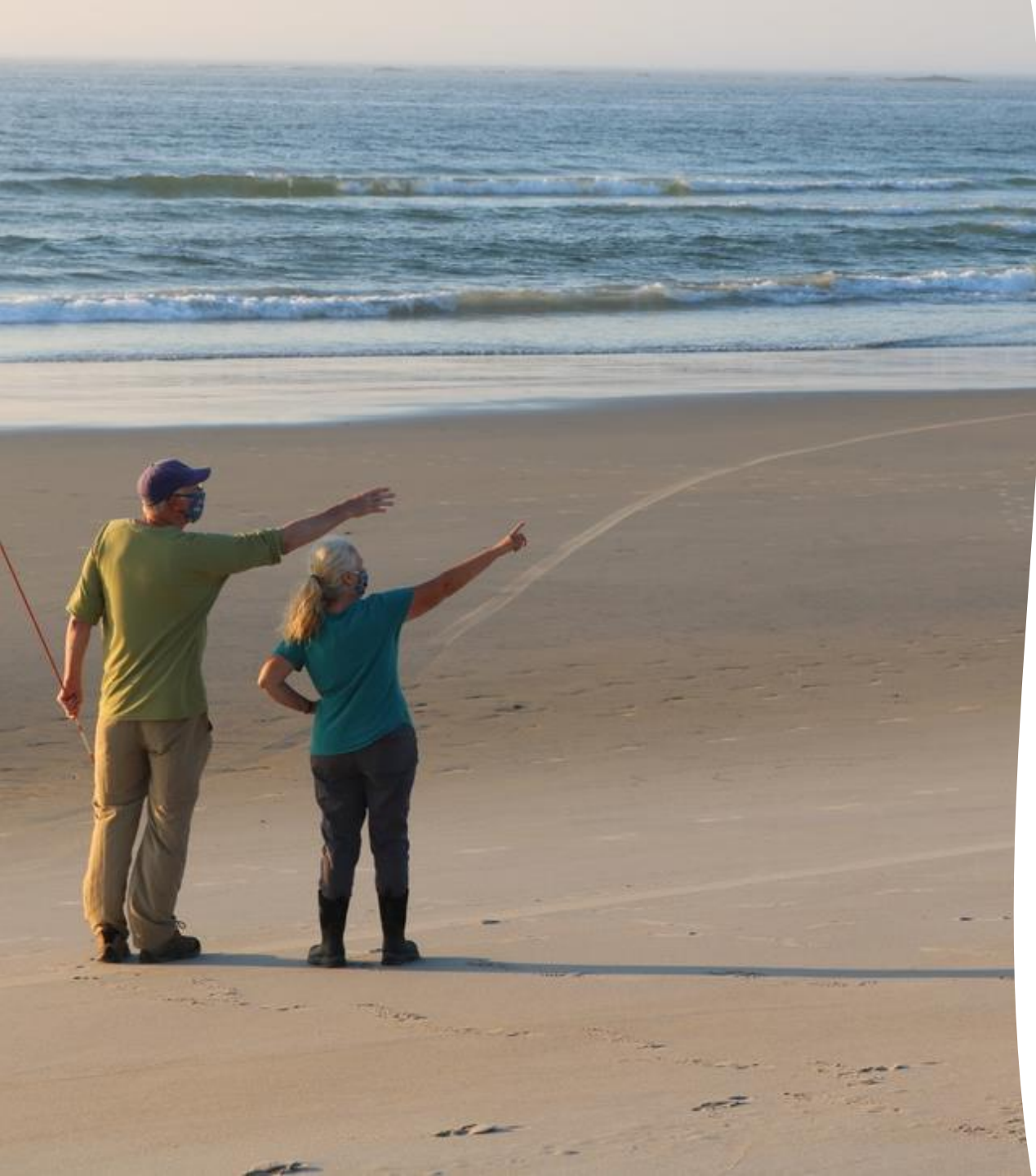
- Community Volunteers
- State Partners
- Research Faculty & Staff

Goals:

- Establish long-term dataset – First in NH
- Determine seasonal erosion & accretion trends
- Quantify beaches response to storm events

Background:

- Request from the NHDES for data:
 - Inform beach management decisions, particularly dredge material placement



Why involve the community?

Some research questions are best answered by a large group of people:

- Place-Based Connections
- Improve data collection rigor
- Stewardship
- Data → Action
- Accessibility
- Fun!

Volunteers are our biggest partner!

Research Capacity Expanded

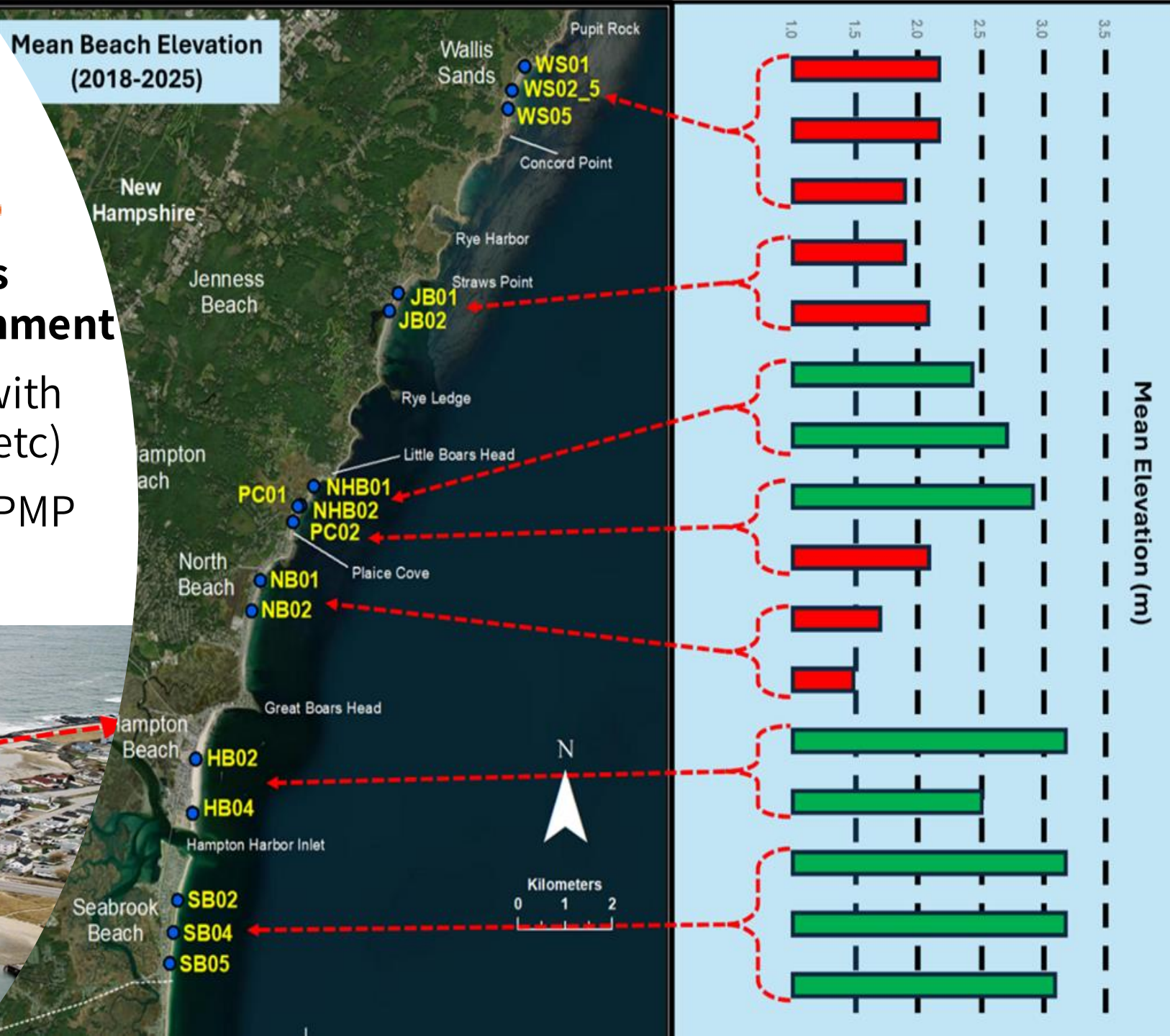
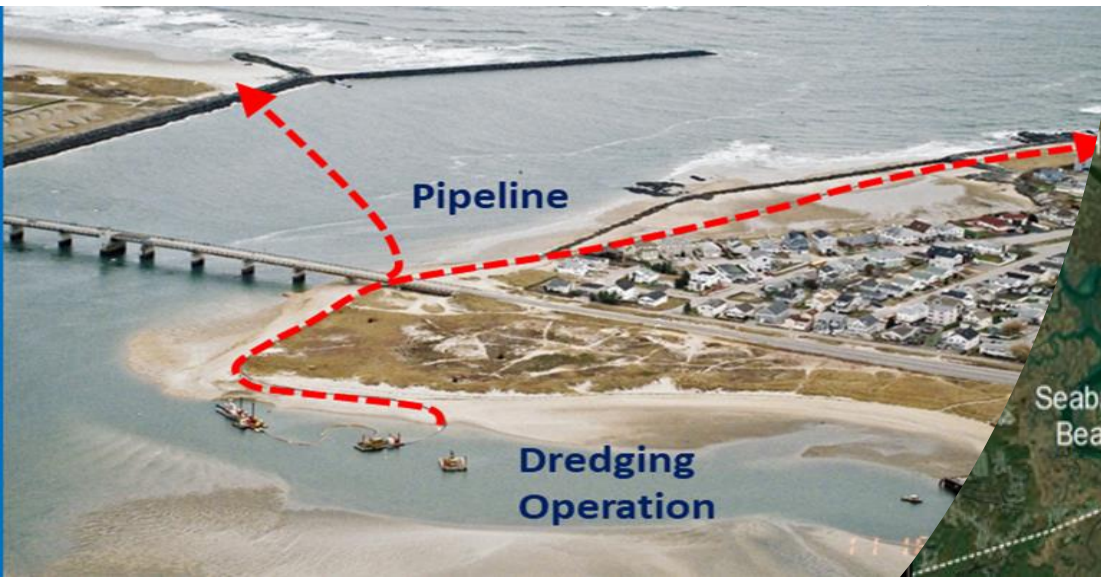
- Profiles are captured 13 times a year as “regularly scheduled”
- Capturing storm impacts happens on an as needed basis
- Volunteer power allows the capture of spatial and temporal variability of beach volumes
- **To date, 90+ volunteers have collected ~57,300 data points across ~1,450 profiles**



State & Federal Partners: Nourishment

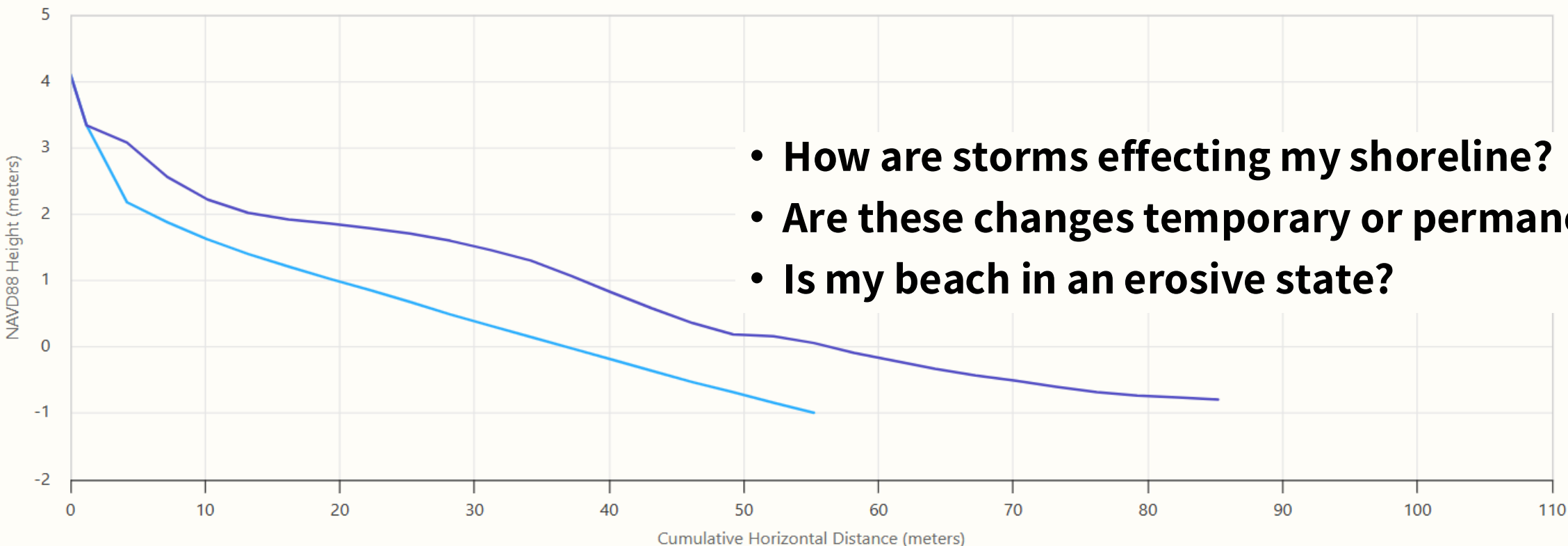
We now know that other beaches would benefit more from nourishment


- Vulnerable locations are those with infrastructure (roads, seawalls, etc)
- USACE is finding value in NH VBPM data for decision making



Property Owners & Coastal Communities

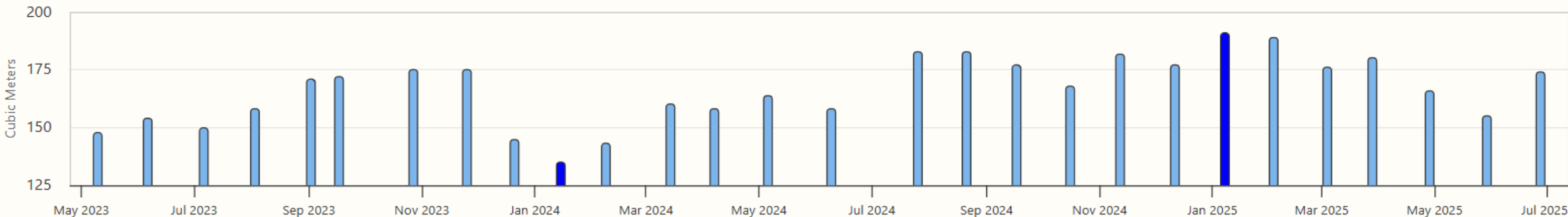
Plaice Cove PC02 Profiles



Profile 
(Click to hide)
— 1/15/2024
— 1/8/2025

- **How are storms effecting my shoreline?**
- **Are these changes temporary or permanent?**
- **Is my beach in an erosive state?**

Plaice Cove PC02 Sediment Volumes





Restoration Planning

- Town Managers can use beach profiling data to identify candidate sites for dune restoration
- Dunes are incredible sources of sediment, and help stabilize shorelines through vast networks of beachgrass roots

Takeaways

- Building trustworthy relationships takes time
- Participatory science can play an incredible role in creating actionable, trustworthy data
- These data are already being used in so many places, and have a lot of future application
- ***“Woefully underutilized” – Dr. Ward***
- Incredibly proud of the high-quality data produced. It takes a village.



Community, comradery, and connection



Photo credit: Rich Beauchesne, Seacoast Online



Photo credit: Rick Cliche

“Had to negotiate around a lot of beach blankets but we got it done!”

“Braved the cold temps and gusty winds this morning while profiling at Jenness Beach. Had your email arrived about a half-hour earlier, we may have taken you up on your offer 😊”

Thank you!

- Thank you to each and every partner who has been involved in this program to date!
- Coastal Adaptation Workgroup for having us 😊

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Questions?





To date, volunteers have collected more than 57,000 data points across 1,450 beach profiles.

Want to learn more?

NH Sea Grant Website



More Questions? Email Us!

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