

MEASURING GEOMORPHOLOGICAL CHANGES AT SANDY HOOK, GATEWAY NRA



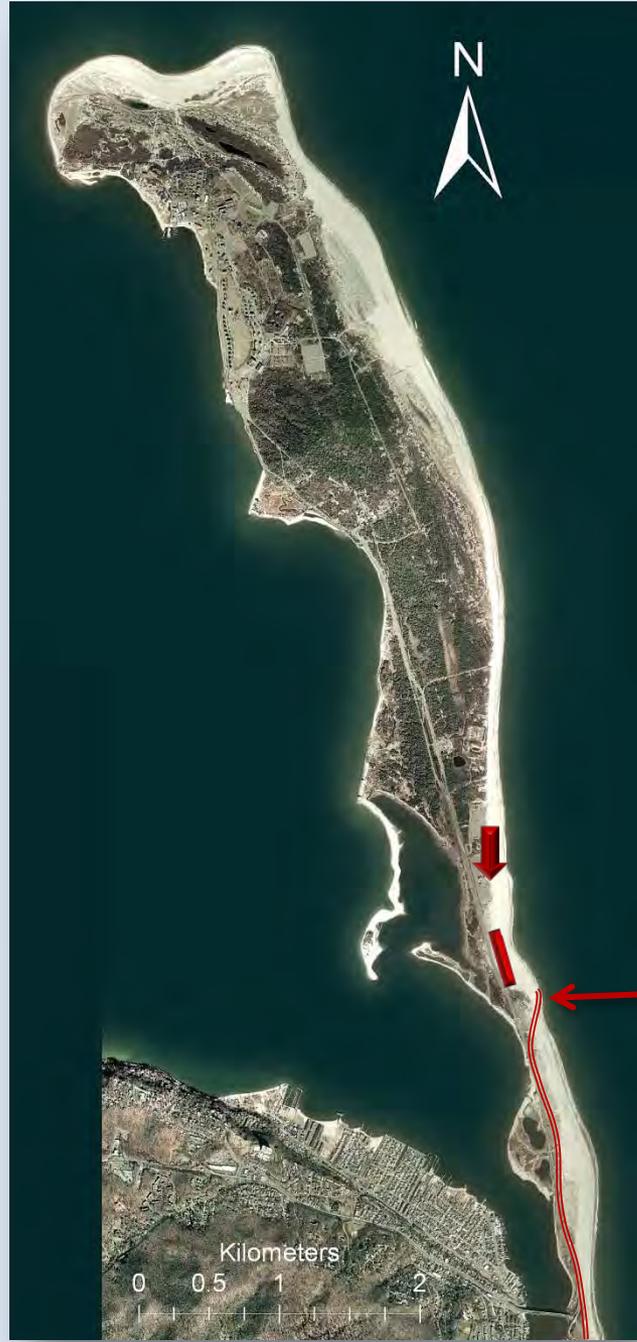
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Rutgers, The State University of New Jersey

Coastal Geotools
March 2-5, 2009 - Myrtle Beach, South Carolina

SANDY HOOK, NJ



SANDY HOOK, NJ



seawall

Northeast Coastal and Barrier Network Inventory and Monitoring Program

ONE-DIMENSIONAL (1-D)

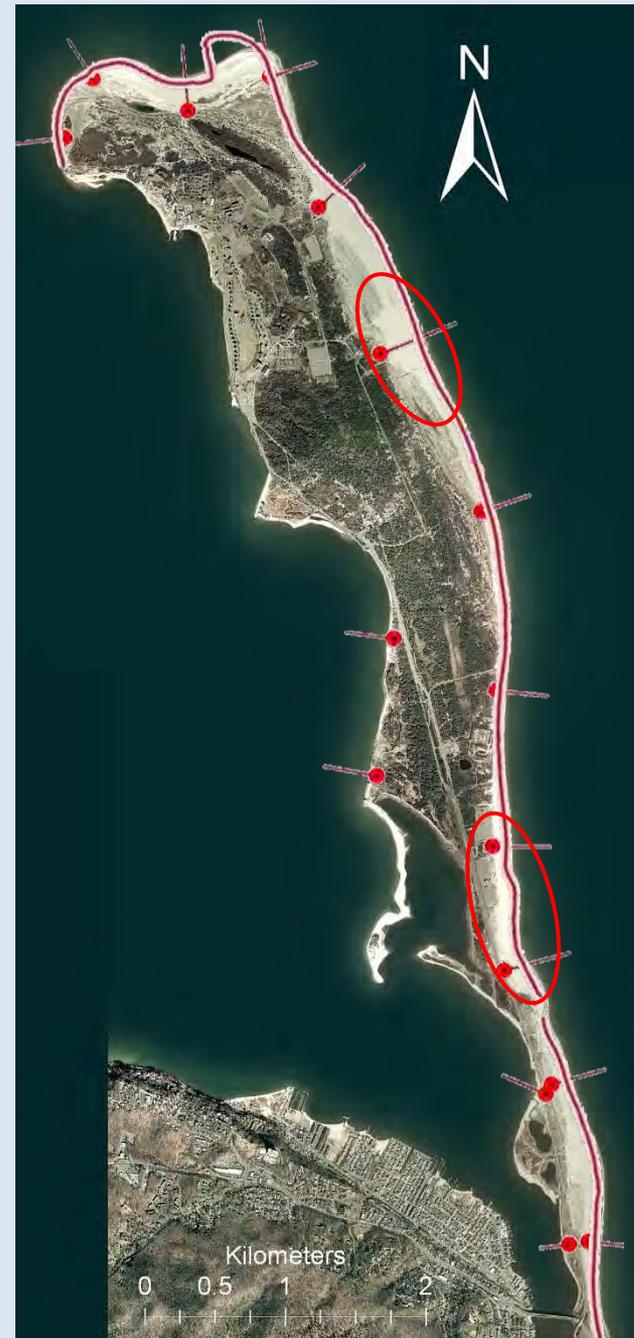
→ Ocean Shoreline Position

TWO-DIMENSIONAL (2-D)

→ Cross-shore Profiles

THREE-DIMENSIONAL (3-D)

→ Elevation Models

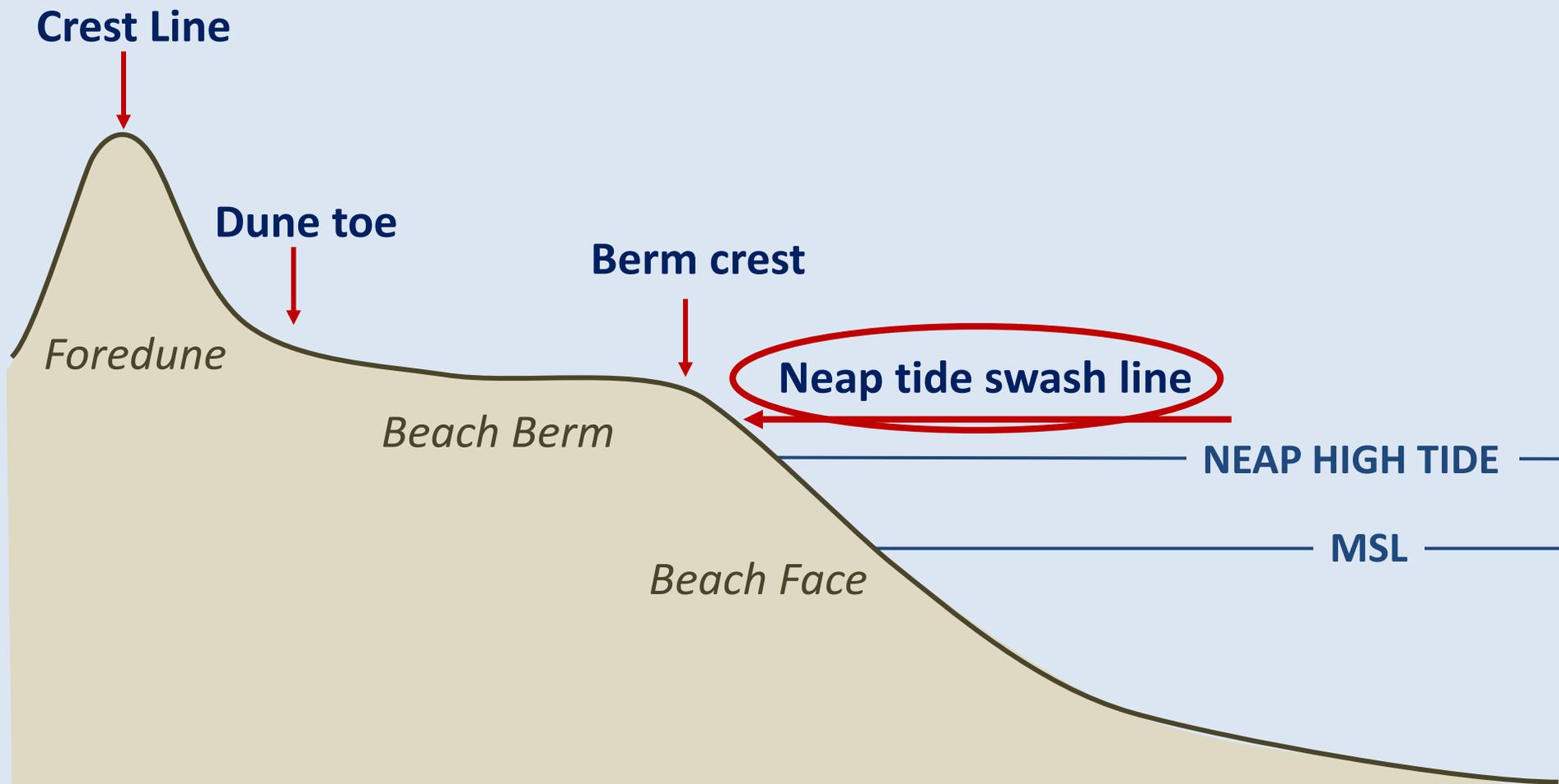


Gunnison
Beach

Critical
Zone

Shoreline Position

Feature based monitoring → relative elevation

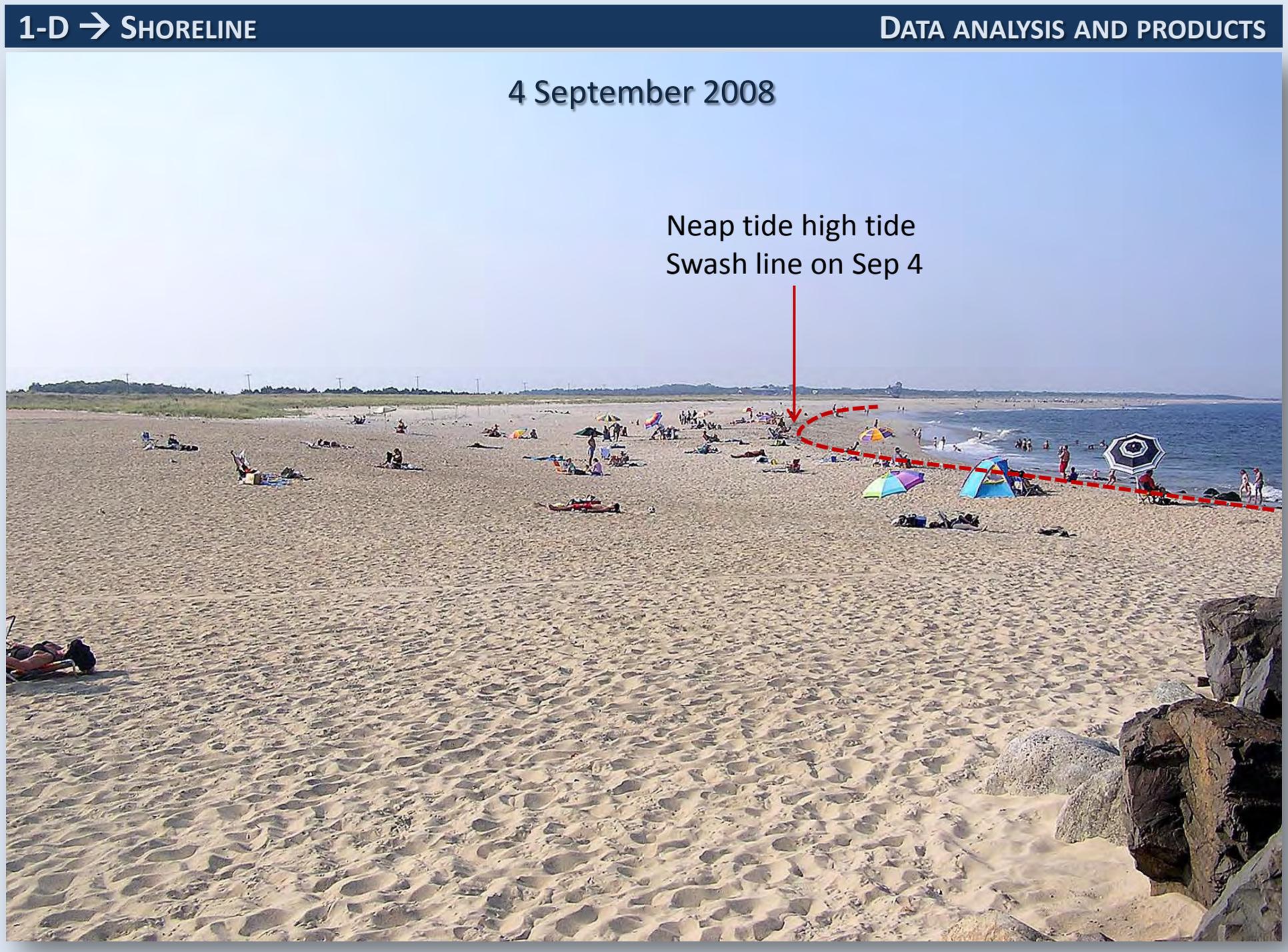






4 September 2008

Neap tide high tide
Swash line on Sep 4



29 September 2008

Neap tide high tide
Swash line on Sep 29



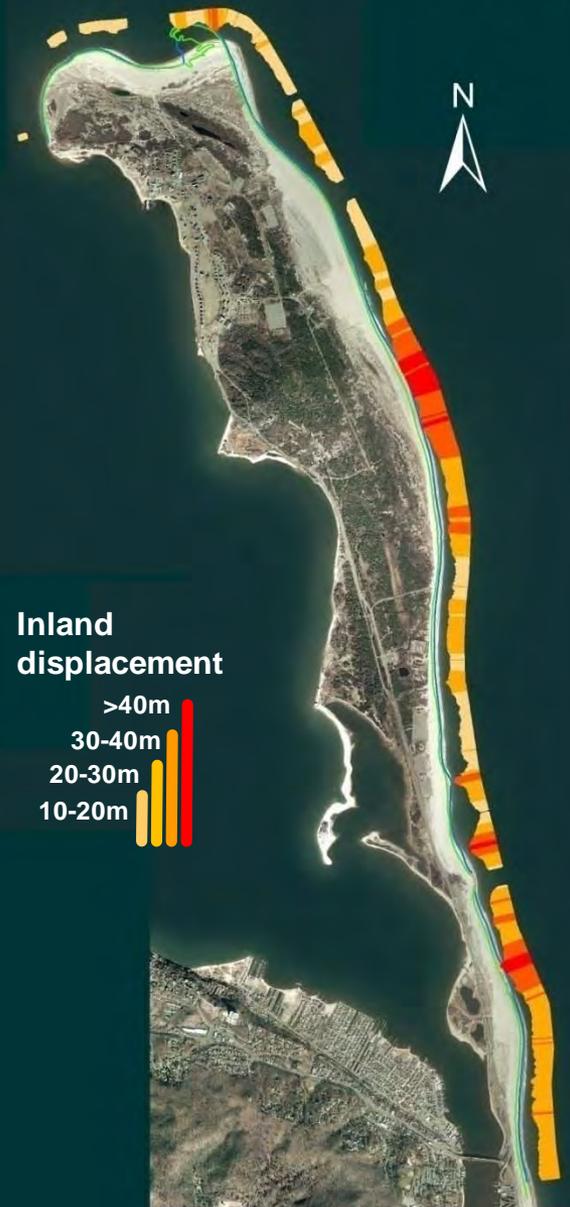
— Post-storm (29 Sep 08)
— Pre-storm (4 Sep 08)

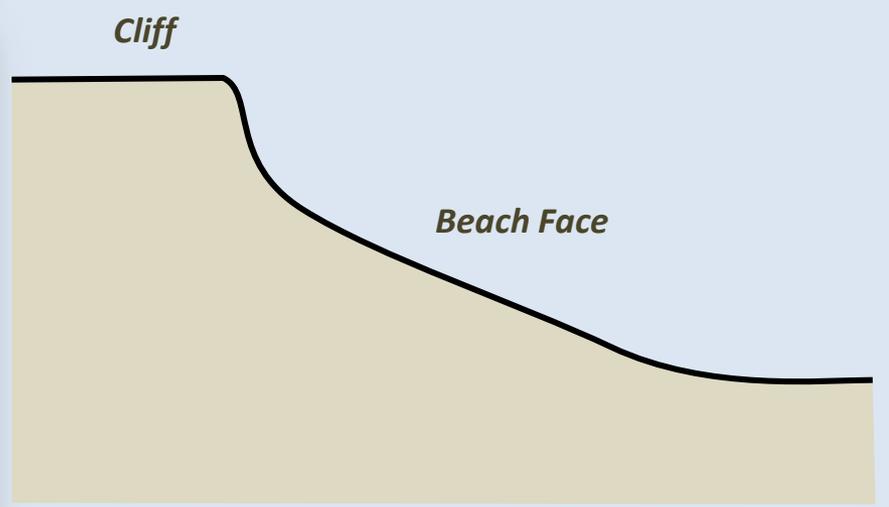
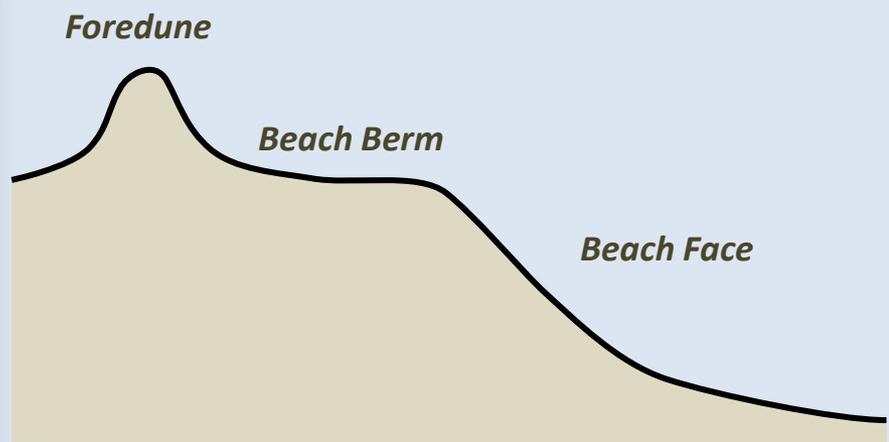


— Post-storm (29 Sep 08)
— Pre-storm (4 Sep 08)



— Post-storm (29 Sep 08)
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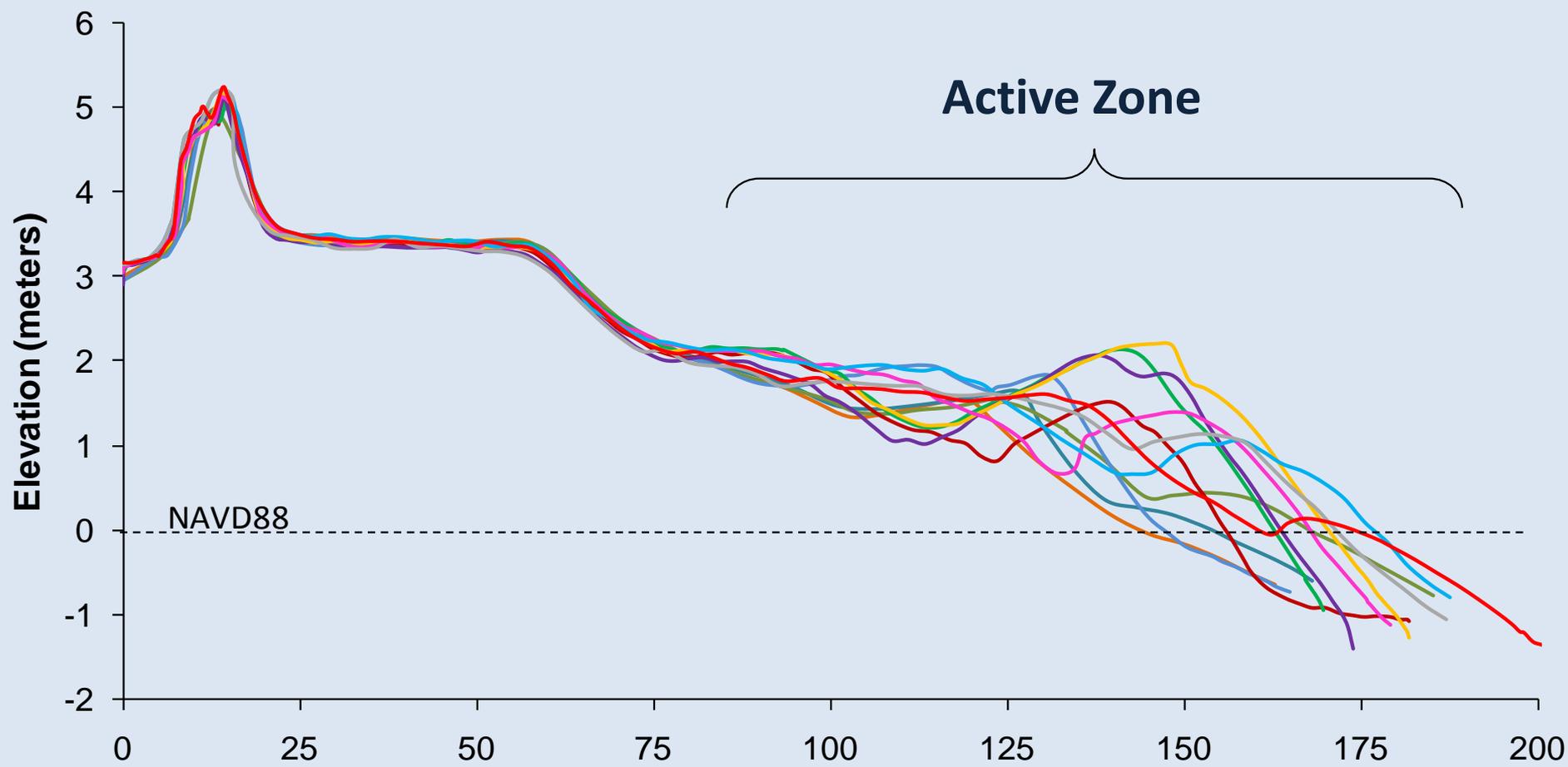


Benchmarks



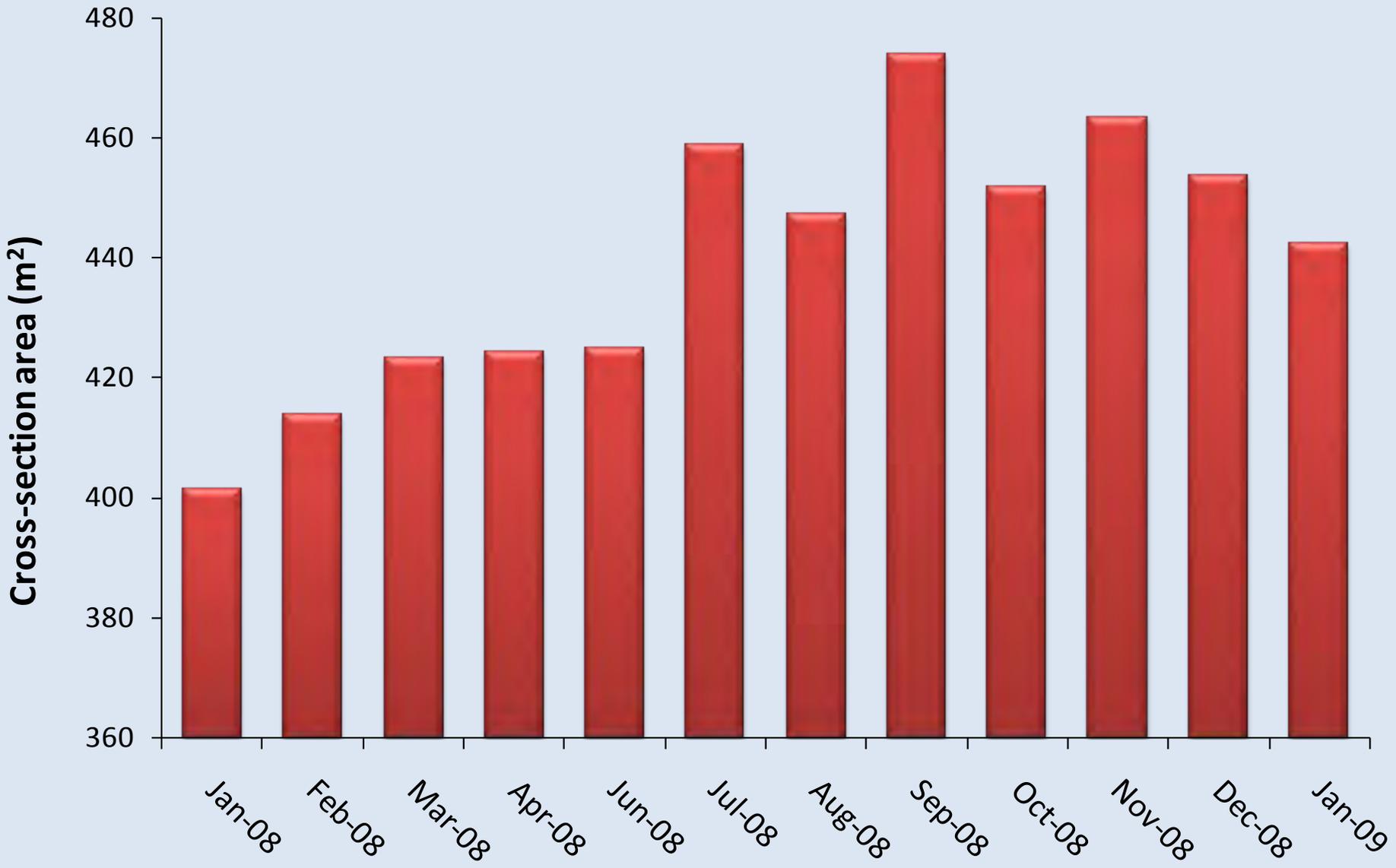
RTK GPS System



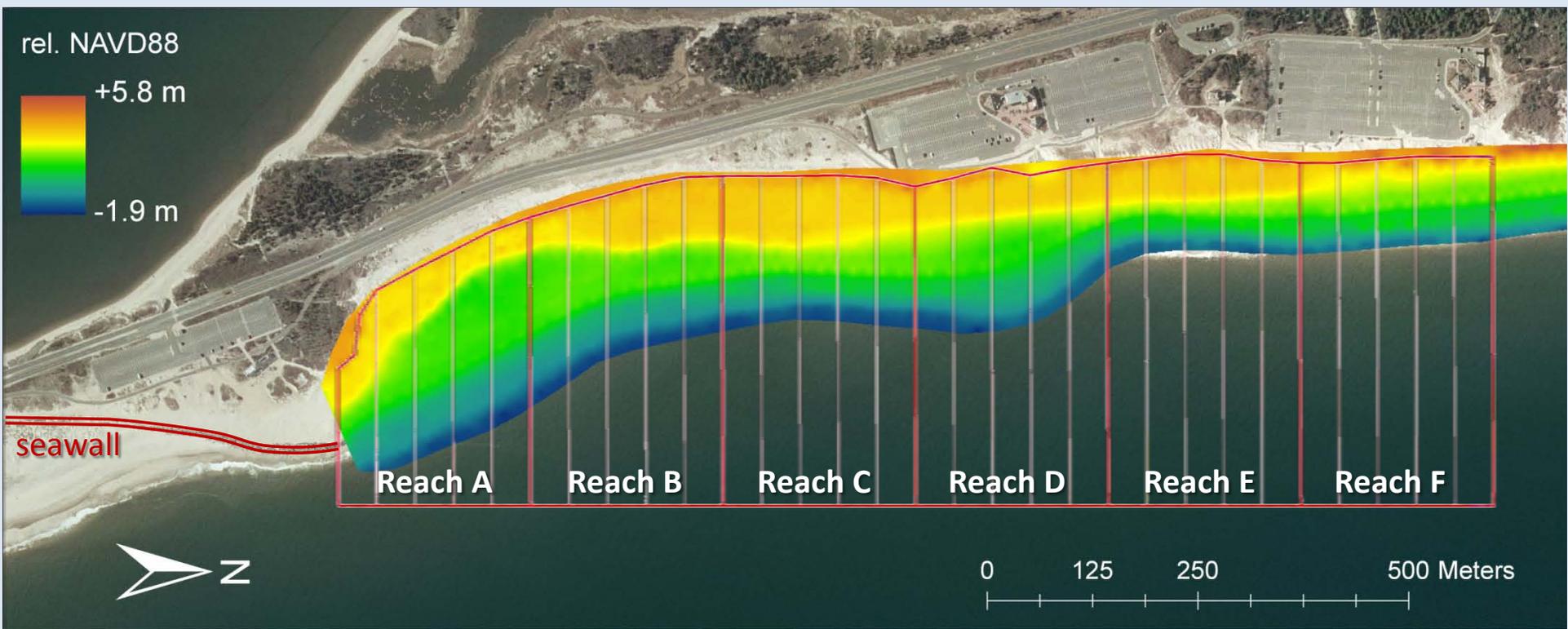


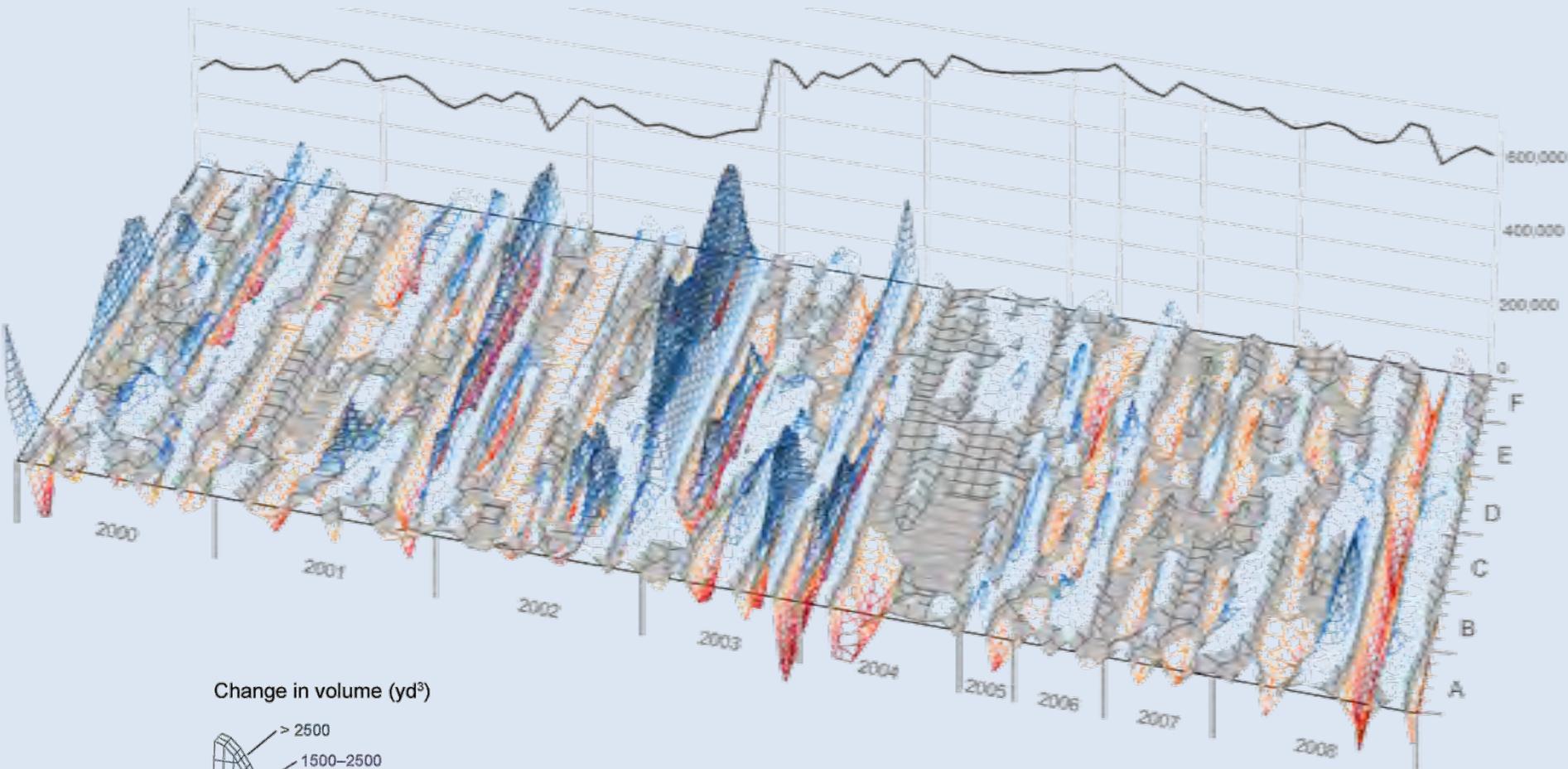
Distance from Benchmark (meters)

- Jan-08
- Feb-08
- Mar-08
- Apr-08
- Jun-08
- Jul-08
- Aug-08
- Sep-08
- Oct-08
- Nov-08
- Dec-08
- Jan-09

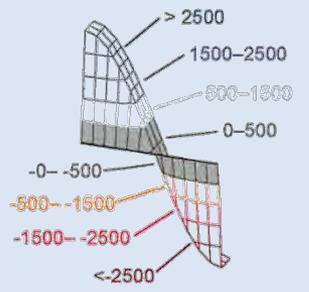






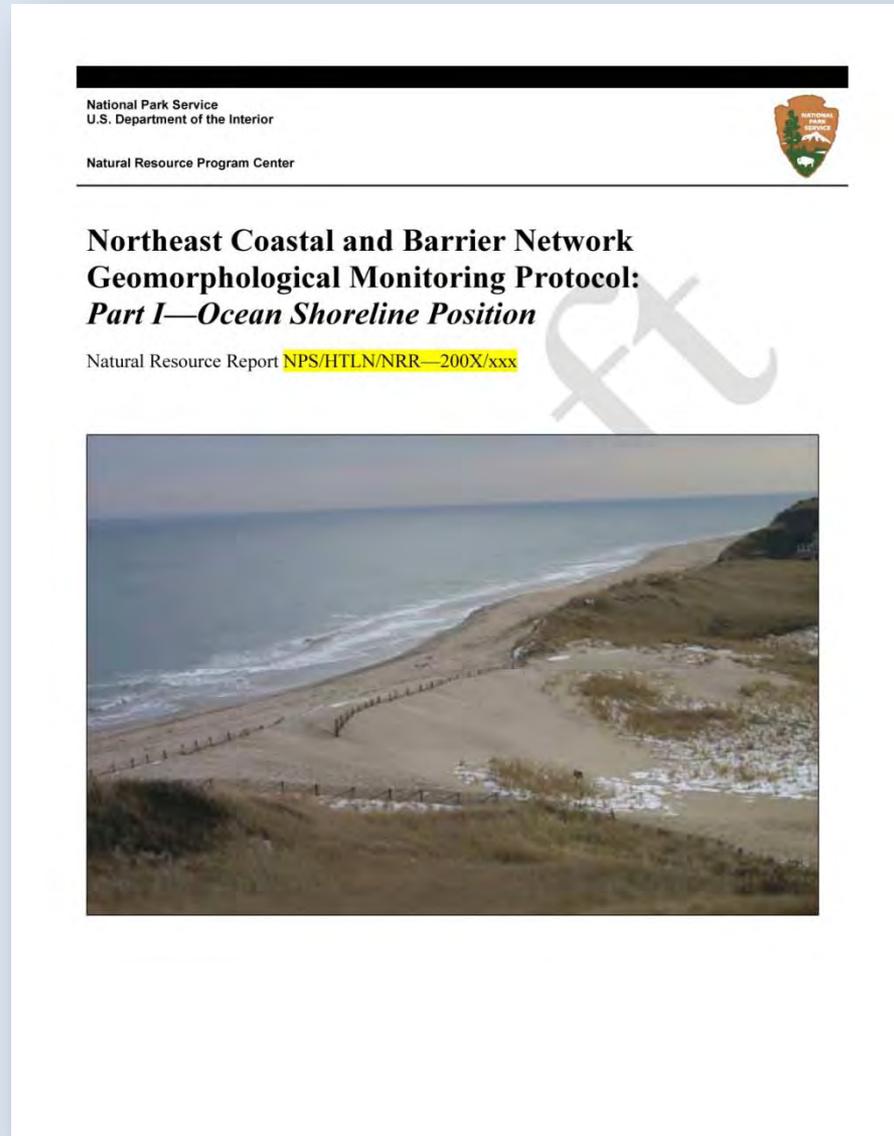


Change in volume (yd³)



<http://science.nature.nps.gov/im/units/ncbn/vs/shoreline.aspx>

1-D



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National Park Service

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reporting from many people

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