

Nature-Based Features for Coastal Resilience: Quantifying Wave Dissipation

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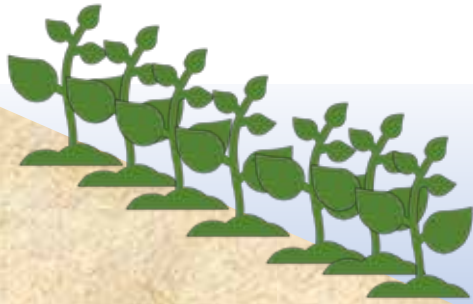
Background

- Living shorelines are the preferred method
- Minimal post-construction study
- Engineering design guidance is lacking
- Cross-disciplinary success



How do living shorelines work?

Marsh Sill



Mean High Water 

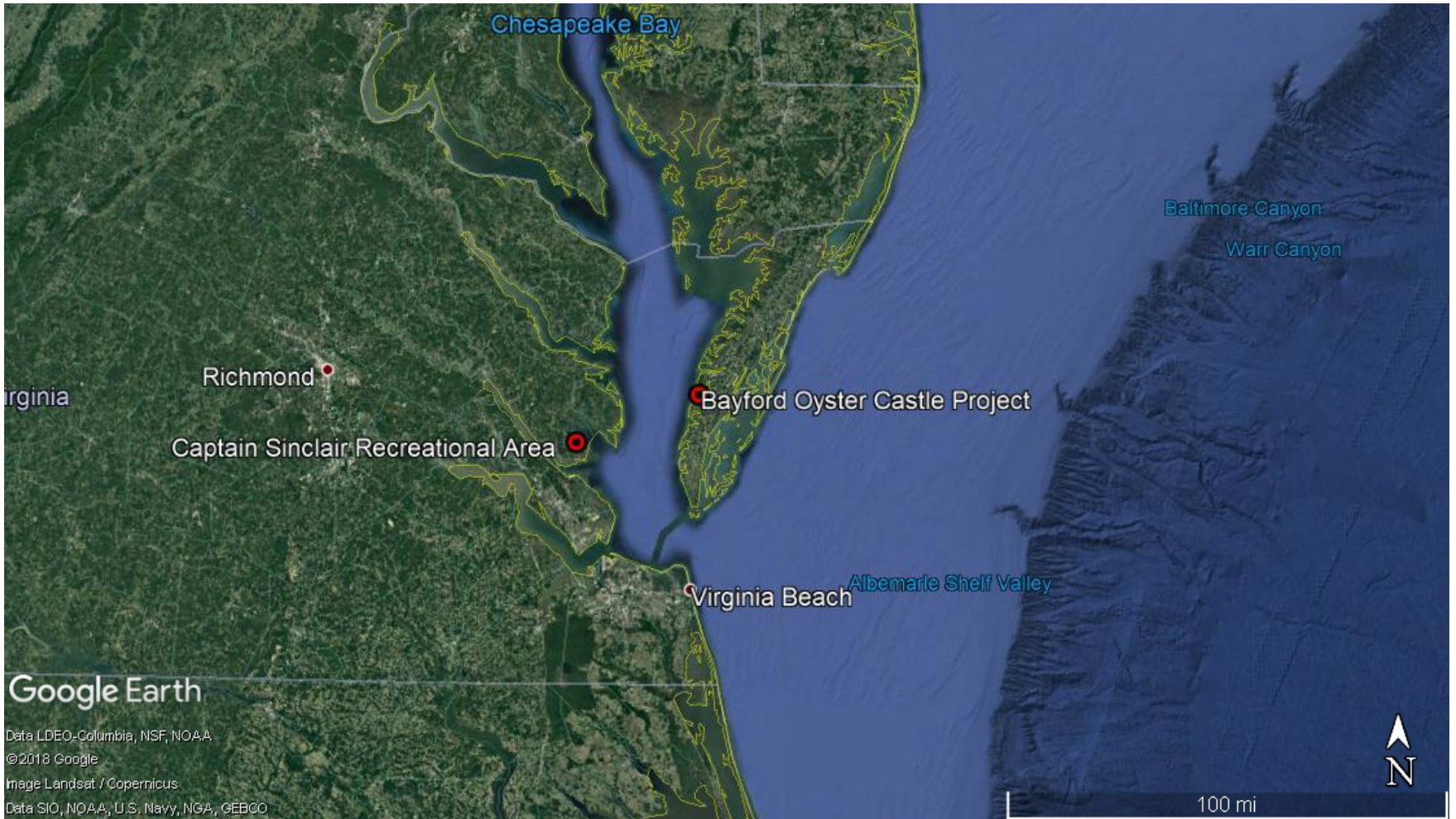


How do living shorelines work?

Oyster Castle



Locations



Captain Sinclair Marsh Sill

- Eroding marsh
- Constructed in 2016
- 4 rock sills, sand fill, vegetation



Captain Sinclair Marsh Sill



Low Tide



High Tide

Bayford Oyster Castle Project

- Eroding marsh
- Constructed in 2014
- 756 feet of oyster castle array



Bayford Oyster Castle Project

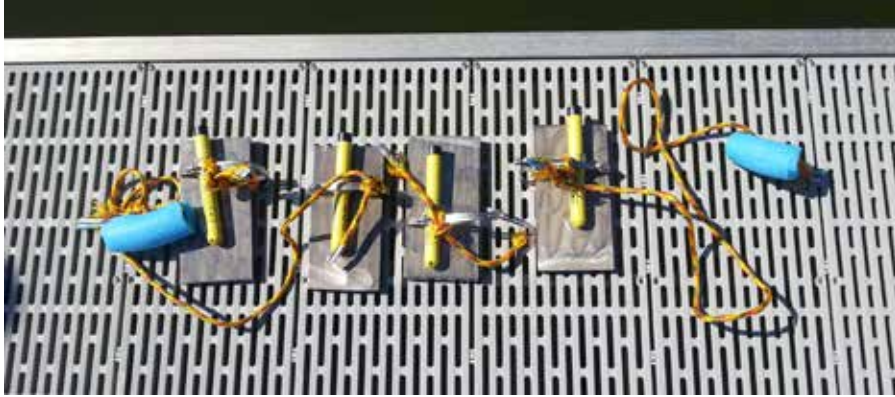


Low Tide



High Tide

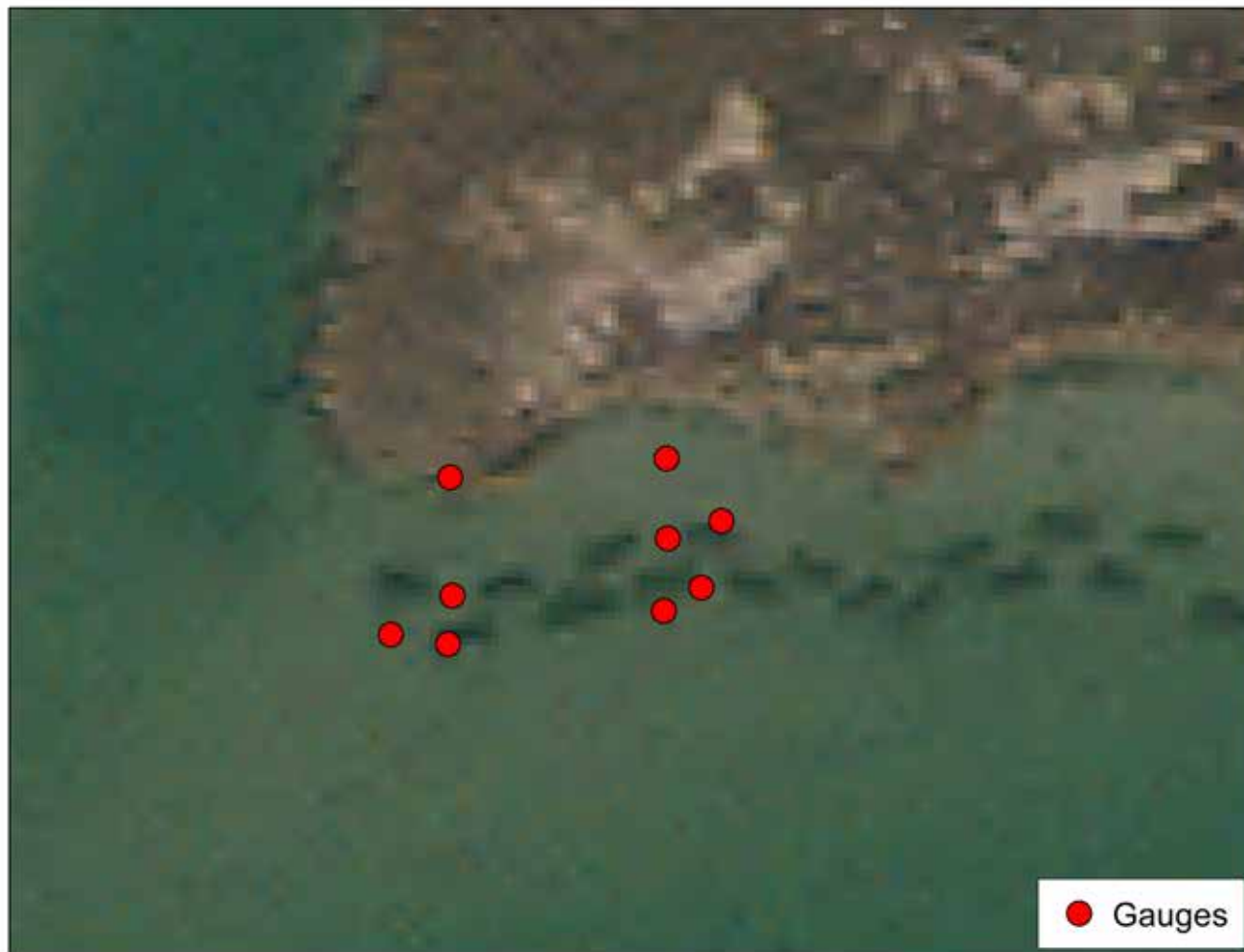
Data Collection



Captain Sinclair



Bayford



Next Steps

- Finish data post-processing
- Quantify wave dissipation
- Numerical modeling for optimization



Acknowledgments

- Virginia Sea Grant
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 - Center for Coastal Resources Management
 - Shoreline Studies Program

