

Supporting Information. Morris, R.L., M.K. La Peyre, B.M. Webb, D.A. Marshall, D.M. Bilkovic, J. Cebrian, G. McClenachan, K.M. Kibler, L.J. Walters, D. Bushek, E.L. Sparks, N.A. Temple, J. Moody, K. Angstadt, J. Goff, M. Boswell, P. Sacks, and S.E. Swearer. 2021. Large-scale variation in wave attenuation of oyster reef living shorelines and the influence of inundation duration. *Ecological Applications*.

Appendix S1

Table S1. Characteristics of oyster reef living shorelines. Photos of AL1 © Dottie Byron, DISL; AL2 Jeff DeQuattro © TNC; AL3 Beth Maynor Finch © TNC; all others © Rebecca Morris.







Site	Image	Details	
NJ1		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	39.28 75.24 2016 Oyster castle® 3.8 -0.75 0.18, 0.07, 0.00, 4.44
NJ2		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	39.28 75.24 2016 Bagged shell 40 -1.03 1.86, 0.00, 30.82, 18.06
NJ3		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	38.95 75.31 2014 Oyster castle® 18 -0.83 15.16, 0.12, 0.48, 0.00
VA1		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	36.90 76.27 2016 Oyster castle® 2 -0.42 0.24, 0.23, 0.34, 0.16
VA2		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	37.32 76.43 2017 Bagged shell 0 -0.66 0.00, 0.46, 2.61, 0.14
VA3		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	37.45 76.26 2017 Ready reef 0.8 -0.35 19.42, 14.89, 4.97, 0.00

Table S1 continued.










FL1		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	28.97 80.87 2010 Oyster mats 38 0.04 0.61, 0.40, 0.18, 0.00
FL2		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	28.97 80.88 2017 Oyster mats 25 -0.26 0.42, 0.60, 0.00, 0.22
FL3		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	28.97 80.88 2016 Oyster mats 12 -0.15 0.35, 0.61, 0.00, 0.30
AL1		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	30.39 88.29 2009 Loose shell 110 -0.38 0.17, 2.51, 66.33, 0.27
AL2		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	30.34 88.26 2010 Reefball™ 30 -0.45 2.86, 6.24, 4.76, 0.00
AL3		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	30.34 88.26 2010 ReefBLK SM 30 -0.12 2.82, 6.26, 4.75, 0.00

Table S1 continued.

LA1		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	29.78 89.41 2016 ShoreJAX™ 15 0.53 0.10, 68.07, 49.88, 0.13
LA2		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	29.78 89.41 2016 WAD® 15 0.53 0.12, 112.74, 16.57, 0.11
LA3		<i>Latitude (°N)</i> <i>Longitude (°W)</i> <i>Year constructed</i> <i>Type</i> <i>Distance from shore (m)</i> <i>Average freeboard (m)</i> <i>Fetch (km; N, E, S, W)</i>	29.75 88.47 2011 OysterBreak™ 5 0.12 0.18, 3.26, 2.40, 0.00

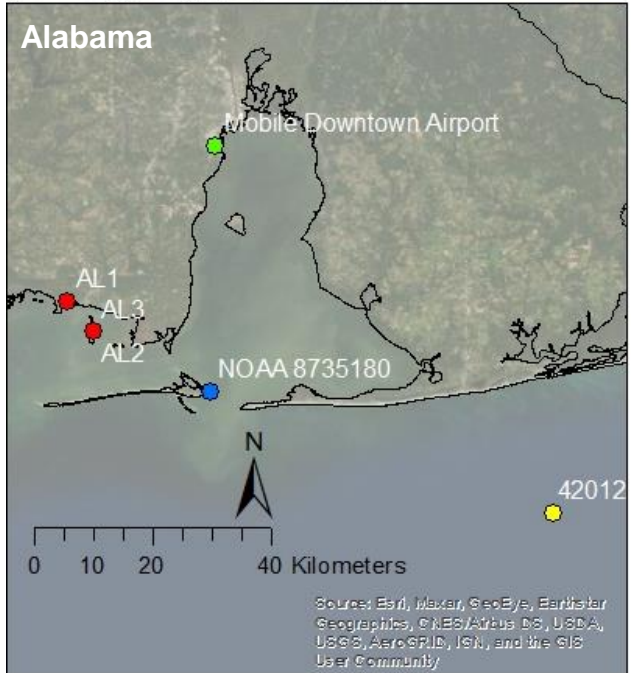
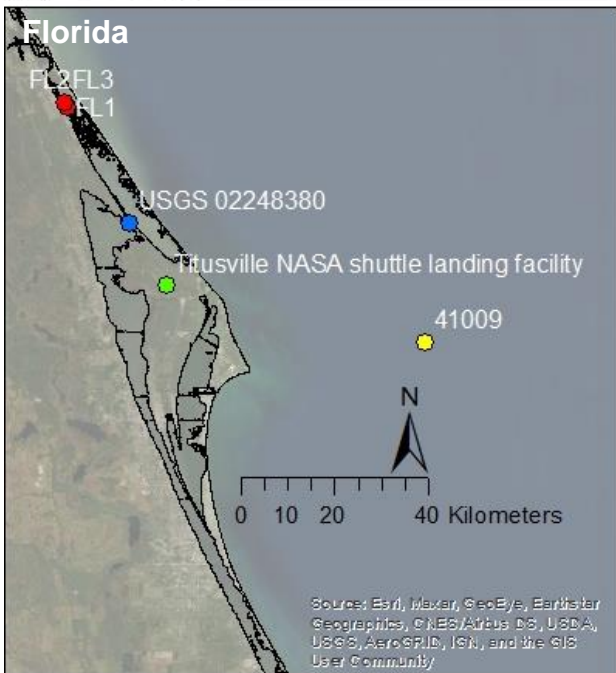
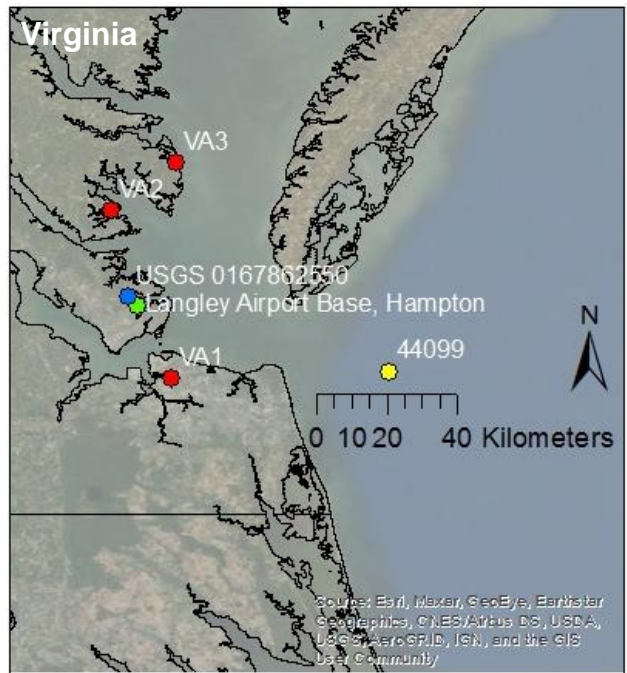
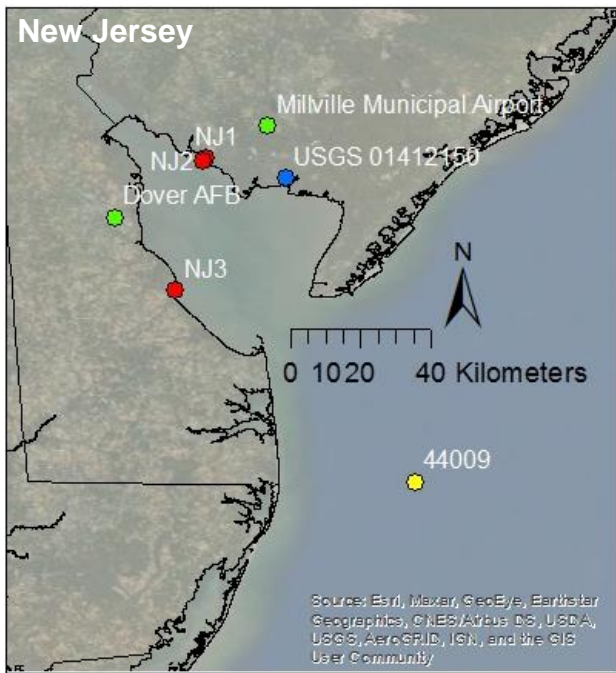


Figure S1. Locations of sites (red) and gauges used for waves (yellow), wind (green) and water levels (blue).

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Period 2017 - 2018

During study period

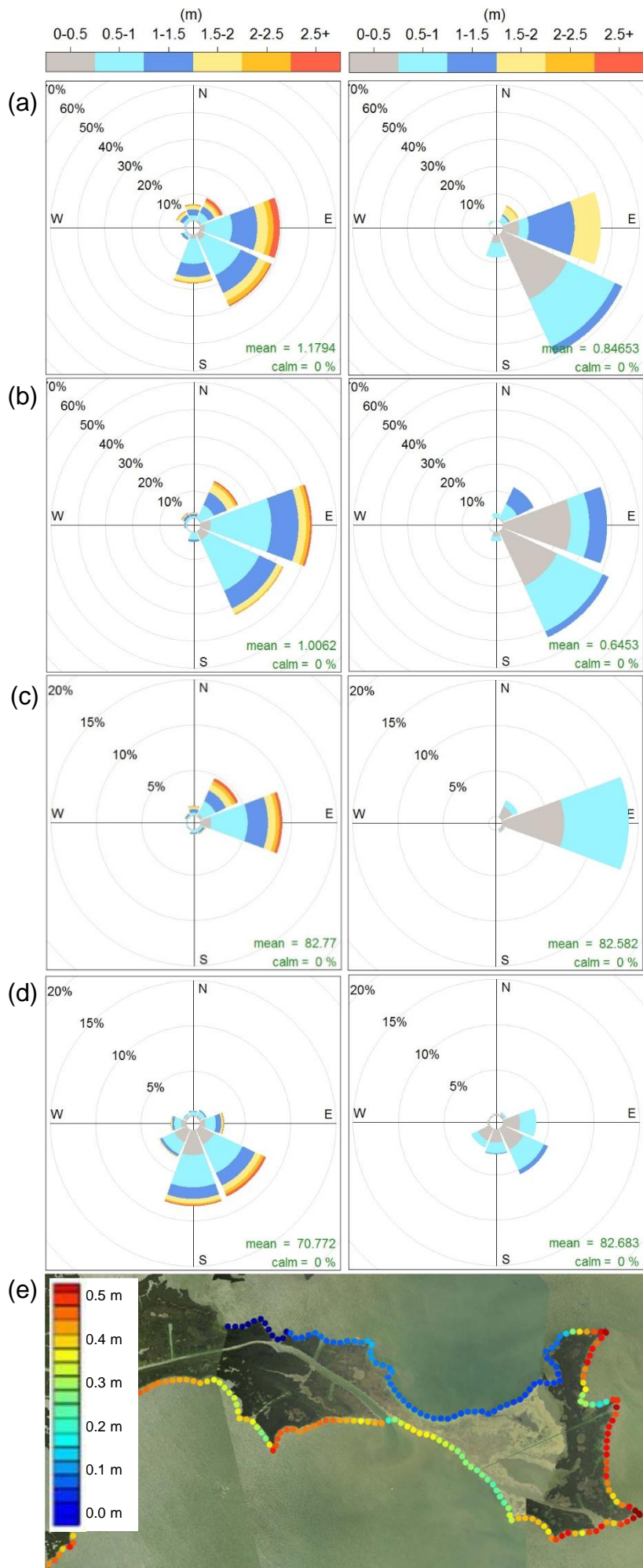


Figure S2. Distribution of significant wave height (m) and direction for the period of 2017-2018 (left column) and RBR deployments (right column) for (a) New Jersey; (b) Virginia; (c) Florida; and (d) Alabama., (e) modelled average wave heights at the Louisiana sites from 1980-2012 (adapted from CHE, 2014).

Period 2017 - 2018

During study period

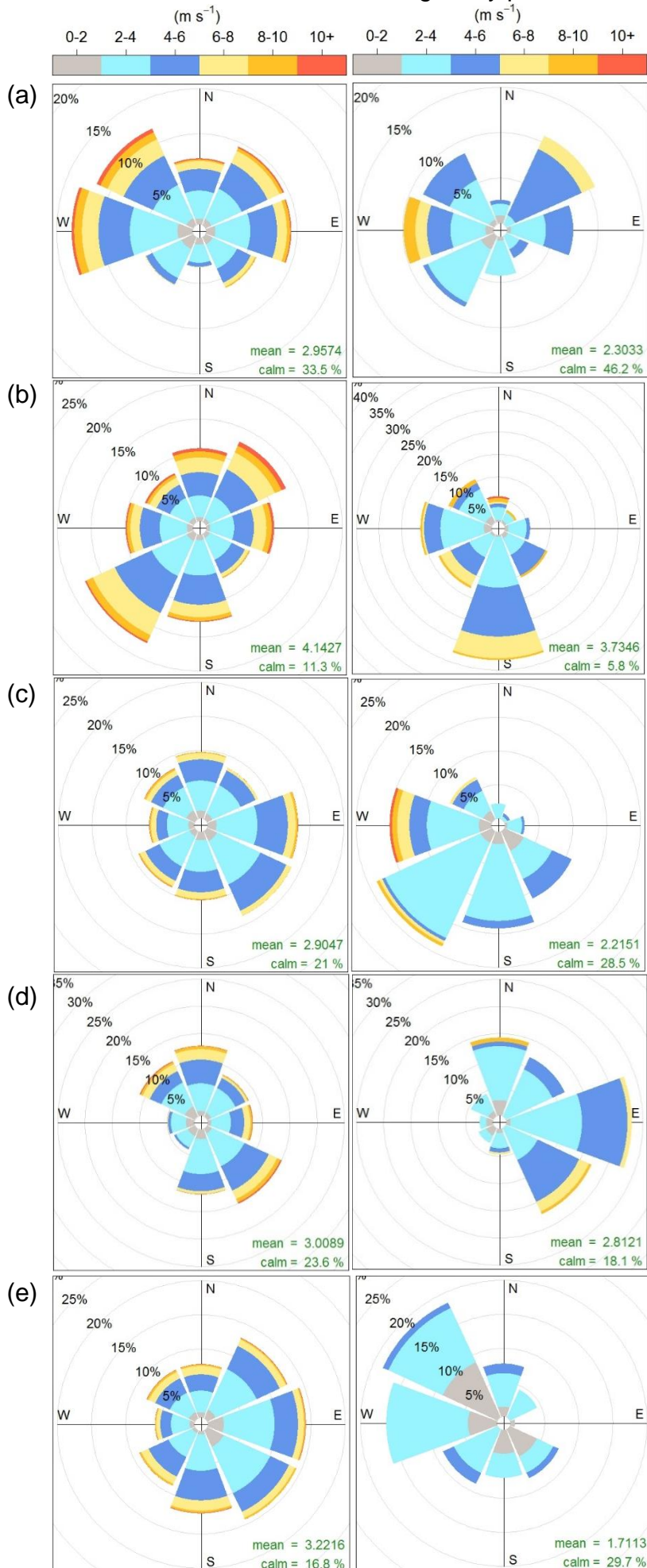


Figure S3. Distribution of wind speed (m s⁻¹) and direction for the period of 2017-2018 (left column) and RBR deployments (right column) for (a) New Jersey; (b) Virginia; (c) Florida; (d) Alabama; and (e) Louisiana.

Supplementary References

Coast and Harbor Engineering, CHE. 2014. Living Shoreline Demonstration Project, Coastal Engineering and Alternatives Analysis. Baton Rouge, LA. October 9, 2014.