

New guidance products of the Nearshore Wave Prediction System v1.3

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This talk presents innovative new coastal guidance products that have become available with the Nearshore Wave Prediction System v1.3, which was implemented in February 2021. The first is probabilistic rip current guidance, computed using statistical modeling, developed in collaboration with NOS and NWS/MDL. This hourly guidance provides the probability of the occurrence of hazardous rip currents out to 6 days, with continuous spatial coverage along the US East Coast and eastern Gulf Coast. The second new product is hourly erosion and overwash probability out to 6 days, developed by the US Geological Survey based on statistical modeling. The final innovation is a new machine learning approach for decomposing the complex wave field into distinct wave system guidance (wind sea and swells) that are coherent in space and time. This talk will discuss the underlying theory of these products, as well as their validation.