



## LONG-TERM WAVE AND CURRENT MONITORING, CHESAPEAKE BAY, VA

As part of an extensive shoreline restoration project along the Chesapeake Bay, a client requires long-term wave and current measurements for developing an accurate shoreline change model. Evans-Hamilton, Inc. (EHI) was contracted to install and maintain a system capable of providing current profiles and directional wave data over a one-year period.

### SCOPE AND APPROACH

EHI installed a Nortek wave gage/current meter in a trawler resistant mount in approximately 25 feet of water. The mounts were deployed with EHI's time-tested diverless recovery system consisting of a buoy held in place inside the mount by an acoustic release. To recover the mount, the release is activated via an acoustic signal and the buoy floats to the surface bringing the recovery line with it. This system has been very successful and avoids the expense and liability of using divers.

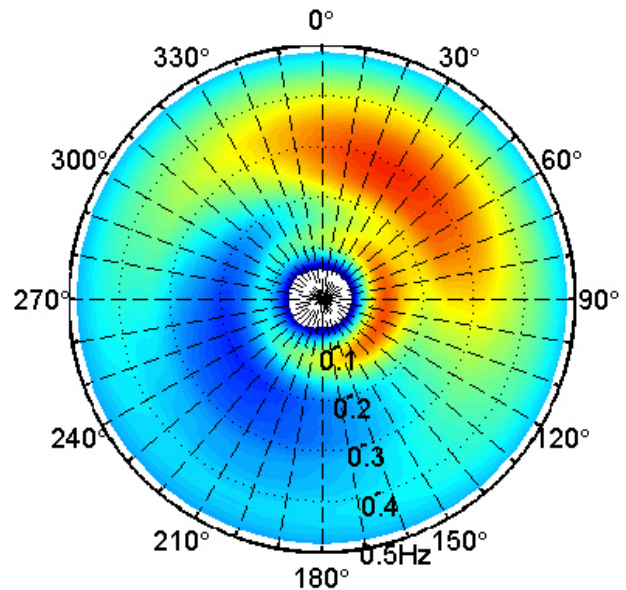
To date, the system has performed well with 100% data recovery even during several large storms, including one tropical system.



*Instrument and Diverless Recovery System in Mount Prior to Deployment*

### RESULTS

Data from instrument have been reviewed for quality and processed using custom software developed by EHI. The data have proven useful in assessing observed shoreline changes relative to nearshore wave conditions. Based on the results from the first year of data collection, the client has requested that the data collection period be extended.



*Directional Wave Energy Spectrum Averaged Over a One-Month Period. Note that the Peak Direction for the Low and High Frequencies is Different*

