



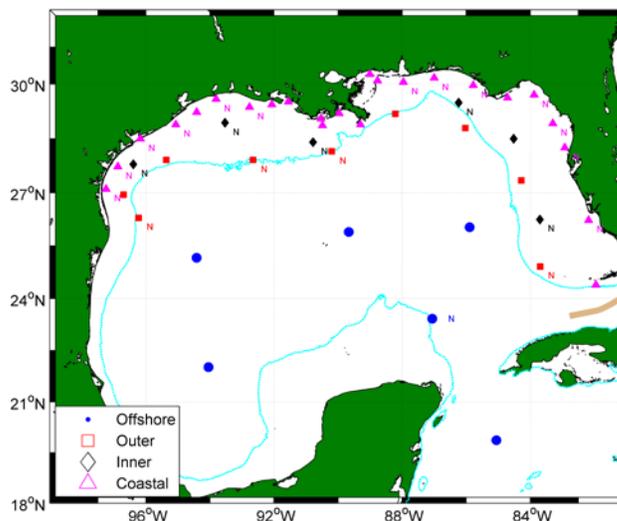
US Army Corps
of Engineers®

Coastal Data Field Collection Program

Field Wave Gauging (FWG)

Issue The Corps' coastal projects require accurate and long-term wave observations for the generation of extremes required in design. Since projects are short-term (1-5 years) they are unable to support an adequate measurement program (>20 yrs). Operation and Maintenance (O&M) activities also require knowledge of existing wave conditions, but in near real-time for guidance on safety and contract monitoring. Directional wave measurements are critical to the verification of existing wave modeling technologies and to identify model deficiencies. Wave measurements are also required to provide boundary condition input to nearshore near-real-time hindcast/nowcast modeling efforts.

Research Approach The Field Wave Gauging (FWG) program has, since 1983, collected wave data along the Nation's coastline, currently 41 sites through the Coastal Data Information Program (CDIP) and 14 directional wave sensors in the National Oceanic and Atmospheric Administration's (NOAA's) National Data Buoy Center's (NDBC) buoys. The objective is to provide directional wave measurements along all U.S. coastal waters with sufficient spatial and temporal coverage to establish wave climatology. This requires the implementation of standards for acquisition, analysis, QA/QC; and automated access to wave records and data products. FWG is working closely with NOAA and the Integrated Ocean Observing System (IOOS) to develop and implement a national wave measurement program to better serve the needs of the Corps and the Nation (Gulf of Mexico shown). Internationally, FWG is collaborating with the Joint Technical Commission for Ocean and Marine Meteorology (JCOMM) on wave observations.



Partners NOAA's NDBC (<http://www.ndbc.noaa.gov>); CDIP, in partnership with California Department of Boating and Waterways & the Scripps Institution of Oceanography (<http://cdip.ucsd.edu>).

Products The National Operational Wave Observation Plan is available here: <http://ioos.gov/program/wavesplan.html>.

Point of Contact Robert E. Jensen, Ph.D., Coastal and Hydraulics Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS, 601-634-2101, Email: Robert.E.Jensen@uasce.army.mil