



US Army Corps  
of Engineers®  
Engineer Research and  
Development Center

# Coastal Inlets Research Program

## Coastal Modeling System:



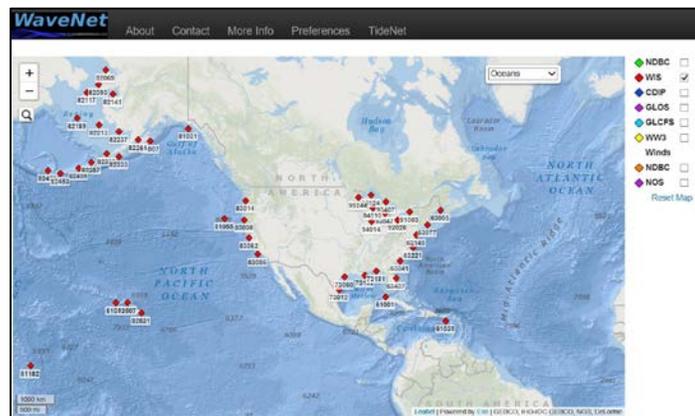
### *WaveNet and TideNet Tools for Coastal and Oceanic MetOcean Data*

**Need** USACE District projects and research studies for navigation and flooding missions require a variety of metocean data (water levels, winds, waves, tides, currents, river discharges). Users need a web-based, Graphical-User-Interface (GUI) data management tool for easy, fast access and analysis of these data to conduct coastal engineering, planning, design, and operation projects.

**Approach** WaveNet/TideNet provides the metocean data from different sources (NDBC, WIS, CDIP, GLOS, GLCFS, WW3, NOS, ADCIRC, Le Provost, NWS, TPXO) and facilitates conversion of data for input files to numerical wave models developed by the Corps of Engineers, and generates tabular and graphical information for project planning, design, and reports. A users' Guide will be provided and webinars will be conducted to demonstrate functionality to highlight these tools.

**Technical Advancements** The tools provide a combination of analysis and graphical capabilities to minimize the complexity and uncertainty of data processing in USACE project applications. Users can extract, download, analyze, and prepare input files for numerical wave models and tabular and graphical information for project planning and reporting for further

analysis. It is a GIS mapping tool to query and select metocean data sources according to the desired geographic region. It uses the ESRI Map interface to display data from different sources, and employs a combination of Fortran, Python and Matlab codes to process and analyze data for USACE applications.



**Leveraging Opportunities** USACE Districts, State agencies and universities collect metocean field data for their specific needs. These sources can be added to WaveNet/TideNet in future.

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