



Caribbean Integrated Coastal Ocean Observing System

CarICOOS - Development Plan

2nd Steering Committee Meeting
San Juan, PR 27 April 2007

CaRICOOS

CarICOOS Development Plan: Criteria

- The plan is responsive to expressed stakeholder needs
- Observational and data management infrastructure components will use proven technology developed by qualified partners and DMAC compliant

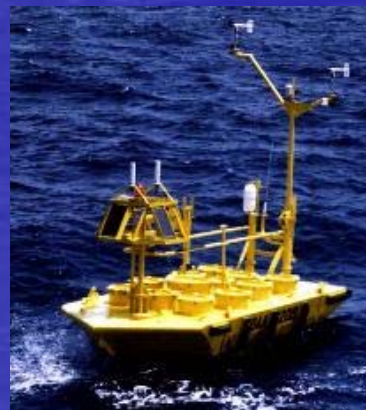
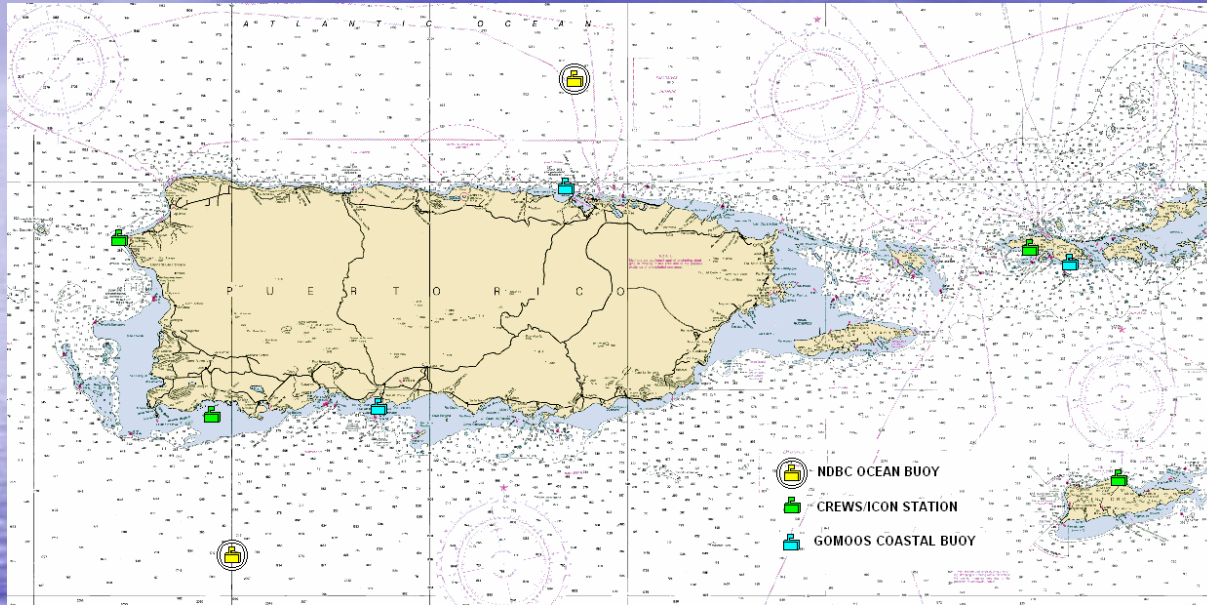
CarICOOS Development Plan: Expressed user needs

- Emergency managers – Tsunamis and hurricanes; coastal inundation, ocean and coastal waves & winds, wave setup, coastal bathymetry
- Environmental & infrastructure managers – coral bleaching (sea state, solar irradiance, SST, SSS), beach closures (fecal contamination, possibly HAB's, coastal currents, ocean color), coastal erosion (sea level rise, sea state, wave setup), eutrophication (nutrients, currents, organic load)
- Maritime transportation – sea state (wind & waves), currents, maritime hazards
- Tourists/Marine operators – weather (especially hurricanes!), sea state for recreational navigation, underwater visibility, surfing waves, ocean color

CarICOOS Development Plan: Proposed In Situ Assets

- a) two NOAA-NDBC offshore 3m discus buoys
- b) GOMOOS-type coastal moored buoy arrays at approaches to the three major regional ports
- c) ICON stations enhanced with remotely monitoring acoustic platforms; and,
- d) three new ICON stations at priority sites.

CarICOOS Development Plan: Proposed In Situ Assets



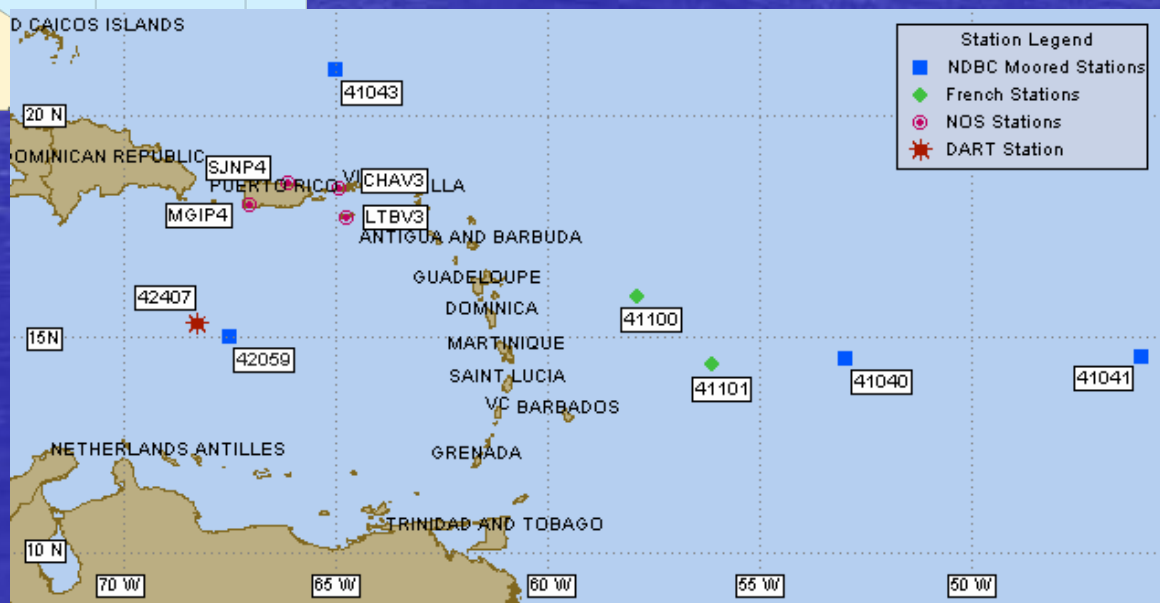
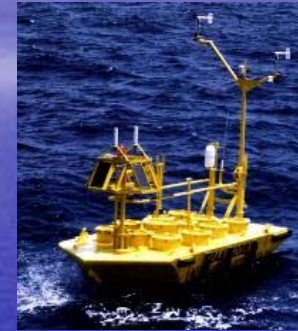
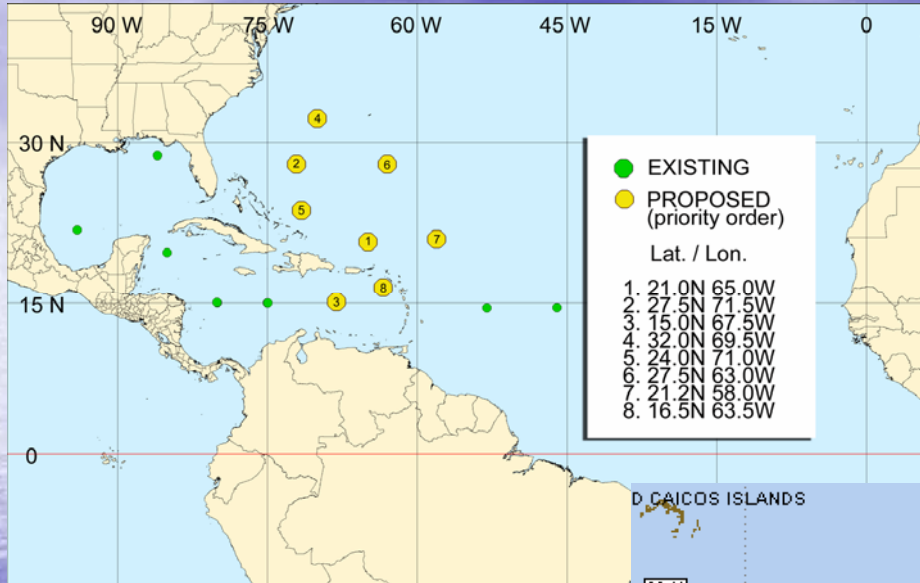
CarICOOS Development Plan: Modeling Circulation

- High resolution ocean circulation model systems (UPRM, UVI and UM-RSMAS)
- Proposed operational assets will serve for further development and validation of the RSMAS high resolution ($1/25^\circ$) IAS-HYCOM model that covers the GCOOS and CarICOOS regions and will provide boundary conditions for targeted coastal applications of the ROMS model around the VI and PR at very fine resolution (500 m)

CarICOOS Development Plan: Modeling wave transformation

- At ICON sites, shallow water wave measurements will be assimilated into existing wave models to describe wave transformations as they propagate towards shore in the complex coral reef environment. Such models will serve to refine regional coastal inundation maps with a view to eventual incorporation into the SCOOP super-regional inundation initiative.

In Situ Assets: Newly emplaced assets: NDBC Buoys & DART Stations



Proposed HF Radar Systems

