CaRA – CaRICOOS
Regional Status Report

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http://cara-uprm.edu  http://www.caricoos.org
CaRA’s communities

- Commonwealth of Puerto Rico
  - Area: 9,104 sq km, including Vieques, Culebra, Mona Is, Isla Magueyes, and numerous islets and cays
  - Population: 3.9 million
  - Gross Domestic Product: ~$72.4 billion
  - Marine-dependent Industries: shipping, tourism, cruise ships, ferries, marine recreation including fishing and scuba

- United States Virgin Islands
  - Area: 349 sq km, 4 main islands and numerous islets and cays
  - Population: 112 thousand
  - Gross Domestic Product: ~$2.4 billion
  - Marine-dependent Industries: shipping, tourism, cruise ships, ferries, marine recreation including fishing and scuba

- Navassa
  - Area: 5.4 sq km
  - Unpopulated
  - Managed by US Fish & Wildlife Service
Regional Characteristics and User Needs

- **Environment:**
  - ARCHIPELAGO - Extensive heavily populated coastlines
  - Tropical Islands – Mangroves, Coral Reefs, Seagrasses
  - Strong social dependence on maritime activities
Regional Characteristics and User Needs

- Users and needs (data & forecasts):
  - 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), eutrophication (nutrients, currents, organic load)
    - beach closures (fecal contamination, possibly HAB’s, coastal currents, ocean color), coastal erosion (sea level rise, sea state, wave setup)
  - 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
Meeting Objectives

- Update for Steering Committee and stakeholders on advances towards proposed goals:
  - identification of stakeholder needs
    - Ernesto Diaz, DRNA Administrator
    - Ruperto Chaparro, UPR Sea Grant
  - making existing data streams available
    - CaRA & CARICOOS web pages
    - Presentation of CARICOOS assets development plan and outlook
- Solicit input from SC & key stakeholders for governance and business plans
- Revise proposed CaRA activities and goals for the third project year
Progress Towards Certification - DMAC

- Dr. Jorge Capella retained as DMAC coordinator

- Prime criterion for selection of observing assets (and provider/partners) for CaRA’s Asset Development Plan is **proven success in complying with operational requisites including data management**
Regional Successes

- NOAA/AOML Integrated Coral Observing Network
- PRSN/NOAA sixteen
  - Tsunami Ready Sea Level Stations
- UPRM/NOAA Coastal Hazards Center
  - Inundation maps
- DNRE/NOAA – JOBANERR
  - CaRA collaboration for climatology development
- CaTS – Caribbean Time Series
Regional Challenges

- The CaRICOOS system has few operational real-time ocean observing platforms.
- Financing, emplacing, operating and maintaining real-time observing assets is the greatest single challenge to CaRA and its partners.
- To this end, CaRA is constructing a regional Assets Development Plan based on expressed user needs.
Unmet regional needs for data and observations

- SST & hydrographic data
- Bathymetry
- Regional and coastal currents
- Coastal sea state - wave heights
- Satellite and *in situ* monitoring of African dust, volcanic ash
Assets Development Plan
HF Radar System
Steps ahead

• Continue building stakeholders - identify and engage data users and data providers and identify their needs

• Continued development of CaRA’s formal structure in the USVI

• Identify needed observations, including satellite assets, and data gaps and develop proposals to provide these

• Enhance data flow and communication between users and providers; establish user-appropriate local accesses

• Secure local/regional funding in addition to federal funding to support the organization and some initiatives

• Gain awareness of USVI Congressional Representative

• Develop pilot projects to demonstrate usefulness and need for new CarICOOS observing systems