



CARICOOS

CARIBBEAN COASTAL OCEAN OBSERVING SYSTEM

CARICOOS Regional Ocean Partnership - Data Sharing Initiative

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LONG-TERM GOALS

Enhance the capacity to share and integrate Federal and non-Federal source data to support Caribbean region coastal and ocean management priorities.

The ROP Data Sharing Initiative long-term goal strengthens and expands CARICOOS services in the Caribbean region while providing high priority data and products to coastal managers and stakeholders.

MILESTONES / OBJECTIVES

1. Review and document past Caribbean ROP activities (2013-2015)
2. Characterize existing regional data sharing capabilities and identify additional capacity needed in the region.
3. Host workshops with Puerto Rico and USVI stakeholders to identify and prioritize ocean data needs and challenges.
4. Organize and host meetings with CARICOOS board members and scientists, key coastal managers, regional and extra-regional experts to define feasible approaches to the acquisition of data required and the construction of pertinent data products.
5. Develop a road plan toward CROP goals to be followed in the US Caribbean region.

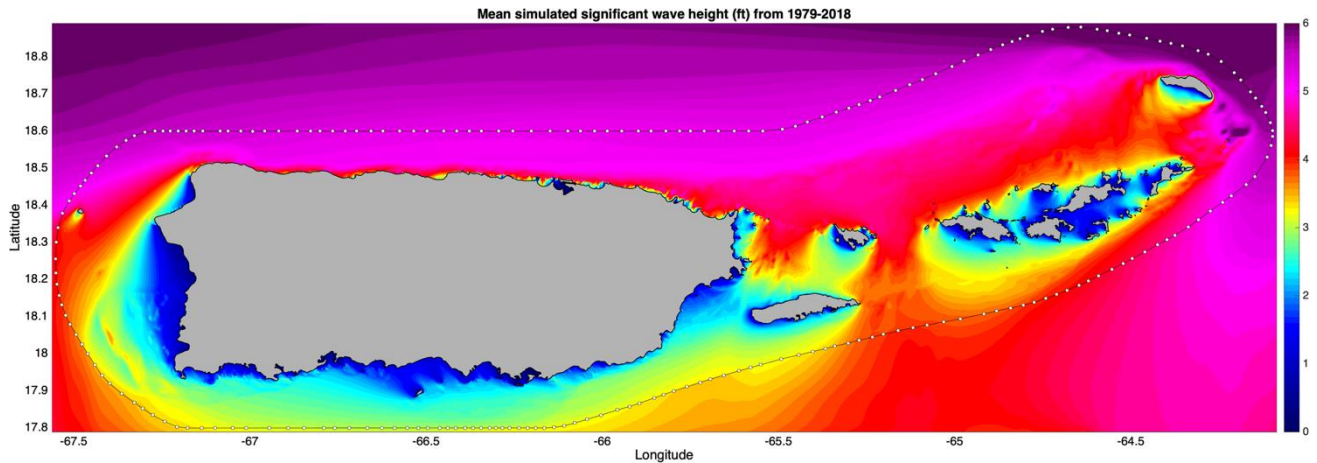
WORK COMPLETED

1. Continued on-going **ROP virtual needs assessment** with Caribbean region coastal managers and key stakeholder. This formal consultation allows identification and prioritization of data needs and challenges in the US Caribbean region.
2. The web interface for the climate atlas has been finalized and available at <http://www.canalsresearch.com/wave-climate-atlas>. Candela Creative Group was formally contracted in April 2021 to carry out the to its final URL (www.caricoos.org/waveatlas) as well the development of a wave climate calendar. While the bulk of the work has been completed, we expect that final migration will be finalized by August 2021. The figure below shows sample output from the atlas.



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3. Launched **CROP Data Portal**: New tool developed with Candela Creative Group to address priority management issues identified through formal consultations. This user-friendly dashboard provides easy access to Caribbean region products, information, and visualization tools in support of coastal planning and marine resources management. The portal includes over 60 products from different sources including Federal (i.e. NOAA, Marine Cadastre, FEMA, EPA) and State government, non-government organizations, and CARICOOS. Products are classified in various categories including Climate Change, Coastal Planning, Emergency Response, Marine Operations, Marine Recreation and Tourism, and Marine Resource Conservation and Management. The various social media platforms, the CARICOOS newsletter and email communications have been effective ways to promote the CROP Data Portal.



4. Finalized and published the **Ecosystem Restoration, Conservation and Monitoring Projects web map** (in-house tool). This interactive tool showcases current ecosystem restoration, conservation and monitoring projects going on in the US Caribbean. In addition to the individual project location, this tool integrates a project description, photos,



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videos, publications, funding sources and other details. It is aimed to facilitate communication between anyone interested and the organizations or offices responsible for a particular project, promote collaboration and active voluntary involvement, and serve as a basis for the allocation of CARICOOS observational and forecast resources.

5. **Finalized and published the *CROP Marine Spatial Planner web map*** (in-house tool) containing data layers identified during ROP 2012-2016 initiative (federal and non-federal data sources) to improve regional collaboration on ocean management and reduce user conflicts, improve cohesive regional planning, and support health communities and ecosystems. Sources of data include the Department of Natural and Environmental Resources (Puerto Rico), the Department of Planning and Natural Resources (US Virgin Islands), Marine Cadastre and The Nature Conservancy.
6. Initiated development of ***US Virgin Islands Coastal Landscape Transformation*** viewer to allow user's visualization of changes in coastal areas of USVI since the year 1965. The viewer will provide quick understanding of coastal land cover changes related to natural processes and anthropogenic activities.
7. Initiated construction of **Web-based Graphics Engine for Beach Water Quality Measurements** consisting of dynamic graphs, in vector format, to visualize sampling histories of individual sampling sites.

MAJOR OUTCOMES

- Advanced the CROP needs assessment and identification of data needs priorities with coastal managers and key stakeholders from various sectors.
- Advanced and published the PR USVI High-resolution wave atlas (migration to CARICOOS website ongoing)
- Launched of the CROP Data Portal (<http://crop.caricoos.org>) including over 60 data products and visualization tools to support Caribbean region coastal managers and users.
- Developed and published new in-house products and tools, with emphasis on spatial mapping / MSP tools.

RELATED PROJECTS

Development of the Puerto Rico Digital Ocean Energy Atlas: Unlocking Puerto Rico's Marine Renewable Energy Potential, \$150k, August 2019 - July 2022, Puerto Rico Science and Technology Research Trust



WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (June 1, 2021 – November 30, 2021)

- Continue needs assessment with US Caribbean coastal managers and key stakeholders to identify issues and data needs.
- Finalize migration of wave climate atlas to CARICOOS website in collaboration with Candela Creative Group
- Complete USVI component of wave atlas by producing map and point output for USVI and St. Croix
- Begin design and implementation of PR / USVI Marine Hydrodynamic Atlas
- Finalize construction and publish the USVI Coastal Landscape Transformation viewer
- Finalize construction and upload web-based Graphics Engine for Beach Water Quality Measurements.
- Resume data products workshops and training sessions with coastal managers in PR and USVI.
- Issue and follow up subaward agreement between UPRM and USF OOL for initiation of project *Establishing Satellites Based Virtual Buoys to Assess Water Quality in Coastal Puerto Rico and USVI*.

PUBLICATIONS & PRODUCTS

CROP Data Portal: <http://crop.caricoos.org>

High-resolution wave climate atlas, versions still in development:

- <http://www.canalsresearch.com/wave-climate-atlas>
- <https://staging.caricoos.org/waveclimateatlas>