

DMAC-Webpage Subsystem

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CONTEXT FOR THE REPORTING PERIOD

This reporting period has been characterized by the occurrence of major environmental events that have impeded our access to the workplace. From December to February (and still ongoing at lesser intensity) PR experienced a series of earthquake events that caused power outages, damage to structures and locked down our workplaces pending safety inspections. Furthermore, in response to the COVID-19 pandemic the government of PR established a residential lockdown and curfew on March 15. To this date the lockdown and curfew continue. We have all been working from home since the lockdowns started.

Given these hostile working conditions our modest goals for this reporting period basically sought to

- maintain continuity in the operational status of our webpage and of our data servers,
- to proceed with PRCRMP biological data processing,
- continue AWS Glacier archiving of modeling output
- and install an ERDDAP instance in the Cloud (at AWS).

LONG-TERM GOALS

CariCOOS DMAC long-term goals are aligned with the stated IOOS DMAC Mission: “To promote broad access to and use of ocean and coastal data for the benefit of stakeholders, NOAA, and other IOOC agencies” (IOOS DMAC Vision Document Draft as of March 3, 2016). Our regional mandate makes us the stewards of ocean observations in the US-Caribbean-EEZ while our unique geographical location allows us to look beyond the US-EEZ and seek the additional long-term mission/goal of providing a leadership DMAC role in the international Caribbean domain. Our new role in NOAA as the Caribbean Regional Information Coordination Entity, or RICE, formalizes our status among non-federal observing organizations who are recognized as meeting federal standards for data gathering and management.

MILESTONES / OBJECTIVES

The level of granularity of the **Status of Milestones** herein considered matches the CARICOOS 2019_2020_MILESTONES.pdf document.

As a behind the scenes technical group our objectives are to keep CARICOOS running as a full fledged member of the IOOS RA community and to discharge our DMAC responsibility towards the CARICOOS region to the best of our abilities.

WORK COMPLETED (Status of Milestones)

1. Add ROMS and FVCOM model output to CARICOOS ERDDAP as these models become operational
 - ROMS is still not operational. Development of an operational version is being performed by Dr. Juan Gonzalez. We have aggregated historical ROMS output from previous versions and this is currently being served in our ERDDAP exclusively for testing purposes. We are ready to proceed with new operational ROMS output as soon as it becomes available.
 - A near-operational version of FVCOM is currently executing in our local servers and model output is being displayed in our webpage (<https://www.caricoos.org/currents/forecast/FVCOM/PRVI/Currents>) We need to figure out how to serve unstructured operational model output in THREDDS and ERDDAP.
2. Attend IOOS DMAC meeting
 - Due to the pandemic the 2020 DMAC Meeting has been postponed to October 2020 and we will attend if the pandemic, earthquakes and hurricanes allow for a safe travel, and for safety at home.
3. Develop a data portal to provide real-time acidification data collected by La Parguera Map CO2 buoy and derived ecosystem metabolic rates
 - NO DEVELOPMENTS DURING CURRENT REPORTING PERIOD
 - A mockup data portal that mimics the CARICOOS coastal buoy portals was developed by the Candela Creative Group with technical assistance from Melissa Melendez, who is a doctoral candidate at UNH, and from the DMAC group.
 - We need to push the development of this product more effectively during the next semi-annual performance period.
4. Hosting of CARICOOS interns
 - Jose Santiago and Carlos Laboy become the two summer interns assigned to DMAC during the summer of 2019 (June-July). Upon completion of his summer internship Mr. Jose Santiago, and later Mr. Miguel Figuerola, were retained by CARICOOS under Work-Study status and assigned to the DMAC-Biological Data initiative (see item 5 on this list).
5. Review, process and enter regional biological dataset into OBIS/MBON. Supported when Supplemental Funding as it becomes available. May undergo a training phase for CARICOOS staff and possibly a contractor.
 - The huge Puerto Rico Coral Reef Monitoring Program (PRCRMP 1999-2019) data set was processed into OBIS USA.
 - MBON PRCRMP data visuals are being developed jointly with IOOS-MBON and AXIOM (draft map at <https://mbon.ioos.us/?#map/launch/bc768117-4ee4-4c3c-9931-6e219c770b7d>).
6. RICE DMAC Review

- Pending
- 7. On-going, continuous or recurrent DMAC/IT tasks
 - Compliance with IOOS DMAC metadata, file and data discovery standards and checks
 - Continue CARICOOS DMAC and Regional DAC efforts as detailed in the RICE DMS Plan
 - Continue operating DMAC and computational infrastructure
 - New AWS ERDDAP instance installed (dm2 died early in the pandemic).
 - J. Torres addressed numerous hardware and software issues during this reporting period.
 - Historic data archival
 - Participated in UPR-AWS workshop on storage strategies, and established local AWS contacts.
 - We continue processing low-priority model output for AWS Glacier storage.
 - José Torres has developed significant expertise into AWS issues through personal contacts with AWS technical staff and through participation in AWS educational activities.
 - Maintain and enhance CARICOOS website
 - Host and website capacity upgrades to provide for anticipated growth.
 - Develop and implement Kiosk solution at Ponce Yatch and Fishing Club in Ponce, Puerto Rico.
 - Provide communication infrastructure for Kiosk at M&M Bakery & Deli in Lajas, Puerto Rico.
 - Maintain the HPC infrastructure
 - HPC models soon to become the primary operational versions
 - NetCDF output generation has been activated for SWAN and WRF
 - Technical transfer to in-house IT, improvement and debugging of our web page

MAJOR OUTCOMES

- Completed the processing of our first regional biological dataset, PRCRMP.
- Installed a new ERDDAP instance at AWS.

RELATED PROJECTS

None.

CHANGES/PROBLEMS

See **CONTEXT FOR THE REPORTING PERIOD** section above.

WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (June 1, 2020 – November 30, 2020)

We plan to focus on those milestone/objectives that have been delayed:

- Get back on track after the pandemic
- Continue the design of visualization products for the PRCRMP biological dataset
- The MAP CO2 portal needs to be finished
- Fully populate the new AWS ERDDAP

PUBLICATIONS & PRODUCTS

- OBIS USA PRCRMP dataset citation will be available soon
- Technical manual for the processing of biological datasets is on the works
- Several webpage product updates.