DMAC-Webpage Subsystem

Jorge E. Capella and José R. Torres
UPRM CID 114
jorge.capella@upr.edu

PROGRESS REPORT FOR THE PERIOD DECEMBER 1 2018 - MAY 31 2019

Based on the Rescoped Workplan for FY17 (Tier 1 level funding) for the current funding cycle

> Enhancing coastal intelligence in the US Caribbean archipelago: The Caribbean Coastal Ocean Observing System (October 26, 2017 version)

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 towards the Milestones/Objectives herein considered matches the DMAC Milestones/Tasks for Year-3 (FY18) listed in the DMAC section of the CARICOOS_Milestones_FY18.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 to discharge our DMAC responsibility towards the CARICOOS region to the best of our abilities.

Status of Milestones

1. Add ROMS and FVCOM model output to CARICOOS ERDDAP as these models become operational

   • ROMS is not operational at the moment. 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. We are expecting to hear from the FVCOM modeling team before we start serving operational model output in THREDDS and ERDDAP.

2. Assist modelers in the migration of WRF, SWAN, FVCOM and ROMS to our HPC server at AWS.

  - The latest version of WRF (WRF V3.9.1.1) is currently running in our AWS HPC server. Model output is undergoing validation and testing before reaching operational status. THREDDS aggregation of WRF model output is proving to be difficult to achieve.

  - SWAN, FVCOM and ROMS are in the pipeline. The delayed migration of these models to the AWS HPC is not due to DMAC issues.

3. Attend IOOS DMAC meeting

  - Jose Torres and Jorge Capella attended the 2019 DMAC Meeting during April 30- May 2.

4. Develop a data portal to provide real-time acidification data collected by La Parguera MAP CO2 buoy and derived ecosystem metabolic rates

  - A data portal that mimics the CARICOOS coastal buoy portals is being developed. The original developer could not complete this task so it is now in the hands of the Candela Creative Group, with technical assistance from Melissa Melendez who is a doctoral candidate at UNH and from the DMAC group.

5. Fully populate CARICOOS ERDDAP with operational models (SWAN, WRF, ROMS/FVCOM)

  - See milestone item (1) above for ROMS and FVCOM.

  - SWAN is currently available through the CARICOOS THREDDS and ERDDAP

6. Hosting of CARICOOS interns

  - Two advanced students from the Computer Science and Engineering program at UPRM have joined the DMAC team as volunteers. Jose Santiago and Carlos Laboy will become summer interns assigned to DMAC during the summer (June-July). We are using this opportunity to develop local expertise with THREDDS and ERDDAP Docker technology (a major topic during the DMAC Meeting), which is something not found in a traditional Computer Science curriculum.

7. Identify suitable regional biological datasets and proceed with their processing into OBIS/MBON. May undergo a training phase for CARICOOS staff and possibly a contractor.

  - Several datasets have been identified by Dr. René Esteves who has been contracted by CARICOOS for this task.

8. RICE DMAC Review

  - Pending

9. On-going, continuous or recurrent DMAC/IT tasks

  - Contribute in the development and maintenance of the Pa'la Playa beach app and the upcoming boating app

- 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
- Historic data archival
- Maintain and enhance CARICOOS website
- Maintain the HPC infrastructure
- Maintenance of CARICOOS in Spanish
- Technical transfer to in-house IT, improvement and debugging of our web page

MAJOR OUTCOMES

- Design, setup and operational maintenance of the CARICOOS AWS HPC server
- Started the discovery of regional biological datasets
- Strengthening our server assets and web products

RELATED PROJECTS

None.

WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (June. 1 – Nov. 30 2018)

We plan to focus on those milestones/objectives that have been delayed:
- Assist with model migration to the AWS HPC
- Expedite the processing of biological datasets
- The MAP CO2 portal needs to be finished
- The RICE DMAC Review

PUBLICATIONS & PRODUCTS

No publications, but several product updates.