

DMAC

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PROGRESS REPORT FOR THE PERIOD JUNE 1 2016 - NOVEMBER 30 2016

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.

MILESTONES / OBJECTIVES

The DMAC Items/Projects/Initiatives corresponding to FY16 may be grouped by their overall characteristics/objectives:

1. New Items/Projects/Initiatives addressing our partial migration to the Cloud. This move is in response to the numerous power and network interruptions experienced since our inception. The downtime resulting from these system instabilities prevent us from fully accomplishing our milestones and mission. We have accelerated these initiatives in anticipation of continued disruptions in our local services.
 - a. Implement Amazon Web Services (AWS S3) buckets as repositories of data and model output used in the various products and displays available through our web page
 - b. Set up a test THREDDS/OPeNDAP server as an EC2 AWS instance to complement, and eventually replace one of, our two physically distant servers; test for cost effectiveness, reliability and bandwidth
 - c. Achieve cloud-based computing and improve HPC infrastructure
2. Continuation of our day to day operations. These are recurrent activities that frequently enter our daily workload.
 - a. Continue current CARICOOS DMAC and Regional DAC efforts as detailed in the SOP
 - b. Custom data product development in response to stakeholder needs
 - c. Continued improvement and debugging of our recently launched web page
 - d. Entries/holdings/queries in the IOOS Registry and Catalog will be increased while achieving full compliance with IOOS DMAC metadata, file and data discovery standards and checks

- e. Historic metadata archival
- f. Attend IOOS DMAC meeting
- g. Continue operating DMAC and computational infrastructure
- h. Maintain and enhance new CARICOOS website

WORK COMPLETED

By Milestone Items/Projects/Initiatives:

- 1a. Fully operational at AWS
- 1b. Fully operational at AWS. Seamlessly replaces one of our two local and redundant THREDDS/OPeNDAPP servers
- 1c. Cloud-based computing capability in progress. Computational tests are being conducted at Amazon Web Services and at Sabalcore. Price quotes and code performance are being evaluated.

Networking, data server and computational resources that are not being migrated to the Cloud will be relocated to a secure server bunker facility recently implemented at UPRM. Server assignments are being reviewed to accommodate the recent migration and relocation of our assets.
- 2a. Ongoing
- 2b. Ongoing
- 2c. Ongoing
- 2d. Ongoing. Preparing for the unveiling of the new IOOS Catalog in December.
- 2e. Ongoing. See latest Archival Plan.
- 2f. In early June 2016. Attended virtually due to end of FY administrative issues.
- 2g. Ongoing. See also item 1c.
- 2h. Ongoing. Extensive backstage improvements resulting from our migration of the scripts and THREDDS/OPeNDAPP servers to AWS. New products have been created in the AWS script server.

MAJOR OUTCOMES

The major outcome from DMAC during the reporting period is the migration to the Cloud, which has resulted in less downtime and greater stability of our webpage and data servers.

RELATED PROJECTS

None.

WORK PLAN FOR UPCOMING PERFORMANCE PERIOD (Dec. 1 – May 31 2016)



- Complete the migration of WRF and SWAN HPC to the Cloud
- Update/improve our presence in the IOOS Catalog and Registry
- Collaborate in the submittal of our RICE application
- Attend the IOOS DMAC Meeting in March
- Continue our day to day operations

PUBLICATIONS & PRODUCTS

After numerous drafts and iterations a final Data Management System (DMS) Plan and a Data Archival Plan crafted in collaboration with NCEI were included in the CariCOOS RICE Certification Application.