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ARM Climate Research Facility Data Management Facility Quarterly Report

NN Keck

April 2015



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**Second Quarter:
January 1 to March 31, 2015**

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1.0 Introduction

The Data Management Facility (DMF) is the data center that houses several critical Atmospheric Radiation Measurement (ARM) Climate Research Facility services, including first-level data processing for the ARM Mobile Facilities (AMFs), Eastern North Atlantic (ENA), North Slope of Alaska (NSA), and Southern Great Plains (SGP), as well as Value-Added Product (VAP) processing, development systems, and other network services.

2.0 Key Events During the Quarter

During the second quarter of fiscal year (FY) 2015, the DMF provided the following services:

- Supported the Brazil (AMF1) deployment.
- Supported the ENA phase 2 startup.
- Supported the Oliktok (AMF3) deployment for phase 2.
- Supported the ACAPEX (AMF2) deployment (receive, process, review, and archive data).
- Continued migrating services/processes to Red Hat 6 (see Engineering Change Order [ECO] 867).
- Supported the Tropical Western Pacific Darwin, Australia, site (C3) shutdown and closeout.
- Continued Aerosol Observing System (AOS) matrix and harmonization efforts.
- Prepared for second quarter data metrics reporting to the Department of Energy.
- Manually processed NSA sondes from the S01 platform because the NSA auto-launcher was down.
- Completed end-to-end reprocessing and archiving of the VCEIL25K ingest to rename data to use CEIL ingest.
- VAP support: Tested and set up QCRAD, MFRSRCIP, GSWCORR1DUTT, PBLHTSONDE, and GVRPWV VAPs on Red Hat 6.
- Ingest support: Test and setup RAIN, MAWS, NOAAAOS, IAPMFR, MAERI, SWATS, and RL ingests.
- Reviewed and published VAP operations documentation on the wiki (Engineering Work Order [EWO] 14455).
- Managed ENA disk space while waiting for disk-swap disks to arrive.
- Coordinated AMF3 Oliktok deployment data flow for the radars.
- Fixed mail list publishing problem, monitored mail list server, and worked with Brookhaven National Laboratory to restore missing lists.
- Hired and on-boarded new Pacific Northwest National Laboratory staff member Ken Burk to assist with DMF operations.
- Staged and prepped sgp.I4 XSAPR for post/re processing (EWO-15937).

3.0 Upcoming Next Quarter

In the third quarter of FY2015, the DMF will support the following:

- Continue support for all sites, facilities, and mobile deployments
- Manage data recovery, reprocessing, and general cleanup (EWO-15979)
- Plan and prepare for the next deployment of the AMF2 for the ARM West Antarctic Radiation Experiment (AWARE) deployment
- Post/re-process SGP.I5 and SGP.I6 XSAPR (EWO-15937)
- Post/re-process NSA.C1 XSAPR (EWO-15936).

4.0 Follow-up Items, Questions, and Issues

Currently, the DMF is waiting on the following:

- Large file storage at the ARM Data Archive (ECO-00969)
- Radar time checks (EWO-15006)
- DMF to Archive data flow (ECO-1030)
- Shared “work” file storage for DMF and ARM Data Archive (ECO 1125)
- ARM Data Center Deployment (ECO 1027).

5.0 DMF Metrics

In the second quarter of FY2015, the DMF had the following metrics:

- 5.2 million files received in 80 TB
- 394 thousand files delivered in 17 TB
- 56.4 thousand files delayed for archival
- 214 software package releases
- 310.9 thousand ingest processes ran
- 147 instrument issues entered in the Data Quality and Problem Reporting System (DQPRS)
- 35 unique VAPs run in production for multiple sites/facilities
- 13 processing issues on average per day
- 9 archival issues on average per day.

Processing / Ingested Files

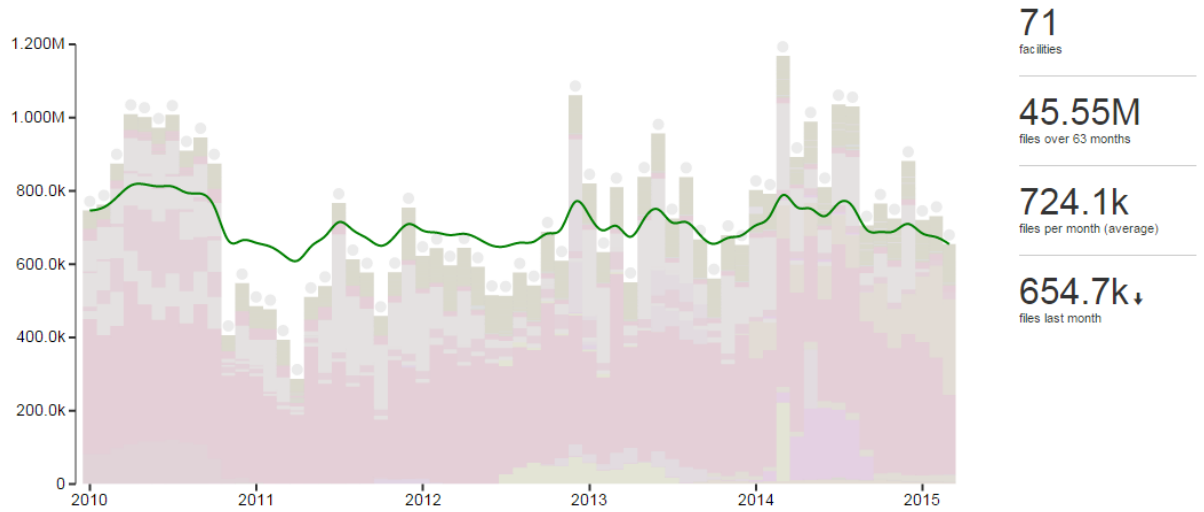


Figure 1. This graph shows the trend for ingested files since 2010

Storage / Released Files

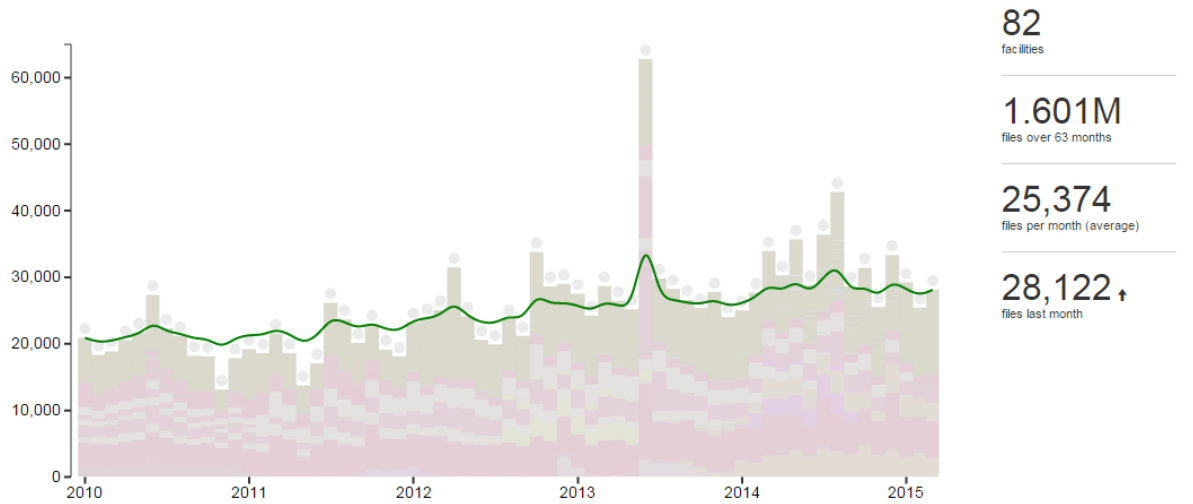


Figure 2. The trend for released files since 2010 is shown in this graph



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