U.S. DEPARTMENT OF ENERGY | Office of Science

DOE/SC-ARM-15-007

ARM Climate Research Facility
Data Management Facility Quarterly Report

NN Keck

January 2015

ARM
CLIMATE RESEARCH FACILITY

DISCLAIMER

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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 (AMF), Eastern North Atlantic (ENA), North Slope of Alaska (NSA), Southern Great Plains (SGP), and Tropical Western Pacific (TWP) sites, as well as value-added product (VAP) processing, development systems, and other network services.

2.0 Key Events During the Quarter

During the first quarter of fiscal year (FY) 2015, the DMF:

- Supported the Brazil (AMF1) deployment
- Supported the Finland (AMF2) deployment shutdown
- Supported the Azores deployment (Phase 2)
- Supported the Oliktok deployment (Phase 2)
- Continued preparations for ARM Cloud Aerosol Precipitation Experiment deployment (ACAPEX; EWO-15993)
- Continued migrating services/processes to RedHat 6 (ECO-867)
- Continued the Aerosol Observing System (AOS) matrix and harmonization efforts
- Enabled an automated report to ARM Data Archive staff of /data/archive status
- Prepared for DOE's FY2015 data metrics
- Started shipping droplet number concentration (NDROP) VAP data to the ARM Data Archive
- Submitted a baseline change request (BCR) and began VCEIL25K → CEIL renaming
- Provided VAP support by testing and setting-up INTERPOLATEDSONDE, cloud condensation nuclei profile (CCNPROF), and Raman lidar vertical profiles (RLPROF) VAPs on RedHat 6
- Started processing Infra-Red Sky Imager (IRSI) data, requested data review, and began archiving the data
- Tracked and trouble-shot bandwidth problems at MAO
- Configured a disk swap system for ENA, and managed disk space while waiting for disks to arrive
- Started preparations for the OLI CGA period (EWO-16586)
- Migrated production VAP processing to another server
- Prepared User Maintenance process for XCAMS for the ARM Data Center
- Performed an ACAPEX pre-deployment system validation test (EWO-16329)
- Assisted with Radar Collections (EWOs-16238, -16246, -16242, -16250).

3.0 Upcoming Next Quarter

In the second quarter of FY2015, the DMF will:

- Support the ACAPEX (AMF2) deployment - (receive, process, review, and archive data)
- Provide continued support for all sites, facilities, and mobile deployments
- Provide Manus data recovery, reprocessing, & general cleanup (EWO-15979)

  Support the TWP.C3 (Darwin) shutdown and closeout.

4.0 Follow-up Items, Questions, and Issues:

Currently, the DMF is:

- Waiting on large-file storage at the ARM Data Archive (ECO-00969)
- Waiting for radar time checks (EWO-15006)
- Providing DMF-to-ARM Data Archive data flow (ECO-1030)
- Shared "work" file storage for the DMF and ARM Data Archive (ECO-1125)
- Completing the ARM Data Center Deployment (ECO-1027)
- Addressing concerns regarding radar data expectations and current disk space on the DMF
- Providing continued attempts to resolve OLI Ka ARM Zenith Radar Filtered Spectral Data (KAZRSPEC) collection problems.

5.0 Concerns Regarding Radar Data Expectations and Current Disk Space on the DMF

In the first quarter of FY2015, the DMF had:

- 4.4 million files received in 38 TB
- 250 thousand files delivered in 12 TB
- 79.2 thousand files delayed for archival
- 339 software packages released
- 644.1 thousand ingest processes ran
- 130 Data Quality and Problem Reporting System (DQPRS) entered for instrument issues
- 35 unique VAPs ran in production for multiple sites/facilities
- 11 processing issues on average per day
- 7 archival issues on average per day.

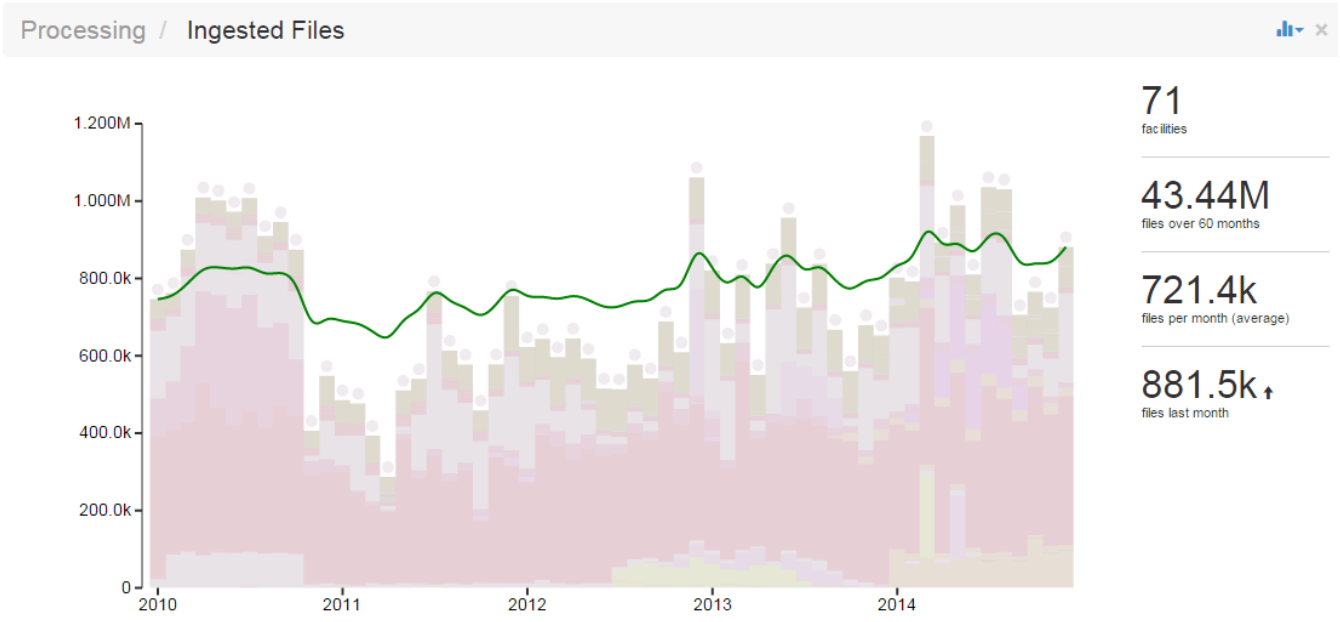

Figure 1. This graph shows the trend for ingested files since 2010.

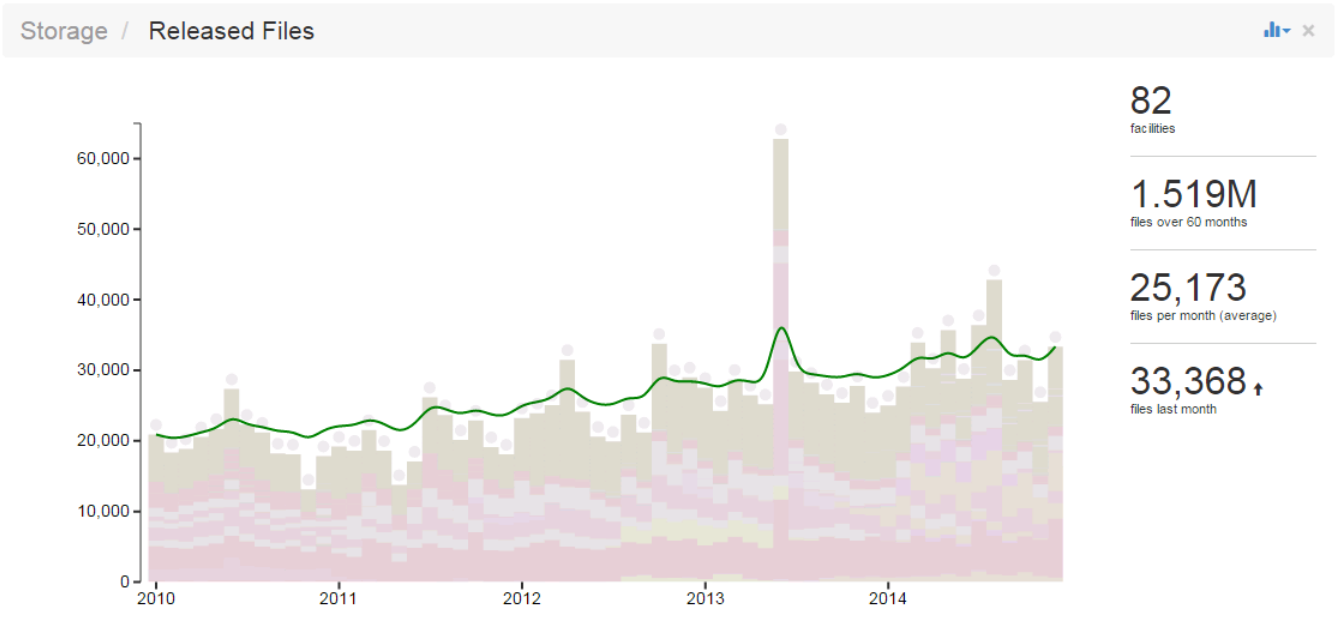

Figure 2. The trend for released files since 2010 is shown in this graph.

To view more graphs like these, please visit http://www.dmf.arm.gov/statistics/#g//s/

www.arm.gov

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