



U.S. DEPARTMENT OF
ENERGY

Office of
Science

DOE/SC-ARM-14-005

ARM Climate Research Facility DMF Quarterly Report

NN Keck

January 2014



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Work supported by the U.S. Department of Energy,
Office of Science, Office of Biological and Environmental Research

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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), 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) 2014, the DMF:

- Prepared for and began Brazil (AMF1) deployment
- Prepared for and began Finland (AMF2) deployment
- Started up support for Azores (ENA) deployment
- Began Shortwave Array Spectroradiometer-Hemispheric (SASHE) VAP processing and archival
- Started migrating services/processes to RedHat 6 (ECO-867)
- Moved radar spectra filtering off site
- Updated collections for raw data flow (ECO-1019)
- Tested 2TB removable disk
- Archived new Vaisala Ceilometer (VCEIL) boundary-layer height data (EWO-14933)
- Brought the new DMF storage system online (ECO-975)
- Merged DMF and Data Archive networks (ECO-1006).

3.0 Upcoming Next Quarter

In the second quarter of FY2014, the DMF will:

- Begin support for Brazil (AMF1) deployment
- Begin support for Finland (AMF2) deployment
- Continue migrating DMF services/processes to RedHat 6 (ECO-867)
- Continue collection updates for raw data flow (ECO-1019)
- Create DMF-to-Data Archive data flow (ECO-1030).

4.0 Follow-up Items, Questions, and Issues

Currently, the DMF is:

- Waiting on large file storage at the Data Archive (ECO-00969)
- Waiting on Eddy Correlation Flux Measurement System (ECOR) collections at TWP (ECO-01017, EWO-13263, EWO-13263)
- Waiting on the Atmospheric Sounder Spectrometer for Infrared Spectral Technology (ASSIST) Ingest (EWO-14669)
- Waiting on the Beam-Steered Radar Wind Profiler (BSRWP) Ingest (EWO-13813)
- Waiting on the Shortwave Array Spectroradiometer (SAS) Ingest (EWO-14745)
- Waiting for radar time checks (EWO-15006)
- Wrapping up /data/archive policy on the new DMF storage system (ECO-975, EWO-15120)
- Waiting for Operational VAP documentation (EWO-14455)
- Waiting for the Data System Database (DSDB) to be disabled on remote sites (EWO-14891)
- Following up on disk shipping procedures (EWO-15052).

5.0 DMF Metrics

In the first quarter of FY2014, the DMF had:

- 2.1 million files received in 8.2 TB
- 199 thousand files delivered in 7.5 TB
- 37.6 thousand files delayed for archival
- 131 software packages released
- 468.7 thousand ingest processes ran
- 79 Data Quality and Problem Reporting System (DQPRS) problems entered for instrument issues
- 35 unique VAPs run in production for multiple sites/facilities
- 20 new processing issues on average per day
- 20 new archival issues on average per day

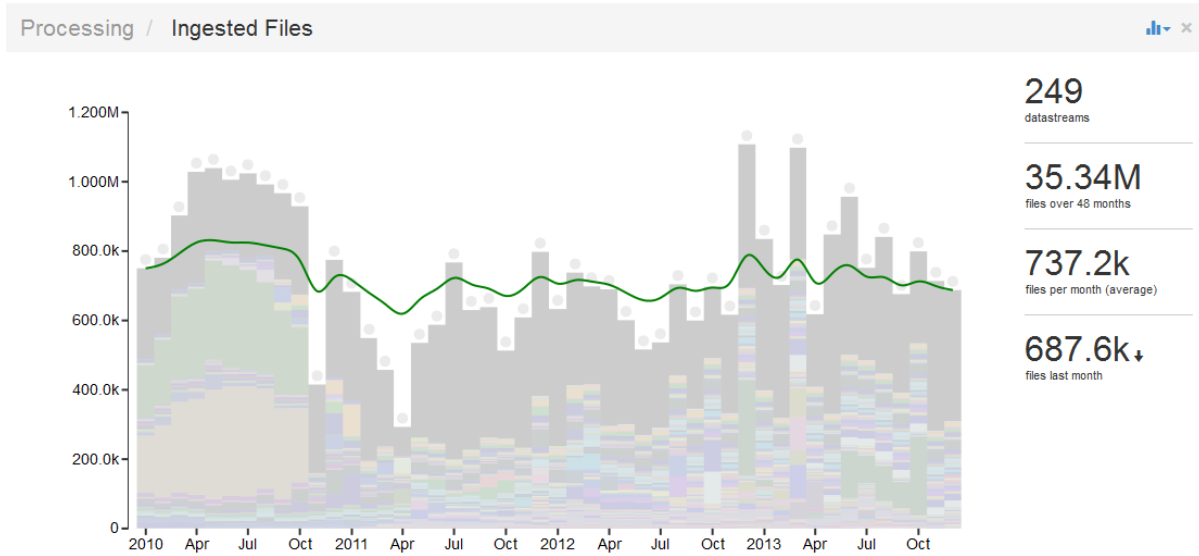


Figure 1. The DMF processes on average 737 thousand files per month, which is over 35 million files in the last two years. This graph shows the trend for ingested files since 2010.

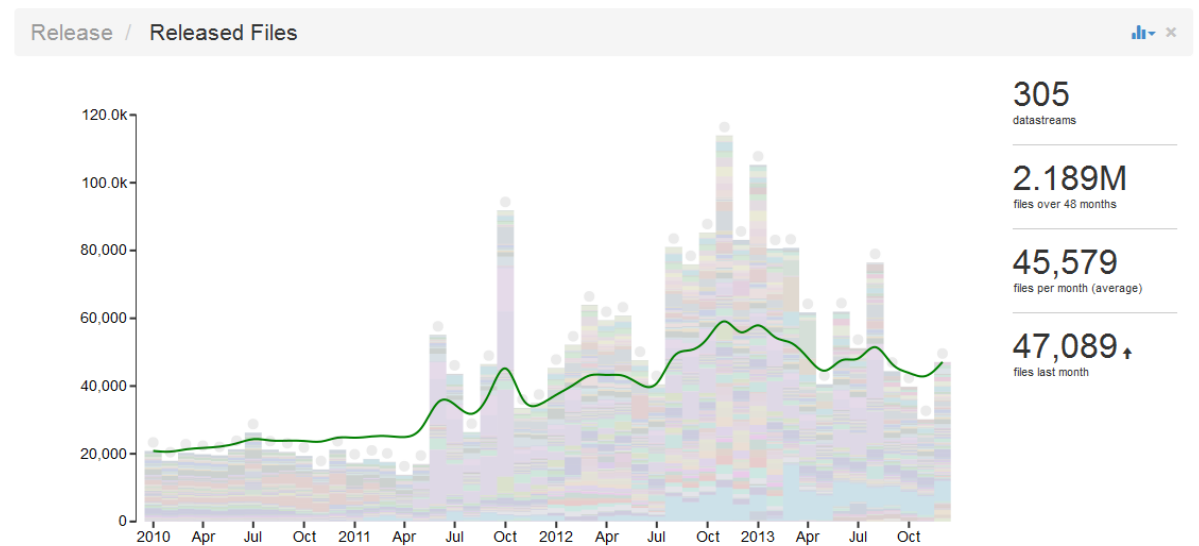


Figure 2. On average per month, the DMF ships 46 thousand files to the Data Archive . That's over two million files in the last two years. This graph shows the trend for released files since 2010.



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