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DOE/SC-ARM-14-024

ARM Climate Research Facility Data Management Facility Quarterly Report

NN Keck

July 2014

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 Facility (AMFs) deployments, and the 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 third quarter of fiscal year (FY) 2014, the DMF:

- Supported the Brazil (AMF1) Deployment
- Supported the Finland (AMF2) Deployment
- Supported the Azores Deployment (Phase 2)
- Supported the Oliktok Deployment (Phase 2)
- Continued migrating services/processes to RedHat 6 (Engineering Change Order (ECO)-867)
- Continued Manus data recovery, reprocessing, and general clean-up (Engineering Work Order (EWO)-15979)
- Created New Site DMF Checklist (wiki)
- Supported aerosol observing system (AOS) matrix and harmonization efforts
- Held an ARM data integration meeting with Oak Ridge National Laboratory (ORNL) (Giri Palanisamy and Raymond McCord)
- Provided collection support: Infrared Thermometer (IRT), total precipitation sensor (TPS), Infrared Sky Imager (IRSI), and C-Band ARM Precipitation Radar (CSAPR) maintenance files
- Set-up National Institute for Research in the Amazon (INPA) (Brazil) disk swap, configured, and started creating disks
- Post-processed MAG Shortwave Array Spectroradiometer-Zenith (SASZE) data to create .a1 calibrated data
- Provided maintenance of YEU Millimeter Wave Cloud Radar (MMCRMOM) data (out-of-order data/reprocessing efforts)
- Processed and archived TMP X-Band scanning ARM cloud radar, filtered spectral data (XSACRSPEC) data (EWO-16166).

3.0 Upcoming Next Quarter

In the fourth quarter of FY2014, the DMF will:

- Clean-up PVC data (EWO-15980)

- Clean-up MAG data (EWO -15981)
- Continue support for all deployments: Brazil, Finland, Azores, and Oliktok
- Prepare for ARM Cloud Aerosol Precipitation Experiment (ACAPEX) Deployment (EWO-15993)
- Prepare to support ARM Data Center (ADC) team teleconference.

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 on the Shortwave Array Spectroradiometer (SAS) ingest (EWO-14745)
- Waiting for radar time checks (EWO-15006)
- Waiting for W-Band ARM Cloud Radar Spectra Filter (WACRSPEC) ingest (TASK-2888)
- Wrapping-up the ARM Data Archive policy on the new DMF storage system (ECO-975, EWO-15120)
- Waiting for operational VAP documentation (EWO-14455)
- Archiving data flow at the DMF to archive data flow (ECO-1030)
- Concerned regarding radar data expectations and current disk space at the DMF.

5.0 DMF Metrics

In the third quarter of FY2014, the DMF had:

- 3.6 million files received in 61 TB
- 200 thousand files delivered in 10.9 TB
- 66.2 thousand files delayed for archival
- 306 software package releases
- 695 thousand ingest processes run
- 102 Data Quality and Problem Reporting System (DQPRS) entered for instrument issues
- 35 unique VAPs run in production for multiple sites/facilities
- 6 processing issues on average per day
- 11 archival issues on average per day.

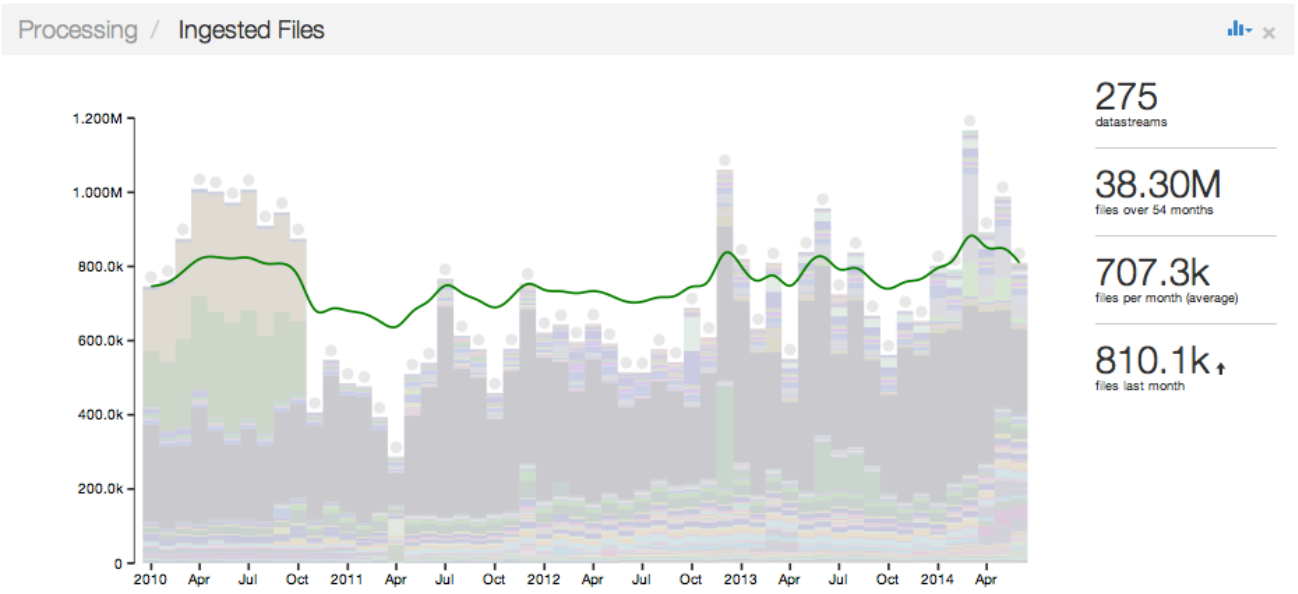

Figure 1. This graph shows the trend for ingested files since 2010.

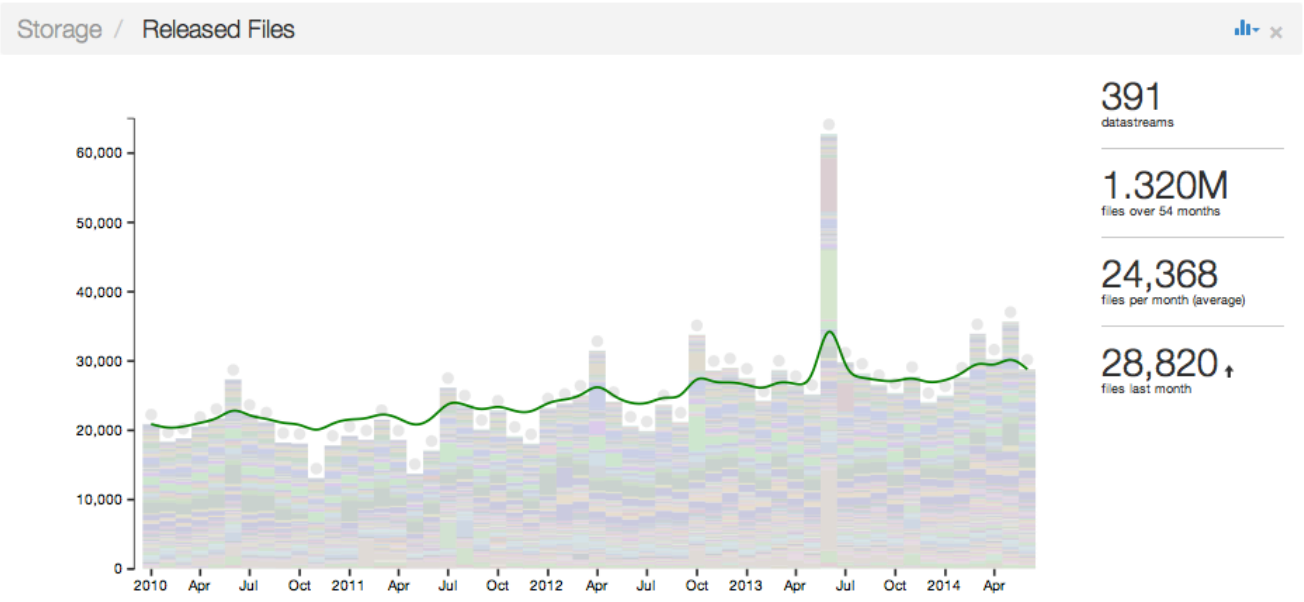

Figure 2. The trend for released files since 2010 is shown in this graph.

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