Engaging with the ARM Facility

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# Engaging with Users Through Facility Processes, Meetings, and Web Tools

ARM engages with science users through multiple avenues including:

- The ARM Website (www.arm.gov)
- Constituent Groups such as the User Executive Committee, the radar and aerosol measurement and science groups and the ASR working groups
- Targeted Workshops
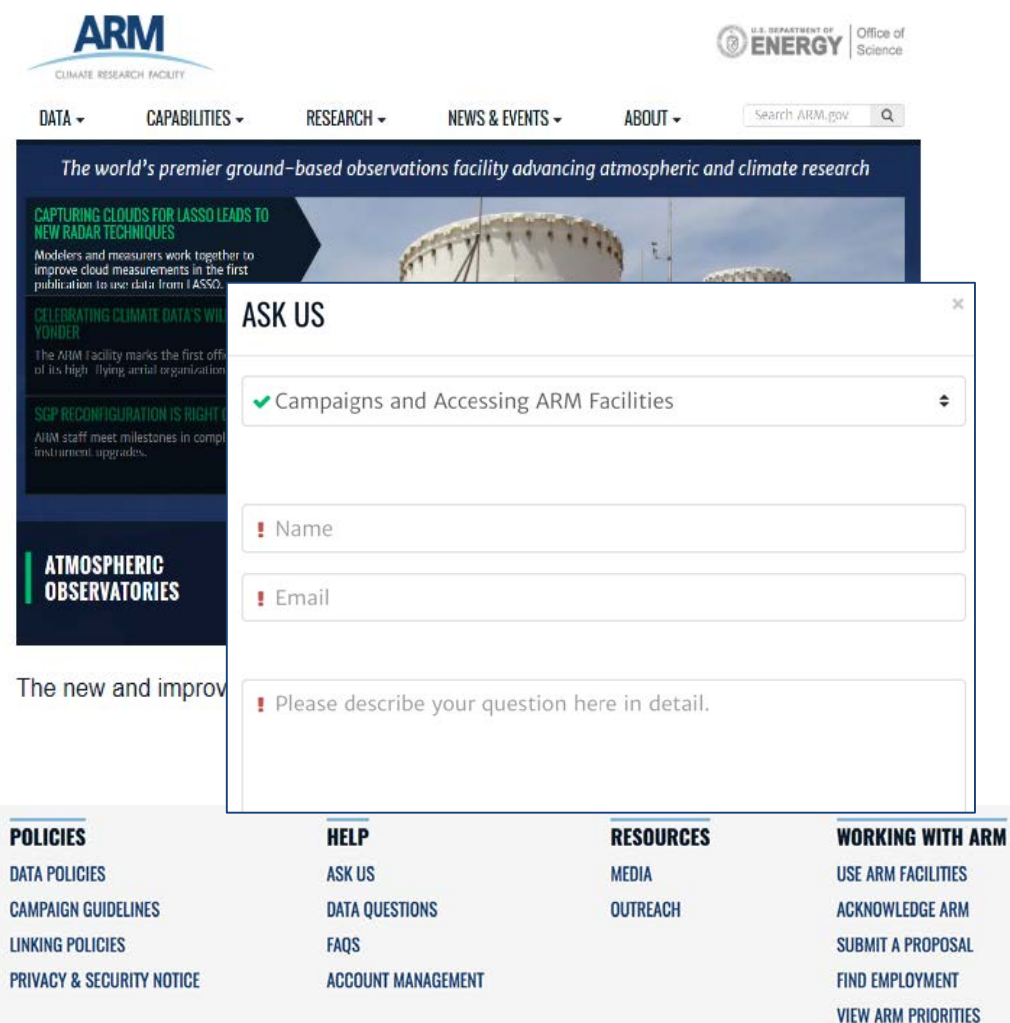- Science meetings such as the annual ASR/ARM meeting through breakout sessions and working group chairs
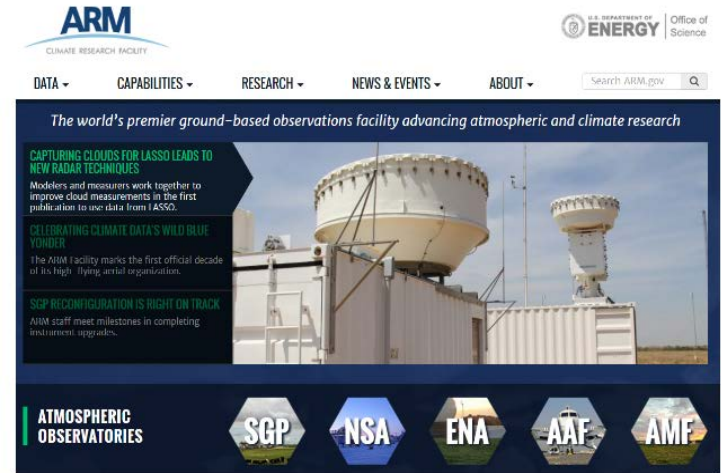
The new and improved ARM home page was designed based on user feedback.
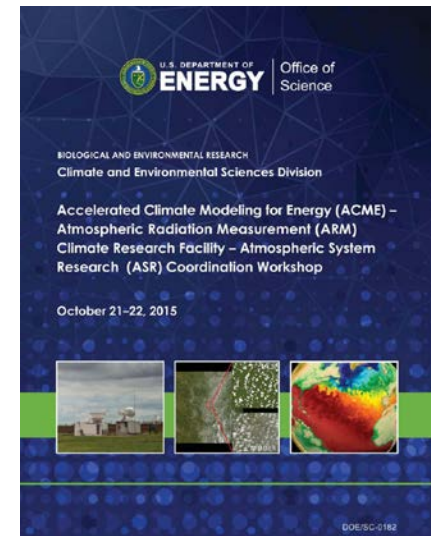
Next-Generation Website

In response to user feedback, the website was redesigned to make:

- ▶ Navigation easier - 10 tabs reduced to 5
- ▶ Accessing data more direct
- ▶ Searches more efficient
- ▶ Expanded "About" Tab
- ▶ Finding key information easier
  - ● New Footer Navigation
  - ● Help Features

Management Structure   Facility Documents   History   Future Directions   Facility Usage

ABOUT > MANAGEMENT STRUCTURE

ARM PRIORITIES

The ARM Climate Research Facility is continuously improving to meet its goals and user needs, whether that means adding instruments or developing new data products. Priorities are determined by reviewing input from the science community through workshops, principal investigator meetings, instrument focus groups, and constituent groups.

This input is cross-referenced to U.S. Department of Energy (DOE) mission-critical goals for the ARM Facility, such as the Decadal Vision, next-generation ARM, the LES ARM Symbiotic Simulation and Observation (LASSO) workflow, development of megasites, field campaigns, and maintaining the long-term ARM data record.

An integrated plan is created each year to help focus ARM high-priority activities to have maximum benefit and impact to the science community.

Users can view current and completed high-priority ARM activities.

Data Discovery Interface – Phase II uprgade

ARM Archive received many recommendations and feedback to improve the data discovery tool. The scope of this ECR is to address the following high level changes:

- Fix the display and search issues, and corresponding metadata
- Improve the data discovery home page (revise current highlights, include new ones such as special campaigns, radar data etc..)
- Improve the search & display capabilities
- Provide additional functionalities (radar data – default measurements for every order)
- Integrate NCVWeb for interactive visualizations and also improve the current plot viewer and DQR reports
- Update recommended measurements to include radar and other new data streams by gathering input from the PIs
- Develop a design to consolidate the FC data delivery using the data discovery model
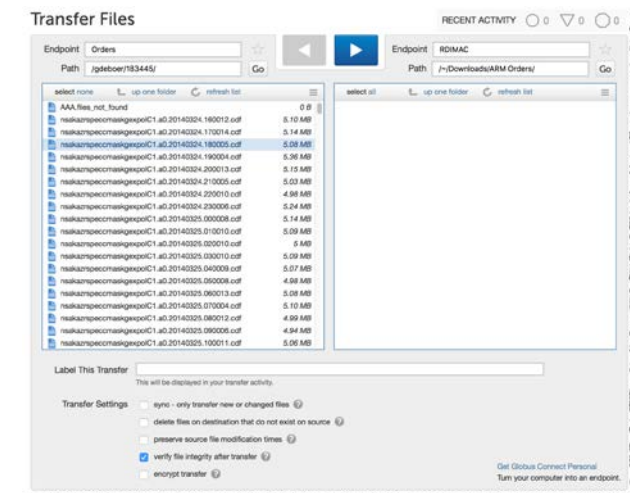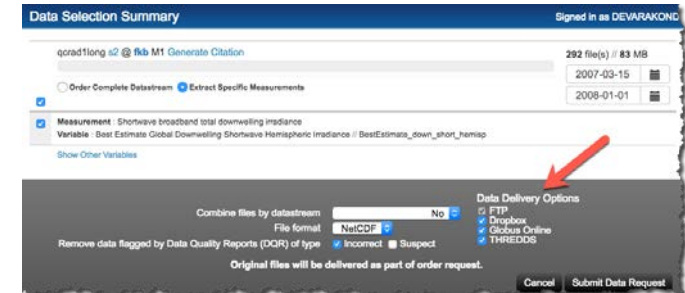
The overall look-and-feel framework will not be changed, we will include that as part of the planned ARM website refresh.

Detailed tasks list will be developed using the above groupings and tracked using the ServiceNow project tasks. Separate design reviews will be carried out for the major features using the Agile - sprint plan & reviews.

AERIAL FACILITY

TASK ID	TITLE	STATE
🔒 ENG0001159	Implement PNNL portions of new ARM UAS Program	In Progress

DATA SERVICES & SYSTEM ENGINEERING

TASK ID	TITLE	STATE	
🔒 ENG0003030	Data Discovery Interface – Phase II uprgade	Closed Complete	2016 December
🔒 ENG0003208	ADC processing and visualization cluster	In Progress	2017 July
🔒 ENG0003231	ARM LASSO Cluster deployment	In Progress	2017 September

FACILITIES & INFRASTRUCTURE

TASK ID	TITLE	STATE	TARGET COMPLETION
🔒 ENG0000916	Design, test, and install a new ARM Climate Research facility at Oliktok Point	Closed Complete	2016 August

New Data Delivery Options via Data Discovery Tool

- ➢ New ways of downloading data
  - ▸ Globus Online
  - ▸ THREDDS/OPeNDAP
  - ▸ DropBox
- ➢ Transfer files fast with Globus Online:
  - ▸ Click the Globus link in the Order notification email
  - ▸ Login to Globus with your Institutional credentials
  - ▸ Pick a "Destination" and "Start Transfer"
- ✓ THREDDS provides coherent access to large datasets, using OPeNDAP (subsetting) and other data access protocols
- ✓ DropBox option, lets the user order and sync with their workstations 'remotely' using dropbox

See: Ranjeet Devarakonda (Poster# 150)

New Datastream Search

User Executive Committee

- Primary interface between ARM and the science user community

- Provides feedback to facility regarding what's working, what is not

- Topics covered over the past two years have included:
  - Data Quality including defining data epochs
  - Optimizing the field campaign start-up process
  - Data Discovery tool and the ARM Website
  - Communication

- Looking for mechanisms to develop communications from the community to the UEC

Links to the ARM User Community

Larry Berg
PNNL

Sebastian Biraud
LBNL

Christine Chiu
Reading

Jiwen Fan
PNNL

Graham Feingold
ESRL

Andrew Gettelman
NCAR

Gannet Hallar
DRI

Jim Haywood
UK Met Office

Pavlos Kollias
Stony Brook

Erika Roesler
Sandia

Courtney Schumacher
Texas A&M

Matt Shupe
ESRL

Additional Constituent Groups

- ASR/ARM Science and Infrastructure Steering Committee (SISC; working group chairs, SFA leads, and site scientists)

- Aerosol Measurements and Science Group (Allison McComiskey, Doug Sisterson)

- Radar Science and Operations Group (Pavlos Kollias, Nitin Bharadwaj)

- Modeling Group (Bill Gustafson, Andy Vogelmann)

- Unmanned Aerial Systems (Beat Schmid, Mark Ivey)

AMSG Strategic Planning Workshop
February 14-16; Argonne National Lab

Goal

Identify impediments to applying ARM measurements to ASR science objectives toward the development of an aerosol measurement strategy

Process

Evaluate the status of ARM's existing aerosol *instrumentation, measurement strategies, and data products* in the context of ARM and ASR science directions and the current and future needs of ARM data users

Constraints

- Budget and existing resources
- Siting (logistics versus ideal location for science)
- Prioritization: we can't do everything everywhere

AMSG Workshop Outcomes (subset, preliminary)

- **Particle Size Distribution:** Measure the complete distribution

- **Absorption:** Comprehensive characterization of filter-based measurements and adoption of new Aethelometer

- **Composition:** Improved characterization of ACSM, rely on PIs for complex chemistry measurements, collaborate with other networks

- **Hygroscopic Activity**: Improve characterization of HTDMA, simplify operation of humidigraph, and add size-resolved CCN measurements

- **System Configuration**: Sample air at consistent low RH through drying (not heating!)

- **Documentation**: Provide better description of AOS datastreams

Radar Science and Operations Meeting
# Nov 14-15, 2016

Contacts: Pavlos Kollias and Nitin Bharadwaj

Topics from the November workshop

- Radar plan: Emphasis on completing the move to unified b1-level products

- Radar Wind Profilers

  ▶ Map out a path to implement set of nearly complete algorithms as VAPs

  ▶ Evaluate clear-air performance and benefits of collecting spectra

- Review spectra compression methods and move forward with MicroARSCL

- Emphasis on b1/calibrated data and timely processing of ARSCL

- Implement idea of Epochs as a new data qualifier

Code Sprints: Teaming PIs with ARM developers to fast-track Data Products

- Bring together a team from the science community and ARM staff for an intensive period with a focused goal to implement a mature algorithm as a

- A successful code sprint was held at BNL in May 2016 to develop three radar-related VAPs

- Today at lunch there will be a working lunch on this topic of community product development using ARM tools.
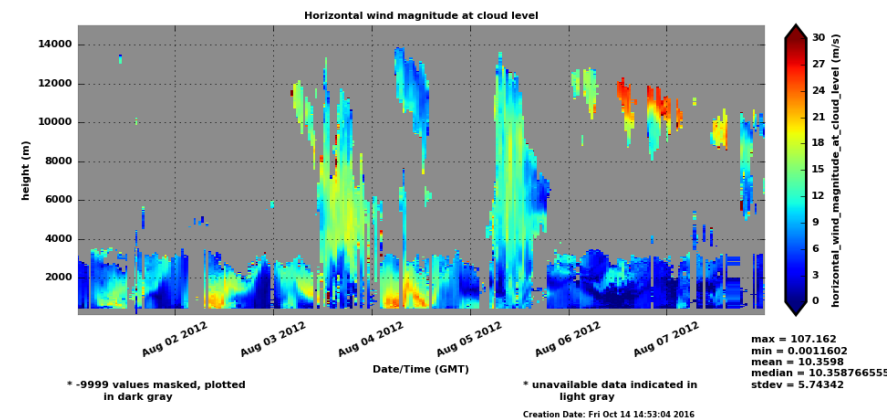
Two Sessions Related to Improving Data Characterization

Machine Learning (Wednesday @1:30)

- Review of activities from ARM and ASR investigators to automate data quality assessment and parameter uncertainties

Virtual Field Campaigns (Thursday @10:45)

- Identifying data epochs – periods of particular interest, data quality and completeness – working on how to implement this to shine a light on these periods

- Presented from a radar perspective – but this idea also came up at the 2015 ARM-ASR-ACME workshop as a mechanism to draw together the modeling community

Activities at this meeting

- Participate in the breakouts – we read the reports! Looking for needs and priorities

- Poster sessions

- UEC contacts this evening and at poster session

- Data Services Helpdesk

ARM Data Services Helpdesk

- Navigate Data Discovery
- Obtain Data from the ARM Data Center Archive
- Understand the Structure of ARM Data
- Use ADI, PyART, OME and Other Visualization Tools
- Acquire Computing Resources

Ask us how!

ATMOSPHERIC RADIATION MEASUREMENT CLIMATE RESEARCH FACILITY

www.arm.gov

Ka ARM Zenith Radar