



Registering and Submitting your PI data with Ease using the ARM data product registration Tool- Online Metadata Editor (OME)

**Biva Shrestha, Giri Palanisamy,
Alice Cialella, Kathy Lazar**

Highlights

- Information collected by OME:
<https://archive2.ornl.gov/armome>
- OME form and workflow
- Benefits of OME Tool
 - To PI
 - To Data Users
 - To ARM



What information does OME collect?

Who

collected the data?
processed the data?
wrote the metadata?
to contact for questions?
owns the data?

Where

were the data collected?
were the data processed?
are the data located?

What

are the data about?
project were they collected under?
are the constraints on their use?
is the quality?
are appropriate uses?
parameters were measured?
format are the data in?

When

were the data collected?
were the data processed?

Why

were the data collected?

How

were the data collected?
were the data processed?
do I access the data?
do I order the data?
much do the data cost?
was the quality assessed?

OME- As simple as it gets

Data Product Registration and Submission Tool

[HELP DOC](#)

ARM Metadata Entry and Data Upload Tool Tips

The ARM Metadata Entry and Data Upload Tool makes it easy to describe ARM, ASR and externally funded data products in a standardized way. It enables these metadata records and uploaded data to be searchable in the Internal ARM Data Discovery Tool. The metadata record provides context for the data and facilitates the discovery and the (re)use of the data.

ACCESSING TOOL

Preferred Browsers

- Firefox
- Chrome
- Safari

Tool available at

- Direct link - <http://archive2.ornl.gov/armome/>

Log in

- Sign in with your ARM website/portal user name and password.
- Follow the instructions in the Sign in window if you have forgotten your username and/or password.
- Follow the instructions in the Sign in window if you are a new user.

ARM **ENERGY** Office of Research

Data Product Registration and Submission Tool

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Sign in

using ARM user name and password

Username

Password

Sign in

New features

- Full Campaign list
- Upload data now works for save as draft as well.
- User can now do multiple data uploads at a time.
- New Feature "Use as Template" for users. This feature enables a user to use an existing metadata record as a template to create new.
- When a record is being re-submitted, users will now need to add the reason for re-submitting. This will help approvers understand the intent.
- Visibility of past data uploads in the record (available for new submissions).
- Author/Originator type-ahead extracting more complete

OME- easy workflow

The screenshot displays the OME web interface with a blue header bar. In the top right corner, there are links for [\[Help \]](#) and [\[Logout \]](#). The main content area is divided into two sections. On the left, a message states "Your current metadata record count is 1." Below this message is a green button labeled "Create New Record", which is annotated with a red "#1". On the right, a light blue header bar reads "Existing metadata records". Below this, a grey instruction box says "Please select any metadata record to edit, or to use as a template to create a new record." A dropdown menu shows "ARM_archive.xml" with an up/down arrow icon, annotated with a red "#2". To the right of the dropdown are two buttons: a blue "Edit Metadata" button (annotated with a red "#2") and an orange "Use as Template" button (annotated with a red "#3").

[[Help](#)] [[Logout](#)]

Your current metadata record count is 1.

Create New Record #1

Existing metadata records

Please select any metadata record to edit, or to use as a template to create a new record.

ARM_archive.xml #2

Edit Metadata #2

Use as Template #3

OME- Helpful features

The tool only supports ASCII characters and UTF-8 formatting. If you are coping text from other documents, please, avoid any special characters and other formats. But, HTML tags like hyperlinks are supported

Back Preview Metadata * = required [logout]

Data Product

First, within the ARM program, is this data product/set only associated with ARM field campaign?*

Answer 'yes' to this question if the dataset was collected for an ARM field campaign. Answer 'no' if this is an independent dataset that did not use ARM infrastructure, or a product developed for regular ARM data, or for use with more than one field campaign.

☒ Yes ☐ No

Please select the ARM campaign:

- 1996 NARSTO Northeast Field Study (NARSTO-NE)
- 1995 Southern Oxidants Study (SOS)
- 1996 NARSTO Northeast Field Study (NARSTO-NE)**
- 1998 Phoenix Air Quality Study
- 1999 Northeast Corridor Ozone & Particulate Study
- 2000 Houston, Texas Air Quality Study
- 2001 Multi-Frequency Radar IOP
- 2001 Philadelphia NE-OPS Air Quality Experiment
- 2002 Phoenix Air Quality Study
- ARM Data Archive

Position Name:

#1

#2

Data Type

- Author
- Describe Data
- Spatial Info
- Measurements
- Data Quality
- Constraints
- Tools
- Additional

Upload Data (including plots, instruments photos, white papers, refereed papers etc.)

This feature is available for data file of size less than 1GB and for following extensions: text/c application/x-netcdf, image/tiff, image/jpeg, image/png, application/pdf, zip, tar. For larger file instructions from [here](#). Files of same name and extension will be replaced by the latest upload

We encourage the user to save record as draft before uploading any data !!

Choose File No file chosen

Choose File No file chosen

Choose File No file chosen

Clear Chosen File

Preview Metadata Save Locally Save Draft Save & Submit Create Readme

#3

#4

#5

Benefits to using OME tool for PI

- All in one web-based location
- No need to wait for ftp directory setup before submitting data
- No need for additional README documentation
- Faster turn-around from metadata and data submission to availability
- Notifications automatically generated throughout the process

Benefits to using OME for Data Users

- Search, retrieve, and evaluate data set information externally and internally

The screenshot displays the ARM Data Discovery web interface. The top header includes the ARM logo, the text "DATA DISCOVERY", and the U.S. Department of Energy Office of Science logo. A search bar contains the word "aerosol", with buttons for "(Start date)", "(End date)", and a "GO" button. Below the search bar, there are navigation icons for home, menu, and cart.

The left sidebar contains a list of categories and measurements. The "CATEGORIES" section lists: Aerosols (5,493), Radiometric (1,715), Cloud Properties (1,410), Atmospheric State (229), Surface Properties (87), and Atmospheric Carbon (2). The "MEASUREMENTS" section lists: Aerosol optical properties (1,278), Aerosol optical depth (814), Aerosol absorption (610), Shortwave narrowband total downwelling irradiance (587), Aerosol scattering (586), Shortwave narrowband direct normal irradiance (538), and Shortwave narrowband diffuse (535). The "SITES" section lists: Southern Great Plains (2,345), North Slope Alaska (615), Cape Cod, MA, USA; Mobile Facility (572), Manacapuru, Amazonas, Brazil; Mobile Facility (511), Tropical Western Pacific (488), Point Reyes CA, USA; Mobile Facility (488), Shouxian, Anhui, China; Mobile Facility (338), and Ganqee Valley, India; Mobile Facility (228). The "FIELD CAMPAIGNS" section lists 50+ items, and the "SOURCES TYPES" section lists 11 items, and the "SOURCES" section lists 50+ items.


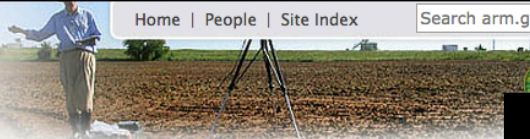
The main content area shows "Search Results". It includes a text box explaining that users can search for and request data by selecting a category, measurement, site, or source, and using start and end dates to limit the results timeline. Below this, there are checkboxes for "ROUTINE DATA" and "PI / CAMPAIGN DATA". A timeline view shows measurements from 1995-07-30 to 2015-03-10, with a button to "Applies to this timeline view only". The timeline shows a range of years from 1996 to 2007, with a button to "Showing 1-20 of 7,625 measurements".

The search results are displayed in a table. The first row is a header: "AIP10GREN c1 @ SGP C1 // DERIVED: AEROSOL INTENSIVE PROPERTIES FROM AOS, DELENE AND OGREN ET AL, 2001". The table lists various aerosol optical properties, including Asymmetry factor, Single scattering albedo, and Aerosol scattering, for different wavelengths and size cuts. Each row has a checkbox and a star icon. The second row is a header: "AIPAVG10GREN c1 @ SGP C1 // DERIVED: HOURLY AVERAGES OF AEROSOL INTENSIVE PROPERTIES FROM AOS, DELENE AND OGREN ET AL, 2001".

Benefits to using OME tool for ARM

- Standardized metadata collected for all ARM products
- PI submissions and data access to public on same machine- no extra data movement
- ARM PI data more easily discovered from other organizational programs, e.g. Earth System Grid (ESG)
- ARM Web page documentation more complete and standardized

More Complete and Standardized ARM Web Page

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[ARM.gov](#) >> [Data](#) >> [PI Data Products](#) >> [CSSEF ARMBE](#)

PI Product : CSSEF ARMBE

[RESEARCH DATA - EXTERNAL FUNDING]

The Climate Science for a Sustainable Energy Future (CSSEF) project is working to improve the representation of the hydrological cycle in global climate models, critical information necessary for decision-makers to respond appropriately to predictions of future climate. In order to accomplish this objective, CSSEF is building testbeds to implement uncertainty quantification (UQ) techniques to objectively calibrate and diagnose climate model parameterizations and predictions with respect to local, process-scale observations. In order to quantify the agreement between models and observations accurately, uncertainty estimates on these observations are needed. The DOE Atmospheric Radiation Measurement (ARM) program takes atmospheric and climate related measurements at three permanent locations worldwide. The ARM VAP called the ARM Best Estimate (ARMBE) [Xie et al., 2010] collects a subset of ARM observations, performs quality control checks, averages them to one hour temporal resolution, and puts them in a standard format for ease of use by climate modelers. ARMBE has been widely used by the climate modeling community as a summary product of many of the ARM observations. However, the ARMBE product does not include uncertainty estimates on the data values. Thus, to meet the objectives of the CSSEF project and enable better use of this data with UQ techniques, we created the CSSEFARMBE data set. For the current implementation of CSSEFARMBE, only a subset of the variables contained in ARMBE is included in CSSEFARMBE. CSSEFARMBE currently consists of only surface meteorological observations, though this may be expanded to include other variables in the future. The CSSEFARMBE VAP is focused on the ARM Southern Great Plains (SGP) site, and is produced for all extended facilities at SGP that contain surface meteorological equipment. This extension of the ARMBE data set to multiple facilities at SGP allows for better comparison between model grid boxes and the ARM point observations. In the future, CSSEFARMBE may also be created for other ARM sites. As each site has slightly different instrumentation, this will require additional development to understand the uncertainty characterization associated with instrumentation at those sites.

Purpose

This data set was created for the Climate Science for a Sustainable Energy Future (CSSEF) model testbed project and is an extension of the hourly average ARMBE dataset to other extended facility sites and to include uncertainty estimates. Uncertainty estimates were needed in order to use uncertainty quantification (UQ) techniques with the data.

Data Details

DEVELOPED BY [Laura Riihimaki](#) | [Krista Gaustad](#) | [Sally McFarlane](#)

CONTACT [Laura Riihimaki](#)
laura.riihimaki@pnnl.gov
 (509) 375-6406
 Richland, WA 99352

[Krista Gaustad](#)
krista.gaustad@pnnl.gov

RESOURCE(S)	Data Directory						
DATA FORMAT	netcdf						
DATA USAGE	Positive and negative systematic, and random error components are computed separately so that the uncertainties can be propagated appropriately when computing data averages. To propagate systematic uncertainty, the square root of the sum of the squares of the systematic uncertainties can be used. Random errors should be propagated using the square root of the sum of the squares of the random errors. Error components should be added in quadrature as described in the attached technical report.						
SITE INFORMATION	ARM SGP						
CONTENT TIME RANGE	2011.01.01 — 2011.12.31						
SCIENTIFIC MEASUREMENTS	<table><tr><th>Measurement</th></tr><tr><td>PRECIPITATION RATE</td></tr><tr><td>HORIZONTAL WIND</td></tr><tr><td>AIR TEMPERATURE</td></tr><tr><td>RELATIVE HUMIDITY</td></tr><tr><td>SURFACE AIR PRESSURE</td></tr></table>	Measurement	PRECIPITATION RATE	HORIZONTAL WIND	AIR TEMPERATURE	RELATIVE HUMIDITY	SURFACE AIR PRESSURE
Measurement							
PRECIPITATION RATE							
HORIZONTAL WIND							
AIR TEMPERATURE							
RELATIVE HUMIDITY							
SURFACE AIR PRESSURE							
ATTRIBUTE ACCURACY	No formal attribute accuracy tests were conducted						
POSITIONAL ACCURACY	No formal positional accuracy tests were conducted						
DATA CONSISTENCY AND COMPLETENESS	Data set is considered complete for the information presented in this abstract. Users are advised to read the rest of the metadata for additional details.						
FACTOR AFFECTING THE RESEARCH	Any data indicated bad by Data Quality Reports was removed						
ACCESS RESTRICTION	No access constraints are associated with this data.						
USE RESTRICTION	No use constraints are associated with this data.						
FILE NAMING CONVENTION	(sss)cssefarmbe(FFF).c1.YYYYMMDD.HHMMSS.cdf where ttf is the file.						
DIRECTORY ORGANIZATION	each subfolder contains data from a different extended facility						
CITATIONS	Riihimaki LD, KL Gaustad, and SA McFarlane. 2012. Climate Science for a Sustainable Energy Future Atmospheric Radiation Measurement (CSSEFARMBE). PNNL-21831, Pacific Northwest National Laboratory						

Thank you & Questions??

Please visit the poster later today!