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ARM Metadata Entry and Data Upload Manual

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April 2024

ARM

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Acronyms and Abbreviations

ARM	Atmospheric Radiation Measurement
DOI	Digital Object Identifier
GIS	geographic information system
OME	Online Metadata Editor
URL	Uniform Resource Locator

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1.0 Introduction

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

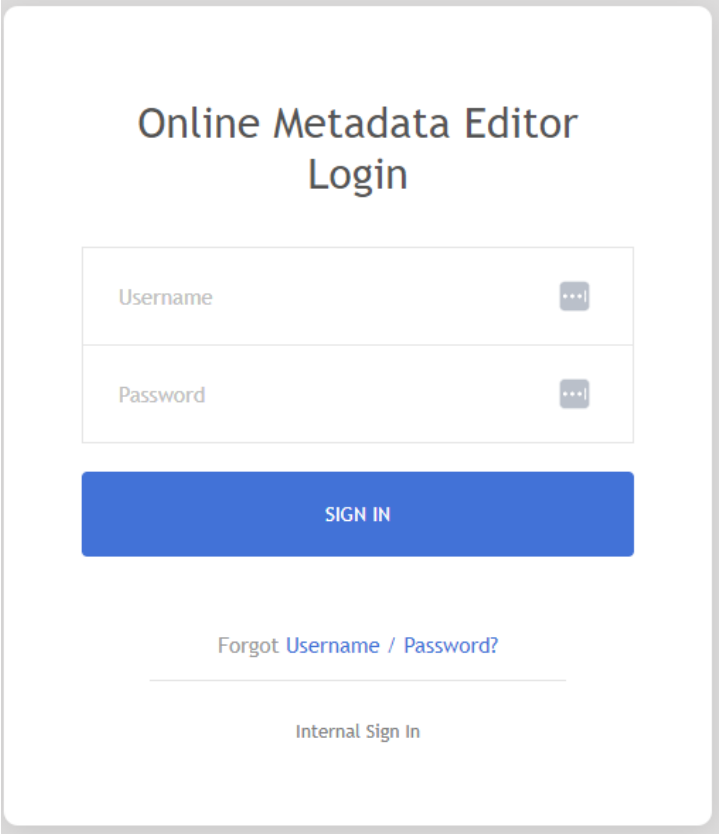
2.0 Accessing OME

PREFERRED BROWSER: GOOGLE CHROME

TOOL AVAILABLE AT: HTTP://WWW.ARCHIVE.ARM.GOV/ARMOME/

LOG IN:

Please use your ARM account username and password to login to the OME.



3.0 Support

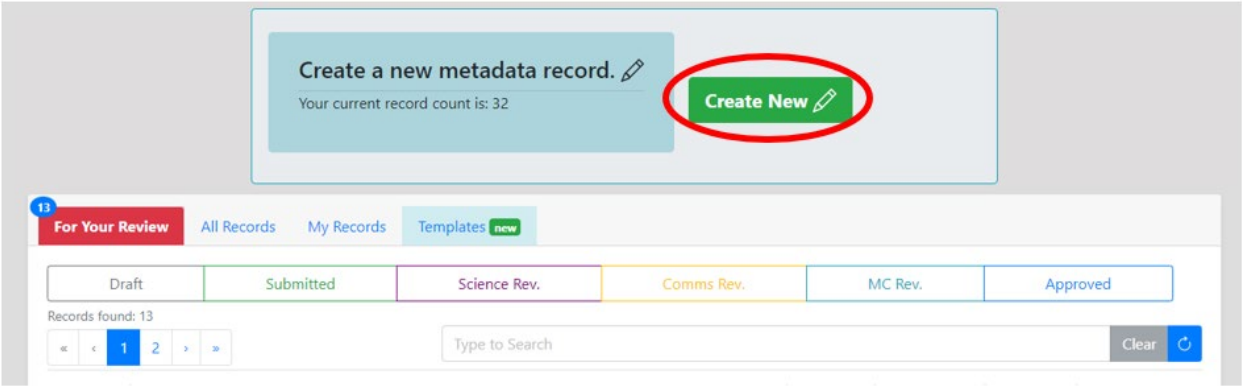
If you have any questions, please email the ARM Data Product Registration and Submission support – supportOME@arm.gov.

4.0 Instructions

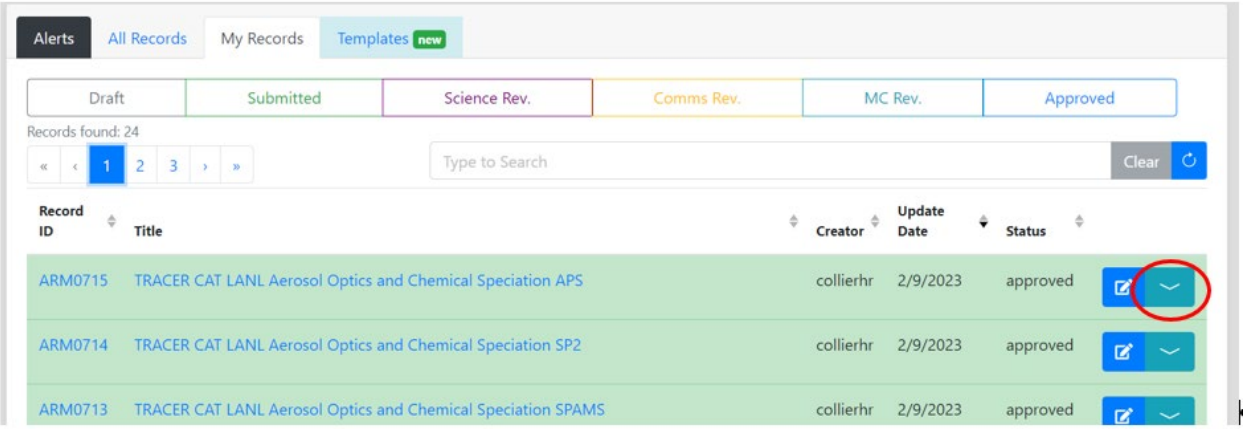
(*Expect the tool to be modified, this manual to be updated, and additional fields included as the team gathers feedback.)

4.1 Landing Page (Home)

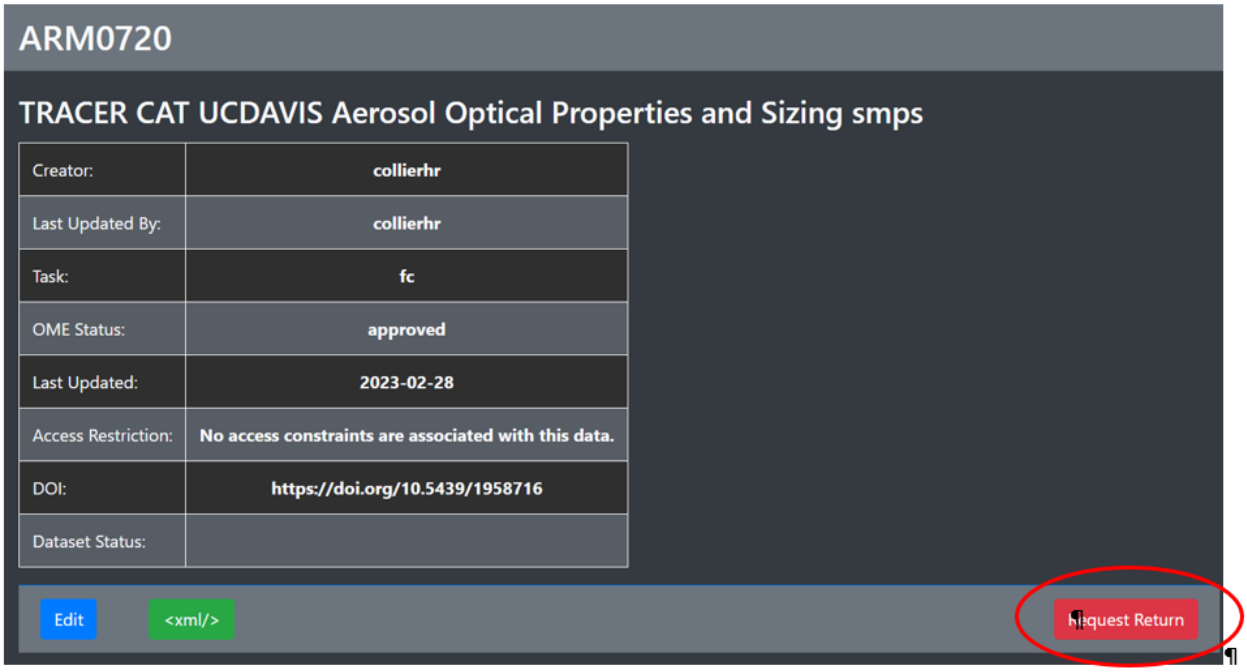
1. **Creating a new metadata record** – select this option to create a new metadata record.
    a. At the top of the landing page, press the green "Create New" button.



2. **Editing an existing metadata record** – by clicking on the "My Records" tab, you can see a list containing all metadata records that you have created.

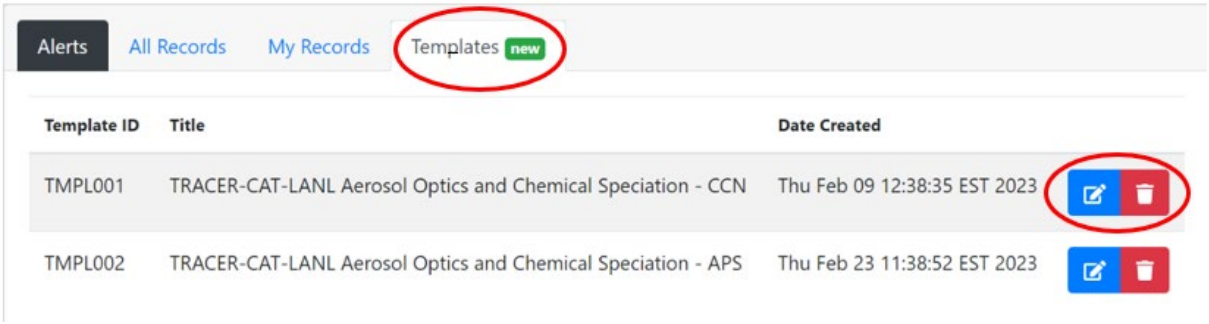


    a. For the record you would like to resubmit, press the down arrow next to the record to Show Details.



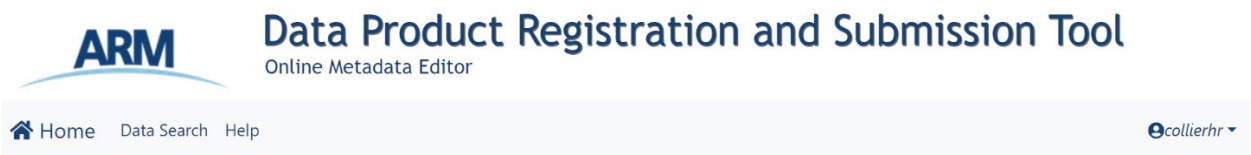
b. Select the 'Request Return' button. This request will be sent to OME support. You will receive an email when the record has been returned to you as a draft.

3. **Using an existing metadata record as a template to create a new record** – Open a template by clicking on the edit logo.



a. Change the title on the form and make edits.
b. You can then save the record with the new title.

4. **Links at the top of the home page** – The following describe the links that are available at the top of the Data Product Registration and Submission Tool web page.

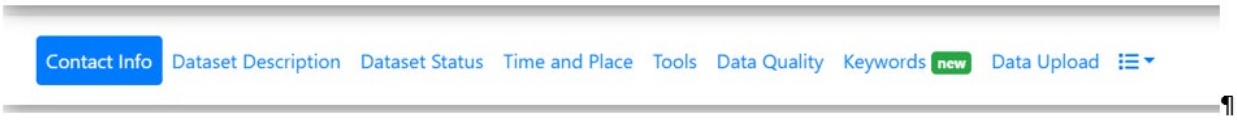


a. Home: Select this to reach the Home page.
b. Data Search: Select this link to access Data Discovery on arm.gov.

c. Help: This link provides a link to this manual and the email if you have questions for the support team (supportOME@arm.gov).
d. Profile: Select your username on the top right to view your profile or log out.

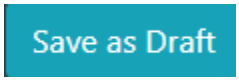
4.2 Navigating within a Metadata Record

You can either scroll through the record or navigate to different sections of the metadata record using the tabs at the top of the form.



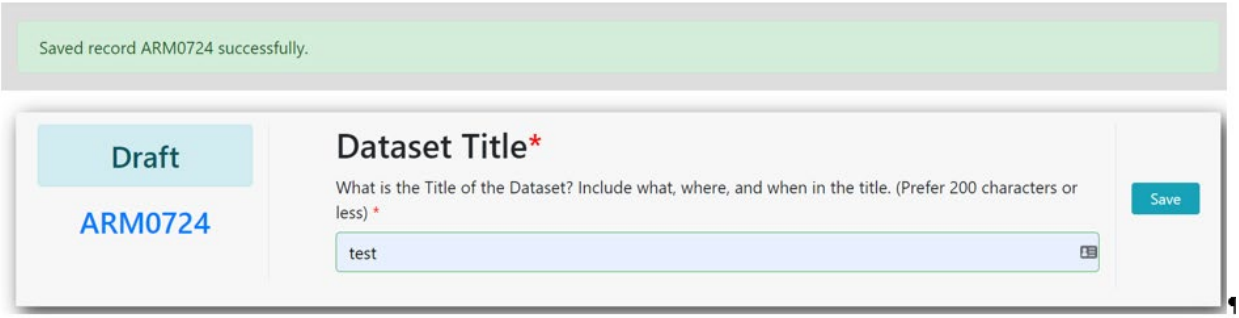
4.3 How to Preview, Save, and Submit a Record

The toolbar at the bottom of the form includes the following buttons. The information below describes when to select each button.

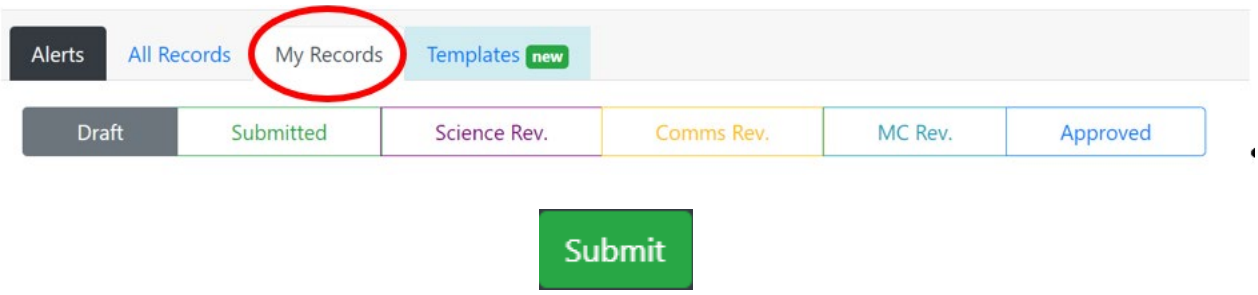


1. This saves a draft of the record within the tool to the ARM product registration server.

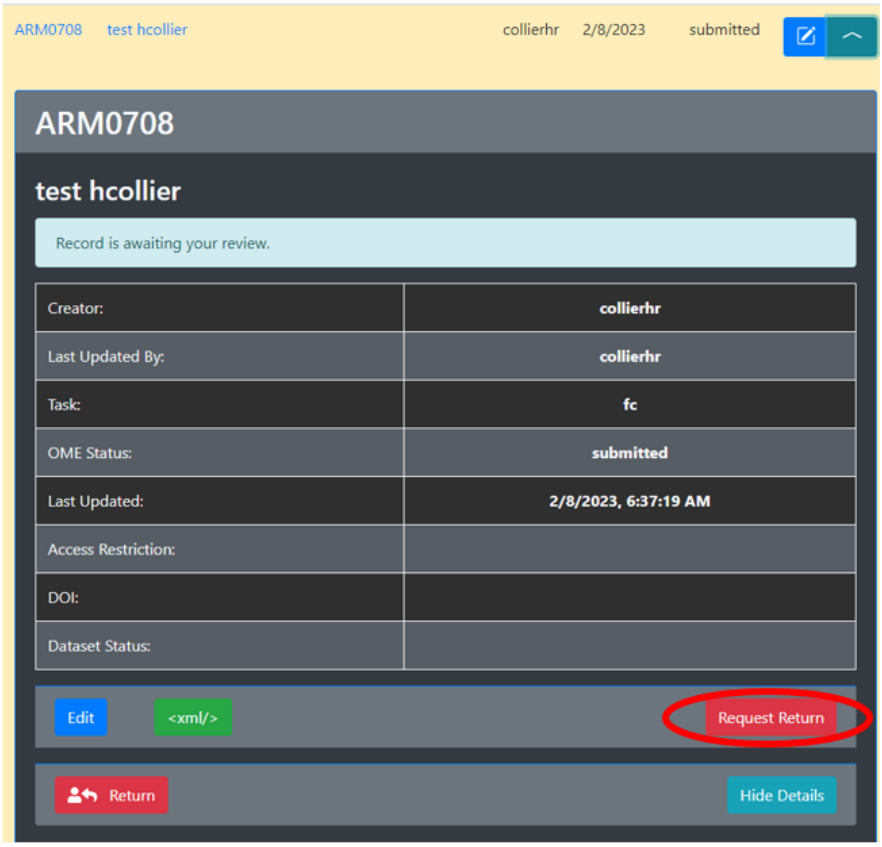
   a. Must have all required fields complete (these are marked with a red asterisk).
   b. TBD is an acteptable entry.
   c. A successful draft save will show a green bar at the top of the form with the text: “Saved record ARMxxxx successfully”.



This record will be available under the My Records tab. You can filter your records by the process step by using the second row of tabs.

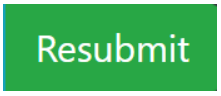


1. Once you are ready for the metadata record to be reviewed by the ARM Data Center, press the green "Submit" button.
    a. You cannot make changes to the form after you submit it until the record is approved. If you notice any issues after you submit and before approval, you may also Request Return for the record. This will return the record to you in the draft stage, and you may make edits, then submit the form again.



    b. Otherwise, you may contact supportOME@arm.gov to make changes for you after the record is submitted.
2. The user will receive an email confirming the record was saved.
3. The ARM review team will review the record for metadata consistency.
    a. If there are content changes needed to the metadata record, the Metadata Contact will need to make the corrections and resubmit the record.

   b. The review team may make editorial and minor metadata consistency changes, then approve the record.
4. After the record is approved and the data links, including DOIs, are available for the data product, you will receive an email from the ARM metadata team noting the data location on arm.gov.



1. If you have new or updated data or new information to provide in the metadata form, you may resubmit a previously submitted and approved record. To do this, open the record you would like to submit, make necessary changes, then click the green 'Resubmit' button at the bottom of the page. You must then provide an explanation for the resubmission (e,g., "New data has been added to this submission" or "Added author to the author list").

1. From your records, select one metadata record you would like to save as a template.
   a. Once the record is open, select "Save as Template".
2. Once the template has been saved, you can find that template in the "Templates" tab.

5.0 Description of Metadata Requested in the Tool

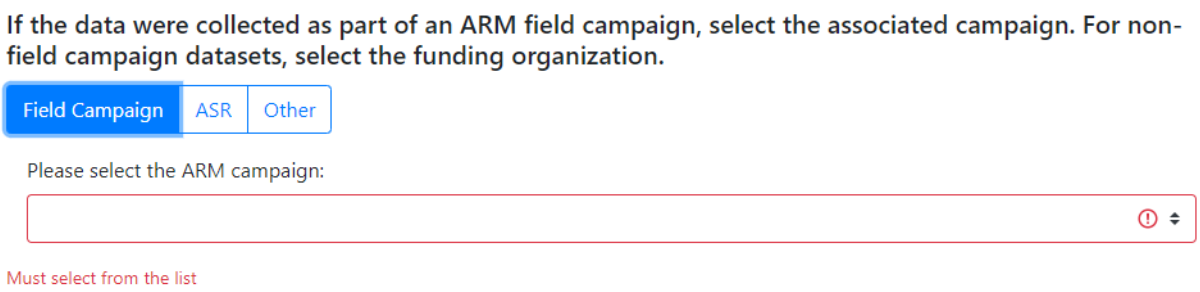
This section summarizes the types of information requested. Please review this information to help create a complete, comprehensive metadata record. Required fields are noted by red asterisks (*) on the OME form and in this summary.

5.1 Data Set Title*

Provide a descriptive title that will be the name of your metadata record. Try to include the 'what', 'where', and 'when' in the title. We prefer that the title be 200 characters or less.

5.2 Data Product*

If the data were collected as part of an ARM field campaign, select Field Campaign, and then use the drop-down list to select the appropriate campaign. If the data were not collected as part of an ARM field campaign, select who funded the data collection – ASR or Other. If you have any questions about these selections, please contact supportOME@arm.gov.



5.3 Metadata Contact*

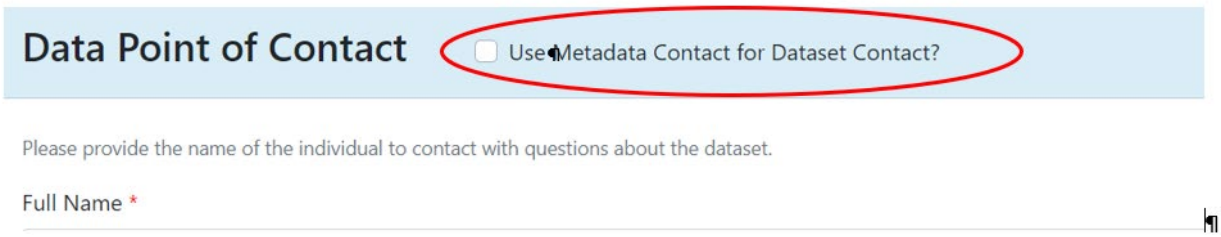
This section should contain the contact information for the person generating the metadata record, who may also be the author/principal investigator/developer.

- Mandatory contact information fields are indicated by red asterisks (*).
- For all contact fields in the form, there is a type-ahead feature in the name field.
  - Begin typing a name slowly, and the tool will offer a drop-down list of options.
  - Select a name and the fields will auto-populate with information from the ARM database.
  - You may add new names or make edits to auto-populated information.

5.4 Data Point of Contact*

This section should contain information for the person who should be contacted if a data user has questions about the data.

- The data set point of contact may be the principal investigator, instrument mentor, data developer, data technician, or another team member.
- If the Data Point of Contact is the same person as the Metadata Contact, you may copy the information provided in the metadata contact fields by checking the box next to "Use Metadata Contact for Dataset Contact?"



5.5 Data Set Authors*

In this section, include names and emails of those who helped in the development of the data set, in the order you want them to appear in the data set citation.

- Individuals may include principal investigator, instrument mentor(s), data developer(s), data technician(s), and/or other team members.
- You can delete, reorder, or add more authors using the icons to the right of the fields.

- At the bottom of this section, add any other individuals or organizations who should get credit for support, funding, or data collection and analysis.

5.6 Data Set Description

In this section, provide details about the data set.

- Abstract*
  - Include general information about the data set in the abstract that may be important for those wanting to view and use the data.
- Purpose
  - The next field asks: "What is the purpose of the dataset? Why were the data collected?"
- Use
  - The next field states: "Please describe how to use the data". Describe how the data have been applied, or how the data could be applied to answer a particular question.
    - Ex: "Data were collected to improve our understanding of secondary aerosol formation in the atmosphere."
  - For geographic information system (GIS) and gridded products, please list metadata that the user will need. Include as appropriate: projection/coordinate reference system, datum, spatial resolution, no data values, classification values/legend, number of rows and columns, bounding box – coordinates of the top-left/bottom-right pixels and if coordinates lie within the center of the pixel or at one of the edges.
- Related Publications/References
  - Provide any publications or references for this data.
- Other information – fill in the remaining sections, if possible. Fields include:
  - **Update frequency** – use the drop-down to indicate the frequency in which the data was collected.
  - **What format is your data presented in?*** – this is a required field. Provide the data format in this field. Examples are text, ascii, netcdf, csv, etc. If more than one format is used, please provide each format, separated by a comma.
  - **Please provide an estimate of total data volume if greater than 1 TB**

- **Please explain the file naming convention** – File names typically include instrument, location, date, etc. information. Please include how the files are named in this section.
- **Please explain the directory organization, if any subdirectories exist** – If data have been uploaded within subdirectories, please include this information here.
- **Please provide the site URL associated with the DOI** – If you would like ARM to mint a DOI for this data set with the URL resolving to Data Discovery, please leave this field blank. However, if you have a separate DOI that has already been minted for this data set, you may include the URL for that DOI here.

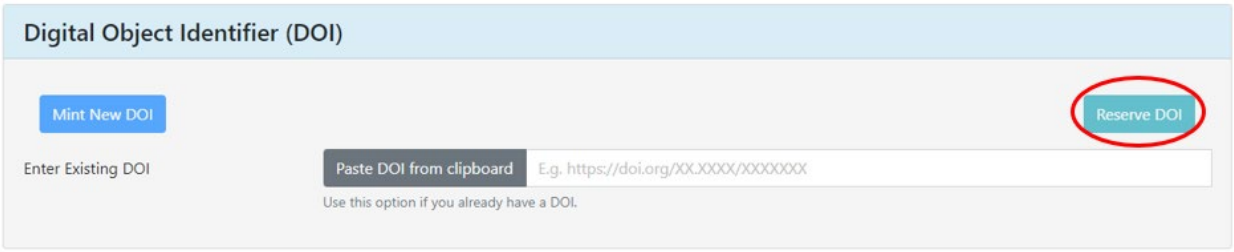
5.7 Data Set Status

This section has two yes/no questions about any constraints on accessing or using the data. If you answer 'yes' to either of the questions, you must provide more information in the generated text box. The following questions should be answered:

- Data Access Constraints – are there any restrictions on accessing the data?
  - If yes, please describe any restrictions or legal prerequisites for accessing the data set. These may include restrictions applied to ensure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.
- Data Use Constraints – are there any restrictions on using the data after access is granted?
  - If yes, please describe any restrictions or legal prerequisites for using the data set after access is granted. These may include constraints applied to ensure the protection of privacy or intellectual property, and any special restrictions or limitation on using the data set.

5.8 Digital Object Identifier (DOI)

If you would like ARM to mint a DOI for your data set, please select the "Reserve DOI" button. This will create a DOI associated with the title of the data set. Once the data set is processed, it will be published.



There is also the option to copy and paste a DOI that already exists for this data set, for example, if the data is stored in another repository.

5.9 Time and Place of Data Collection

Include the period of data collection and the location where data were collected.

5.10 Analytical Tools

In this section you can provide any additional information about the data set not previously requested in the form, that you would like someone using your data to know, for example, algorithms or published formulas used in the data set.

5.11 Data Quality

Provide an assessment on the quality of the data set including:

- Uncertainty – How accurate is the data? Is there a bias?
- Consistency – Were tests run to find data inconsistencies?
- Completeness – Is there anything missing that might be expected?
- If cloud cover was a factor, provide a percent cover.

5.12 Keywords

- **Instruments** – provide the instrument or instruments used to collect the data.
- **Measurements** – provide individually the measurement(s) of primary scientific value, and the associated variables names, if applicable. Continue to add variables and measurements until all are entered.
  - The primary measurement field can also hold the name of a particular thesaurus with the keywords selected from the thesaurus entered in the variable field. Primary measurements/keywords should be to the specificity of the data set.
  - The tool provides some type-ahead suggested values pulled from ARM's database of metadata.
  - The first box under Measurements is for the measurement name; the second box is for the variable name in the file associated with that measurement.
- **Stratum Keywords** – provide general search and discovery keywords (please note if using a particular thesaurus as a resource):
  - Examples: Atmosphere: Troposphere, Cryosphere: Frozen Ground (permafrost)

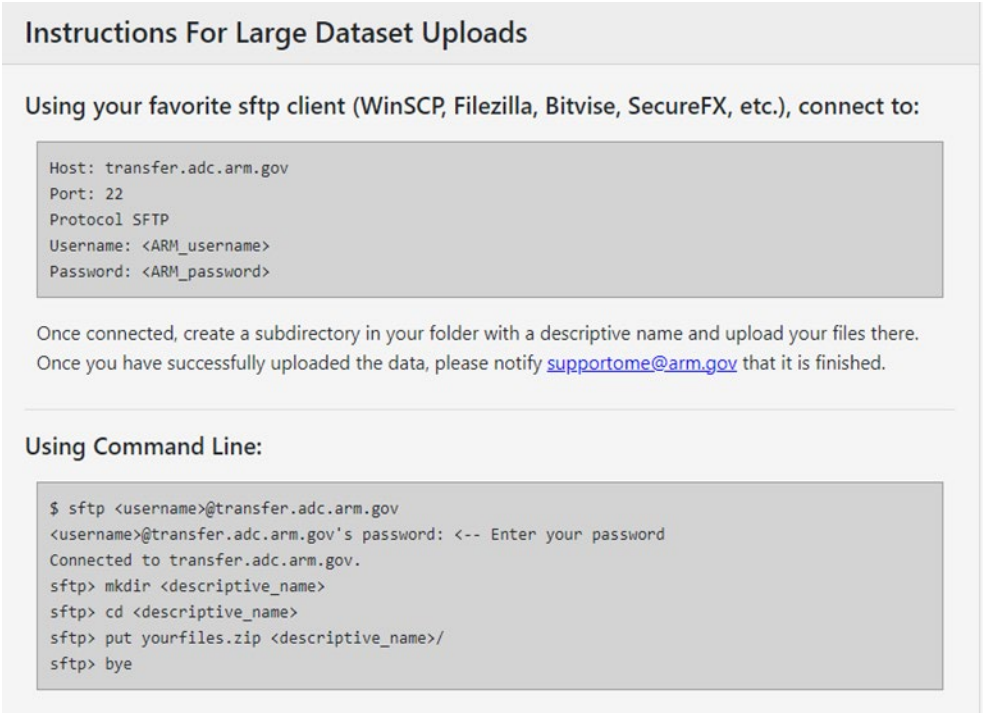
5.13 Additional Information

In this section you can provide any additional information about the data set not previously requested in the form that you would like someone using your data to know, for example, algorithms or published formulas used in the data set.

5.14 Data Upload

- Upload data files to the form (including data files, additional documentation, plots, instrument photos, white papers, etc.).

  - Accepted files: csv, txt, xml, xlsx, xls, netCDF, pdf, jpeg, png, zip, tar.
  - Additional extensions may be available upon request.
- Instructions for large data set uploads, over 2GB.



Instructions For Large Dataset Uploads

Using your favorite sftp client (WinSCP, Filezilla, Bitvise, SecureFX, etc.), connect to:

```
Host: transfer.adc.arm.gov
Port: 22
Protocol SFTP
Username: <ARM_username>
Password: <ARM_password>
```

Once connected, create a subdirectory in your folder with a descriptive name and upload your files there. Once you have successfully uploaded the data, please notify supportome@arm.gov that it is finished.

Using Command Line:

```
$ sftp <username>@transfer.adc.arm.gov
<username>@transfer.adc.arm.gov's password: <-- Enter your password
Connected to transfer.adc.arm.gov.
sftp> mkdir <descriptive_name>
sftp> cd <descriptive_name>
sftp> put yourfiles.zip <descriptive_name>/
sftp> bye
```

www.arm.gov