

ARM

CLIMATE RESEARCH FACILITY

How to Archive, Distribute and Acknowledge your Data

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Data Product Registration and Submission

<http://www.arm.gov/data/pi>



[ARM.gov](#) » [Data](#) » [Data Documentation](#) » [Data Product Registration and Submission](#)

Data Product Registration and Submission

The procedure for principal investigators to submit ARM science research products, field campaign data, or DOE-supported research data to the ARM Data Archive is the following:

1. To begin, use the [Data Product Registration and Submission](#) form.
2. Identify yourself—either from the pick list or by manual entry.
3. Select a **Data Type**. This choice determines the level of review and the procedure for handling and approving your documentation and accompanying data submissions within the ARM Climate Research Facility. Currently, three **Data Type** options are available.
 - » **ARM Principal Investigator (PI) Data Product** – reviewed by ARM Translators and Infrastructure Representative.
 - » **ARM Field Campaign Data** – reviewed by ARM External Data Center (XDC) staff responsible for handling field campaign data submissions.
 - » **Research Data for the ARM Data Archive** – sent directly to metadata reviewers for the ARM Data Archive.
4. Fill out the [Data Product Registration and Submission](#) form as completely and accurately as possible. Nobody is better equipped or suited to describe a data submission than the scientist who created it. The Data Product Registration and Submission form allows PIs to attach files, including data files, additional documentation files (e.g., readme files), technical reports, and pertinent science articles. Scientists are encouraged to provide these additional materials.
5. Submit the [Data Product Registration and Submission](#) form. Once you have completed and submitted the form, and all mandatory fields are verified, you will receive notification to confirm successful submission.

For assistance with your [Data Product Registration and Submission](#), please contact [Giri Palanisamy](#).

Policies, Plans, Descriptions

[Data Documentation Home](#)

- » [Data Sharing and Distribution Policy](#)
- » [Data Management and Documentation Plan](#)
- » [Data Product Registration and Submission](#)
- » [Reading netCDF and HDF Data Files](#)
- » [Time in ARM netCDF Data Files](#)

Data Archive Documentation

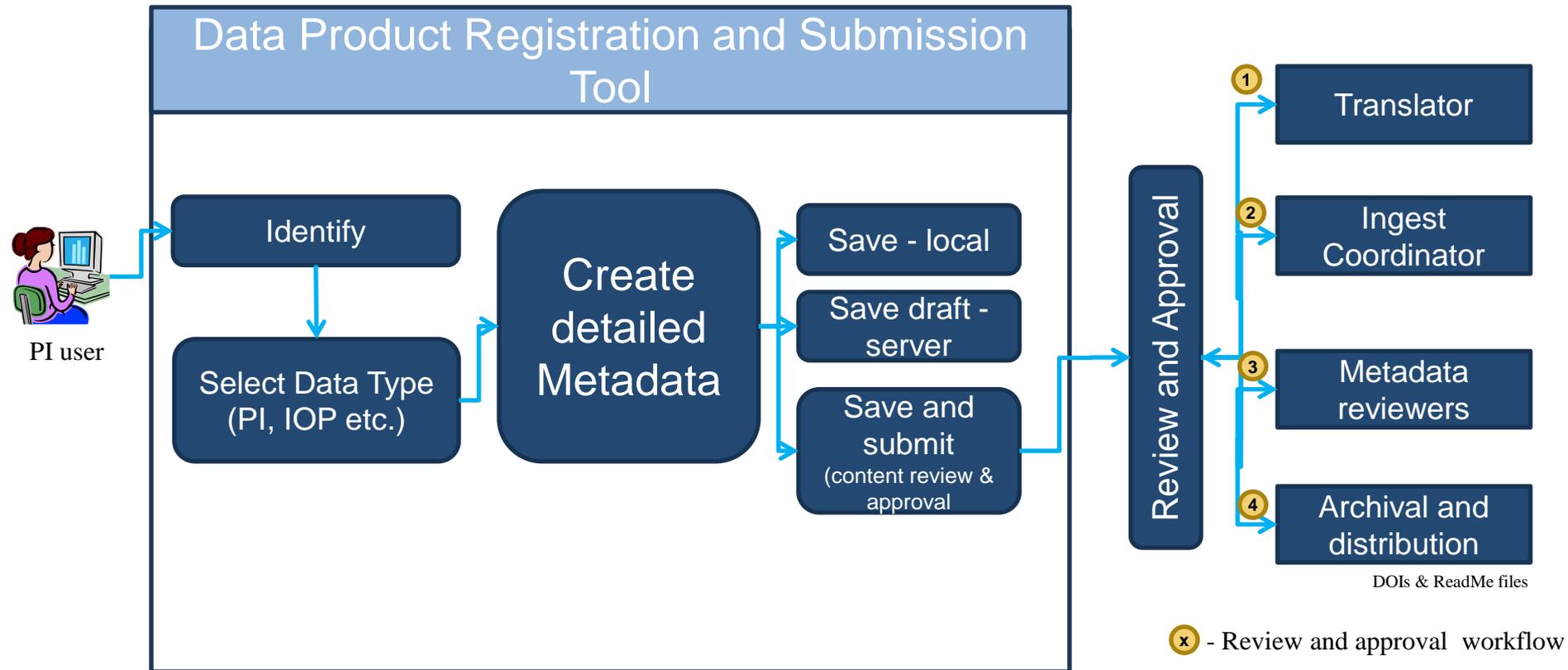
- » [ARM Archive's Catalog of Data Streams \(Updated monthly\)](#)
- » [Access to Historical ARM Data](#)
- » [More on Understanding and Finding ARM Data](#)
- » [Data Quality Problem Reporting](#)

Your Metadata is critical:

- Improves data discovery and understanding
- prepare the data package for efficient distribution
- Properly categorize your data
- Facilitate proper credits to all the authors

Title:	Atmospheric State, Cloud Microphysics & Radiative Flux		
Data Type:	research data - ASR funded		
Metadata Contact Info:	Organization Name/Individual Name:	Gerald Mace	
	Email: mace@met.utah.edu	Phone: (801) 585-9489	
	Street: William Browning135 S 1460 East Rm 819	City: Salt Lake City	
	State: UT	Postal: 84112	
Investigator(s):	Gerald Mace		
Publication Info:	Publication Date: 20080601	Publication Place: Journal of Climate	Publisher: AMS
Geoform:	Value Added Products		
Status:	ongoing		
Data Update Frequency:	as needed		
Data Volume:	1 TB		
File Naming Convention:	site.Integrate_Column_AveragingInterval-Mace.yyyyymmdd.000000.v2.cdf		
Directory Organization:	each site directory has subdirectories for the file type and then subdirectories for the years		
Abstract:	Atmospheric thermodynamics, cloud properties, radiative fluxes and radiative heating rates for the ARM Southern Great Plains (SGP) site. The data represent a characterization of the physical state of the atmospheric column compiled on a five-minute temporal and 90m vertical grid. Sources for this information include raw measurements, cloud property and radiative retrievals, retrievals and derived variables from other third-party sources, and radiative calculations using the derived quantities.		
Purpose:	Data were collected in order to help and improve the climate and earth system models.		
Site Information:	Sites		
	sgp,nsa,twpc1,twpc2,twpc3		
Content Time Range:	Begin: 19970101	End: 20091231	
Scientific Measurements(s):	Measurement name		Variables
	averaged cloud radar	column_cfrac_mpl	
	averaged atmospheric state	skin_temp sndg_flag pressure sfc_temp precip_rate sfc_pressure mxrat temp sfc_mxrat	
	averaged cloud layers	top_height_layer_1 base_temp_layer_1 top_temp_layer_2 top_height_layer_3 number_of_layers base_height_layer_3 first_cbh base_height_layer_1	

PI and IOP Data Registration Steps



<http://www.arm.gov/data/pi>

ARM Data Product Registration and Submission Form (OME)^{Beta}

Data Quality

The Data Quality section of the metadata record is used to provide a general assessment of the quality of the dataset. There are four main components to this section:

Attribute Accuracy Report

An attribute is a defined characteristic of an entity within the dataset. E.g A data set might include the entity "road" and have the attribute "road type"

How correct are the attribute values?

Attribute Accuracy refers to assessments as to how 'true' the attribute values may be - it may refer to field checks, cross-checks with other documents, statistical analysis values and parallel independent measures. It does not refer to the positional accuracy of the feature

Positional Accuracy Report

Consistency and Completeness Report

Logical Consistency Report provides an explanation for bad values or conditions and what tests and/or database QA/QC routines, if any, were used to check for data inconsistencies.

Does the dataset contain any bad values? If yes, what Quality Control/Quality Assurance (QA/QC) procedures were used?

E.g. do line intersect only where intended? Are polygon too small or lines too close?

Was there any factor affecting your research like cloud cover, precipitation e.t.c? Please explain:

- **Data Type**
- **Description and keywords**
- **Contact information**
- **Data Quality**
- **Time and Place**
- **Related Publications**
- **Analytical Tools**
- **Save, revisit and Submit**

Improving Data Discovery

Before

The screenshot shows the ARM website interface. At the top is the ARM logo and navigation menu. The main content area displays the product title, dates (1997.01.01 - 2004.12.31), site information (SGP), and a general description of the atmospheric data. It also includes contact information for Gerald Mace and a list of partner organizations like Argonne, Brookhaven, and Los Alamos.

Now

This screenshot shows a more streamlined version of the same product page. It features a prominent navigation bar with tabs for 'About', 'Science', 'Campaigns', 'Sites', 'Instruments', 'Measurements', 'Data', and 'News'. The content is more concise, focusing on the product title, a brief description, publication details (20080601, Journal of Climate, AMS), and contact information for Gerald Mace. It also includes site information and content time range.

The screenshot shows a file explorer window with a directory path: `/arm-iop/0pi-data/mace/integrate_column_averaging/`. The directory contains a `Parent Directory` link, a `README.html` file (3095 bytes, last modified Tue Nov 5 17:20:04 2013 UTC), and four subdirectories: `nsa/`, `sgp/`, `twpc1/`, and `twpc3/`.



The logo for ARM (Atmospheric Radiation Measurement) features the letters "ARM" in a bold, blue, sans-serif font. Below the letters is a blue, curved swoosh that underlines the text.

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Data Citation using Digital Object Identifiers (DOIs)



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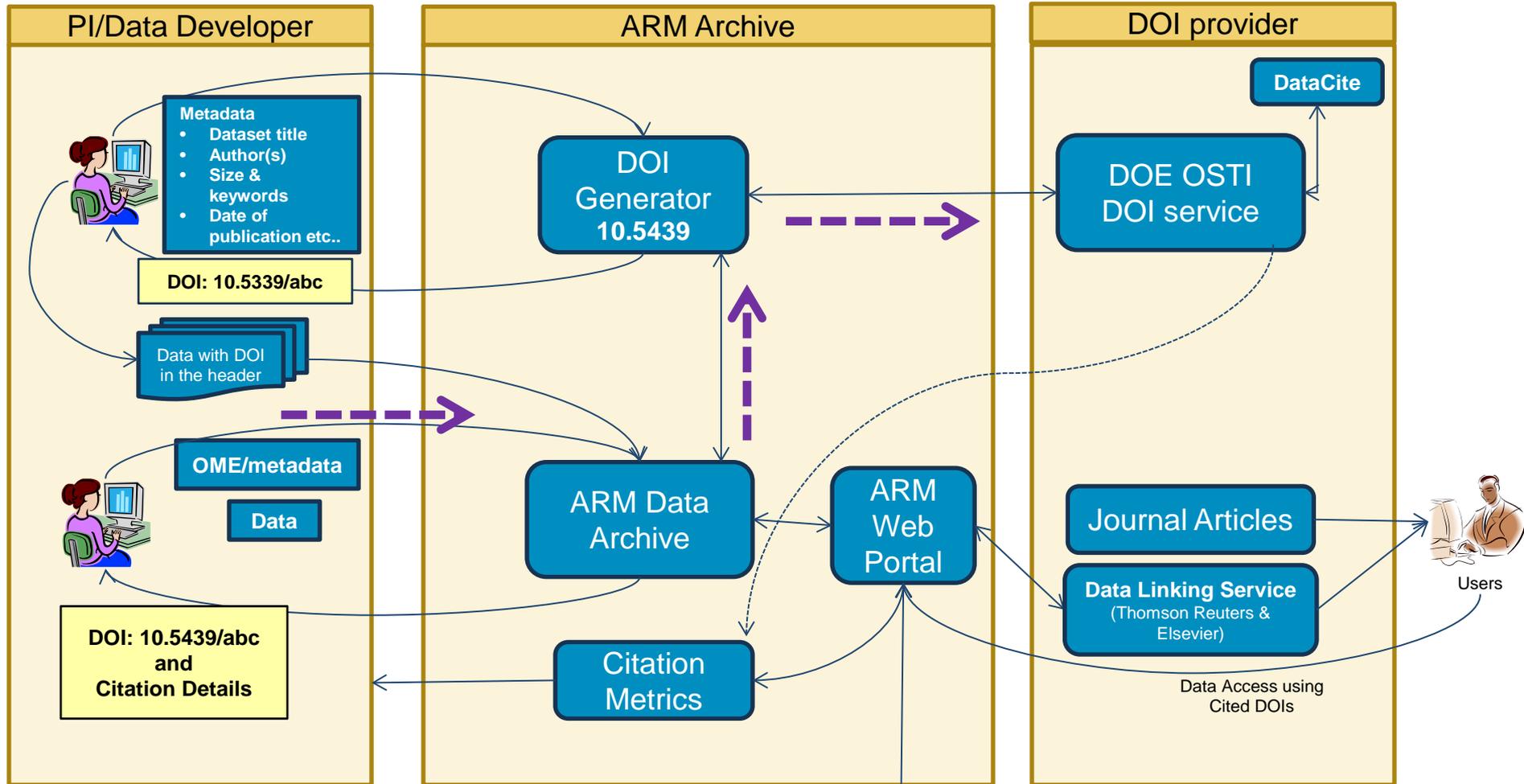
Digital Object Identifiers (DOIs) For Your Data

Benefits of assigning DOIs to your data:



- Provide proper credit to all authors
 - DOIs will be registered with all authors involved in creating data products
- Create persistent, globally unique, fully resolvable ids for ARM/ASR datasets
- DOIs allow the users to more directly cite the exact ARM data that they used in their research.
- DOIs also allow the future data users and the ARM program to easily track the data cited in various publications, and can answer questions such as:
 - Show me the exact data (and the data creator) that this journal article is referring
 - List of papers using my data (citation index)
 - List of articles citing ARM data

Assigning DOIs to your Data



DOIs Example

Product: ARMBE

The screenshot shows the ARM Climate Research Facility website. The main content area is titled "VAP Output - ARMBEATM". It includes sections for "Description", "Reference", and "Data Availability and DOI Numbers for Citations". A yellow arrow points from the "Data Availability and DOI Numbers for Citations" section on the left to the "Suggested Citation Structure" section on the right.

Data Availability and DOI Numbers for Citations [collapse]

DOI Numbers

- » sgparmbeatm.C1 DOI: 10.5439/1039931
- » nsaarmbeatm.C1 DOI: 10.5439/1039932
- » twparmbeatm.C1 DOI: 10.5439/1039933
- » twparmbeatm.C2 DOI: 10.5439/1039934
- » twparmbeatm.C3 DOI: 10.5439/1039935

Suggested Citation Structure

Example for SGP.C1 site armbeatm data:

McCoy, Renata, and Shaocheng Xie. 2012, updated yearly. ARM Best Estimate - ARMBECLDRAD. Jan 1996–Jan 2011, 36° 6' 18.0" N, 97° 9' 6.0" W: Southern Great Plains Central Facility (C1). Oak Ridge, Tennessee, USA: Atmospheric Radiation Measurement (ARM) Climate Research Facility Data Archive. Data set accessed 2012-10-01 at <http://dx.doi.org/10.5439/1039926>.

See also [DOI Guidance for ARM Facility Datastreams](#).

[collapse]

<http://www.arm.gov/data/vaps/armbe/armbeatm>

The logo for ARM (Atmospheric Radiation Measurement) features the letters "ARM" in a bold, blue, sans-serif font. Below the letters is a thin, blue, curved line that arches under the text.

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Citing ARM Datastreams



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Use of ARM DOIs

The screenshot shows the ARM website interface. At the top, there is a navigation bar with links for Home, People, Site Index, and a search box. Below this is a main menu with categories like About, Science, Campaigns, Sites, Instruments, Measurements, Data, News, Publications, and Education. The main content area displays the 'Datastream : SONDEWNPN' page. On the left, there is a description of the Balloon-borne sounding system (BBS) and its active dates (1994.04.12 - 2013.10.22). A central plot shows atmospheric data over time. On the right, a 'Citation' pop-up window is overlaid, containing the DOI: 10.5439/1021460, a link to 'What is this?', and a 'GENERATE CITATION' button. Below the plot, there is a 'Measurements' section with a table of data variables.

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Home | People | Site Index | Search arm.gov

U.S. DEPARTMENT OF ENERGY | Office of Science

About | Science | Campaigns | Sites | Instruments | Measurements | Data | News | Publications | Education

ARM.gov » Data » Instrument Datastreams » sondewnpn

Datastream : SONDEWNPN

Balloon-borne sounding system (BBS): Vaisala-processed winds, press., temp, &RH

Active Dates
1994.04.12 - 2013.10.22

Measurement Categories
Atmospheric State

Originating Instrument
Balloon-Borne Sounding System (SONDE)

Documentation
» XDC documentation
» Post-Deployment Work

Example **sondewnpn** Archive Data Plot

Measurements

Only measurements considered **scientifically relevant** are shown below *by default*.

Show all measurements

Measurement	Units	Variable
Atmospheric moisture	C	dp (time)
Dewpoint Temperature		
Atmospheric moisture	%	rh (time)
Relative Humidity		

Browse Data

Comments?

We would love to hear from you! Send us a note below or call us at 1-888-ARM-DATA.

Email address:

Comments:

Citation
DOI: [10.5439/1021460](https://doi.org/10.5439/1021460)
[What is this?]
[GENERATE CITATION](#)

ARM - Recommended Citation Format

- *Author*
- *Original publication date*
- *Update period, if applicable (daily, monthly, quarterly, yearly, etc.)*
- *Dataset name*
- ***Dates used****
- ***Locations**** (*latitude/longitude, site name, and facility identifier*)
- *Editor(s) or compiler(s) or collaborator(s)*
- *Place of publication*
- *Publisher*
- ***Date accessed****
- ***DOI****

**** Needed for future replication of data requests***

<http://www.arm.gov/data/docs/doi-guidance>

Sample Citations

Citation Examples

1. Single datastream, single site, single data range:

Atmospheric Radiation Measurement (ARM) Climate Research Facility. 1994, updated daily. Balloon-borne sounding system (SONDEWNPN). Oct. 2010–March 2011, 36° 36' 18.0" N, 97° 29' 6.0" W: Southern Great Plains Central Facility (C1). Compiled by R Coulter, J Prell, M Ritsche, and D Holdridge. ARM Data Archive: Oak Ridge, Tennessee, USA. Data set accessed 2011-04-13 at <http://dx.doi.org/10.5439/1021460>.

2. Single datastream, single site, multiple date ranges:

Atmospheric Radiation Measurement (ARM) Climate Research Facility. 1994, updated daily. Balloon-borne sounding system (SONDEWNPN). Oct. 2008–March 2008, Oct. 2009–March 2009, Oct. 2010–March 2011, 36° 36' 18.0" N, 97° 29' 6.0" W:

Atmospheric Radiation Measurement (ARM) Climate Research Facility. 1996, updated **yearly**. ARMBECLDRAD. **2011-01-01 to 2011-01-01, 71.323 N 156.609 W: North Slope Alaska (NSA) Central Facility, Barrow AK (C1)**. Compiled by R. McCoy and S. Xie. Atmospheric Radiation Measurement (ARM) Climate Research Facility Data Archive: Oak Ridge, Tennessee, USA. Data set accessed **2013-10-30** at <http://dx.doi.org/10.5439/1039927>

4. Single datastream, single site, single data range, specific measurement extracted:

Atmospheric Radiation Measurement (ARM) Climate Research Facility. 1994, updated daily. Balloon-borne sounding system (SONDEWNPN). Oct. 2010–March 2011, 36° 36' 18.0" N, 97° 29' 6.0" W: Southern Great Plains Central Facility (C1), relative humidity. Compiled by R Coulter, J Prell, M Ritsche, and D Holdridge. ARM Data Archive: Oak Ridge, Tennessee, USA. Data set accessed 2011-04-13 at <http://dx.doi.org/10.5439/1021460>.

Alternate Format

If, for some reason, it is necessary to cite the datastream editors/compilers as the author, the following format is recommended:

Coulter, Richard, Jenni Prell, Michael Ritsche, and Donna Holdridge. 1994, updated daily. Balloon-borne sounding system (SONDEWNPN). Oct 2010–March 2011, 36° 36' 18.0" N, 97° 29' 6.0" W: Southern Great Plains Central Facility (C1). Atmospheric Radiation Measurement (ARM) Climate Research Facility Data Archive: Oak Ridge, Tennessee, USA. Data set accessed 2011-04-13 at <http://dx.doi.org/10.5439/1021460>.



Generating Citations

The screenshot shows the ARM website interface with a 'Generate Citation' dialog box open. The dialog box contains the following information:

- Author:** Atmospheric Radiation Measurement (ARM) Climate Research Facility
- Original Publication Date:** 1994
- Update Period:** hourly
- Location Accessed:** Site: North Slope Alaska (NSA); Facility: Central Facility, Barrow AK (C1)
- Dates Used:** Start: 2012-10-01; End: 2013-10-15
- Editor(s) or Compiler(s):** D. Holdridge, J. Kyrouac and R. Coulter
- Date Accessed:** 2013-10-23
- Citation(s):** Atmospheric Radiation Measurement (ARM) Climate Research Facility. 1994, updated **hourly**. SONDEWNPN. **2012-10-01 to 2013-10-15, 71.323 N 156.609 W: North Slope Alaska (NSA) Central Facility, Barrow AK (C1)**. Compiled by D. Holdridge, J. Kyrouac and R. Coulter. Atmospheric Radiation Measurement (ARM) Climate Research Facility Data Archive: Oak Ridge, Tennessee, USA. Data set accessed **2013-10-23** at <http://dx.doi.org/10.5439/1021460>

Buttons in the dialog include 'Remove', 'Modify', 'Add citation for another site or time', and 'DONE'. A checkbox for 'Send me a copy' is also present.

The logo for ARM (Atmospheric Radiation Measurement) features the letters "ARM" in a bold, blue, sans-serif font. Below the letters is a blue, curved line that arches over the text, resembling a stylized horizon or a wave. The background of the top half of the slide is a photograph of the Earth's horizon from space, showing the blue curve of the planet against a white and blue sky.

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Linking Data and Publications



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Linking Data and Publications

The image shows two overlapping web browser windows. The top window is ScienceDirect, displaying a journal article titled "Retrieval of aerosol optical depth in vicinity of broken clouds from reflectance ratios: Sensitivity study". The article is from the "Journal of Quantitative Spectroscopy and Radiative Transfer", Volume 110, Issues 14-16, September-November 2009, Pages 1677-1689. The authors listed are Evgueni Kassianov, Mikhail Ovchinnikov, Larry K. Berg, Sally A. McFarlane, and Connor Flynn. The abstract states: "We conducted a sensitivity study of aerosol optical depth (AOD) under partly cloudy conditions. The study is performed for different observational conditions. The sensitivity study suggest that this detection does not depend on the distribution of reflected solar radiance. Such detection does not depend on the previously suggested approaches. Similar to the traditional methods, the computational cost for retrieving AOD is high. Accurate estimations of the AOD require a high number of pixels. The screening and the accuracy of the AOD estimations are affected by random errors are introduced in the data." The ScienceDirect page also features a sidebar with a table of contents and a "Data for this Article" section with a hand icon and the text "Click here to access Data".

The bottom window is the ARM Climate Research Facility website, showing the "Measurement : Aerosol optical depth" page. The page header includes "ARM CLIMATE RESEARCH FACILITY" and "U.S. DEPARTMENT OF ENERGY Office of Science". The navigation menu includes "About", "Science", "Campaigns", "Sites", "Instruments", "Measurements", "Data", "News", "Publications", and "Education". The breadcrumb trail is "ARM.gov » Measurements » Aerosol optical depth". The main content area describes the measurement as "A measure of how much light aerosols prevent from passing through a column of atmosphere." It lists categories as "Aerosols" and instruments as "ARM Instruments". The text states: "The above measurement is considered scientifically relevant for the following instruments. Refer to the datastream (netcdf) file headers of each instrument for a list of all available measurements, including those recorded for diagnostic or quality assurance purposes." The right sidebar contains "ARM Data Discovery" with a "Browse Data" button, a "Comments?" section, and a contact form with fields for "Email Address" and "Comments".

Linking Data and Publications

Data Citation Index

WEB OF KNOWLEDGESM | DISCOVERY STARTS HERE

THOMSON REUTERS

Signed In | Marked List (1) | EndNote | ResearcherID | Saved Searches and Alerts | Log Out | Help

All Databases | Select a Database | Data Citation Index | Additional Resources

Search | Cited Reference Search | Advanced Search | Search History

Data Citation IndexSM

[<< Back to Marked List](#)

Record 1 of 1

Record from Data Citation IndexSM

(1) | | | Send to:

Ka ARM Zenith Radar (KAZR): filtered spectral data, cirrus mode, cross-polarized mode at Southern Great Plains.

From Repository: Atmospheric Radiation Measurement Program.

Author(s): Bharadwaj, Nitin; Widener, Kevin; Johnson, Karen

Source: Atmospheric Radiation Measurement Program DOI: <http://dx.doi.org/10.5439/1025>

Date: 20 Sep 2013 **Published Year:** 2013

Cited References: 0

Abstract: The Ka-band ARM zenith radar (KAZR) remotely probes the extent and composition of cirrus clouds using a radar that operates at a frequency of approximately 35 GHz. The main purpose of this radar is to measure the vertical profile of cirrus cloud optical depth and spectral width) at a range resolution of approximately 30 meters from near-ground to nearly 5 km.

Document Type: Data set

Data Type: observational data

Accession Number: DRCI:DATA2013120003858083

Language: English

Author Keywords: Atmospheric Radiation Measurement; Doe arm; arm; ARM Observed Data; meteorology; upper air state; Mean Doppler Velocity; Equivalent reflectivity factor; SPECTRA; S

Web of Science Category: Meteorology & Atmospheric Sciences

Subject Area: Meteorology & Atmospheric Sciences

Geospatial:

Descriptor Term	Classifier
Oklahoma	USA, North America
East Bounding Coordinate: -95 59	
North Bounding Coordinate: 34 98	
South Bounding Coordinate: 34 98	
West Bounding Coordinate: -95 59	
Southern Great Plains ,Central Facility, Lamont, OK	



Times Cited: 0

[Create Citation Alert](#)

This article has been cited 0 times in Web of Knowledge.

Cited References: 0

Additional information

ARM.gov >> Data >> Instrument Datastreams >> kazrspeccmaskcixpol

Datastream : KAZRSPECCMASKCIXPOL

Ka ARM Zenith Radar (KAZR): filtered spectral data, cirrus mode, cross-polarized mode

Active Dates
2011.01.20 - 2011.11.10

Measurement Categories
Atmospheric State, Cloud Properties

Originating Instrument
Ka ARM Zenith Radar (KAZR)

Measurements
Only measurements considered **scientifically relevant** are shown below *by default*.
 Show all measurements

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Documentation
» Data Quality Plots

Citation
DOI: 10.5439/1025217
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ARM Data Discovery
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Questions and Feedback?

armarchive@ornl.gov

Breakout Session: Tutorial for Product
Registration(OME) and DOIs

Today at 3.45 pm
(Regency room)