

Finding "Stuff" from ARM Web Site and Data Archive

Orientation for new
Science Team Members



Topics

- ◆ Navigating ARM web site
 - *finding ARM information*
- ◆ Demo of Archive access
 - *Finding and requesting ARM data files*
 - *(with web shopping cart interface)*
- ◆ Other Archive access options
 - *Brief logical comparison*
 - *(additional details as requested)*
- ◆ Other documentation topics
 - *(per user interest and time availability)*



ARM Home Web Page

ARM Home - Netscape Browser

File Edit View Go Bookmarks Tools Help

http://www.arm.gov/

Personal Webmail

Welcome to T-Mobile HotSpot Custom... ARM Home

VIEW CART PEOPLE | SITE INDEX | HOME

SEARCH

ABOUT ARM ABOUT ACRF SCIENCE SITES INSTRUMENTS MEASUREMENTS DATA PUBLICATIONS EDUCATION FORMS

A Science Research Program for Global Climate Change

RESEARCH SPOTLIGHT 1 2 3



ARM Climate Research Facility Supports International Polar Year Research and Education

The Department of Energy's International Polar Year (IPY) contributions will be conducted at the Atmospheric Radiation Measurement (ARM) Climate Research Facility (ACRF) located in the North Slope of Alaska. This DOE user facility will host two experiments (thus far) during IPY, as well as support IPY education and outreach activities related to climate change research in the Arctic.

To learn more about ACRF contributions to IPY, see the [ACRF IPY web page](#).

Atmospheric Radiation Measurement Program

The Atmospheric Radiation Measurement (ARM) Program is the largest global change research program supported by the [U.S. Department of Energy \(DOE\)](#). It was created to help resolve scientific uncertainties related to global climate change, with a specific focus on the crucial role of clouds and their influence on radiative feedback processes in the atmosphere. The primary goal of the ARM Program is to improve the treatment of cloud and radiation physics in global climate models in order to improve the climate simulation capabilities of these models. ARM's scientists research a broad range of issues that span remote sensing, physical process investigation and modeling on all scales. ARM's site operators focus on obtaining continuous field measurements and providing data products to promote the advancement of climate models.

ARM Climate Research Facility



Atmospheric Radiation Measurement Climate Research Facility
A National User Facility for the Scientific Community

ARM's climate research sites serve as a national scientific user facility for collaborative research primarily with university, government agency, and national laboratory researchers. These sites provide significant research capability for the global scientific community. The resulting new [ARM Climate Research Facility \(ACRF\)](#) has been designated a national user facility for the purpose of providing this unique asset for the study of global change to a broader national and international research community. Proposed projects at the ACRF are reviewed by the [ACRF Science Board](#), a highly respected group of scientists who assist with reviewing proposals for use of the facility.

Field Campaigns
ACRF extends deadline to April 10 for FY2009 preproposals; submit yours now!

Annual Meeting
Online registration is now closed; on-site registration begins March 26 at 7 a.m.

Announcement
Office of Science issues call for ARM science proposals

News
International Polar Year begins at ACRF with 3-week campaign in Barrow

Update
Güten tag to Germany! Mobile Facility bids adieu to Niger

Done

Unable to Update Blacklist

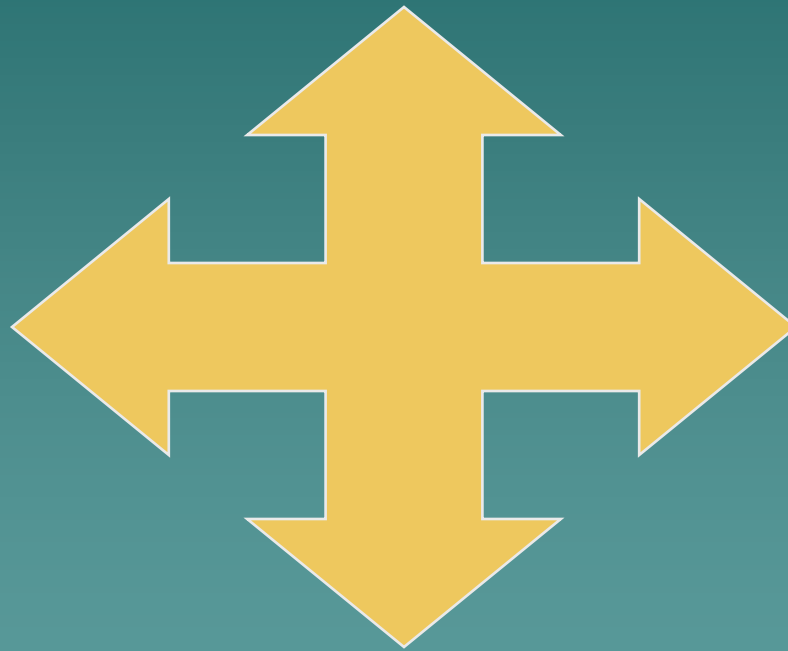
start ARM Home - Netscap... Microsoft PowerPoint ... Norton 11:04 AM

ARM Shopping Cart Tutorial

- ◆ Available at:
http://dev.www.arm.gov/data/arm_orderData_tutorial.html



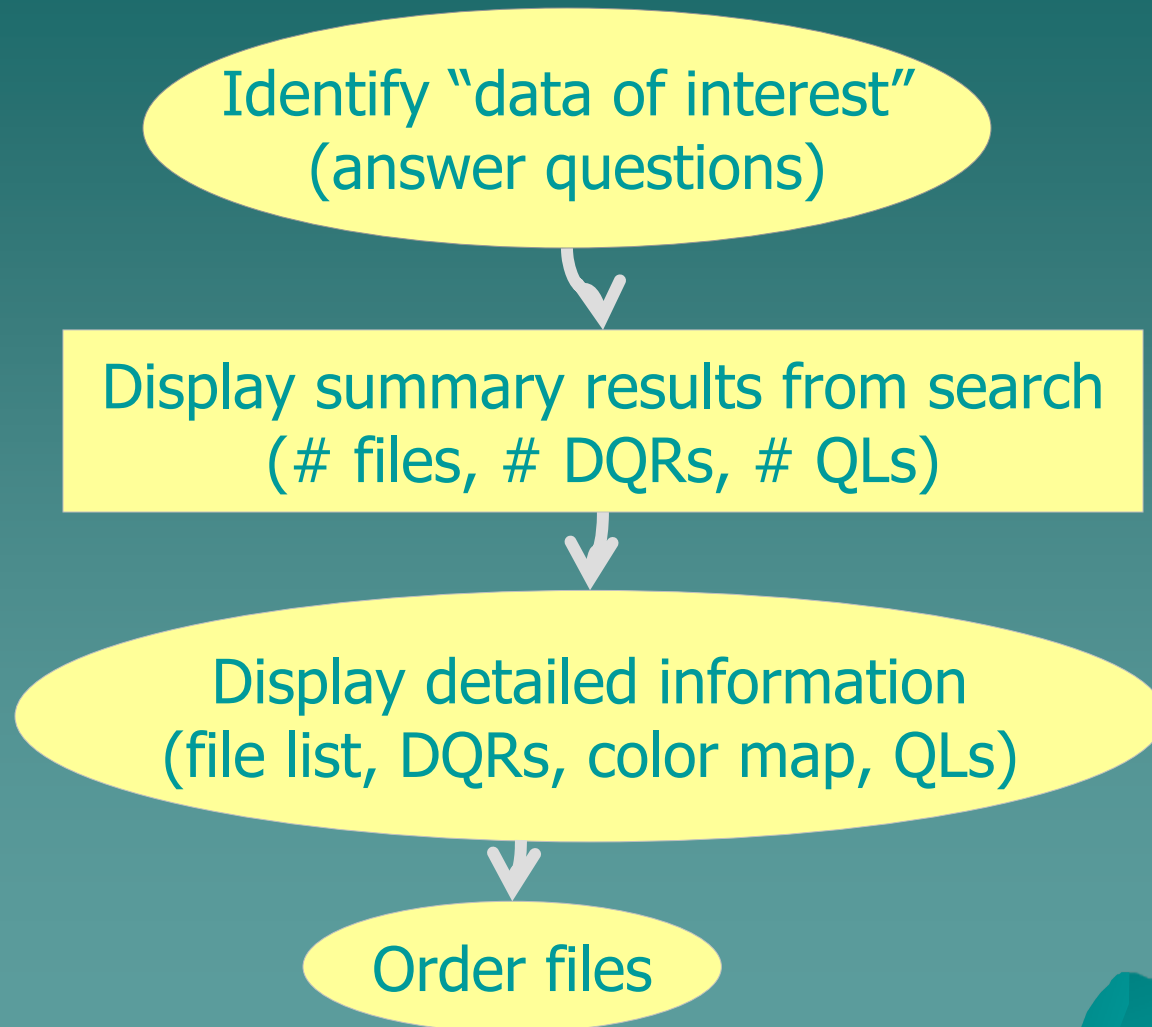
Other User Interface Options



Comparison of User Interface Options

Interface name	Accessible data	"Shopping" approach (armarchive@ornl.gov , 1-888-ARM-DATA)
ARM Data Browser	Routine ARM data	<i>"I know what I want. Do you have it?"</i> Searching with predefined selection criteria.
Catalog Interface	Routine ARM data	<i>"I am not sure what I want. I need to see what you have available."</i> Browsing a hierarchy of availability summaries.
Thumbnail Browser	Most routine ARM data	<i>"I will know what I want when I see it."</i> Searching with a combination of predefined selection criteria and visual review of data plots
Web Shopping Cart	Routine ARM data and some IOP data	<i>"I need to read about what you have, then I will decide."</i> Discover areas of interest by browsing the ARM web documentation and collect items of interest.
IOP Data Browser	IOP, special, PI, and beta data	<i>"I need to look in the odd parts bin."</i> Direct access to IOP data. Navigate /year/site/iop directory tree. Also use narrow Google search.


Overall Interface Scheme



Interface Demonstrations (maybe??)



ARM Data Browser



ARM Data Browser

[My Account](#) | [Log out](#) | [Help](#)

Home
Site
Date Range
Search Path
Category
Instruments
Facilities
Data Selection Summary

Southern Great Plains

Data Selection Summary

(show/hide search criteria)

Current search criteria:	
Site:	Southern Great Plains
Start Date:	01/10/2006
End Date:	03/05/2006
Searchpath:	Instruments
Category:	1. Radiometric 2. Surface Meteorology
Instruments:	1. Microwave Water Radiometer (MWR): water liq. & vapor along line of sight (LOS) path 2. Multi-Filter Radiometer (MFR): upwelling irradiance at 25-meter height 3. Surface Meteorological Observation Station (SMOS): 30-min averaged data
Facilities:	1. E8-Coldwater, KS 2. C1-Central Facility, Lamont, OK 3. E14-Lamont, OK CF2

[Print or save this page](#)
[Email this page](#)

You can list the associated files [?](#), view the data quality color calendar [?](#),
 view data quality reports (DQR) [?](#), or view quick looks (QL) [?](#)

[More Quick Looks](#)

[List files to order](#)
[Quality Color Summary](#)
[DQ Reports](#)
[Quick looks](#)

Navigation

- [Site](#)
- [Date Range](#)
- [Search Path](#)
- [Category](#)
- [Instruments](#)
- [Facilities](#)
- [Summary Page](#)
- [Place Order](#)

Interface Help

- View interface help documentation

ARM Documentation

- [Data Stream](#)
- [Data Files](#)
- [Data Quality Color Calendar](#)
- [Data Quality Report \(DQR\)](#)
- [Quick Looks \(QL\)](#)

Summary Table

Data Stream Name	Data Stream ? Information	Full Date Range	Estimated Archive Results (01/2006 to 03/2006)			
			Files	Size(MB)	DQR Days	QLs
sgp30smosE8.b1	Surface Meteorological Observation Station (SMOS): 30-min averaged data	04/01/2001 - 03/03/2006	62	1.1	0	60
sgpmfr25mC1.b1	Multi-Filter Radiometer (MFR): upwelling irradiance at 25-meter height	04/01/2001 - 03/02/2006	61	30.6	0	60
sgpmwrfosE14.b1	Microwave Water Radiometer (MWR): water liq. & vapor along line of sight (LOS) path	03/21/2001 - 03/02/2006	61	39.000004	0	60


Note:

Results : statistics are estimates based on monthly summaries

Data Streams : The highest [data to use](#) data streams are selected for any given date. Multiple data streams may result

Full Date Range : Valid date range for a data stream. Data streams with different data levels or with different date ranges are possible.

DQR Days : Number of days in the data selection time range that have one or more significant DQRs (red or yellow data quality limitations). Other, less critical, informational DQRs may also be available.



ARM Data Browser

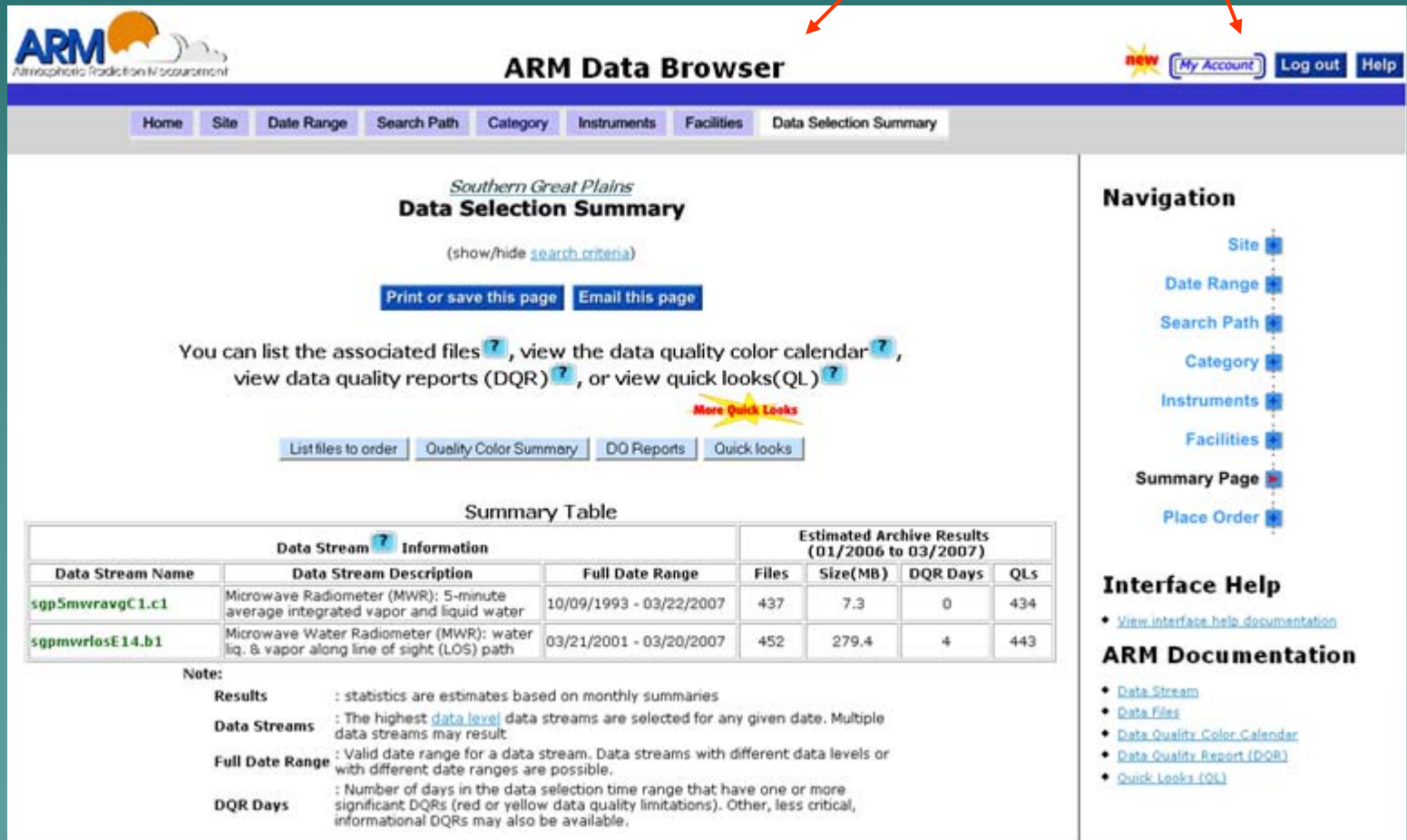


ARM Atmospheric Radiation Measurement

ARM Data Browser

My Account Log out Help

Home Site Date Range Search Path Category Instruments Facilities Data Selection Summary



ARM Atmospheric Radiation Measurement

ARM Data Browser

new My Account Log out Help

Home Site Date Range Search Path Category Instruments Facilities Data Selection Summary

Southern Great Plains Data Selection Summary

(show/hide [search criteria](#))

Print or save this page Email this page

You can list the associated files [?](#), view the data quality color calendar [?](#), view data quality reports (DQR) [?](#), or view quick looks (QL) [?](#)

[More Quick Looks](#)

List files to order Quality Color Summary DQ Reports Quick looks

Summary Table

Data Stream ? Information			Estimated Archive Results (01/2006 to 03/2007)			
Data Stream Name	Data Stream Description	Full Date Range	Files	Size(MB)	DQR Days	QLs
sgp5mvravgC1.c1	Microwave Radiometer (MWR): 5-minute average integrated vapor and liquid water	10/09/1993 - 03/22/2007	437	7.3	0	434
sgpmvrfosE14.b1	Microwave Water Radiometer (MWR): water liq. & vapor along line of sight (LOS) path	03/21/2001 - 03/20/2007	452	279.4	4	443

Note:

- Results** : statistics are estimates based on monthly summaries
- Data Streams** : The highest [data level](#) data streams are selected for any given date. Multiple data streams may result
- Full Date Range** : Valid date range for a data stream. Data streams with different data levels or with different date ranges are possible.
- DQR Days** : Number of days in the data selection time range that have one or more significant DQRs (red or yellow data quality limitations). Other, less critical, informational DQRs may also be available.

Navigation

- Site
- Date Range
- Search Path
- Category
- Instruments
- Facilities
- Summary Page
- Place Order

Interface Help

- [View interface help documentation](#)

ARM Documentation

- [Data Stream](#)
- [Data Files](#)
- [Data Quality Color Calendar](#)
- [Data Quality Report \(DQR\)](#)
- [Quick Looks \(QL\)](#)

ARM Catalog Browser



Logical Flow of Catalog Interface

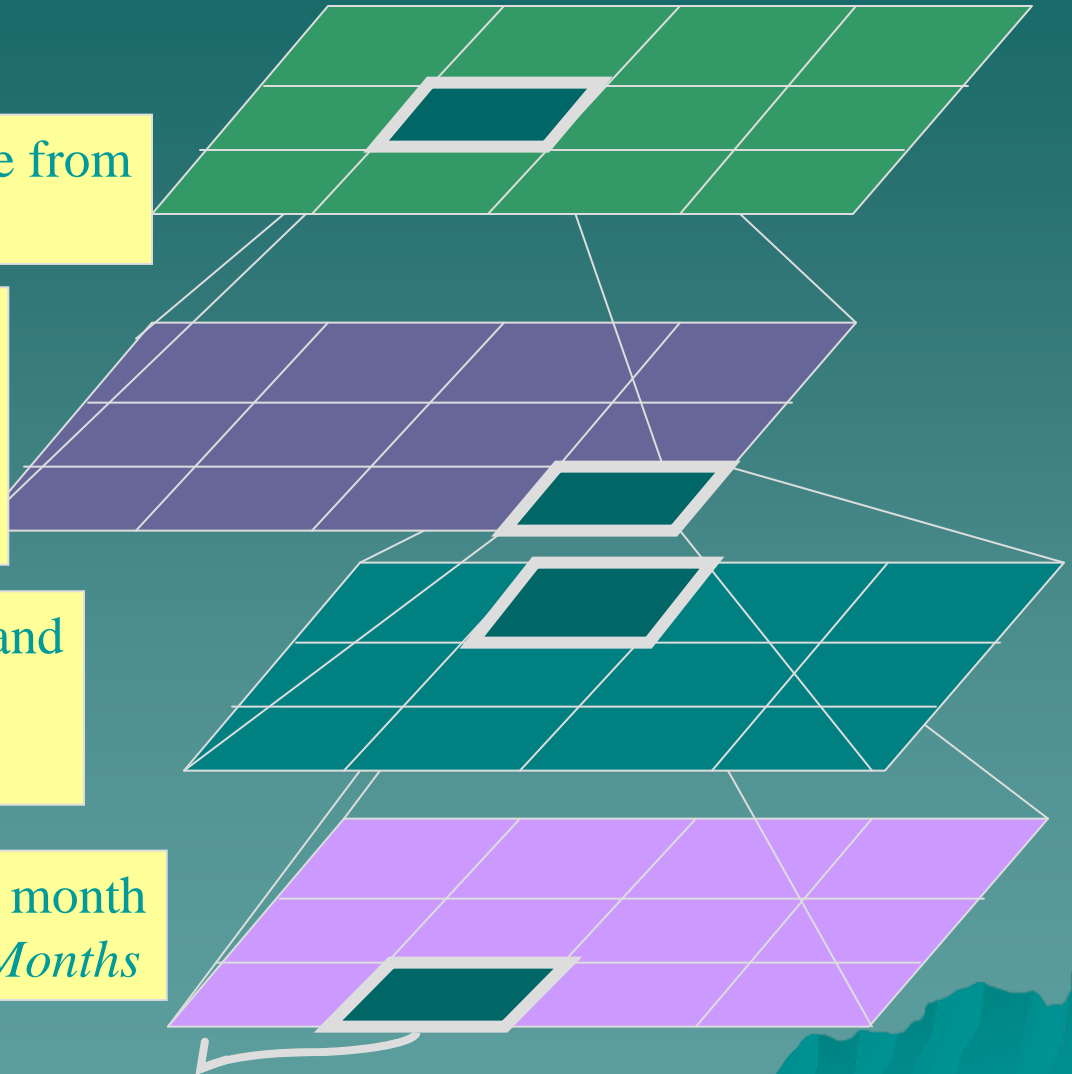
Step 1: select a year and a site from a table of $Years \times Sites$

Step 2: select a facility type and instrument category from a table of $Instrument\ category \times Facility\ type$

Step 3: select an instrument and a data level from a table of $Instruments \times Data\ levels$

Step 4: select a facility and a month from a table of $Facilities \times Months$

Data added to 'shopping cart'



Features of Catalog Tables

A: Title of the Table; showing selection categories

B: Links to higher selection screens

C: values of previously selected criteria

D: Categories with links to additional ARM documentation

A: Number of Files in Archive by Instrument Category and Facility Type

(Click on the appropriate link to change a previous selection)

Current Selections
 Year: 2002
 Site: Southern Great Plains

E: Number of data files per category (0 = no data)

(Click on a non-zero cell in the table below to choose the Instrument Category/Facility Type and proceed to the next level of detail)

Number of Files in Archive

Instrument Category	Facility Type				
	Central	External	Boundary	Extended	Intermediate
Instruments	2058	9	0	0	0
(Permanent, Temporary, or Otherwise)	9833	252	7211	372	0
Systems	4906	13153	0	0	0

F: Link to shopping cart; for review of previous selections

G: Exit from interface

[View Shopping Cart](#)

[Exit](#)

Surface Flux and Surface Characterization Systems (Non-radiometric)

and Humidity Sensors

Humidity Sounding Systems

Catalog Browser (1)

Number of Files in Archive by Year and Site

(Click on a non-zero cell in the table to choose a Site/Year and proceed to the next level of detail)

Number of Files in Archive

Site	Years Available															
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
North Slope Alaska	184	365	365	607	2271	15908	22361	27732	31686	31875	35293	32325	34196	32906	32223	3828
Southern Great Plains	15386	70313	77664	126577	183530	228437	265562	270873	258845	268537	241176	209197	194403	198422	191062	28193
Global Earth Coverage	0	0	0	4348	4950	4471	4744	5302	4754	4752	4742	4583	3290	1465	560	57
Tropical Western Pacific	0	0	0	2328	10603	12833	28933	30774	30240	43410	43163	39624	36243	52146	65065	5516
Surface Heat Budget of the Arctic	0	0	0	0	1645	6622	0	0	0	0	0	0	0	0	0	0
Niamey, Niger	0	0	0	0	0	0	0	0	0	0	0	0	709	12829	242	0
Point Reyes, California	0	0	0	0	0	0	0	0	0	0	0	0	6788	289	0	0
Black Forest, Germany	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9896	30

[View Shopping Cart](#) [Exit](#) [Help](#)

Number of Files in Archive by Instrument Category and Facility Type

(Click on the appropriate link to change a previous selection)

Current Selections

[Year](#) 2006

[Site](#) Tropical Western Pacific

(Click on a non-zero cell in the table below to choose the Instrument Category/Facility Type and proceed to the next level of detail)

Number of Files in Archive

Instrument Category	Facility Type	
	Central	External
Aerosols	366	0
Atmospheric Profiling	743	53
Cloud Properties	1228	0
Derived Quantities and Models	121	81
Radiometric	2055	0
Surface Meteorology	183	0

Catalog Browser (2)



Number of Files in Archive by Instrument and Data Level

(Click on the appropriate link to change a previous selection)

Current Selections
[Year](#) 2006
[Site](#) Tropical Western Pacific
[Instrument Category](#) Radiometric
[Facility Type](#) Central

(Click on a non-zero cell in the table below to choose the Instrument/Data Level and proceed to the next level of detail)

Number of Files in Archive

Instrument Code *	Data Level **			
	a0	a1	b1	
15swfanalskyradllong	0	0	0	24
1swfanalskyradllong	0	0	0	24
aerich1	0	0	121	0
aerich2	0	0	121	0
aeriengineer				
aeribclouds				
aerisummary				
gndrad20s				
gndrad60s				
mfrsr				
mwrlos				
mwrtp		178	0	0
skyrad20s	183	0	0	0
skyrad60s	0	0	184	0

[View Shopping Cart](#) [Exit](#) [Help](#)

Number of Files in Archive

Facility	Month		
	Jan	Feb	Mar
Central Facility, Manus I., PNG (C1)	32	28	24
Central Facility, Nauru Island (C2)	31	28	24
Central Facility, Darwin, North Australia (C3)	31	28	24

* Instrument Code Descriptions

15swfanalskyradllong	Short Wave Flux Analysis: 15-min resolution on SKYRAD
1swfanalskyradllong	Short Wave Flux Analysis: 15-min resolution on SKYRAD
aerich1	Active Interferometer (AERI) ch

Description of Archive Files

(Click on the appropriate link to change a previous selection)

Current Selections
[Year](#) 2006
[Site](#) Tropical Western Pacific
[Instrument Category](#) Radiometric
[Facility Type](#) Central
[Instrument](#) skyrad60s
[Data Level](#) b1
[Facility](#) Central Facility, Nauru Island
[Month](#) Feb
 Files 28
 Total Size (MB) 8.950

Add files to your Shopping Cart?

Click "Yes" to add the current set of files to your collection. Either button returns to the previous page (Facilities/Month).

Contents of Shopping Cart

This is a summary of your current collection of files.

Site	Year	Month	Instrument	Facility	Level	Files	Size (MB)	
twp	2006	Feb	skyrad60s	C2	b1	28	8.95	Remove?
twp	2006	Jan	skyrad60s	C3	b1	31	9.91	Remove?
twp	2006	Mar	skyrad60s	C2	b1	2	0.64	Remove?
Total						61	19.50	

[Submit Request to Archive](#) [Return](#) [Help](#)

ARM Thumbnail Browser



Thumbnail Browser

Shopping Cart Retrieve View new My Account Log Out Help

[Home](#) [Site/Facility](#) [Date Range](#) [Category](#) [Instruments](#) [Measurements](#) [Thumbnails](#)


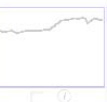



(show/hide search criteria or Date Range function)

to

mm-dd-yyyy mm-dd-yyyy

Previous | 2 3 4 5 6 7 8 9 10 Next Customize view to days

(Note: ALL: Shows all data for all datastreams and instruments. NEW: Shows only the newest data for each datastream. Click on the thumbnail image to display the corresponding plot. Both access need to be activated.)

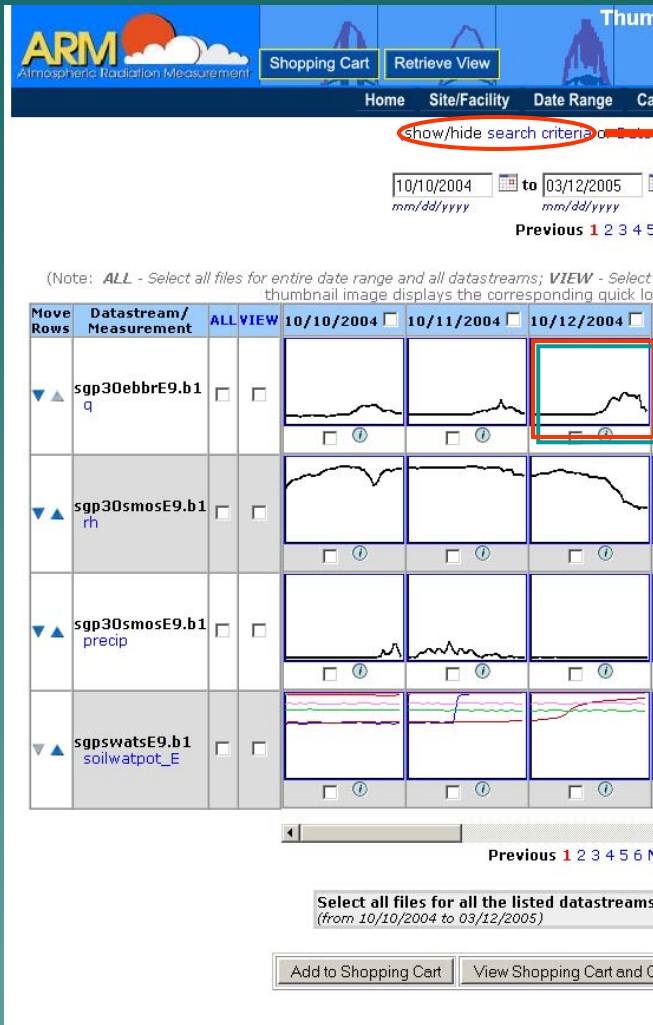
Move	Datastream/Measurement	ALL VIEW	10/31/2004	11/01/2004	11/02/2004	11/03/2004	11/04/2004	11/05/2004	11/06/2004
▼	sgp30ebbrE9.b1 q	<input type="checkbox"/>							
▼	sgp30amosE9.b1 rh	<input type="checkbox"/>							
▼	sgp30mosE9.b1 precip	<input type="checkbox"/>							
▲	sgpwatsE9.b1 soilwatpot_E	<input type="checkbox"/>							

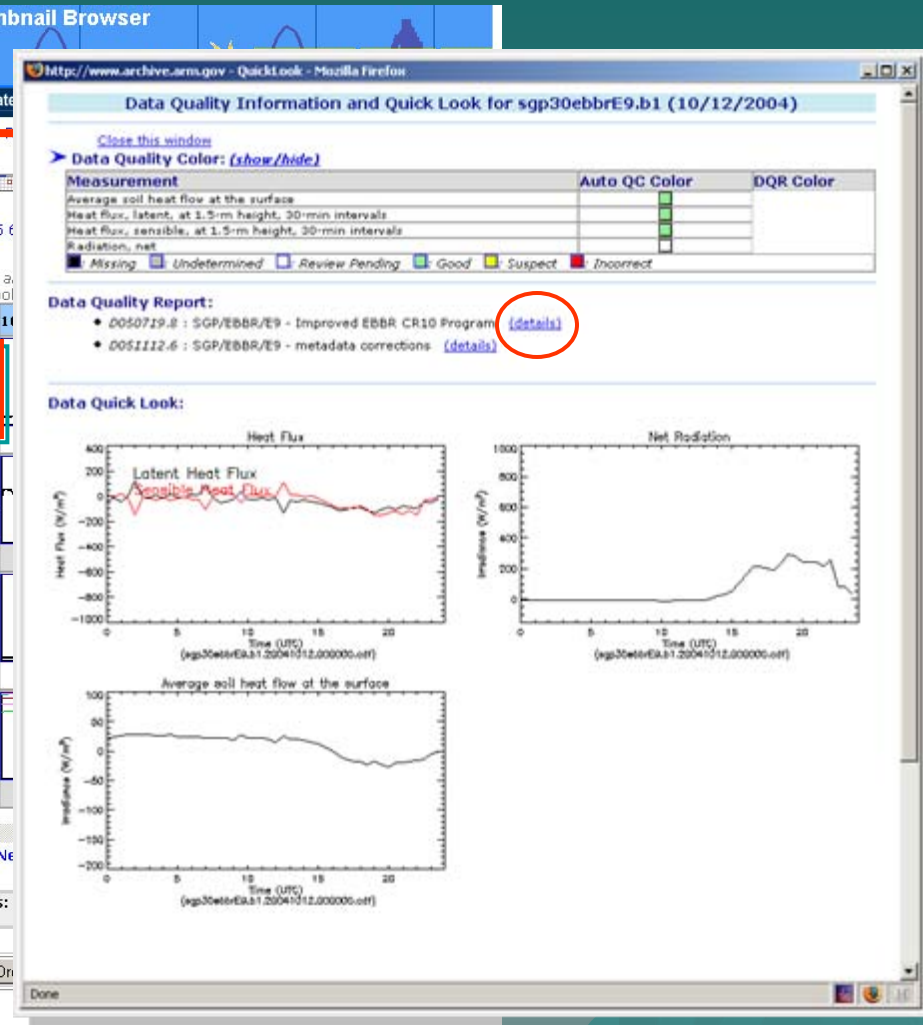
Previous | 2 3 4 5 6 7 8 9 10 Next

Select all files for all the listed datastreams:

(from 10/10/2004 to 03/12/2005)

Display Thumbnails





Measurement Code Descriptions	
q	Radiation, net
rh	Humidity, relative, at 2-m height, 30-min intervals
precip	Precipitation, 30-min intervals
soilwatpot_E	Soil Water Potential, East Profile

Thumbnail Browser – Catalog Interface



ARM Thumbnail Browser

Shopping Cart Retrieve View My Account Log Out Help

Home Site/Year Category/Facility Type Instrument/data Level Facility/Month Data Streams Measurements Thumbnails

Number of Quick Look Files in Archive by Year and Site
(Click on a non-zero cell in the table to choose a Site/Year and proceed to the next level of detail)

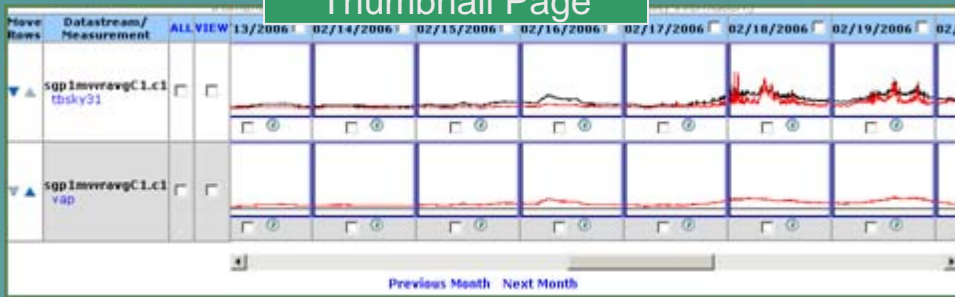
Site	Years Available															
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Southern Great Plains	375	1505	3187	12326	21073	31270	34260	35304	76770	89965	88991	91245	80319	82902	78410	10070
North Slope Alaska	0	0	0										2	6909	5874	648
Tropical Western Pacific	0	0	0										5	12080	11300	1674
Point Reyes, California	0	0	0										6	0	0	0
Niamey, Niger, Mobile Facility	0	0	0										0	5399	74	0
Black Forest, Germany, Mobile Facility	0	0	0										0	0	5034	19

Instrument Category	Facility Type			
	Central	Extended	Boundary	Intermediate
Aerosols	58	822	0	0
Airborne Observations	0	0	0	0
Atmospheric Profiling	552	60	358	111
Atmospheric Carbon	0	0	0	0
Cloud Properties	345			
Derived Quantities and Models	110			
Ocean Observations	0			
Other	0			
Radiometric	657	4124	178	0
Satellite Observations	0	0	0	0
Surface Meteorology	418	1789		
Surface/Subsurface Properties	123	2895		

Instrument	Data Level
Microwave Radiometer (MWR): 5-minute average integrated vapor and liquid water	c1
Microwave Radiometer (MWR): brightness temps and water amounts, 1-minute avg	c2

Facility	Month		
	Jan	Feb	Mar
Central Facility, Lamont, OK(C1)	28	25	2

Thumbnail Page



ARM IOP* Data Browser



*IOP == Field Campaign

IOP Data Browser – “home page”



My IOP Download Page | ARM IOP Data Browser | ARM Archive User Interface | ARM Homepage | Direct URL: http://iop.archive.arm.gov/arm-iop/

ARM Intensive Operation Period (IOP) Data Browser

This system has been established to allow for easy browsing and download of data generated from ARM Intensive Operation Periods or IOPs. At every level in the hierarchy of data, a `readme.html` file is displayed in the top frame. This file describes the contents of the selected directory which is displayed in the middle frame. The bottom frame contains options for downloading entire directory trees from this system.

Users may browse through the data collection by clicking on directories shown in the middle frame. As the user navigates the directory hierarchy, documentation will be displayed in the top frame. If documentation is not available for a particular directory, a sincerely apologetic message will be displayed instead. Individual files may be viewed or downloaded by clicking on the desired file name displayed in the middle frame. *Remember: to ensure that a file is downloaded instead of displayed in a browser frame, click on the desired file name while holding down the shift key.*

/arm-iop/

- Parent Directory
- Obeta-data/
- Opi-data/
- Oref-data/
- Ospecial-data/
- 1993/
- 1994/
- 1995/
- 1996/
- 1997/
- 1998/
- 1999/
- 2000/
- 2001/
- 2002/
- 2003/
- 2004/
- 2005/
- 2006/
- README.html

Package Type

- bz1p2 tar file
- gz1p tar file
- zip file

Directories/Files to Include

Remove from list

Directories/Files to Exclude

Remove from list

Cancel request

Documentation

Click for access to special, reference, beta, and PI data sets

Directory Navigation

Click for access to year/site/iop directory structure

Download Management

IOP Data Browser – IOP View



My IOP Download Page | ARM IOP Data Browser | ARM Archive User Interface | ARM Homepage | Direct URL: http://sep.archive.arm.gov/arm-isp/2004/insal/pacef/

Mixed-Phase Arctic Clouds Experiment (M-PACE)

Executive Summary

Significant, interrelated, atmospheric, oceanic and terrestrial changes have been occurring in the Arctic in recent decades. These changes are broad-ranging, impacting every part of the arctic environment. Arctic clouds have been identified as playing a central role in several hypothesized feedback processes. Yet, nowhere in the Northern Hemisphere are the interactions among clouds, the over- and underlying atmosphere, and the ocean surface more complex, have a greater potential climatic impact, and, at the same time, less understood than they are at high latitudes.

The recent SHEBA experiment revealed that mixed-phase clouds appear to dominate the low-cloud fraction within the Arctic. Moreover, it was found that the Arctic mixed-phase clouds are distinct from their lower latitude cousins. Unfortunately, SHEBA did not manage to produce a comprehensive data set needed to study these poorly understood arctic clouds. Numerical modeling studies suggest that the ice phase heavily influence cloud evolution, and the cloud microphysics also are intimately tied to cloud-scale dynamics and the underlying surface energy budget (i.e. sea ice coverage and thickness). Moreover, the radiative characteristic of these clouds are not fully understood.

- [Parent Directory](#)
- [README.html](#)
File last modified: Wed Nov 16 21:10:22 2005 UTC
File size: 6627 bytes
File description: HyperText Markup Language document
- [ameriflux-sfcflux/](#)
- [aux-data/](#)
- [bahrman-metar/](#)
- [daniel-nir/](#)
- [demott-cfmc/](#)
- [eloranta-hsri/](#)
- [heymfield-cpi/](#)
- [kok-cvi/](#)
- [long-sfcflux/](#)
- [mather-parsl/](#)
- [minnis-visst/](#)
- [morrisset/](#)

Click for access to more data sub-directories

My IOP Download Page | ARM IOP Data Browser | ARM Archive User Interface | ARM Homepage

Package Type	Directories/Files to Include	Directories/Files to Exclude	
<input type="radio"/> bzip2 tar file <input checked="" type="radio"/> gzip tar file <input type="radio"/> zip file	<input type="text"/> Remove from list	<input type="text"/> Remove from list	<input type="button" value="Submit request"/> <input type="button" value="Cancel request"/>

IOP Data Browser – Download Bulk Data



MPACE CSI data. Final data processing 1/17/2005

All condensed water concentrations are expressed in mg/m3.

Flight data notes:

20040929: First research data flight. CSI baseline is high

20040930: Initial part of flight data is very good. Heavy ice

20041005: Initial data shows considerable water contamination

20041006: Initial shifting baseline. Data from 18:29:00-18:30:00

20041008: Final test data set. From data start to 20:32:00

My IOP Download Page

Welcome back **Giri Palanisamy!**

Shown below are the IOP data packages which have been constructed for you. Clicking on the file name will transfer the file to your computer. Clicking on **Content listing** will display an index of the files. Files which are still being constructed may not be downloaded and are denoted by the blinking **Under construction...** label. This page will automatically reload every 60 seconds to provide up-dated status information.

If the links to any files below do not function properly, try browsing your download directory directly at <http://ftp.archive.arm.ac.uk/>. Be careful not to download any files which are still under construction.

[request-30359-20060320-120002.tar.gz](#)
Modification Time: Mon Mar 20 12:00:02 2006
133120 bytes
[Content listing](#)

Page created at Mon Mar 20 12:00:17 2006

/arm-iop/2004/nsa/mpace/kok-

Parent Directory

[20040929_CWC.txt](#)

File last modified: Mon Jan 17 19:06:04 2005 UTC
File size: 90869 bytes
File description: Text file

[20040930_CWC.txt](#)

File last modified: Mon Jan 17 19:06:04 2005 UTC
File size: 88944 bytes
File description: Text file

[20041005_CWC.txt](#)

File last modified: Mon Jan 17 19:06:08 2005 UTC
File size: 186018 bytes
File description: Text file

[20041006_CWC.txt](#)

File last modified: Mon Jan 17 19:06:13 2005 UTC
File size: 225790 bytes
File description: Text file

Your IOP data order has been submitted. Your Order ID is **30359**.

Electronic mail will be sent to you when the requested data have been packaged up and are ready for download. The data will be available for download from the [My IOP Download Page](#).

Thank you for using the ARM IOP Data Archive.

ARM IOP Data Archive

The requested data are approximately **376 KB** in size.

The data will be packaged into a tar file compressed with **gzip** so the actual download size may be considerably less.

To confirm this order, please click **Submit Confirmed Order**, otherwise, click **Cancel**.

My IOP Download Page | ARM IOP Data Browser | ARM Archive User Interface | ARM Homepage

Package Type

bzip2 tar file
 gzip tar file
 zip file

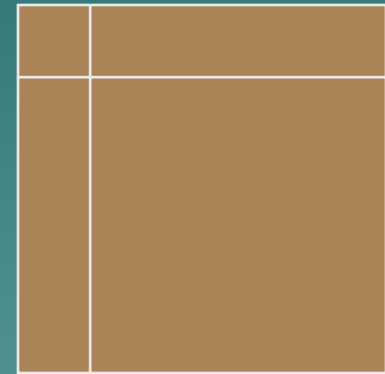
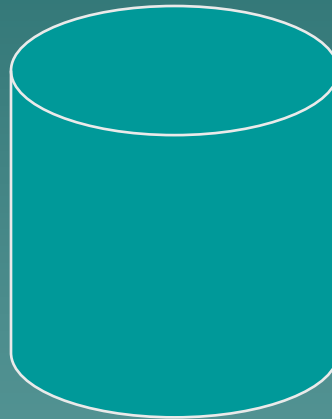
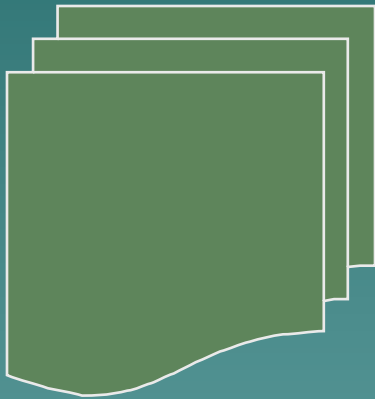
Directories/Files to Include

Directories/Files to Exclude

Other Documentation Topics

- ◆ Comparison of data types
 - *(routine data, IOP data, etc.)*
- ◆ Type of available quality information
 - *(flags, Data Quality Reports)*
- ◆ Data access beyond the user interfaces
 - *(“contact us”, Standing Orders)*
- ◆ Archive details
 - *Performance statistics*
 - *Logical configuration*
 - *Current and future improvements under development*

Data Types



ARM Data Types - overview

- ◆ Continuous data (stored offline, accessible by requests from user interface)
 - ARM collected data
 - Value added products
 - External data
- ◆ Special data (stored online, accessible from web interface)
 - Field Campaign (IOP) data
 - Beta data
 - PI generated data products

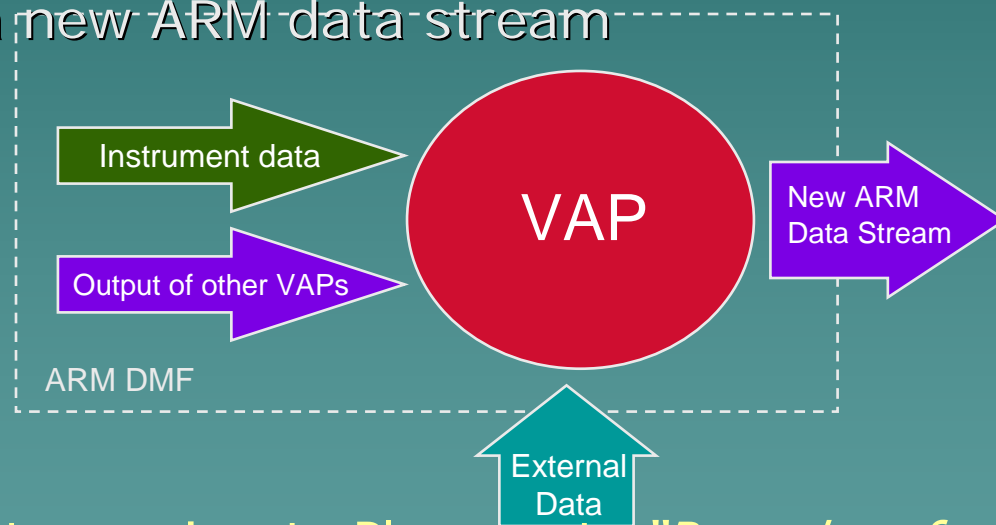
ARM Data Types – more detail

armarchive@ornl.gov
1-888-ARM-DATA

- ◆ ARM collected data
 - RAW data files
 - ◆ Available upon request, but not accessible from User Interface
 - ◆ Minimal documentation; user beware
 - ◆ Wide variety of formats; many are binary
 - Processed data files
 - ◆ Accessible from user interfaces
 - ◆ Common formats include NetCDF and HDF
- ◆ Value added products (VAPs)
 - Include one or more of the following
 - ◆ Advanced algorithms
 - ◆ Multiple data inputs
 - ◆ Input from long-time periods
 - ARM produces some VAPs to improve the quality of existing measurements. In addition, when more than one measurement is available, ARM also produces "best estimate" VAPs.

More on VAPS...

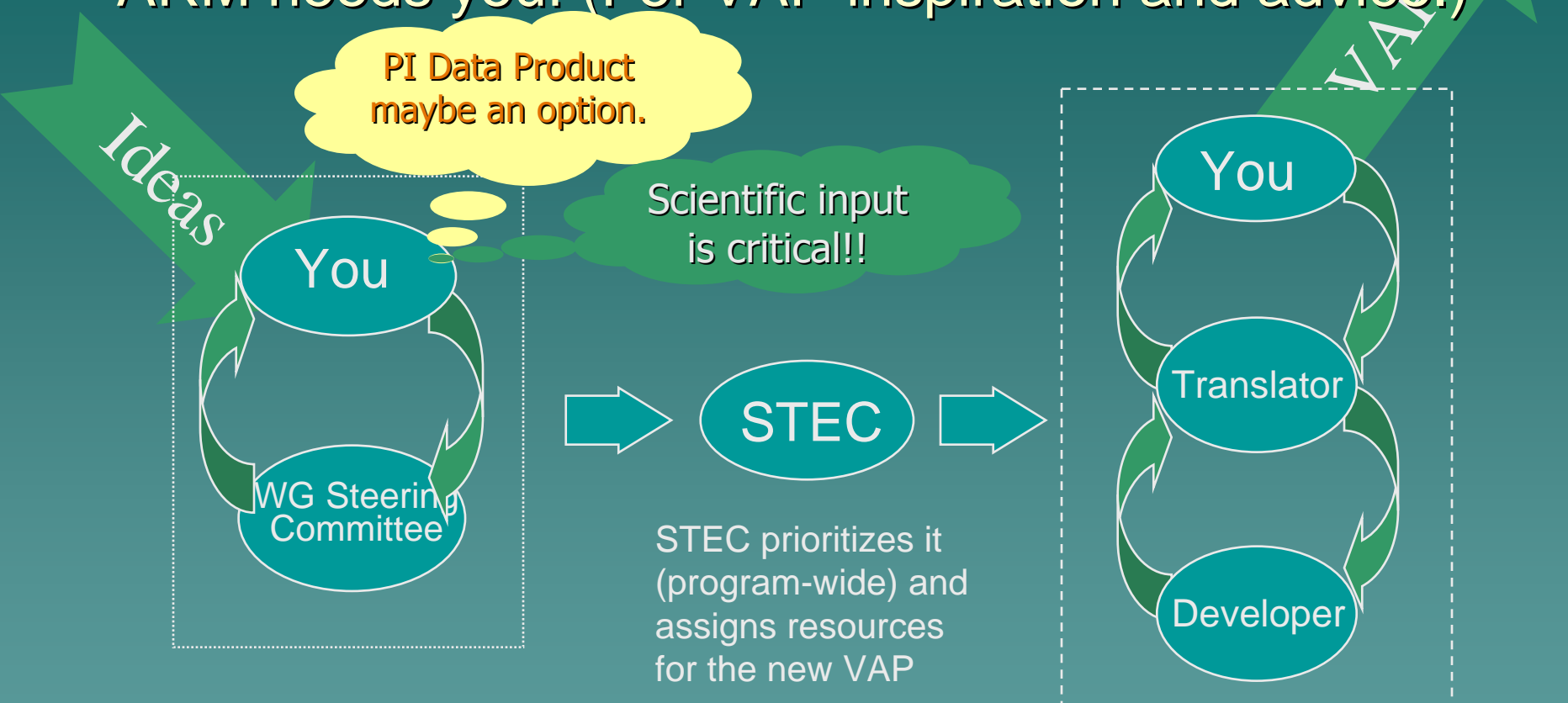
- ◆ VAPs are products from automated analytical procedures (models, retrievals, etc.) that are run in the ARM data system
- ◆ Inputs come from instruments, other VAPs, and/or external data
- ◆ Output is a new ARM data stream



- ARM wants your input. Please note *"Procedure for Submitting Science and Research Products to the Data Archive"* at: http://www.arm.gov/data/pi_procedure.stm

Still more on VAPS...

ARM needs you! (For VAP inspiration and advice.)



Scientist gets idea for new model or algorithm and presents it to the WG. The WGSC prioritizes the idea and contacts the STEC

Translator works with the Scientist to further define the algorithm, and then interacts with the Developer to implement the VAP. Translator and the Scientist then evaluate and document.

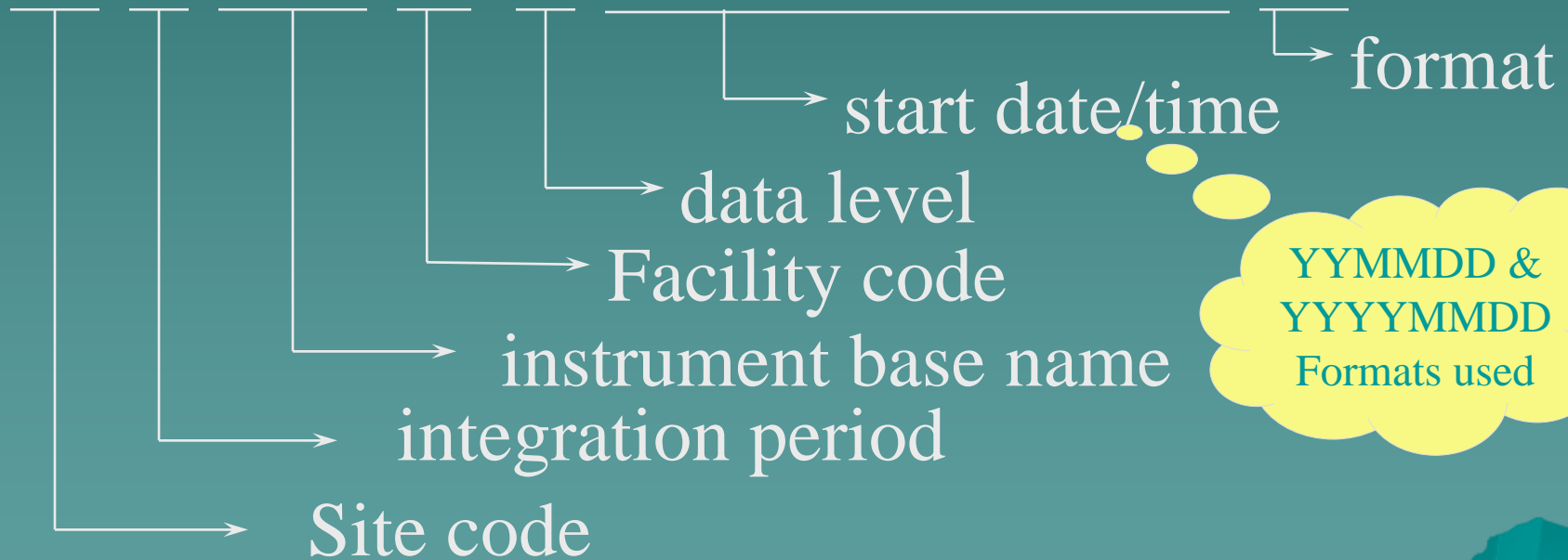
ARM Data Types – still more detail

- ◆ External data
 - Generated by other programs (e.g., NOAA weather models, NASA satellites, etc.)
 - Many formatted into NetCDF consistent with ARM style
 - Specialized subsets specific to ARM sites
 - ◆ Geographic clips of global data
- ◆ Field Campaign Data
 - Special experiments (e.g., M-PACE, 2003 Aerosols, etc.)
 - Stored online in separate data structure
- ◆ PI generated data products
 - Considered useful to ARM users
 - Provided “at will” by a researcher
 - Supported by the researcher
- ◆ Showcase data sets
 - Condensed and integrated subsets of selected ARM datastreams
 - Targeted for a particular research community and contain only a few measurements
 - Usually “best estimates” derived from instruments and/or VAPS

sgp30@%\$#&!!!

(or, making sense of the ARM file naming convention)

sgp30smosE1.a1.20000311.000000.cdf



Quality Information



Types of Quality Information

- ◆ Automated products
 - QC flags
 - ◆ inserted in data files during processing
 - Summaries of flags (data color)
- ◆ Manual products
 - Data Quality Reports (DQRs)
 - ◆ web accessible reports; delivered as html files after data requests (more later); event driven and problem-based
 - Instrument Mentor Monthly Summary Reports
 - ◆ web accessible; linked to instrument web pages.
 - Data Quality Assessment Reports

Beyond User Interfaces



Hmmm...

Accessing Data from the Archive

- ◆ *Contact Us.....*
 - *1-888-ARM-DATA, armarchive@ornl.gov*
- ◆ Continuous data distribution
 - “Standing Orders”



Contact Us at . . .

◆ ARM Information

- <http://www.arm.gov>
- info@arm.gov
- 1-888-ARM-DATA (1-888-276-3282)

◆ Archive Assistance

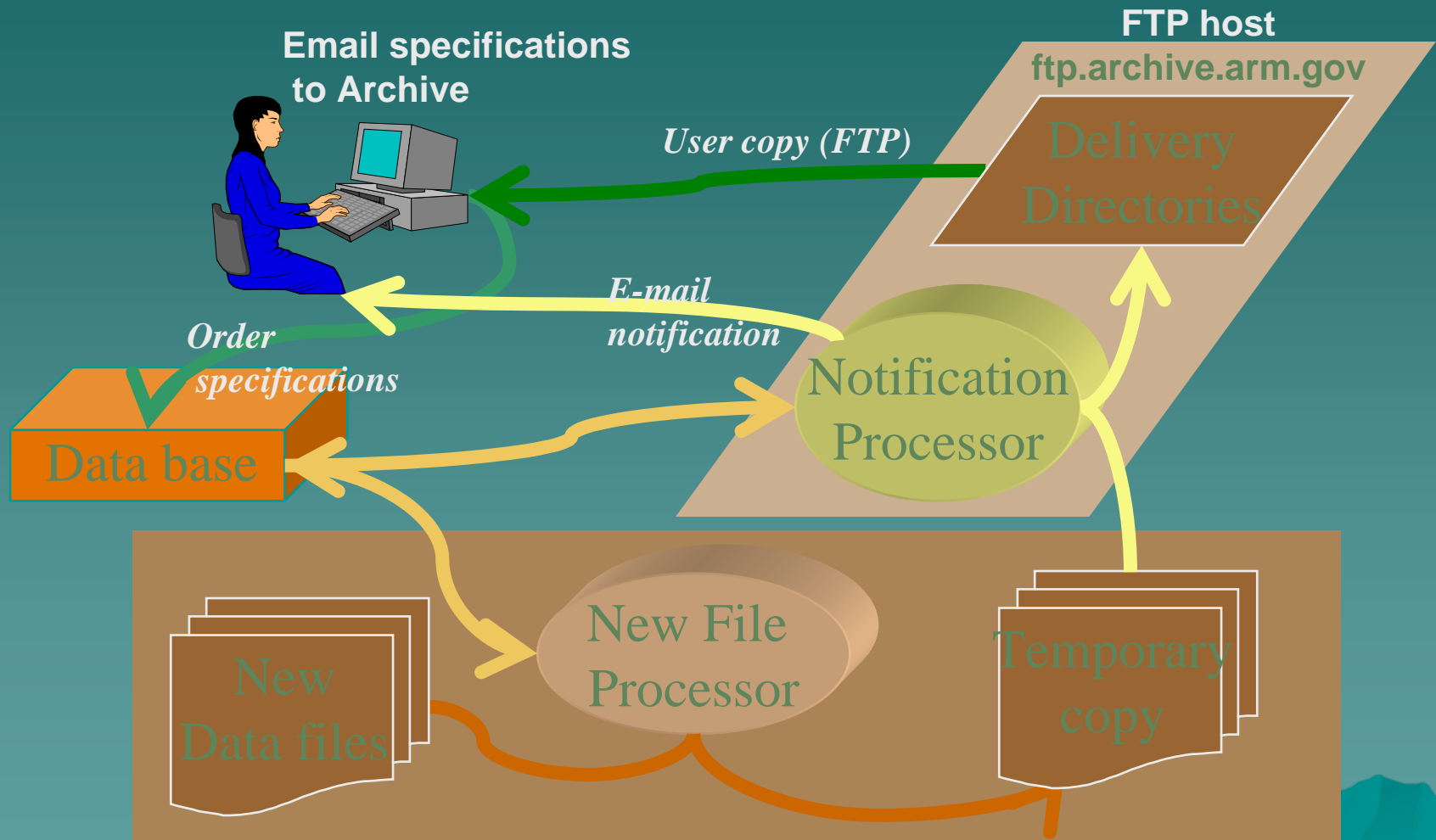
- armarchive@ornl.gov
- Call "1-888-ARM-DATA"
- FAX 1-865-574-4665



“Standing Orders”: Data Distribution Upon Arrival

- ◆ A “Standing Order” is an open request for access to a copy of all new files arriving at the Archive
 - Matching a user-specified set of data streams
 - Arriving during a delivery period
- ◆ Designed for users wanting to:
 - Access data shortly after Archival
 - Build their own complete collection of selected data streams

Standing Order Processing



Standing Order Information

- ◆ Online documentation
 - <http://www.archive.arm.gov/docs/standing-orders.html>
- ◆ Send request:
 - What data streams?
 - What delivery frequency?
 - To: armarchive@ornl.gov
- ◆ More details in reference section of handout

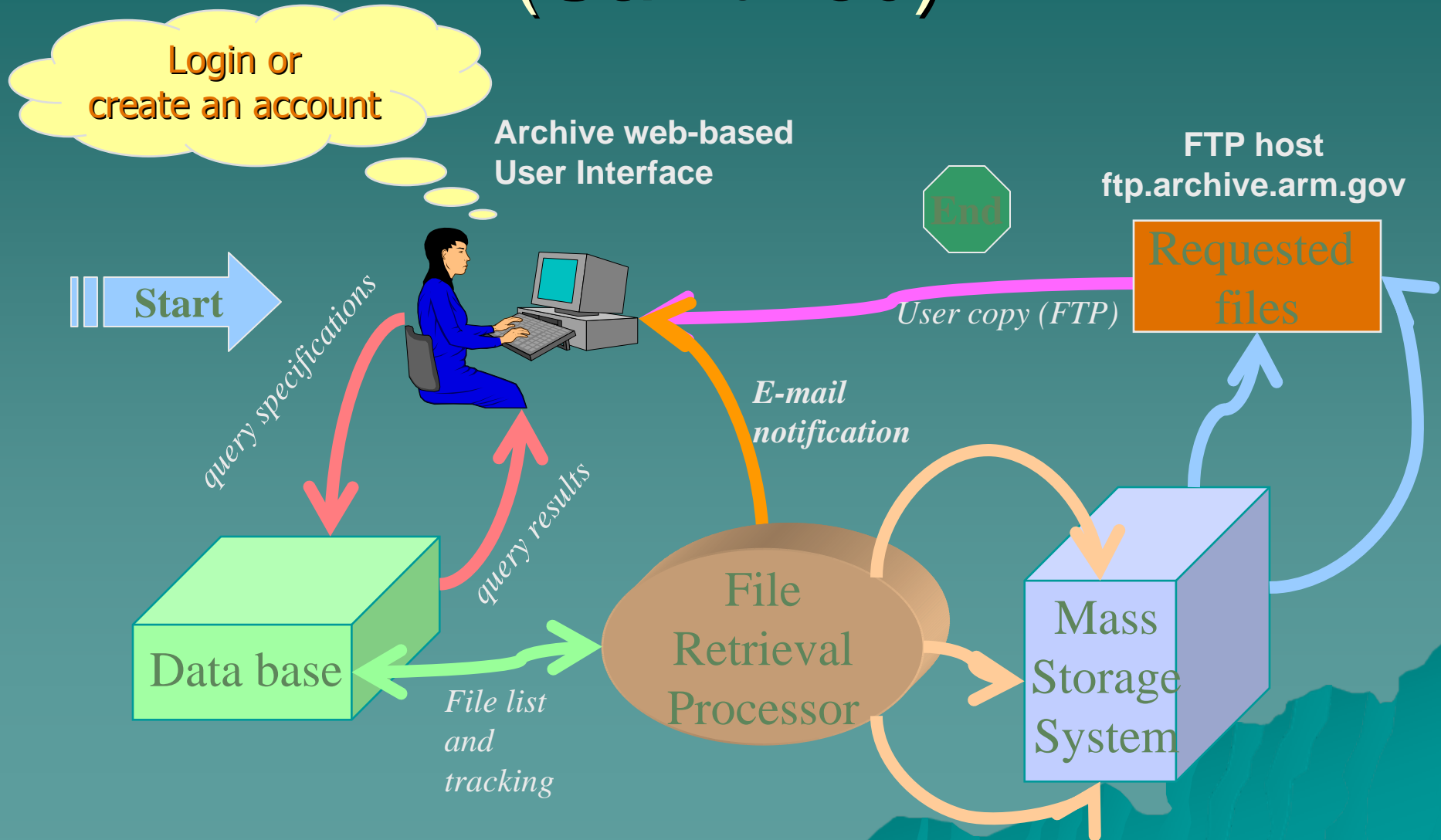
Archive Details

More than you want to know...?

You are NOT alone...

- ◆ 3 sites
- ◆ 10's facilities
- ◆ 100's data sources
- ◆ 100's data users
- ◆ 1000's measurement types
- ◆ 1,000,000's data files
- ◆ 1,000,000,000's measurements
- ◆ 10,000,000,000,000's bytes
- ◆ Storage
 - New data: 50-70,000 files, 2-3 TB per month
 - Total storage: 8.4 million files, 118 TB of data
- ◆ Usage
 - Yearly requests – 2 million files, 20 TB of data
 - 800-1000 different users active each year.

You and the Archive 'Guts' (Sanitized)



New ARM Archive Developments



- ◆ Guided by feedback from a recent User Group meeting
- ◆ User Group meeting held October 30, 2007
 - 12 members – ARM and non-ARM
- ◆ The meeting covered:
 - Planned revisions to existing Archive functionality
 - Planned additions to Archive functionality
 - New ideas and recommendations from the User Group

Ongoing Revisions to Existing Archive Functionality

- ◆ New Login Page
 - Allows email address as an alternative to Archive User Name (user's choice)
- ◆ Clarifying "Account" Creation Process
- ◆ More/better guidance on choosing and navigating the various user interfaces
- ◆ Adding categories for IOP data collection
- ◆ Clarifying lists of data sources
 - routine (measured vs. derived), IOP, and aircraft designations

Planned Additions to Archive Functionality

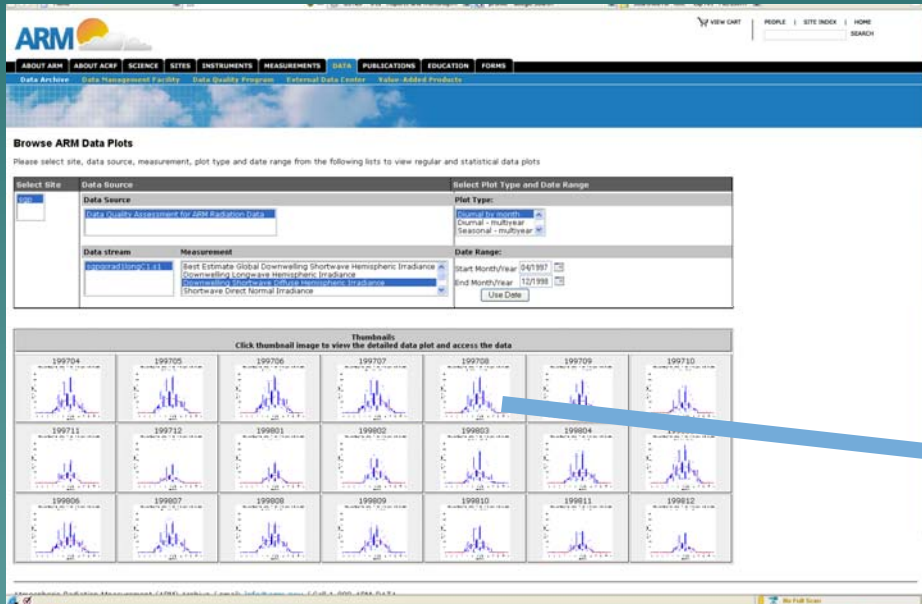
◆ *Statistical Views of ARM Data*

- A means of teasing potential data users
- An alternative to basic data products
- Being implemented only “by request” for highly polished data products
- See Poster 4G on Wednesday (Palanisamy *et al.*), and
- See demo at

<http://www.archive.arm.gov/arm/stattnb1.jsp>

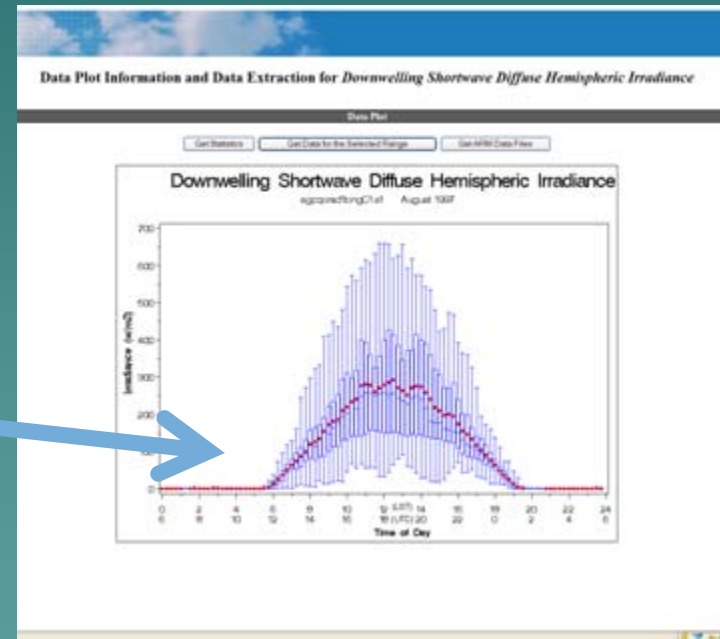
Planned Additions to Archive Functionality

- ◆ *Statistical Views of ARM Data*
 - an example using QCRAD data



The screenshot shows the ARM Data Plots web interface. At the top, there is a navigation bar with links for ABOUT ARM, ABOUT ACRP, SCIENCE, SITES, INSTRUMENTS, MEASUREMENTS, DATA, PUBLICATIONS, EDUCATION, and FORMS. Below this is a search bar and a 'Data Archive' section with links for Data Management Fundity, Data Quality Program, Safeguard Data Center, and Value-Added Products. The main content area is titled 'Browse ARM Data Plots' and contains a form for selecting data. The form has three main sections: 'Select Site', 'Data Source', and 'Select Plot Type and Date Range'. The 'Data Source' section is expanded, showing a list of data streams including 'Best Estimate Global Downwelling Shortwave Hemispheric Irradiance', 'Downwelling Longwave Hemispheric Irradiance', 'Downwelling Shortwave Global Hemispheric Irradiance', and 'Shortwave Direct Normal Irradiance'. Below the form is a grid of 18 thumbnail images, each representing a different data plot. A blue arrow points from one of these thumbnails to a larger, detailed view of a graph on the right.

User interface to select thumbnails of Statistical Views



Detailed view of graph;

Options to order statistics, data, or data files

Planned Additions to Archive Functionality

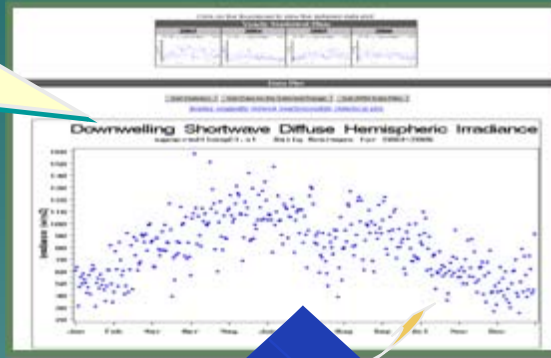
Data Extraction

- Developing a more explicit version of NCVweb for data extraction
 - ◆ Other data formats
 - ◆ Concatenated data files
- Developing an “insertion” into measurements part of Data Browser user interface so that retained measurements from a single data stream can be saved
 - ◆ Look at extending this to include the specification of a conditional query for data selection
 - ◆ Include a companion file containing DQR “quality mask” to go with selected data (??)
- ◆ *See Sean Moore’s poster at location 4H*

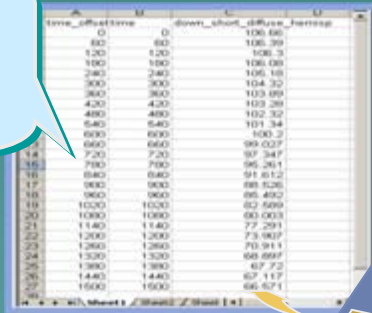
Statistical Browser

- ◆ Provides integrated access to statistical plots and data extraction features
- ◆ Visit poster for live demo

Interface allows hierarchical drill down of multi-year, yearly, and monthly statistical graphs.

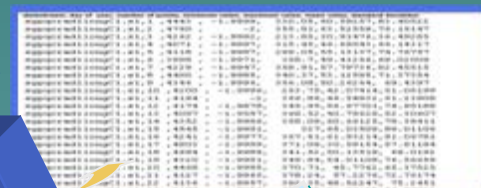


Data can be extracted in various formats (text, netCDF, or Excel)



Time_Offset	Q	Down_Short_Diffuse_Hemispheric
0	100	106.68
100	100	106.39
200	100	106.5
300	100	106.08
400	100	106.18
500	100	105.18
600	100	104.52
700	100	103.89
800	100	103.26
900	100	102.32
1000	100	101.34
1100	100	100.3
1200	100	99.027
1300	100	97.347
1400	100	96.261
1500	100	94.812
1600	100	93.526
1700	100	92.452
1800	100	91.609
1900	100	90.903
2000	100	89.291
2100	100	87.827
2200	100	86.515
2300	100	85.367
2400	100	84.387
2500	100	83.572
2600	100	82.917
2700	100	82.311

Visualization via Plots



Time_Offset	Q	Down_Short_Diffuse_Hemispheric
0	100	106.68
100	100	106.39
200	100	106.5
300	100	106.08
400	100	106.18
500	100	105.18
600	100	104.52
700	100	103.89
800	100	103.26
900	100	102.32
1000	100	101.34
1100	100	100.3
1200	100	99.027
1300	100	97.347
1400	100	96.261
1500	100	94.812
1600	100	93.526
1700	100	92.452
1800	100	91.609
1900	100	90.903
2000	100	89.291
2100	100	87.827
2200	100	86.515
2300	100	85.367
2400	100	84.387
2500	100	83.572
2600	100	82.917
2700	100	82.311

View Statistics

Raw Measurement Data

Statistical results are accessible in tabular format

Data Inventory & File Access

Regular ARM data files can be ordered through integrated Archive data requests

```
#####  
#ppprad1longc1.#1.20030108.000000.odx.v1  
#ppprad1longc1.#1.20030109.000000.odx.v1  
#ppprad1longc1.#1.20030110.000000.odx.v1  
#ppprad1longc1.#1.20030111.000000.odx.v1  
#ppprad1longc1.#1.20030112.000000.odx.v1  
#ppprad1longc1.#1.20030113.000000.odx.v1  
#ppprad1longc1.#1.20030114.000000.odx.v1  
#ppprad1longc1.#1.20030115.000000.odx.v1  
#ppprad1longc1.#1.20030116.000000.odx.v1  
#ppprad1longc1.#1.20030117.000000.odx.v1  
#ppprad1longc1.#1.20030118.000000.odx.v1  
#ppprad1longc1.#1.20030119.000000.odx.v1
```