ASDC User Services

James Koziana

Atmospheric Sciences Data Center (ASDC)

November 17-18, 2003

29th CERES Science Team Meeting
Hampton, VA

User Services: larc@eos.nasa.gov
Web site: http://eosweb.larc.nasa.gov

- Atmospheric
- Sciences
- Data Center

Processing, archiving, and distributing Earth Science data at the NASA Langley Research Center

Topics

- **Overview of ASDC**
- **Production/Distribution Statistics**
- **Access to CERES Documentation and Data**
  - **CERES Data Table**
  - **Search and Order**
  - **Subsetting CERES Data**
  - **Visualization and Analysis Software**
- **User Questions**
- **Plans**

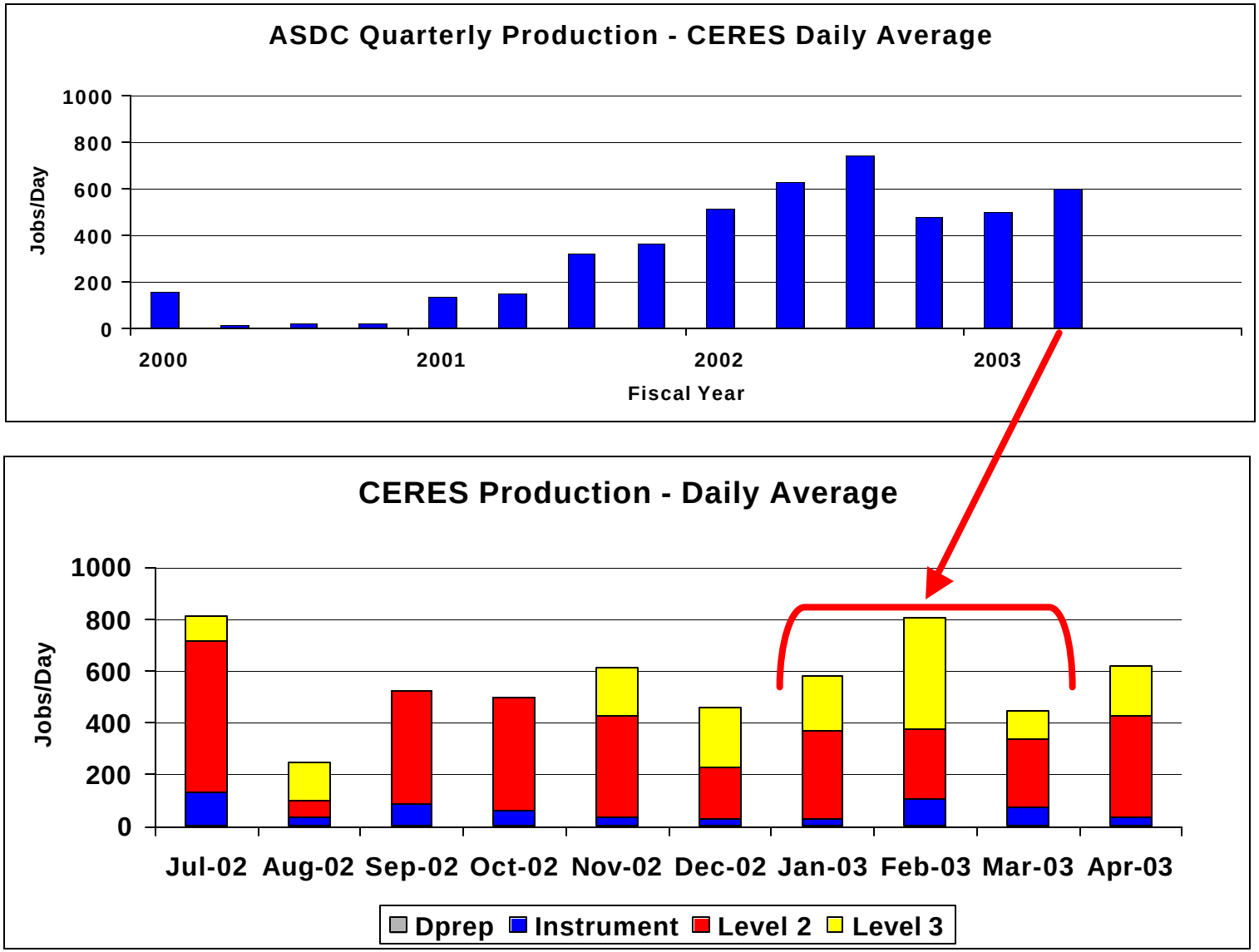
Atmospheric Sciences Data Center (ASDC)

- A full service data center for the **production**, **archival**, and **distribution** of Earth Science data in support of NASA's Earth Observing System (EOS)
- Supports science disciplines:
  - Radiation Budget
  - Aerosols
  - Clouds
  - Tropospheric Chemistry
- Operations began in ***January 1993.***
- Currently supports over 30 science projects (teams) with over 300 data sets.
- 5,347 Customers representing all 50 US states and 124 other countries
- Current archival system volume: **>500 TB.**

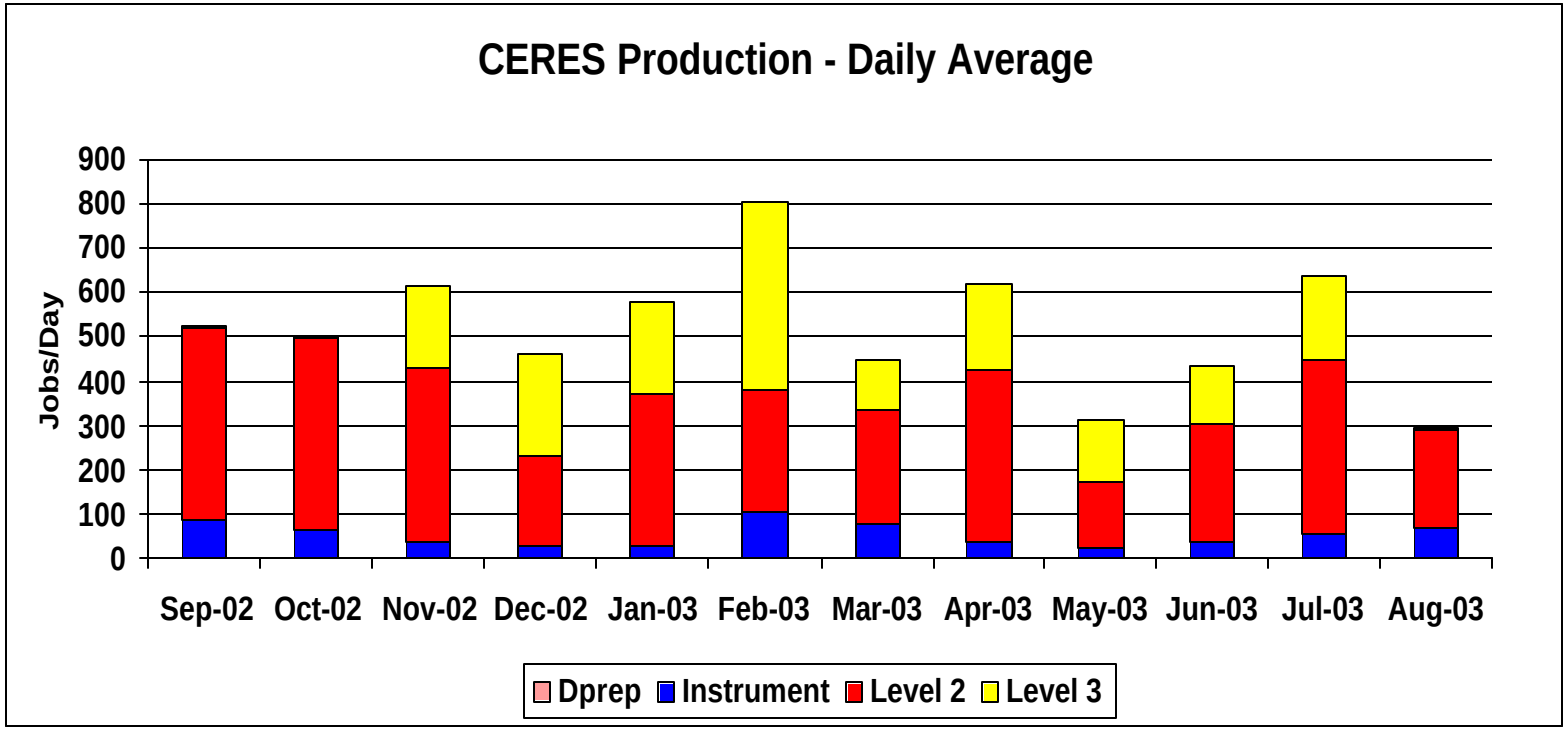
CERES Data Products

Product Category	Product Codes CERES	Name	Frequency	Size, mb	Key Parameters
ERBE-Like	*BDS*	*Bi-directional Scans (1B)*	*1/Day*	*845*	*Geolocated and calibrated filtered radiances for Total, SW and WN*
	ES8	ERBE-like Instantaneous TOA Estimates (2)	1/Day	480	ERBE-like instantaneous unfiltered radiances and fluxes
	ES9	ERBE-like Monthly Regional Averages (3)	1/Month	1099	Instantaneous regional gridded mean and monthly regional mean ERBE-like TOA fluxes
	ES4	ERBE-Like Monthly Geographical Averages (3)	1/Month	27	Monthly mean regional, zonal and global mean ERBE-like TOA fluxes
TOA and Surface Products	SSF	Single Scanner Footprint TOA/Surface Fluxes and Clouds (2)	1/Hour	258	Instantaneous TOA radiances, TOA and surface fluxes and cloud properties
	SFC	Monthly Grided TOA/Surface Fluxes and Clouds (3)	1/Month	11,069	Instantaneous regional gridded mean TOA radiances, TOA and surface fluxes and cloud properties
	SRBAVG	Monthly TOA/Surface Averages (3)	1/Month	4722	Monthly regional mean TOA radiances, TOA and surface fluxes and cloud properties
Atmosphere Products	CRS	Clouds and Radiative Swath (2)	1/Hour	354	Instantaneous surface, atmospheric and TOA fluxes
	FSW	Monthly Gridded Radiative Fluxes and Clouds (3)	1/Month	20,349	Gridded surface, Atmospheric layers and TOA fluxes and cloud properties
	SYN	Synoptic Radiative Fluxes and Clouds (3)	1/3-Hours	1920	Regional LW, SW and WN fluxes for the surface, atmospheric layers and TOA and cloud properties
	AVG	Monthly Regional Radiative Fluxes and Clouds (3)	1/Month	1189	Averaged surface, atmospheric layers and TOA fluxes and cloud properties
	ZAVG	Monthly Zonal and Global Radiative Fluxes and Clouds (3)	1/Month	3.3	Averaged surface, atmospheric layers and TOA fluxes and cloud properties

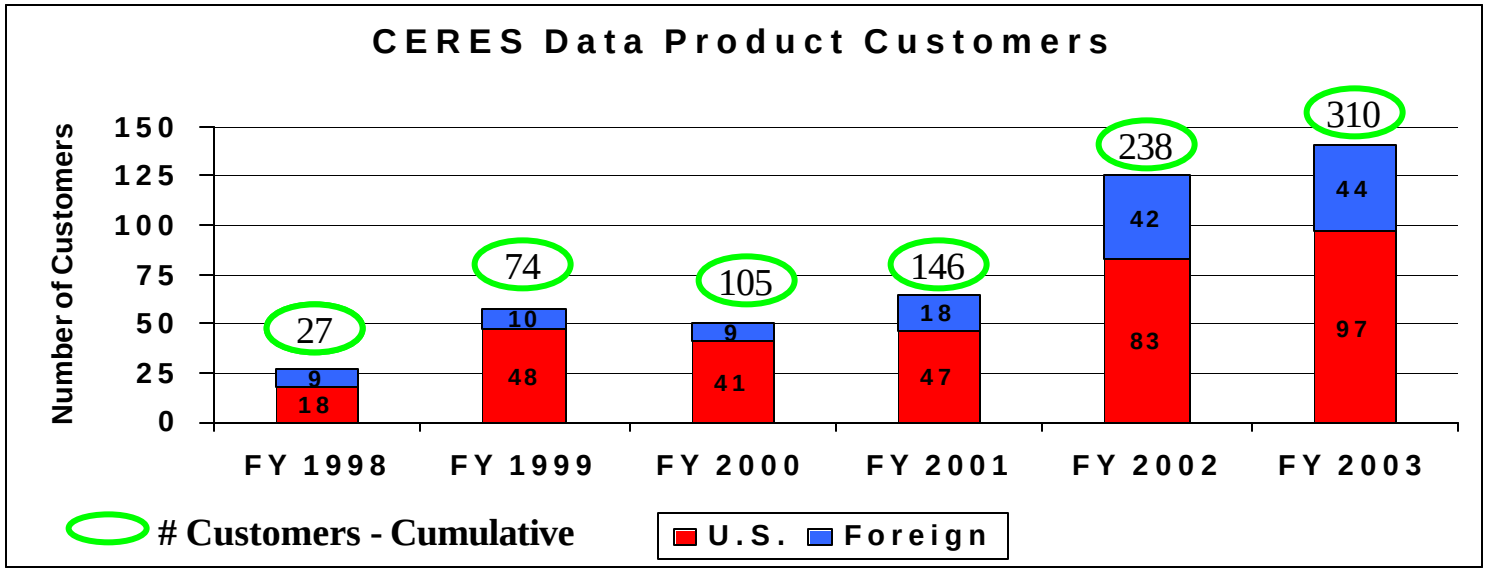
CERES – Production

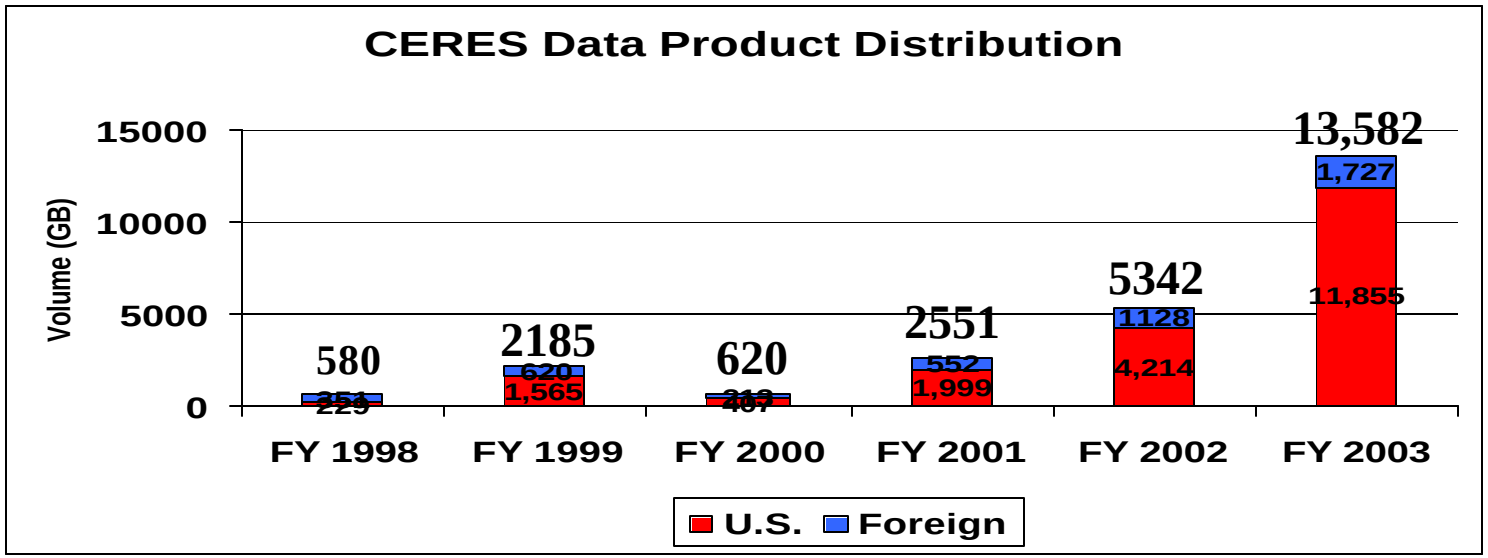


CERES – Production

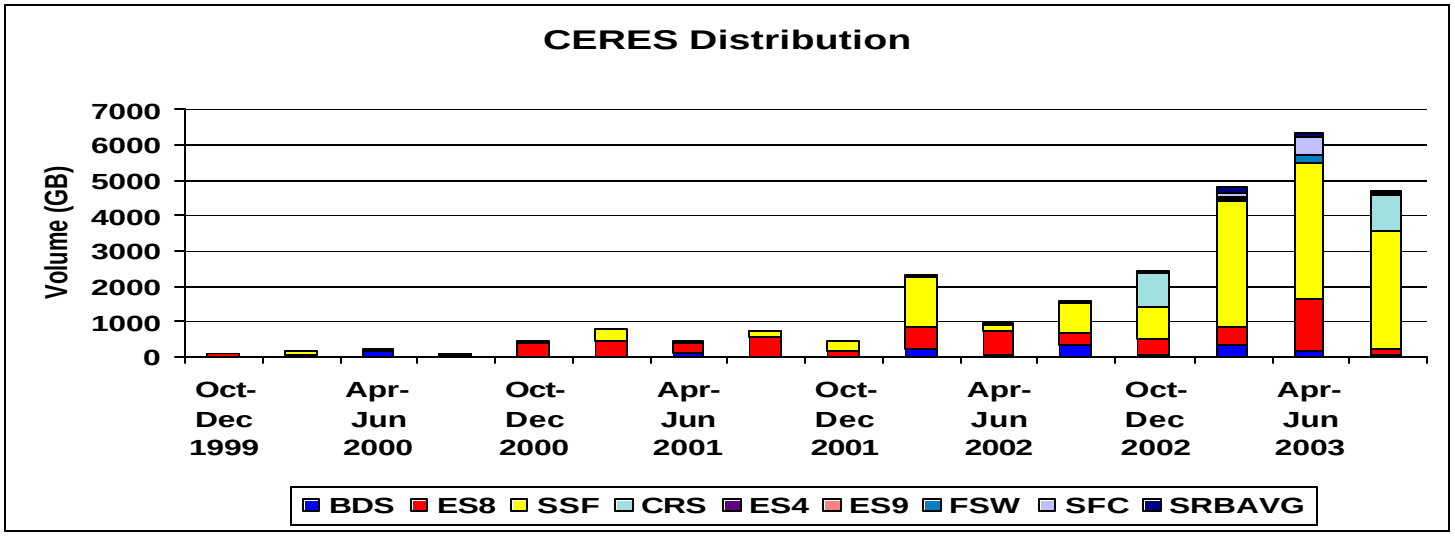


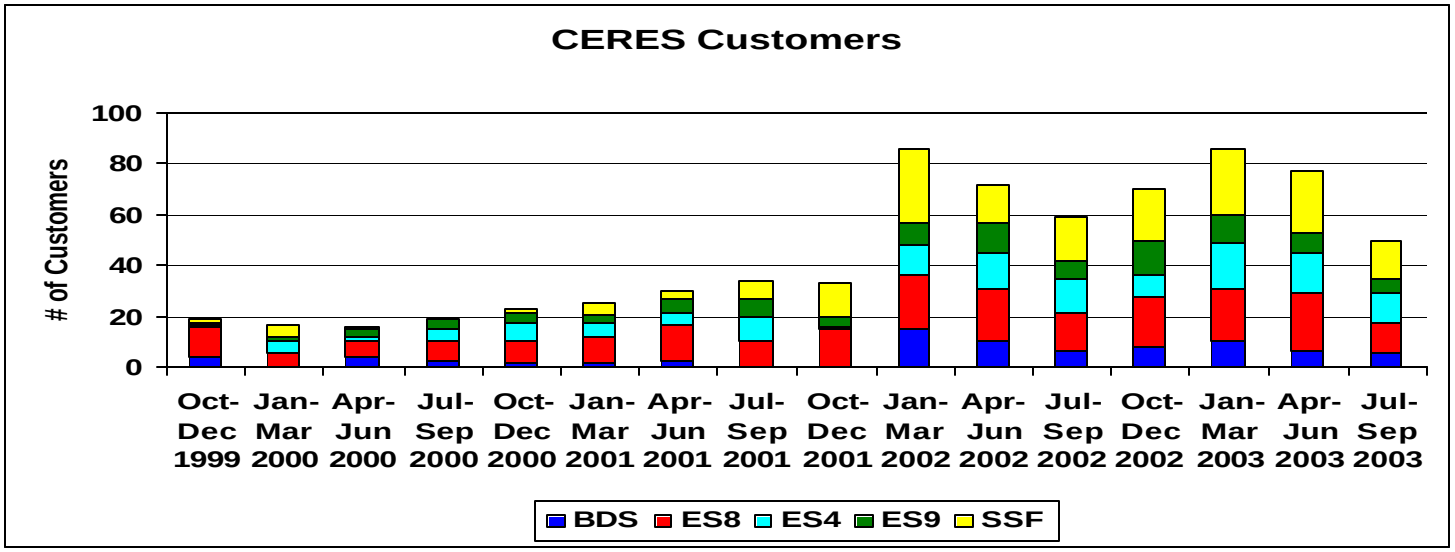
CERES – Customers/Distribution





The Most Popular CERES Product is:

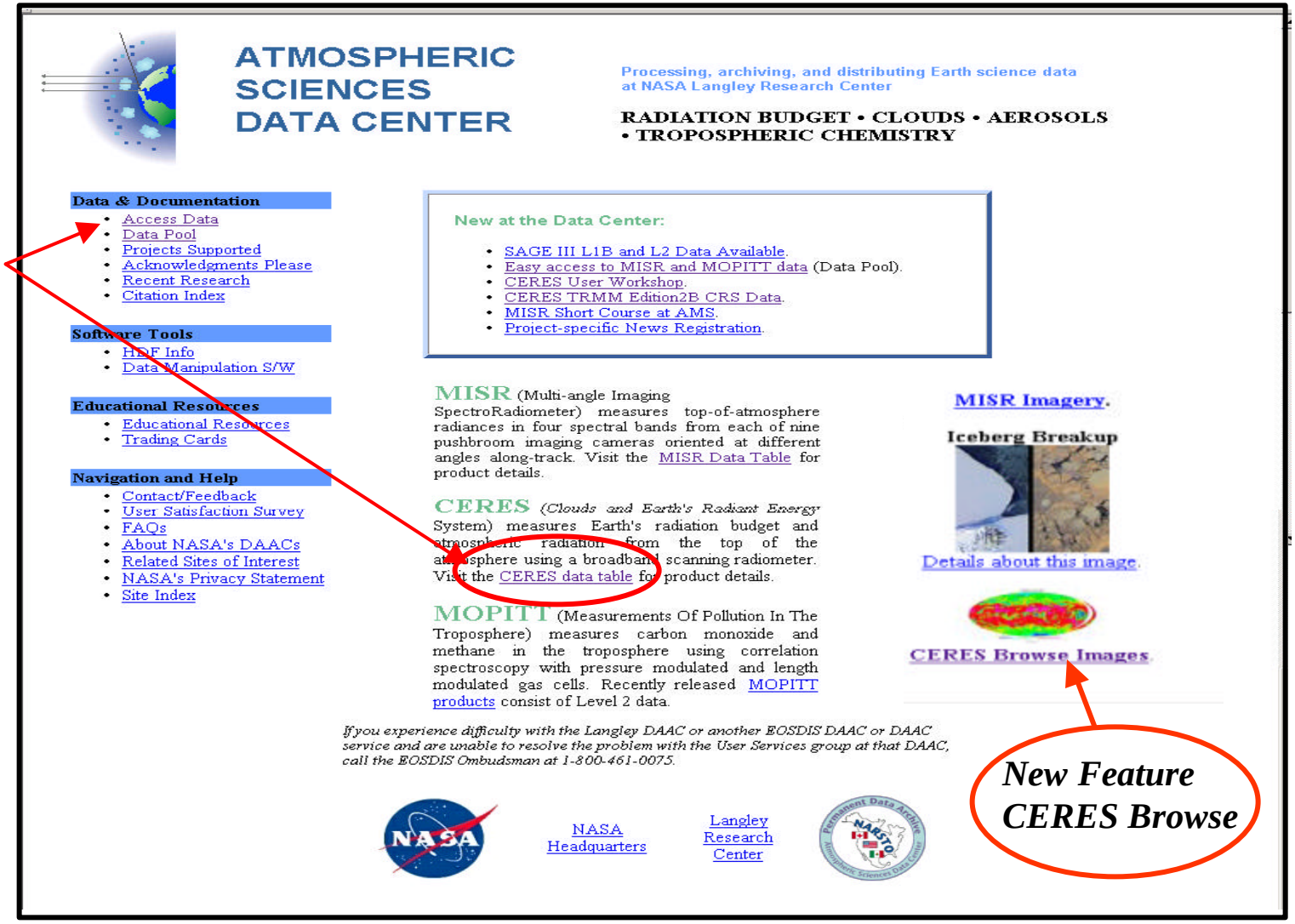




Web Site: http://eosweb.larc.nasa.gov

User Services: larc@eos.nasa.gov

CERES Data Table



New Feature CERES Browse

ATMOSPHERIC SCIENCES DATA CENTER

CERES Data Sets

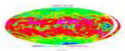
The Clouds and the Earth's Radiant Energy System (CERES) is a key component of the Earth Observing System (EOS) program. The CERES instrument provides radiometric measurements of the Earth's atmosphere from three broadband channels. The CERES instruments are improved models of the Earth Radiation Budget Experiment (ERBE) scanner instruments, which operated from 1984 through 1990 on NASA's Earth Radiation Budget Satellite (ERBS) and on NOAA's operational weather satellites NOAA-9 and NOAA-10.

The first CERES instrument was launched from Tanegashima, Japan, on November 27, 1997, as part of the Tropical Rainfall Measuring Mission (TRMM). Two CERES instruments were launched into polar orbit on board the EOS flagship *Terra* on December 18, 1999, and two additional CERES instruments were launched on board EOS *Aqua* on May 4, 2002.

Note that these data sets are affected by CERES Operations in Orbit.

CERES News

CERES Browse



CERES Browse Images.

- **Join our Mailing list for CERES News!**
- **CERES Workshop Presentations (January 2003).**
- **Order CERES Sampler CD-ROM (5 Volumes).**

Documents Tools Links

Order CERES Data via the Langley Web Ordering Tool.

Documentation	Data Manipulation Tools	Relevant Links	Images
CERES Data Products Catalog Page. CERES Collection Guides.	view_hdf Tool.	CERES Home Page. CERES Brochure (PDF). CERES Terra Home Page. CERES TRMM Home Page. CERES ARM Validation Experiment. CERES/ARM/GEWEX Experiment. CERES/ARM Radiation Experiment. CERES Surface Properties. CLAMS Home Page.	Earth Outgoing Longwave Radiation from CERES Instrument on Terra (03/01/2000 - 02/28/2001) Data Animation. 9 Mbytes | 15 Mbytes. Validation Graphics: ES-8 and ES-4 Validation Graphics. Browse Images.

CERES Browse

The CERES data are written in the HDF format. The sample read software packages that are provided with the data are able to read the HDF format. However, you will need to obtain the HDF libraries. (Get information on the HDF libraries.)

If you are interested in ordering any of these data products, select the data set name, and this link will take you directly into the ordering system for you to place your order via the Java Version of the Langley Web Ordering Tool. By using this tool, you are able to subset the following data products, CRS, ES-8 and SSF, by parameter.

Products

Currently available data sets: BDS | CRS | ES-4 | ES-8 | ES-9 | FSW | SFC | SRBAVG | SSF

Easy Ordering

BiDirectional Scan (BDS)

Parameters: Instr. Engineering Parameters, Shortwave Detector, SW Filtered Radiance, Total Detector, TOT Filtered Radiance, Window Detector, WN Filtered Radiance

Spacecraft	Data Set Name	Guide Document	Sample Software	Temporal Coverage
	CERES_Test_BDS	Description.	Readme | Read Package (C).	01/05/1998 (Daily)
TRMM	CER_BDS_TRMM-PFM_Edition1. Quality Summary.	Description/Abstract | BDS Collection Guide. (PDF)	Readme | Read Package (C).	12/27/1997 - 08/31/1998 (Daily)
Terra	CER_BDS_Terra-FM1_Edition2. CER_BDS_Terra-FM2_Edition2. Quality Summary.		Readme | Read Package (C).	01/11/2000 - Current Production (Daily) NOTE: The instrument covers were opened on 02/24/2000.
	CER_BDS_Terra-FM1_Edition1. CER_BDS_Terra-FM2_Edition1. Quality Summary.		Readme | Read Package (C).	01/11/2000 - Current Production (Daily) NOTE: The instrument covers were opened on 02/24/2000.

CERES Browse Index

ATMOSPHERIC SCIENCES DATA CENTER

CERES Browse Index

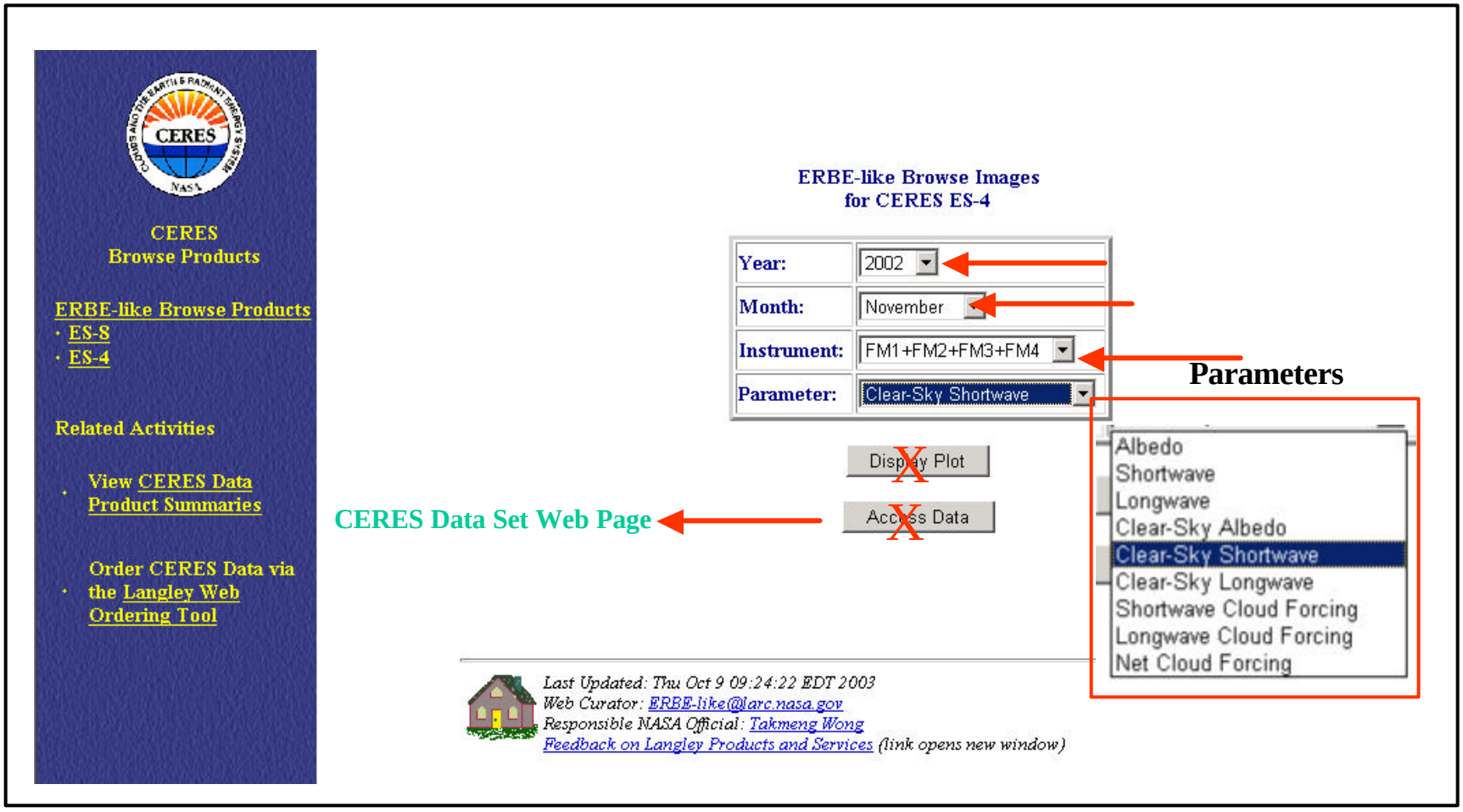
The table below provides links to information about the CERES data products, to the Browse Product Web Site, and to a sample collection of CERES browse images. The Browse Product Web Site allows access to the complete set of browse products.

Description		Browse Product Web Site	Sample CERES Browse Images (Complete List)		
Category	Product Information		TRMM	Terra	Aqua
ERBE-Like	ERBE-Like Instantaneous TOA Estimates (ES-8).	ES-8.	ES-8.	ES-8.	
	ERBE-Like Monthly Geographical Averages (ES-4).	ES-4.	ES-4.	ES-4.	
TOA and Surface Products	Single Scanner Footprint TOA/Surface Fluxes and Clouds (SSF).		SSF.	SSF.	
	Monthly TOA/Surface Averages (SRBAVG).		SRBAVG.		
Atmosphere Products	Clouds and Radiative Swath (CRS).		CRS.		
	Monthly Gridded Radiative Fluxes and Clouds (FSW).		FSW.		

CERES Access Data Table | ASDC Home Page | Questions/Feedback

Responsible NASA Official: Bruce R. Barkstrom, Ph. D.
Site Administration/Help: NASA Langley ASDC User Services (larc@eos.nasa.gov)
[Privacy, Security, Notices] [Feedback on Langley Products and Services]
Last Updated: Tue Nov 04 11:26:53 GMT-0500 (Eastern Standard Time) 2003

ERBE-Like Browse Images for ES-4



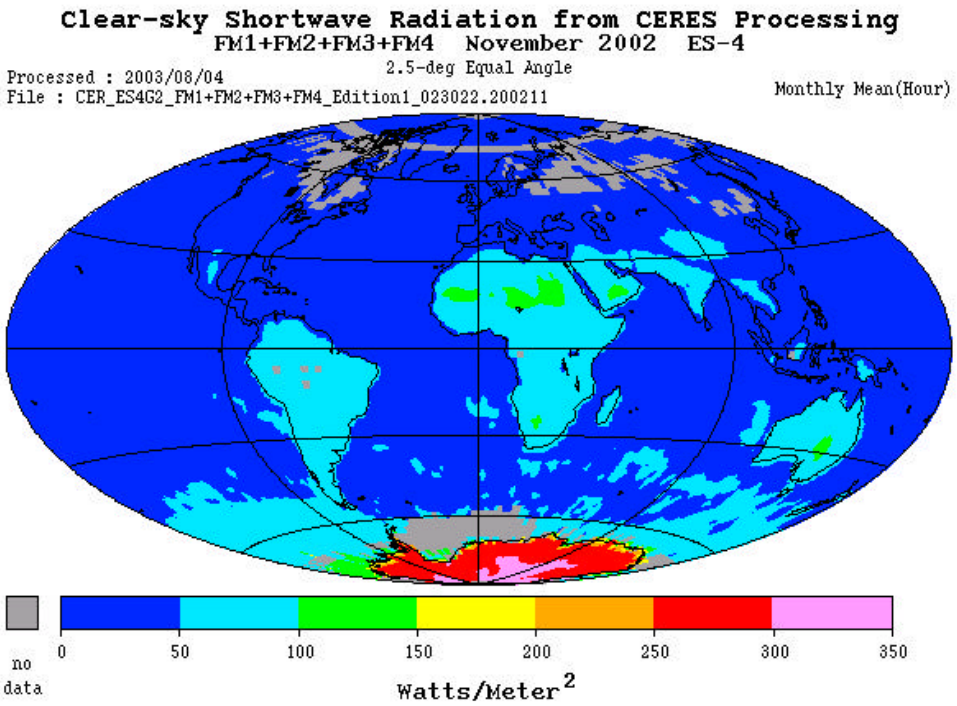
ERBE-Like Browse Image

CERES
Browse Products

ERBE-like Browse Products
- ES-8
- ES-4

Related Activities

- View CERES Data Product Summaries
- Order CERES Data via the Langley Web Ordering Tool



Display the image without the navigation links. *(link opens new window)*

Page Created: Fri Nov 14 14:17:31 EST 2003
Web Curator: ERBE-like@larc.nasa.gov
Responsible NASA Official: Takmeng Wong
Feedback on Langley Products and Services (link opens new window)

Order CERES Data via Langley Web Ordering Tool

ATMOSPHERIC SCIENCES DATA CENTER

The NASA Langley Web Ordering Tools

There are two versions of the NASA Langley Web Ordering Tool, a Java and an HTML version.

Ordering Tool	Minimum Requirements	Known Issues
Java Tool | Help	Netscape Navigator 3.0; Internet Explorer 4.0 **Java MUST be enabled.**	There may be difficulty with this tool on Sun Solaris systems using Netscape V4.06 and V4.7, and on Windows with Netscape V7.
HTML Tool | Help	Netscape Navigator 4.7; Internet Explorer 4.0 **JavaScript MUST be enabled.**	This tool does not work properly with the Mac OS X Safari browser.

Contact User Services if you encounter any problems with these ordering tools. Please include the operating system and browser being used.

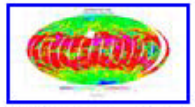
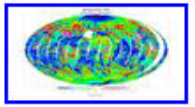
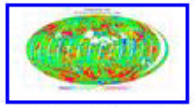
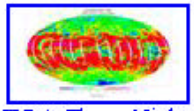
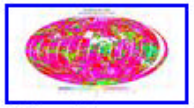
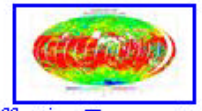
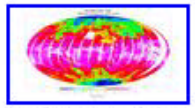
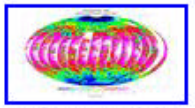
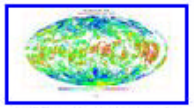
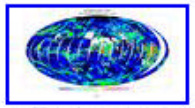
ASDC Home Page | Access Data | Questions/Feedback

Responsible NASA Official: Bruce R. Barkstrom, Ph. D.
Site Administration/Help: NASA Langley ASDC User Services (larc@eos.nasa.gov)
[Privacy, Security, Notices] [Feedback on Langley Products and Services]
Last Updated: Mon Oct 27 16:51:43 GMT-0500 (Eastern Standard Time) 2003

CERES Sample Browse Images

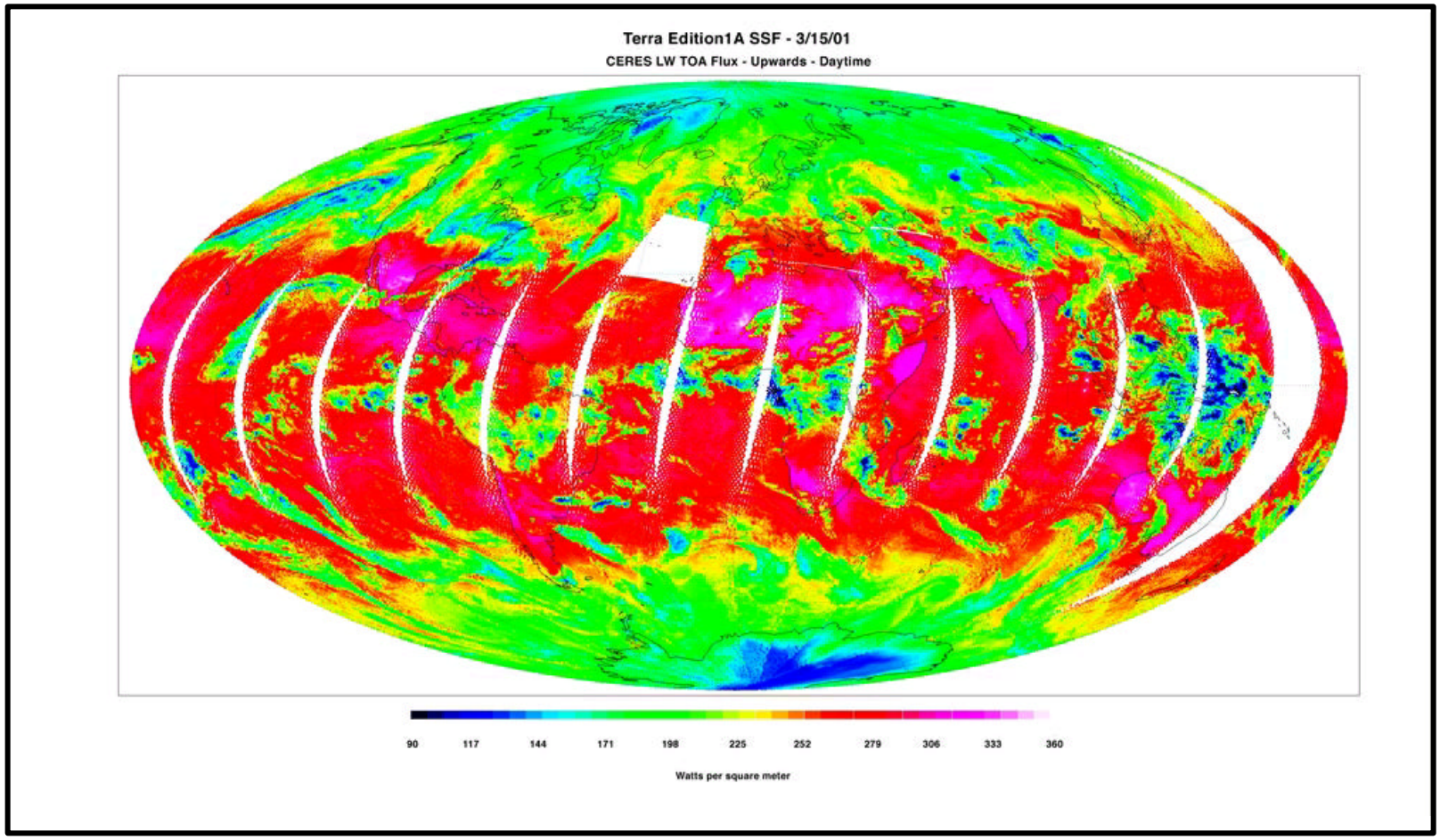
ATMOSPHERIC SCIENCES DATA CENTER

CERES SSF Browse Images

	Longwave	Shortwave	Clouds	
SSF Terra-FM2 Edition1A March 15, 2001 Documentation. Images generated by subsetting a day (24 granules) by solar zenith angle. Order the Data.	 TOA Flux - Day.	 TOA Flux - Day.	 Cloudy Area - Day.	 Optical Depth.
	 TOA Flux - Night.		 Base Pressure.	 Effective Temperature.
	 Surface, Model B.	 Surface, Model B.	 Effective Height (upper layer).	 Effective Height (lower layer).

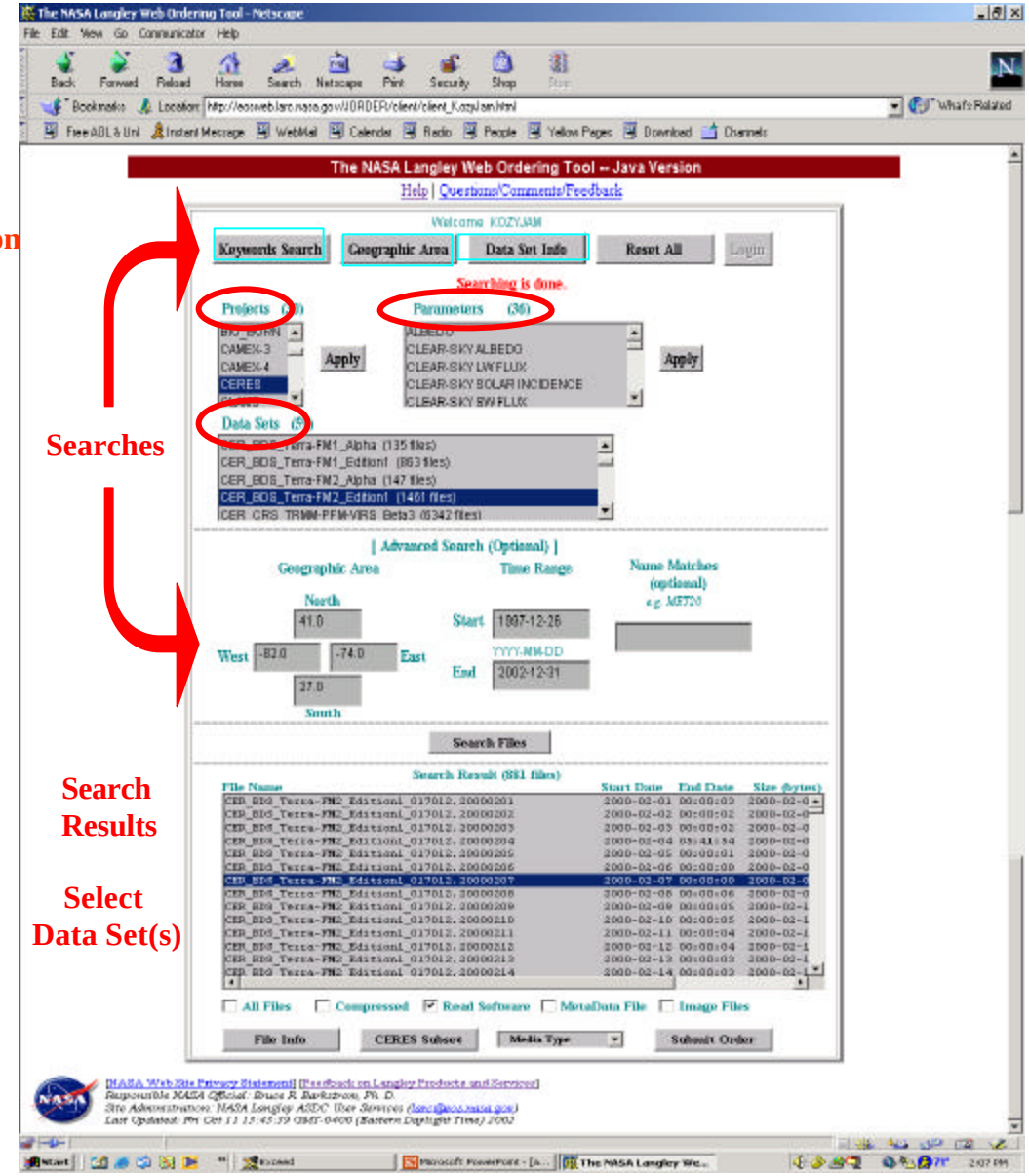
- To obtain the data file(s), select the "Order the Data File" link, which goes directly to the order web site. The order tool requires a Java-enabled browser to work correctly.

CERES Sample Browse Images



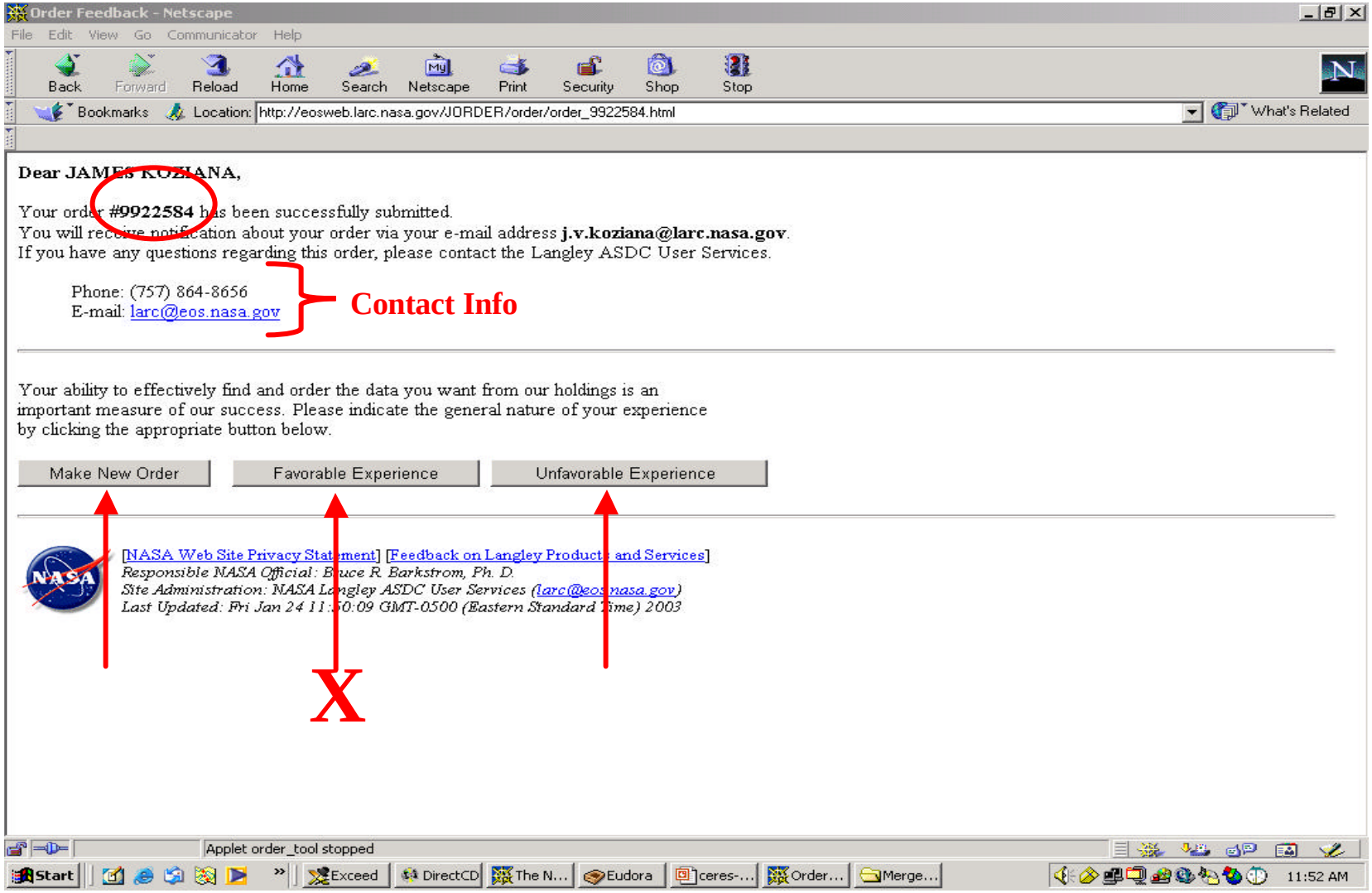
Langley Web Ordering Tool – Java Version

(http://eosweb.larc.nasa.gov/HBDOCS/Langley_web_tool.html)

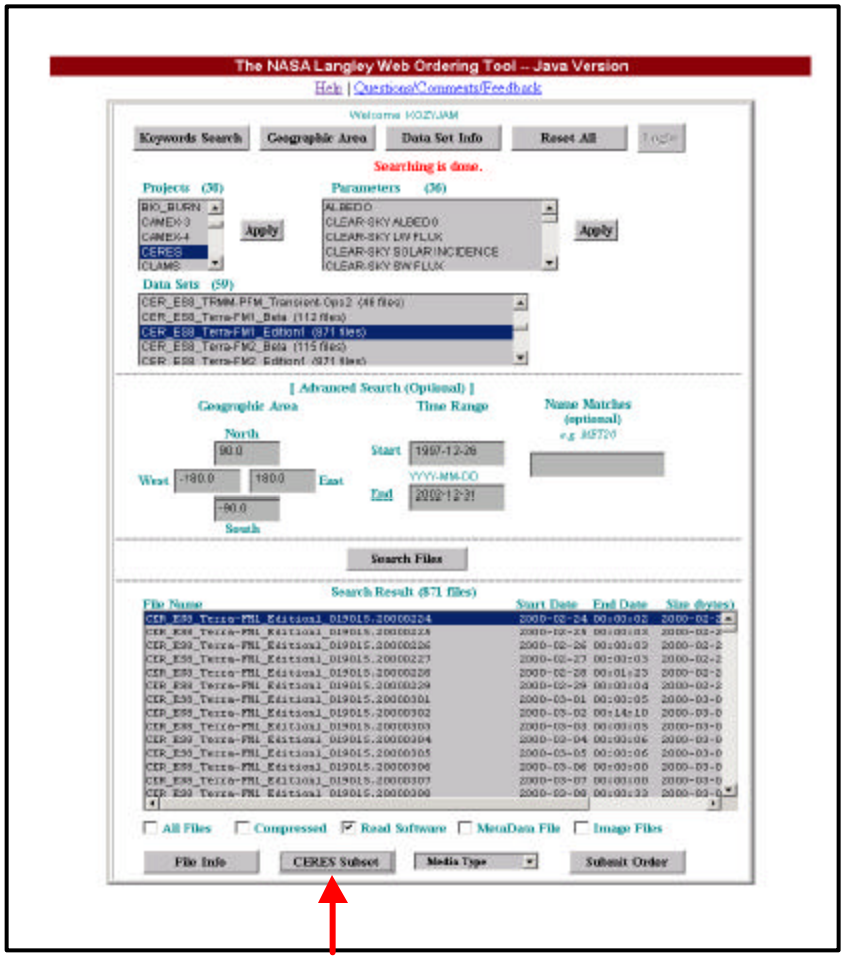


Order Information

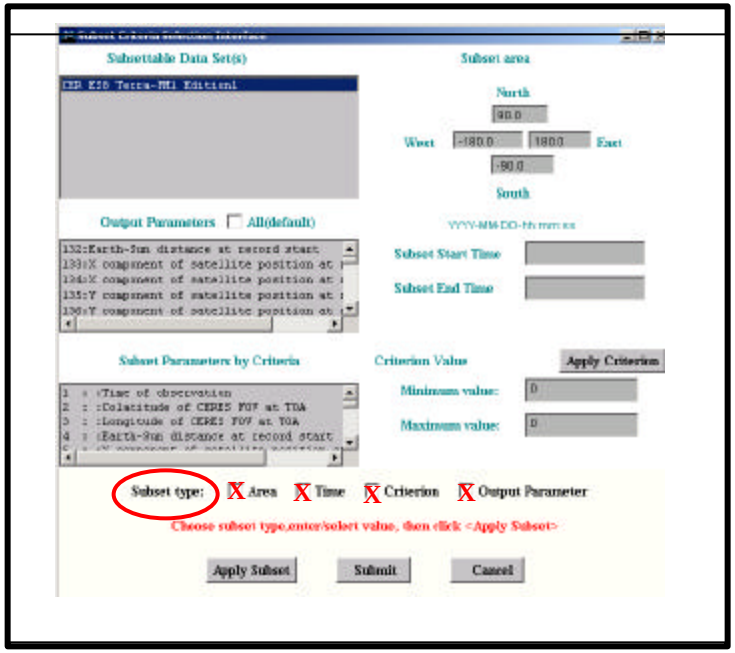
Successfully Placed Order



CERES Subset



- Available through the Langley Web Ordering Tool (Java)
- ***Products:*** ES-8, CRS and SSF
- ***Subset Type***: Area, Time, Parameter Criterion and Output Parameter



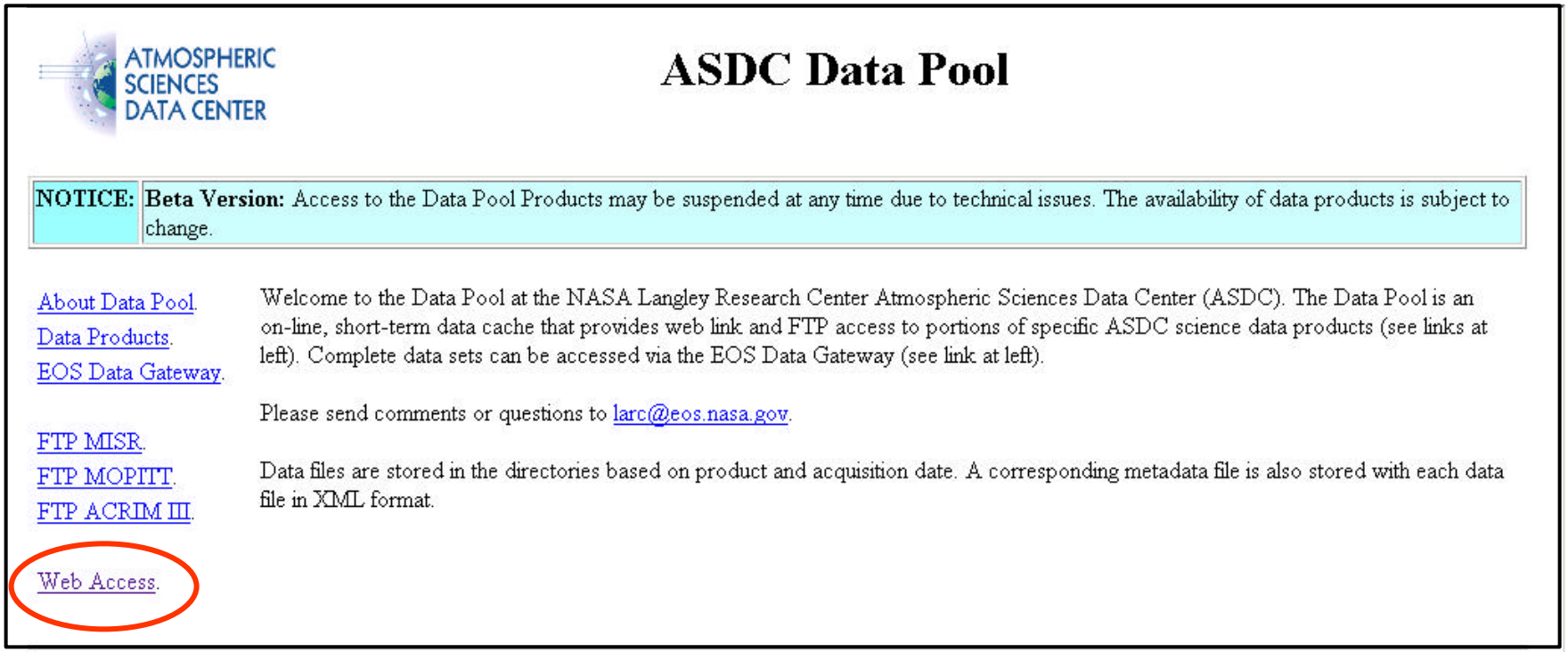
view-hdf: Visualization and Analysis Tool

- Visualization and Analysis Tool for CERES Data Files (HDF)
- ***Purpose:*** To Generate Science Data Products from Instrument Measurements
- Written in Interactive Data Language (IDL)
- **Capabilities:**
  - Select and subset variables from either Science Data Sets (SDS) or Vdata structures
  - Render both two and three dimensional graphics
  - Plots gelocated CERES data onto various world map projections
  - Exports data to a file in ASCII or HDF format
  - Portable to platforms supporting IDL, HDF libraries and a C compiler
- Developed by the CERES Data Management Team and Distributed free of charge by ASDC.

http://eosweb.larc.nasa.gov/HPDOCS/view_hdf.html

User Questions and Requests

- Types of questions have changed as data products mature
  - ***CERES Newslist***
  - Data Availability and Data Set Characteristics
  - Read Software
  - Data Ordering



- 25 TB of Redundant Array of Inexpensive Disk (RAID-5)
- FTP and Web Access
- Themes – grouping of data granules by a common interest or topic (for example, 'Ring of Fire Volcanoes' or 'Fires - Western U.S.')
- Balance – Data Variety and Data Maturity

Data Pool -- Themes

DataPool @LaRC

Home | About DataPool | About the DAAC | Release Notes | Glossary | Help

DataPool organizes its data by **Themes** as listed below. To begin your search, select a Theme by clicking on a link in the column below. You can also start a search by **Data Group**

Theme	Description	Granule Count
Aetna	TS1 Aetna Theme Orbit 8476	23
Chesapeake	TS1 Chesapeake theme Path 13/14	31
Houston	TS1 Houston theme Path 25/26	57
Radiance	TS1 Radiance Theme Level3 Monthly/Quarterly	6

Can't find what you want in DataPool? Search the whole archive

DataPool @LaRC

Home | About DataPool | About the DAAC | Release Notes | Glossary | Help

Current Search Criteria

You may click on a hyperlinked criterion to go back and resume the drill-down from that point

Theme	**Houston**

The above search criteria would return approximately **57 granules** which is about **2127.165 MB** of data.

To continue, please select a value for **Data Set** by clicking a link in the table below. Each link in the Data Set column below takes you to a set of Spatial values for which that product is available.

Data Set	Description	Granule Count
CEICE_AC.1	CERES NSIDC platform DMSP instrument data product	1
CESNOWAC.1	CERES NSIDC platform DMSP instrument data product	1
M021KM.4	TS1 test of MODIS M0D1KM granules	1
M02HKM.4	TS1 test verion of MOD02HKM.004	1
MI1B2T.1	This file contains Terrain projected TOA Radiance,resampled at the surface and topographically corrected	12
MIL2TCST.1	This is the Level 2 TOA/Cloud Stereo Product. It contains the Stereoscopically Derived Cloud Mask (SDCM), cloud winds, Reflecting Level Reference Altitude (RLRA), with associated data.	4
MISBR.4	This is the browse data associated with a particular granule.	30
SUBS1B2E.1	Subsetted MISR MI1B2E granules	2
SUBS1B2T.1	Subsetted MISR MI1B2T granule	5

CERES

MISR Subset

Use of Data from the Langley Data Center

Acknowledgments:

When data from the Langley Atmospheric Sciences Data Center are used in a publication, we request the following acknowledgment be included: "These data were obtained from the NASA Langley Research Center Atmospheric Sciences Data Center."

Reprints Please!

The Langley Data Center requests a reprint of any published papers or reports or a brief description of other uses (e.g., posters, oral presentations, etc.) of data that we have distributed. This will help us determine the use of data that we distribute, which is helpful in optimizing product development. It also helps us to keep our product-related references current.

Please contact us at larc@eos.nasa.gov for instructions on mailing reprints.

Redistribution of Data:

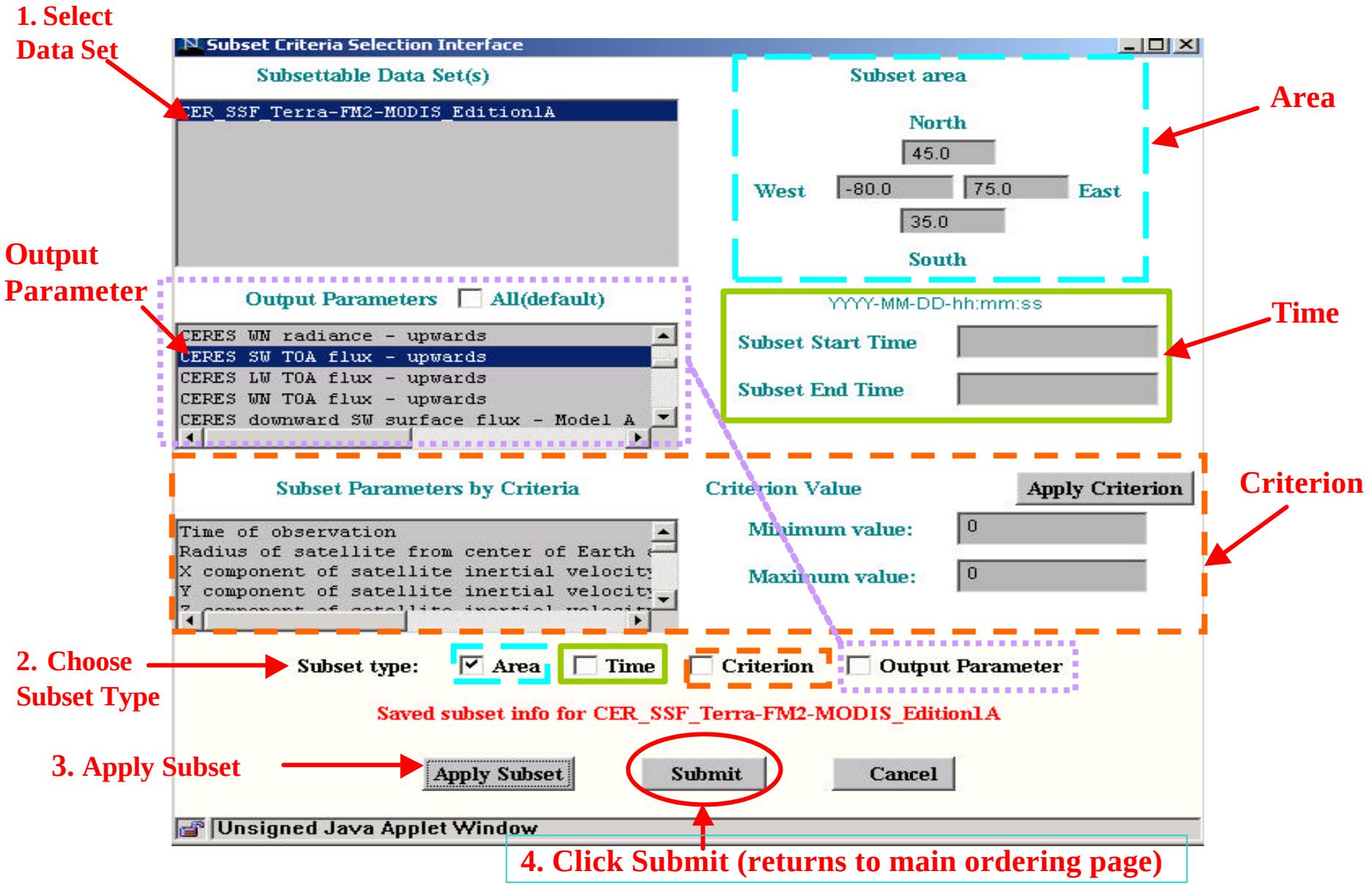
To assist the Langley Data Center in providing the best service to the scientific community, we request notification if you transmit these data to other researchers.

Now What?

User Services: larc@eos.nasa.gov

Web site: http://eosweb.larc.nasa.gov

- Atmospheric
- Sciences
- Data Center

Processing, archiving, and distributing Earth Science data at the NASA Langley Research Center

CERES Subset (Continued)