ASDC User Services

James Koziana

Atmospheric Sciences Data Center (ASDC)

May 6-8, 2003

28th CERES Science Team Meeting
Norfolk, 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**

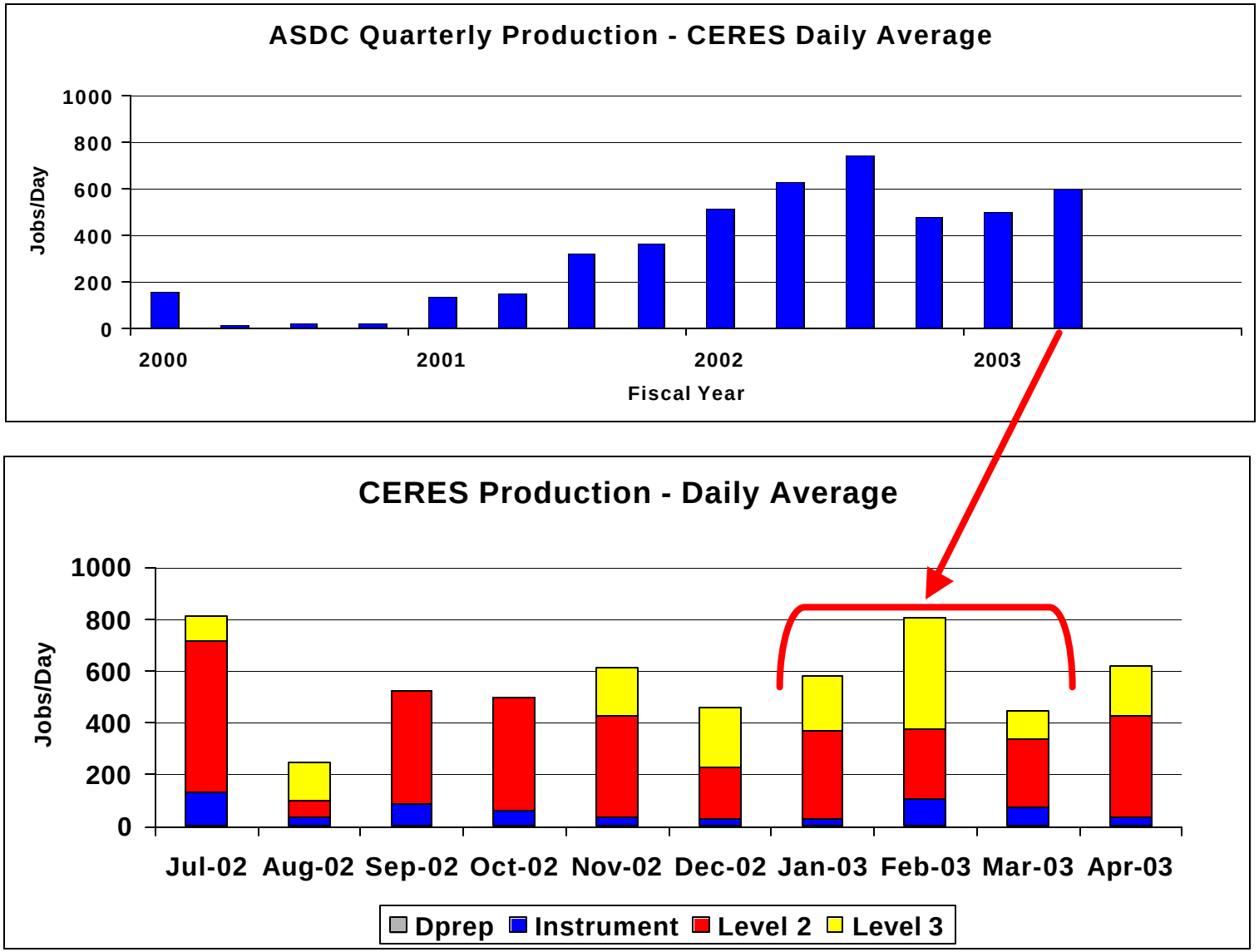
Atmospheric Sciences Data Center (ASDC)

- 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.**

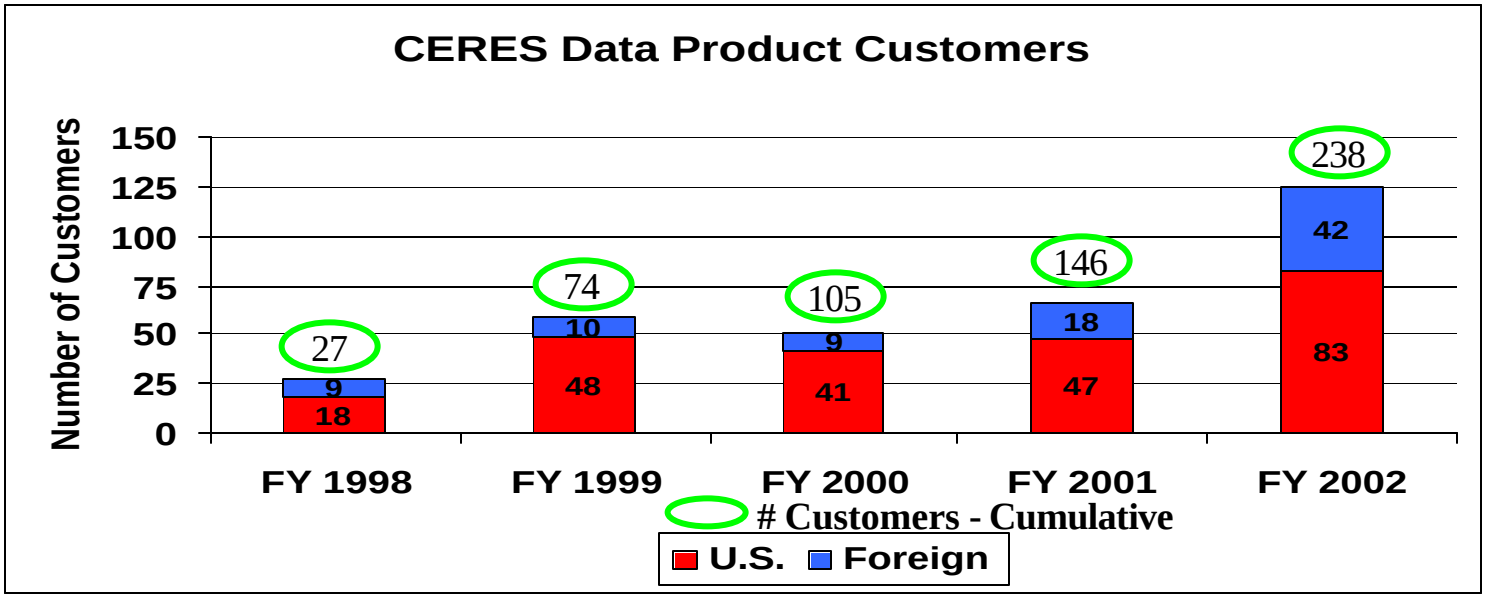
CERES Data Products

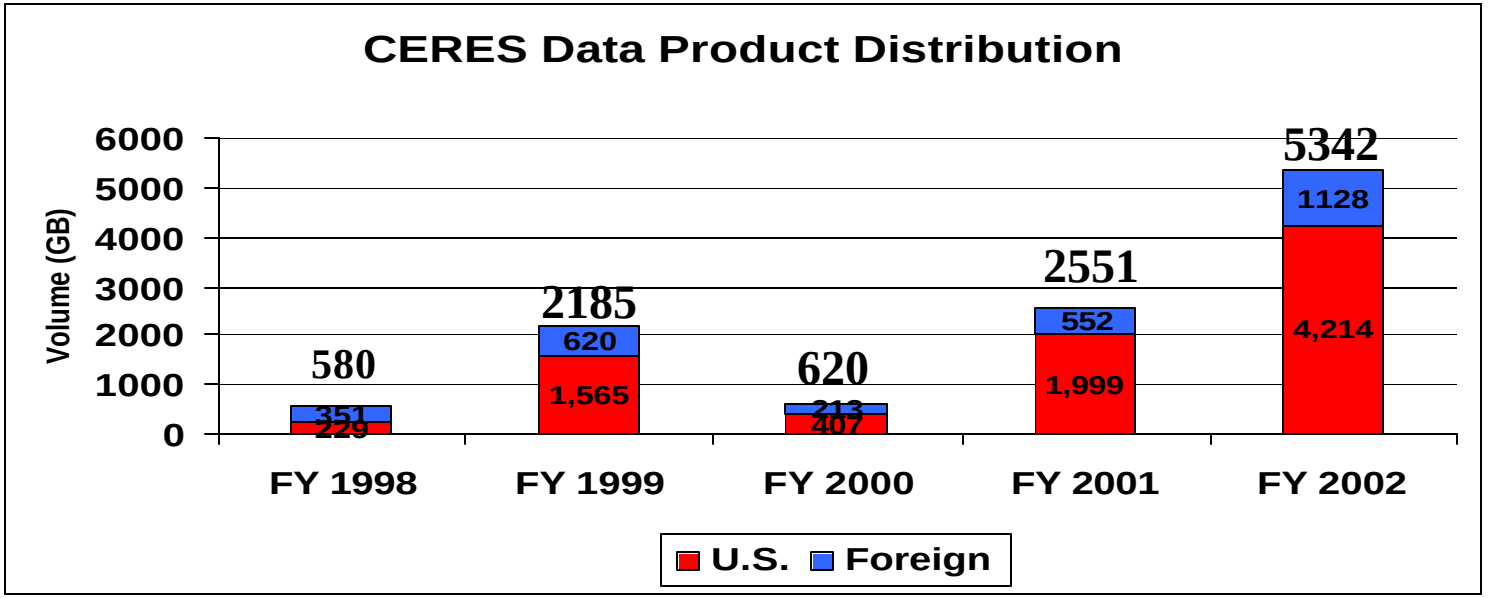
Product Category	Product Codes CERES	Name	Frequency	Size, mb	Key Parameters
ERBE-Like	*BDS*	*Bi-directional Scans (1B)*	*1/Day*	*845*	*Geolocated and calibrated filtered radiances for Total, SW and WN*
	ES8	ERBE-like Instantaneous TOA Estimates (2)	1/Day	480	ERBE-like instantaneous unfiltered radiances 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

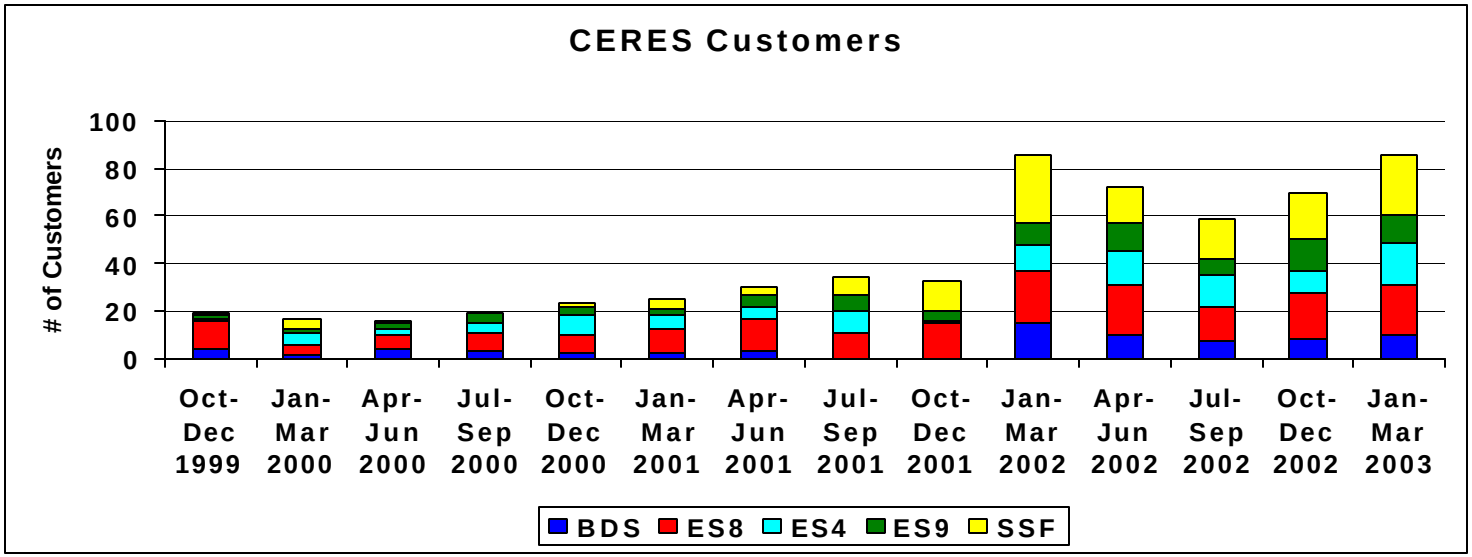


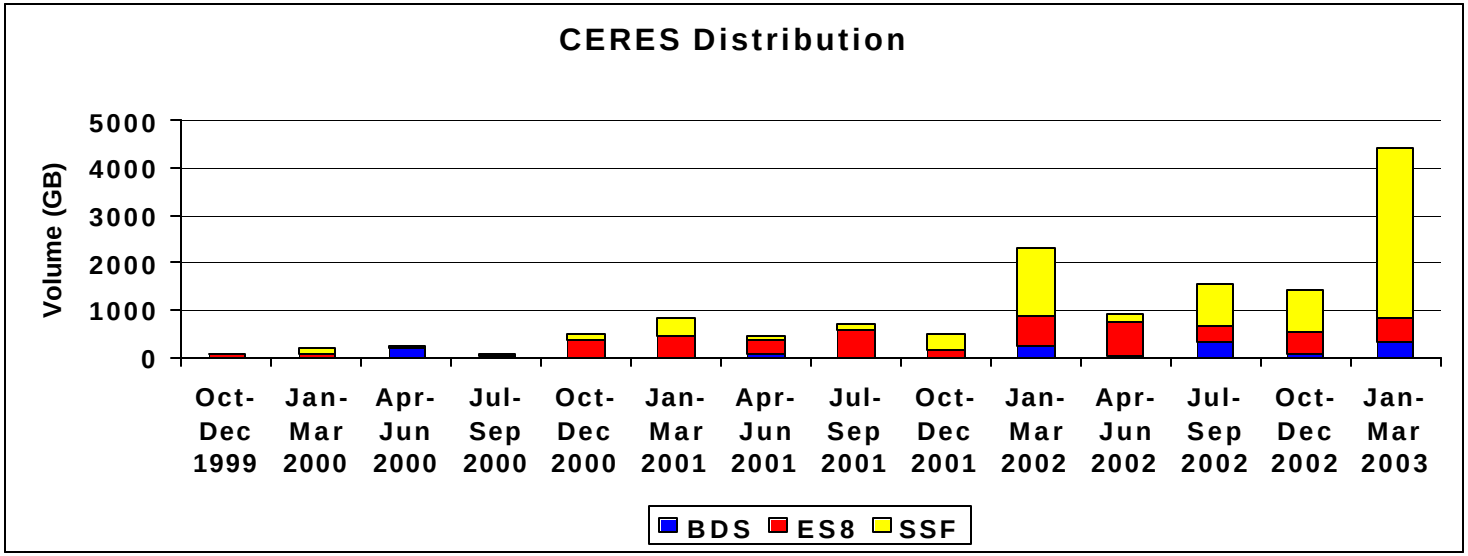
CERES – Customers/Distribution





The Most Popular CERES Product is:

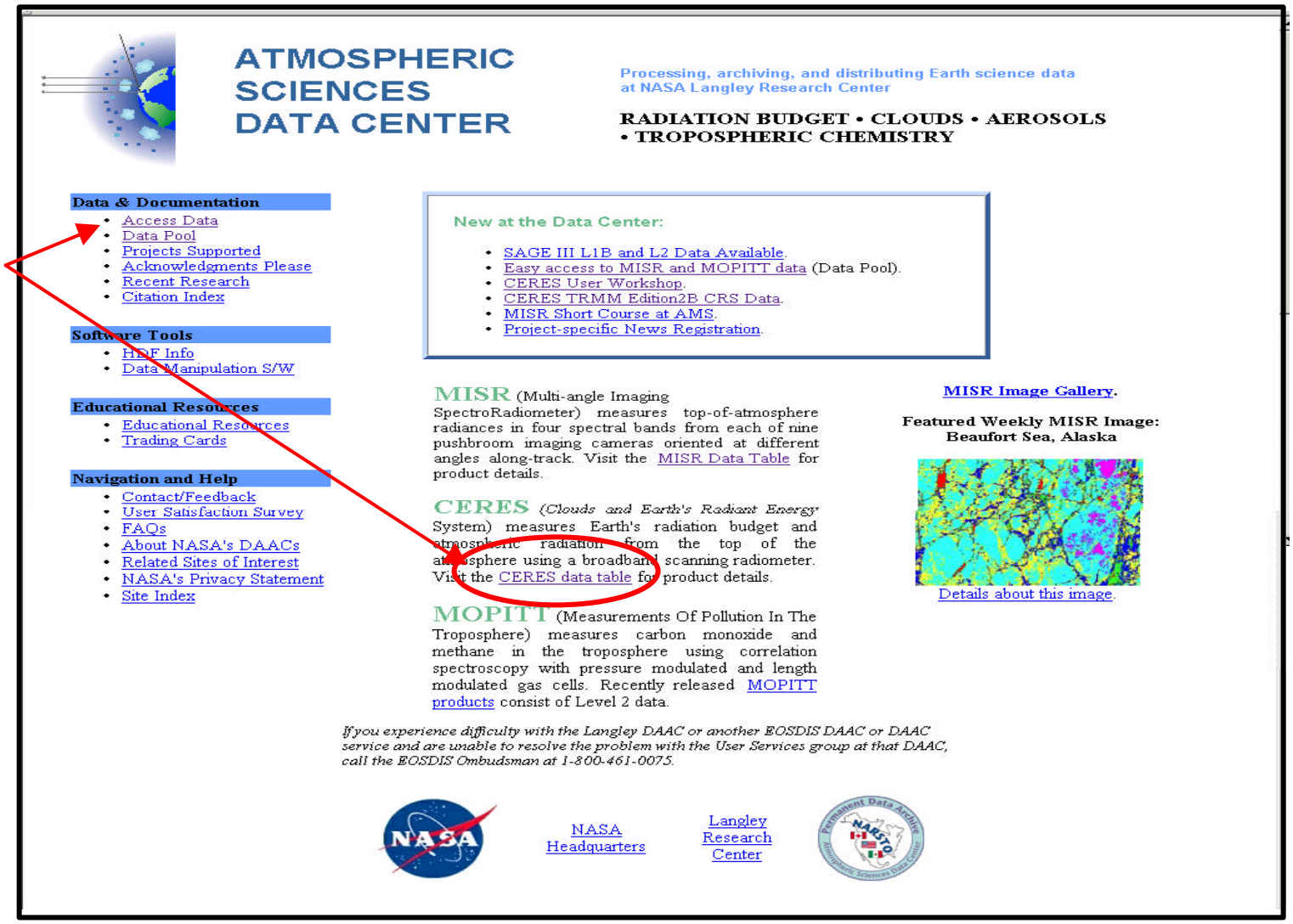




Web Site: http://eosweb.larc.nasa.gov

User Services: larc@eos.nasa.gov

CERES Data Table



ATMOSPHERIC SCIENCES DATA CENTER

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

RADIATION BUDGET • CLOUDS • AEROSOLS • TROPOSPHERIC CHEMISTRY

Data & Documentation
- Access Data
- Data Pool
- Projects Supported
- Acknowledgments Please
- Recent Research
- Citation Index

Software Tools
- HDF Info
- Data Manipulation S/W

Educational Resources
- Educational Resources
- Trading Cards

Navigation and Help
- Contact/Feedback
- User Satisfaction Survey
- FAQs
- About NASA's DAACs
- Related Sites of Interest
- NASA's Privacy Statement
- Site Index

New at the Data Center:
- SAGE III L1B and L2 Data Available.
- Easy access to MISR and MOPITT data (Data Pool).
- CERES User Workshop.
- CERES TRMM Edition2B CRS Data.
- MISR Short Course at AMS.
- Project-specific News Registration.

MISR (Multi-angle Imaging SpectroRadiometer) measures top-of-atmosphere radiances in four spectral bands from each of nine pushbroom imaging cameras oriented at different angles along-track. Visit the MISR Data Table for product details.

CERES (*Clouds and Earth's Radiant Energy* System) measures Earth's radiation budget and atmospheric radiation from the top of the atmosphere using a broadband scanning radiometer. Visit the CERES data table for product details.

MOPITT (Measurements Of Pollution In The Troposphere) measures carbon monoxide and methane in the troposphere using correlation spectroscopy with pressure modulated and length modulated gas cells. Recently released MOPITT products consist of Level 2 data.

MISR Image Gallery.

Featured Weekly MISR Image: Beaufort Sea, Alaska

Details about this image.

If you experience difficulty with the Langley DAAC or another EOSDIS DAAC or DAAC service and are unable to resolve the problem with the User Services group at that DAAC, call the EOSDIS Ombudsman at 1-800-461-0075.

NASA Headquarters

Langley Research 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

Join our Mailing list for CERES News!

CERES User Workshop - **January 29-30, 2003, at the Airport Hilton in Norfolk, VA.**

Order CERES Data via the Langley Web Ordering Tool.

Documents Tools Links

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.	Earth Outgoing Longwave Radiation from CERES Instrument on Terra (03/01/2000 - 02/28/2001) Data Animation. 9 Mbytes. 15 Mbytes. Browse Products: ES-8 and ES-4 Browse Products.

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

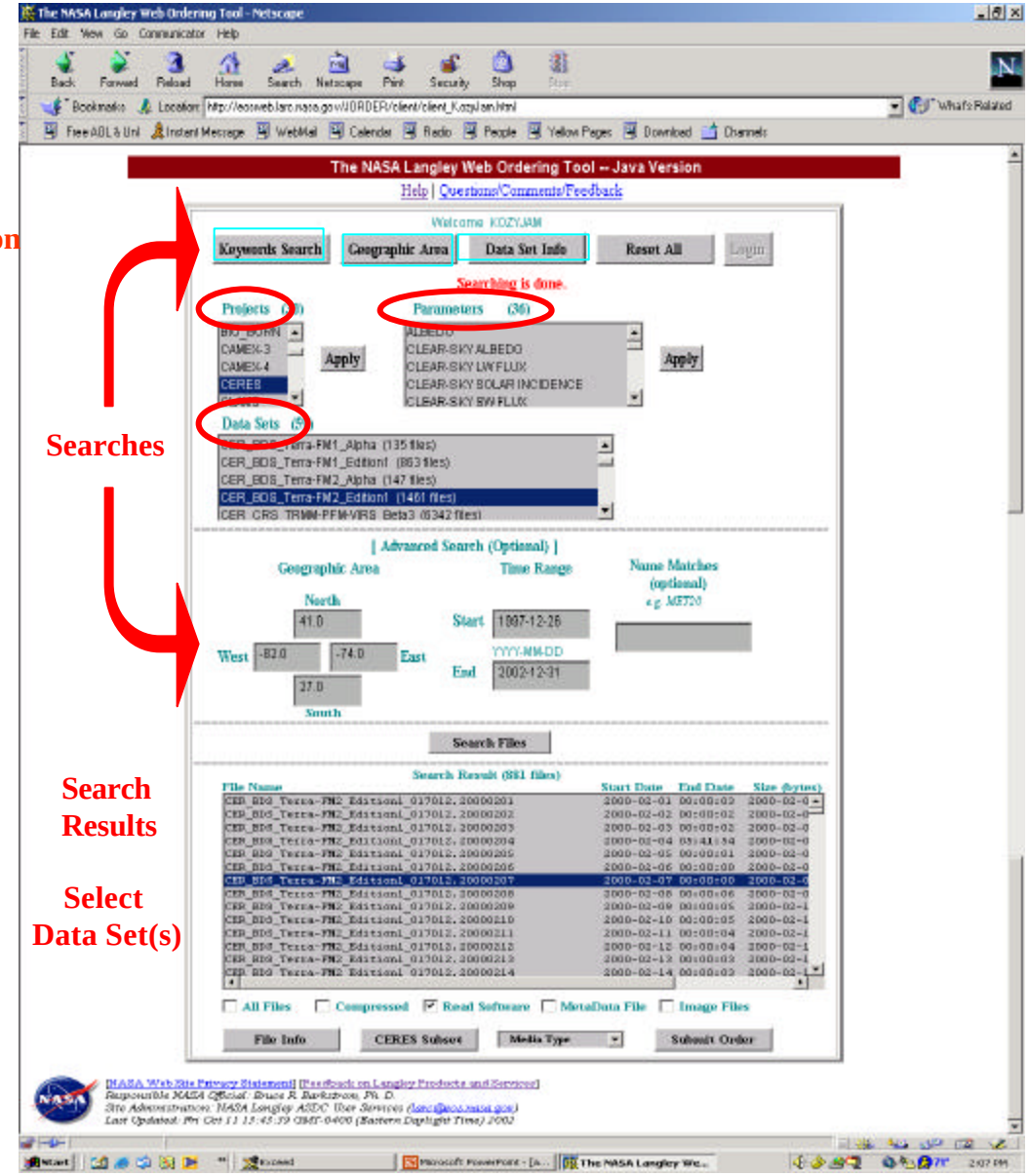
Currently available data sets: BDS | CRS | ES-4 | ES-8 | ES-9 | FSW | SFC | SRBAVG | SSF

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.

Easy Ordering

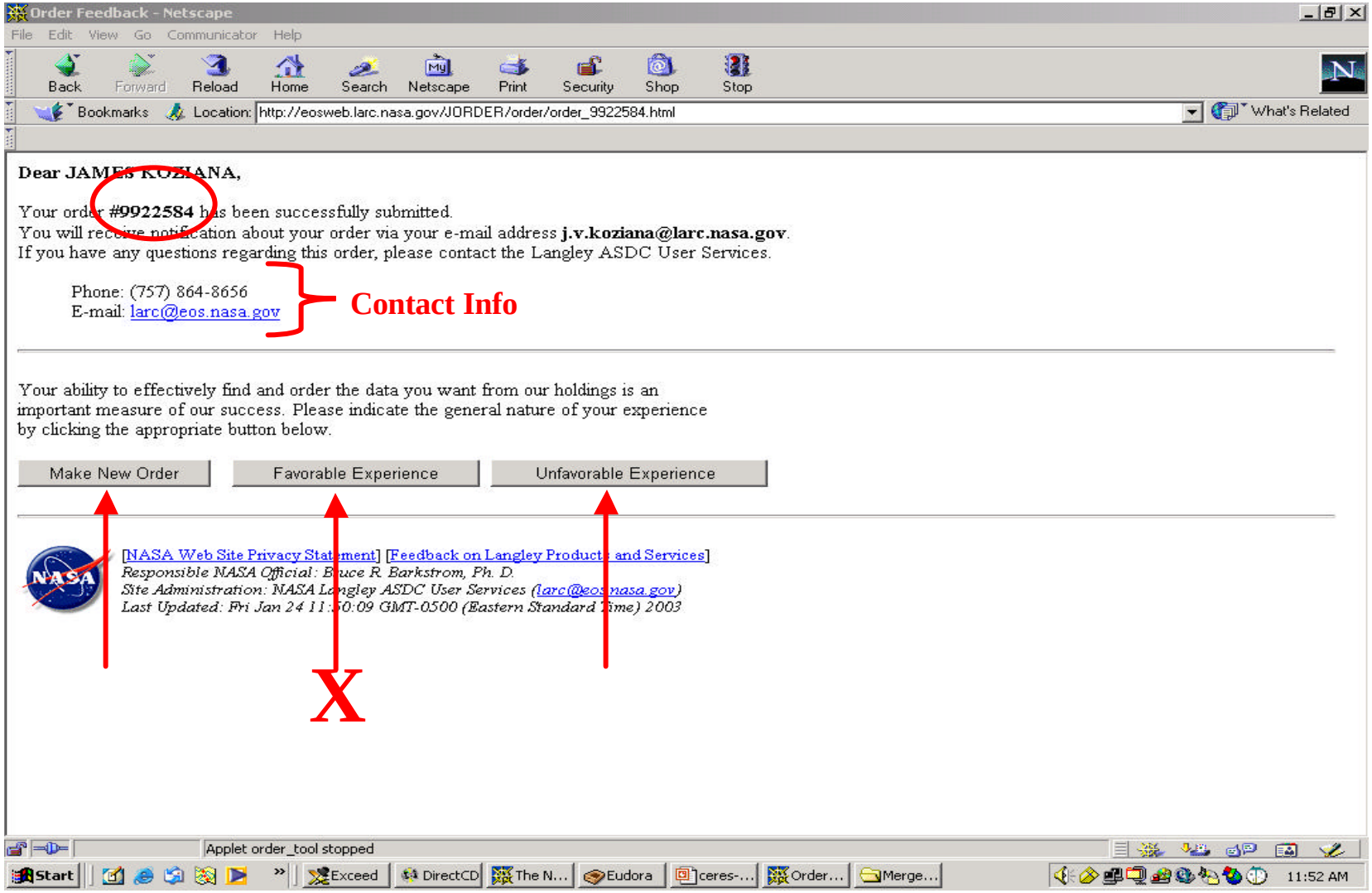
Langley Web Ordering Tool – Java Version

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

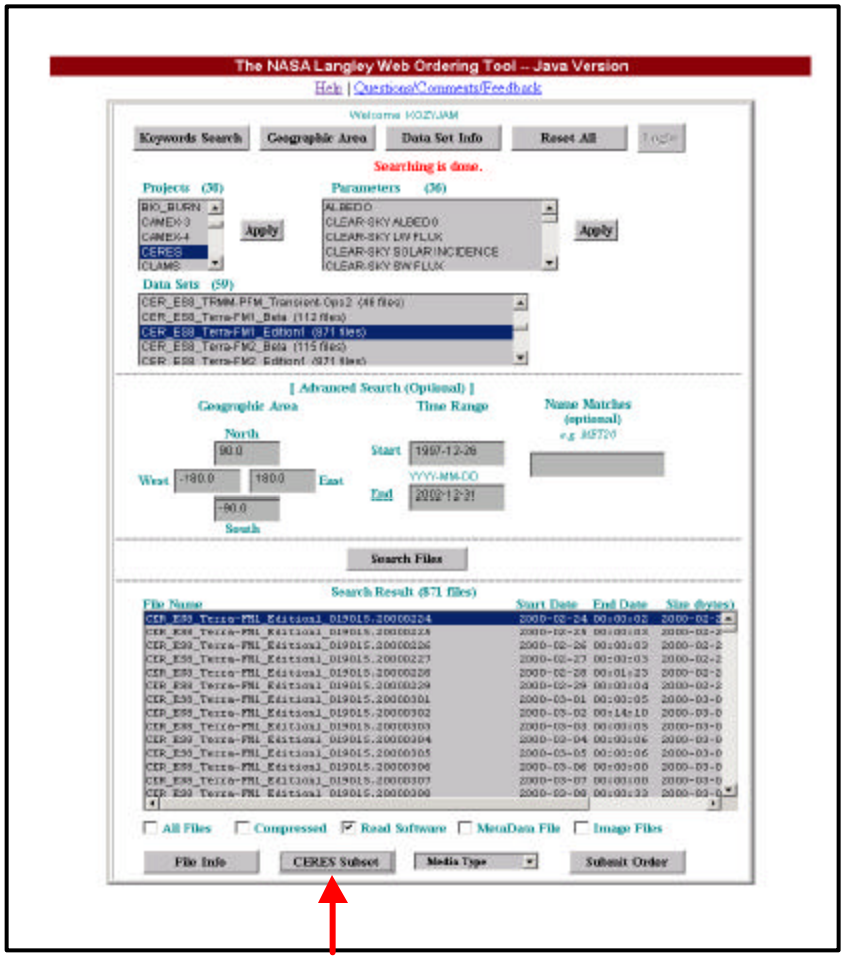


Order Information

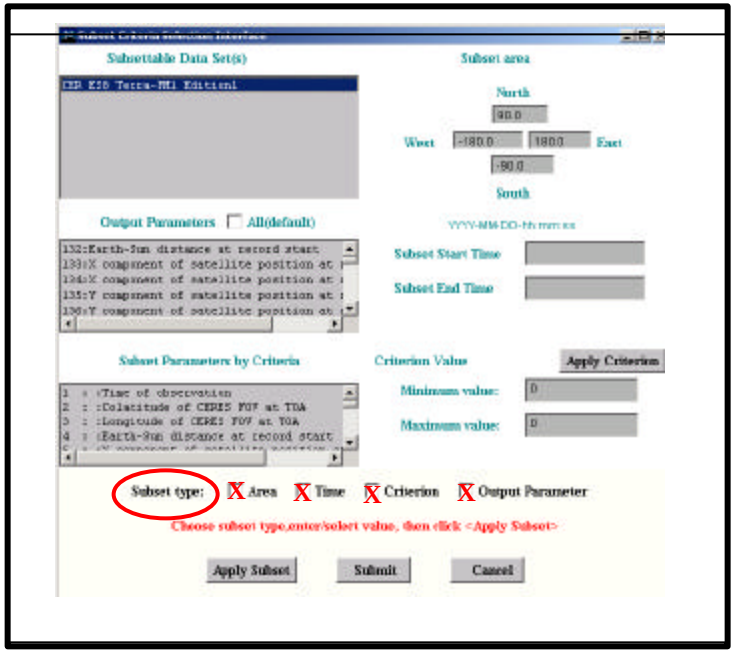
Successfully Placed Order



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.

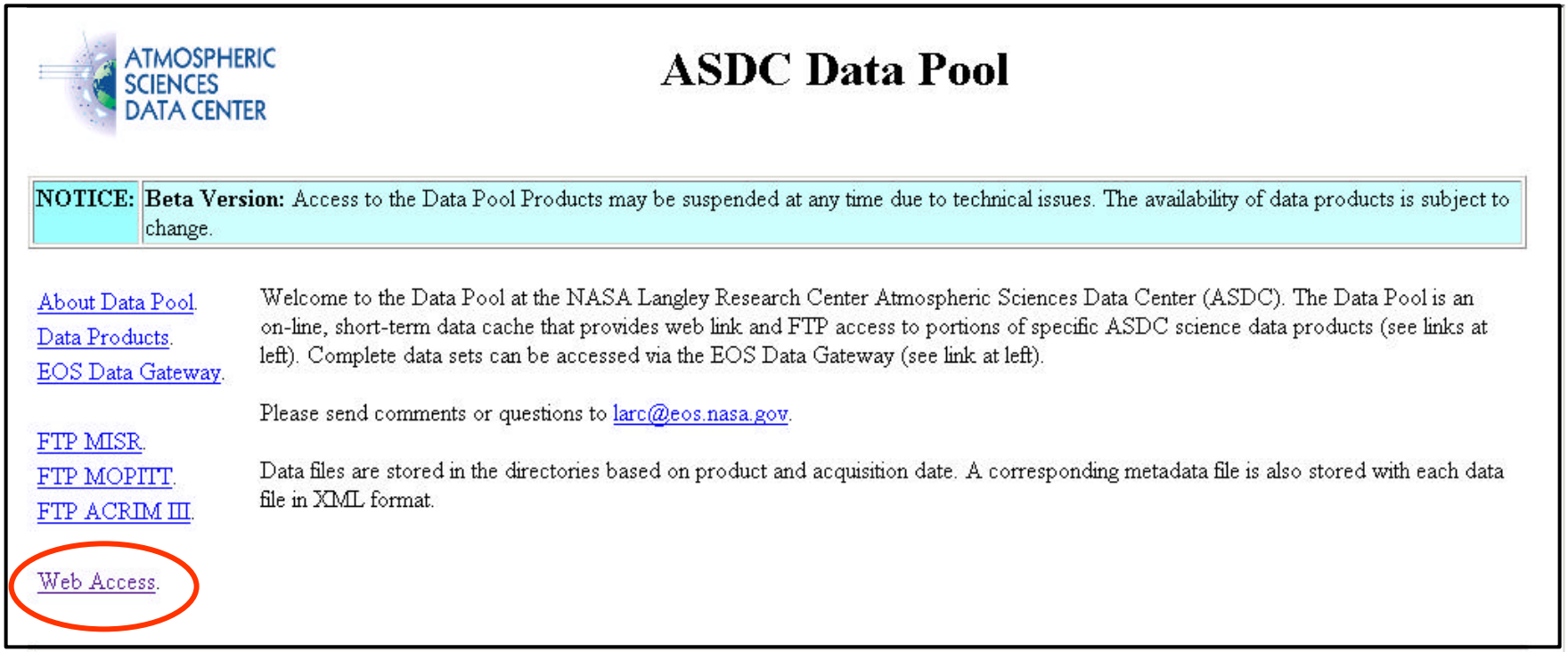
http://eosweb.larc.nasa.gov/HPDOCS/view_hdf.html

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

- Special Data Requests: Provided 1 year of CERES SSF data on DLT (Coordinated with CERES DMT).

- Distributed 84 of the 5 Volume CD CERES Data Sampler



- 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

Now What?

User Services: larc@eos.nasa.gov

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

- Atmospheric
- Sciences
- Data Center

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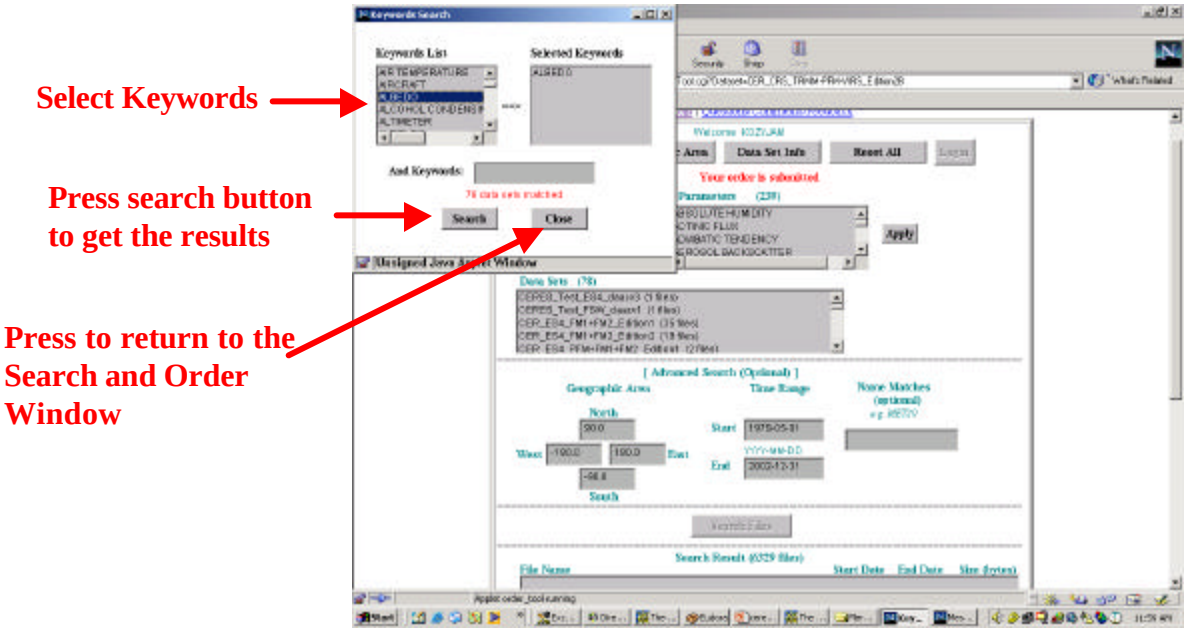
These are the **“LINKED”** To Slides

Keyword Search



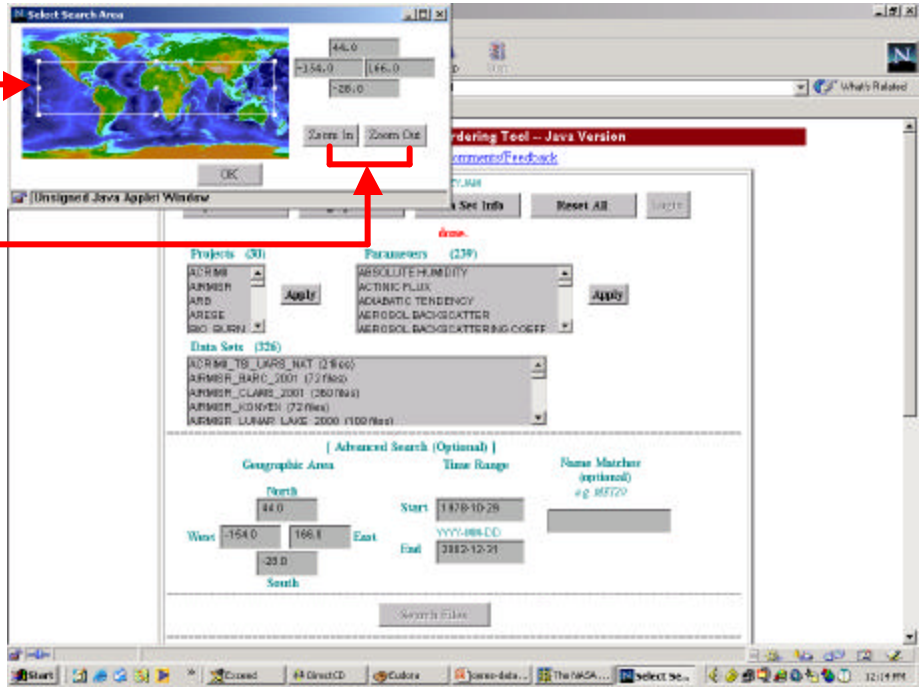
- List of all: sensors, source and parameter keywords
- Can choose multiple keywords (searches use the “AND” relation for all keywords)
- Can add additional keywords (user types them in)
- Used to restrict the amount of data returned

Then select Data Set and then Search Files Button

Geographical Area

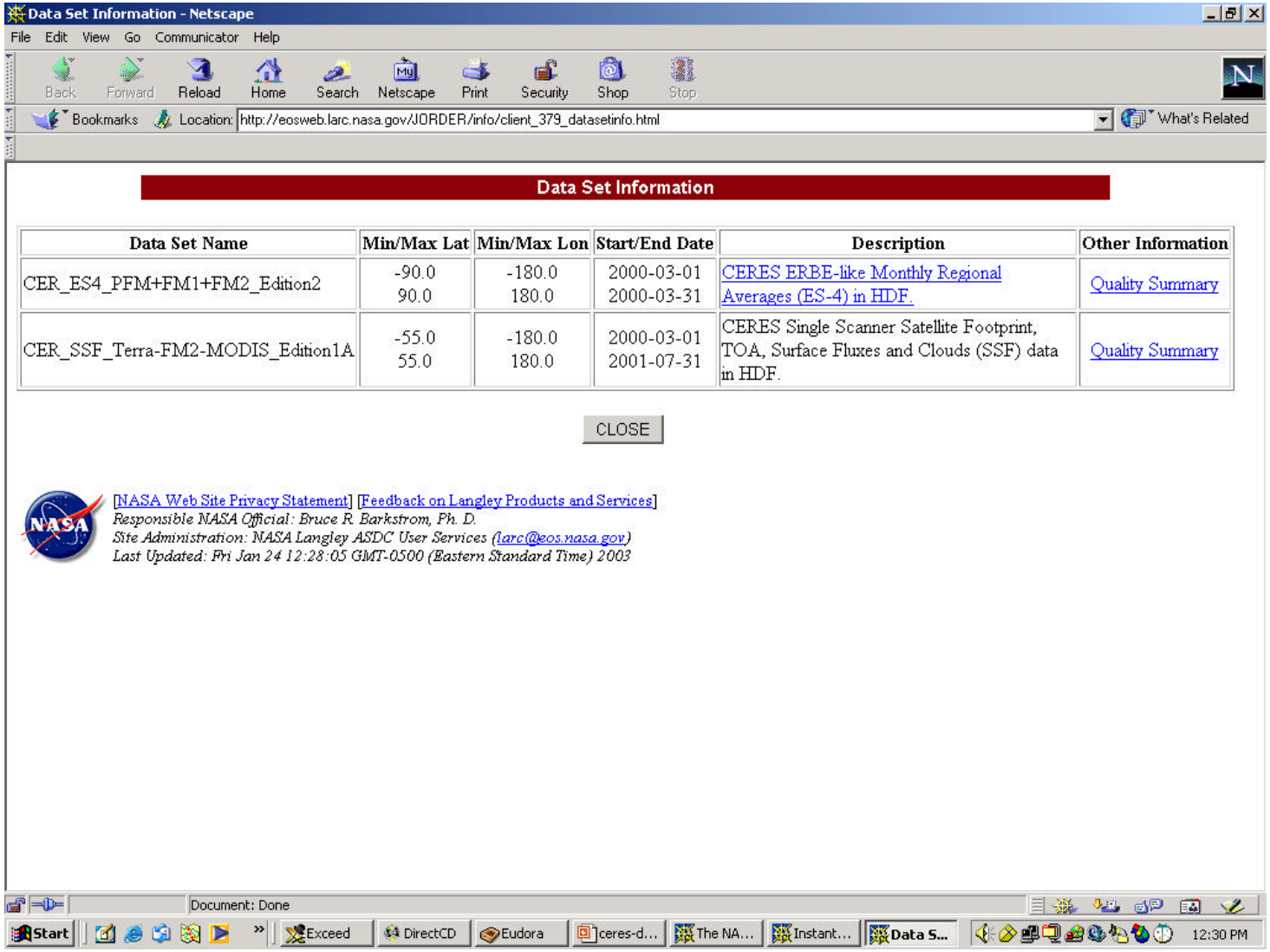
Define a search area: move the rectangular box until it encloses the area to be defined.

Increase/Decrease magnification

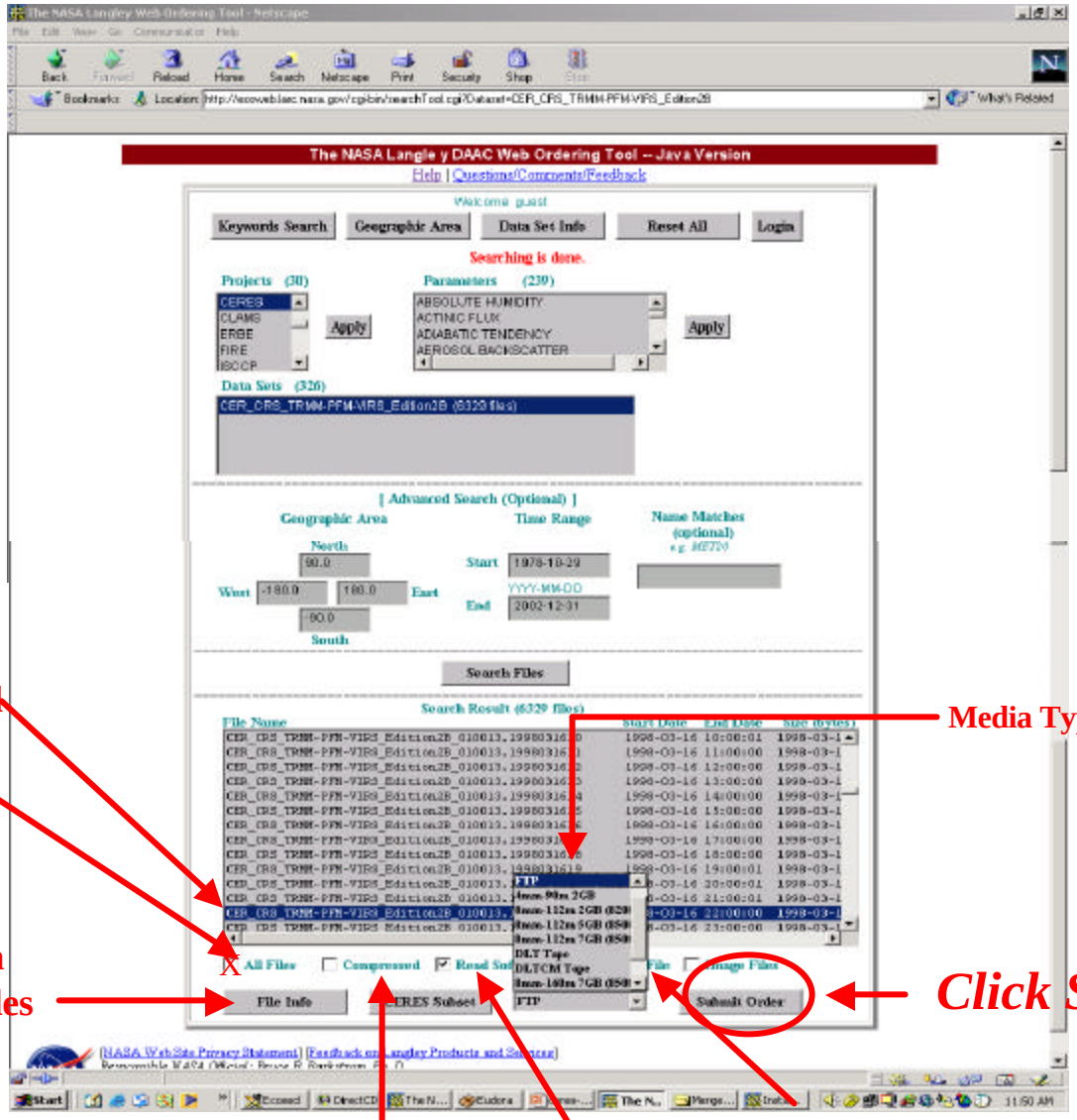


- Geographic coverage for a selected data set will be identified by the white rectangular box
- Geographic region (rectangular box) may be moved and/or resized
- Bounding latitude and longitude are also displayed in the Search and Order Window
- Zoom In (increase the magnification) and Zoom Out (decrease the magnification)
- Used to restrict the amount of data returned

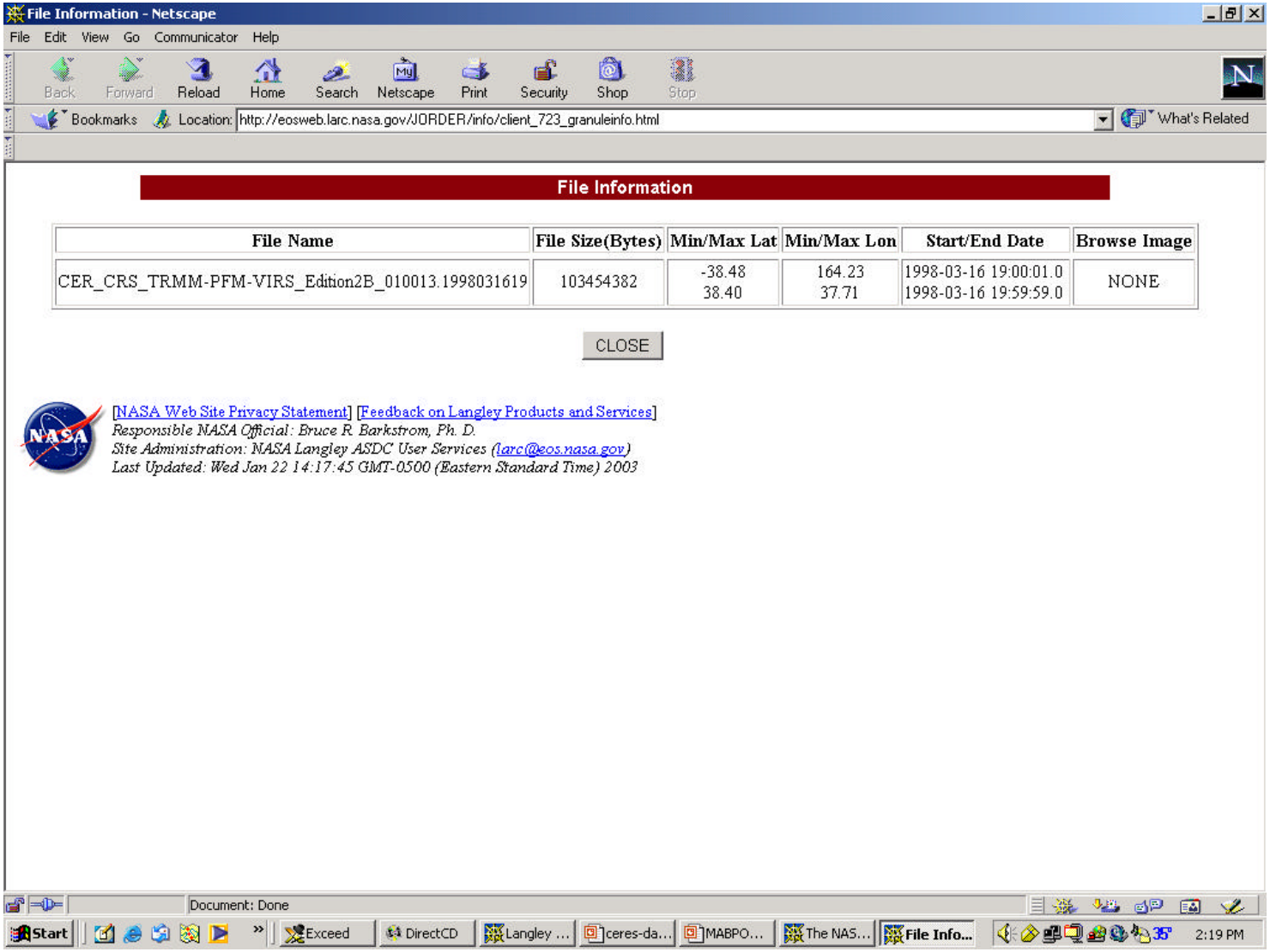
Data Set Information



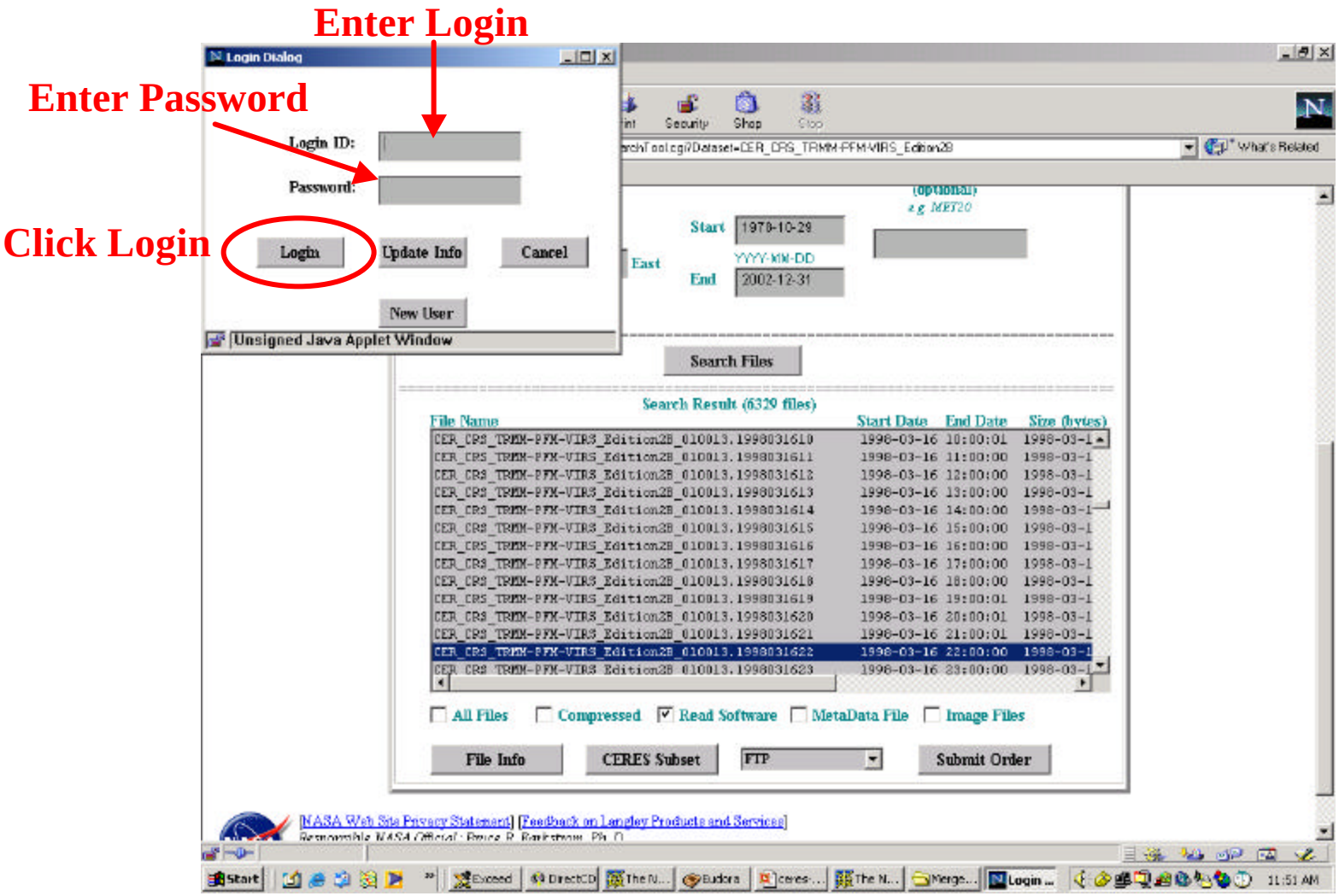
Ordering Data via Langley Web Ordering Tool



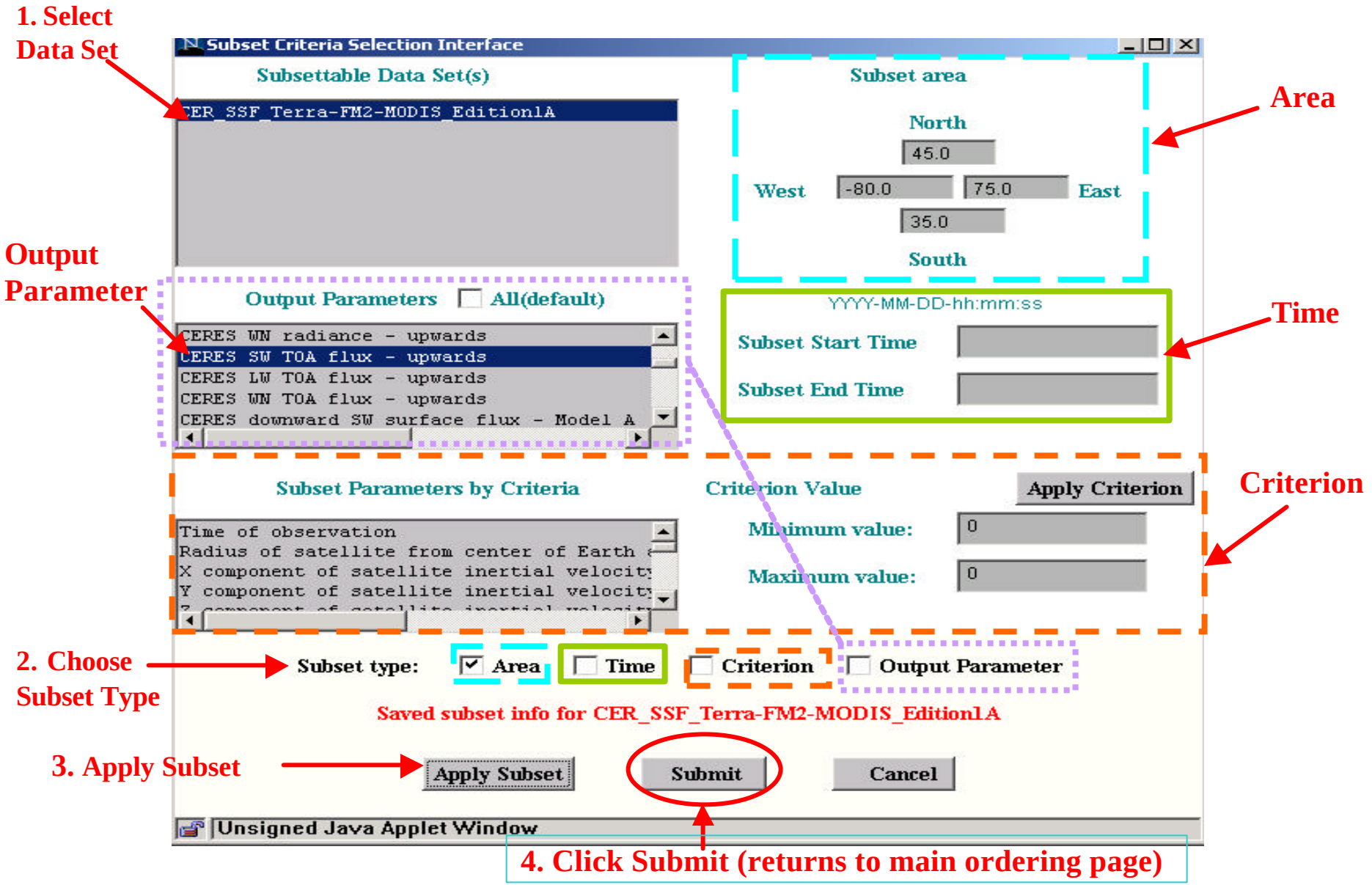
File Information



Login Dialog Window

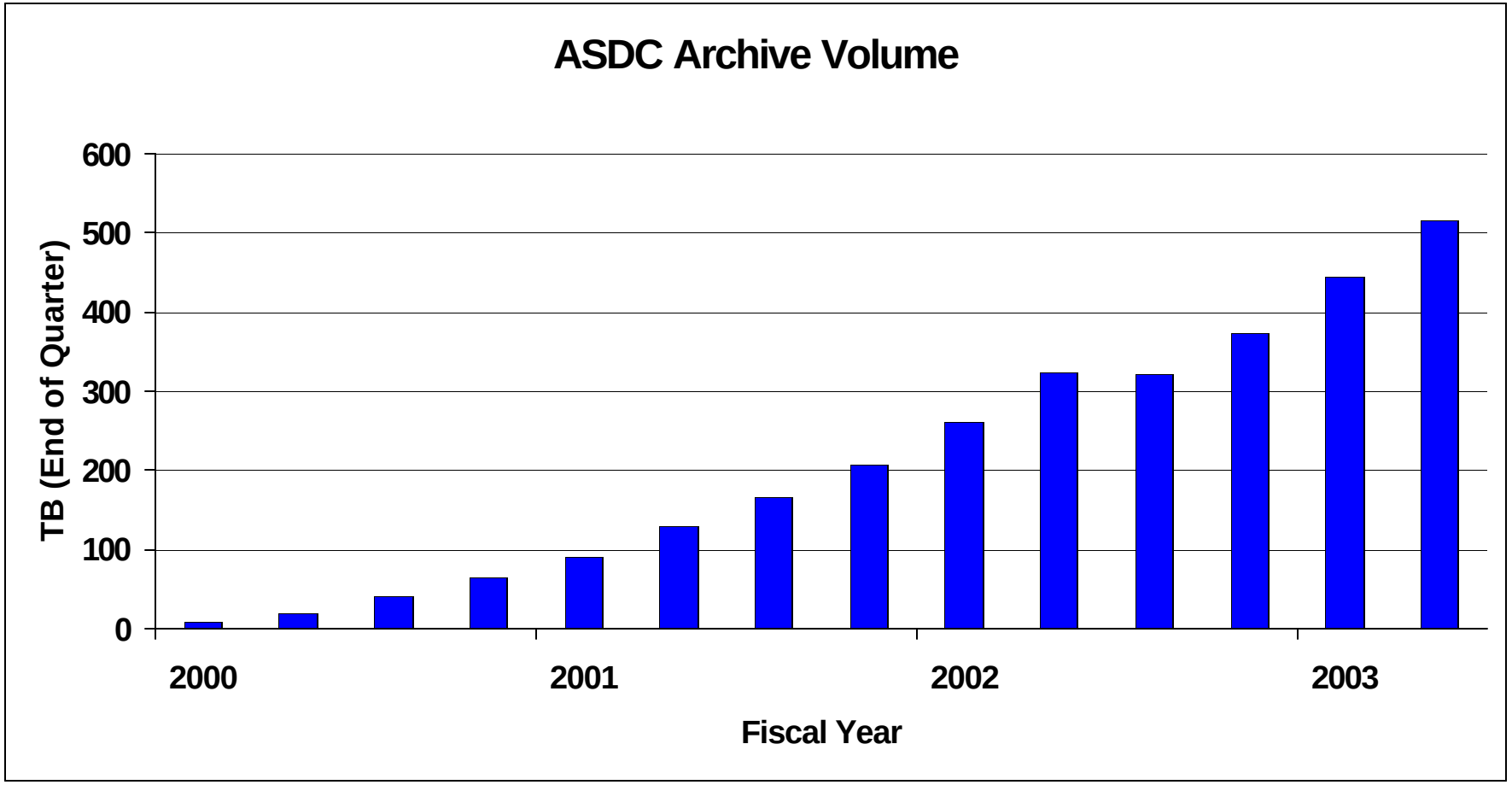


CERES Subset (Continued)



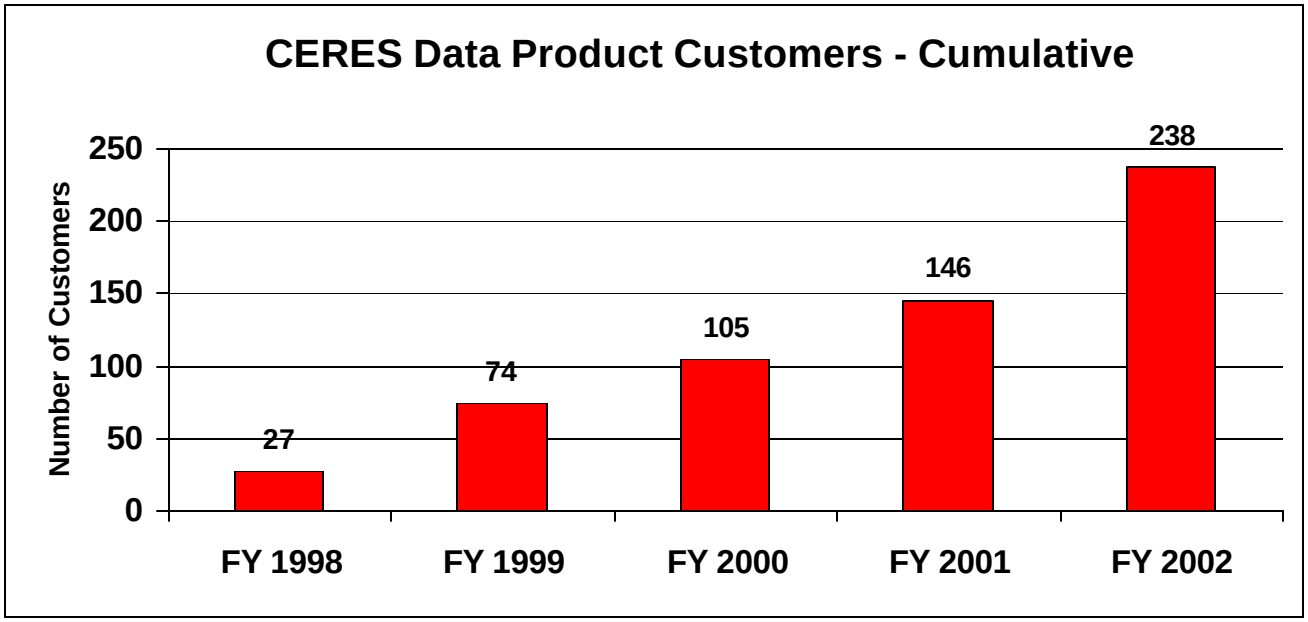
Back-up Slides

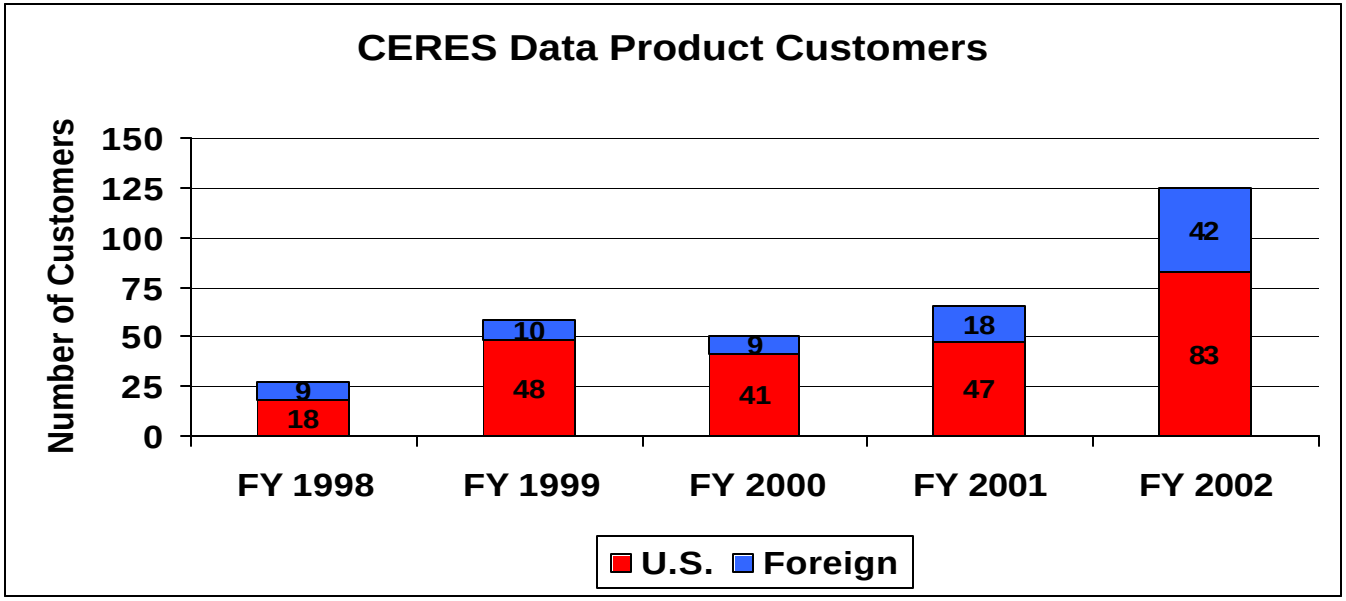
Quarterly Archive Volume

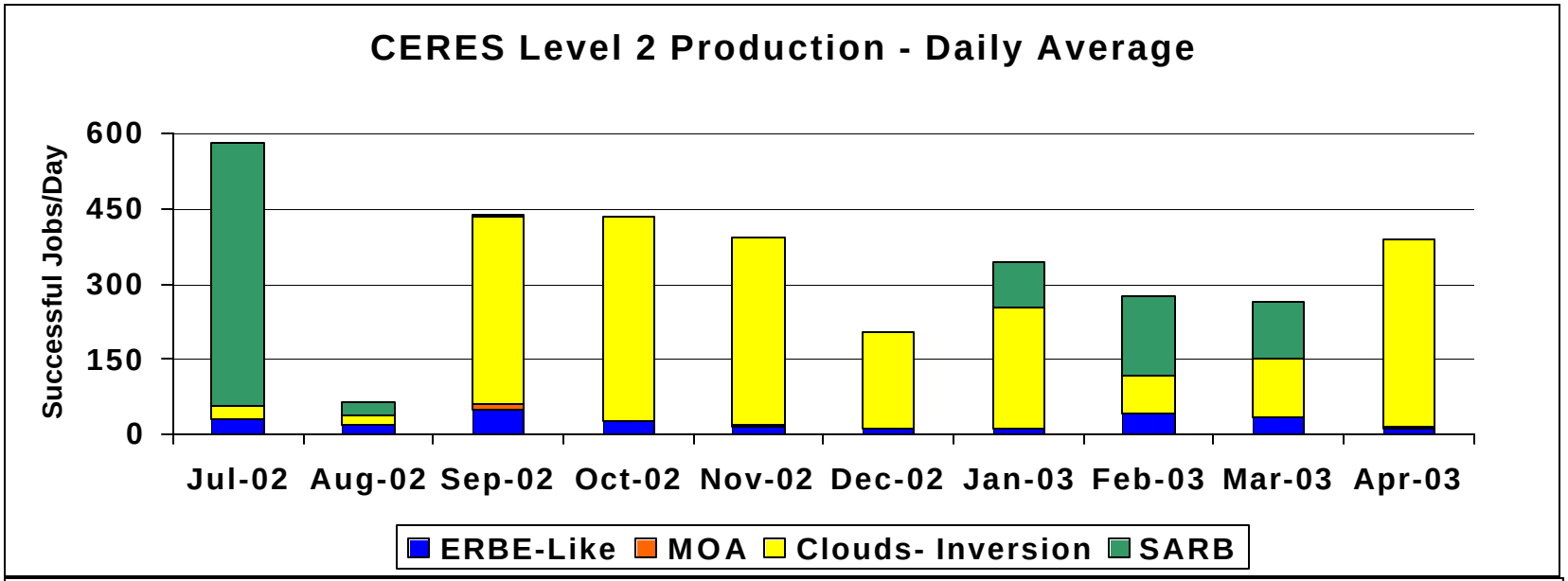


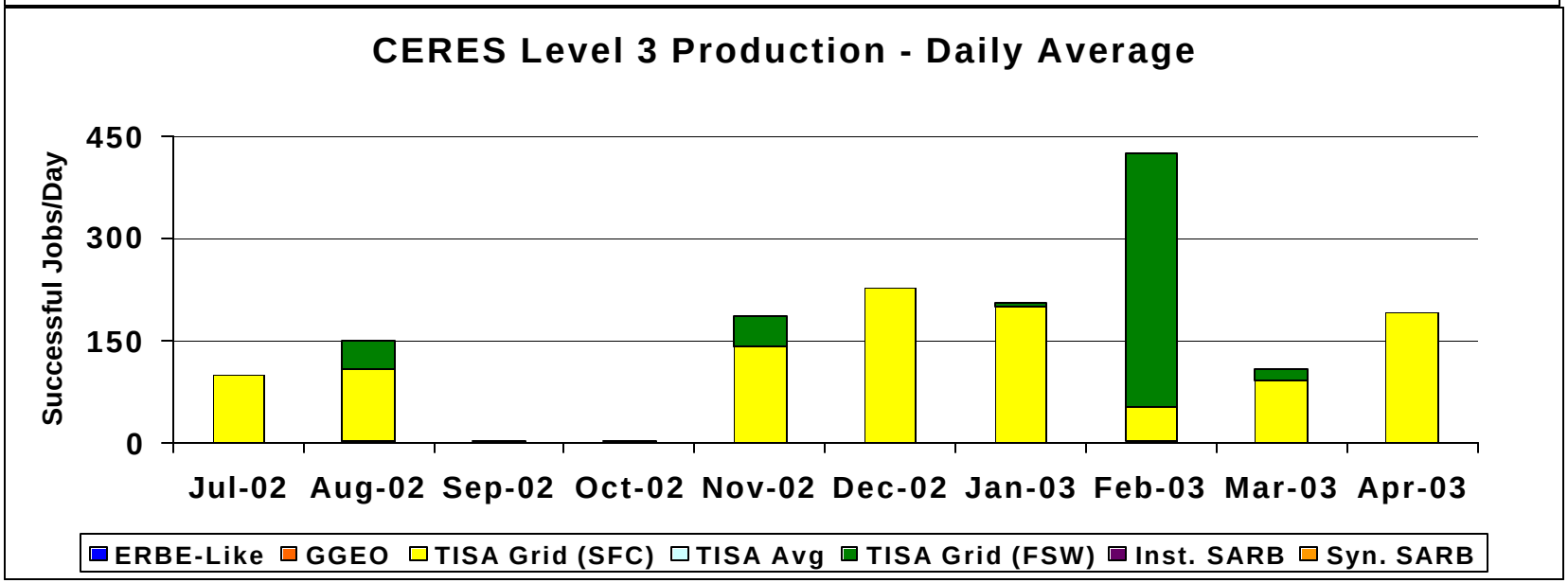
	Customers					
Year	U.S.	Foreign	Yearly Total	Cumulative Total	New Customers	Repeat Customers
FY 1998	18	9	27	27	27	0
FY 1999	48	10	58	74	47	11
FY 2000	41	9	50	105	31	19
FY 2001	47	18	65	146	41	24
FY 2002	83	42	125	238	92	33

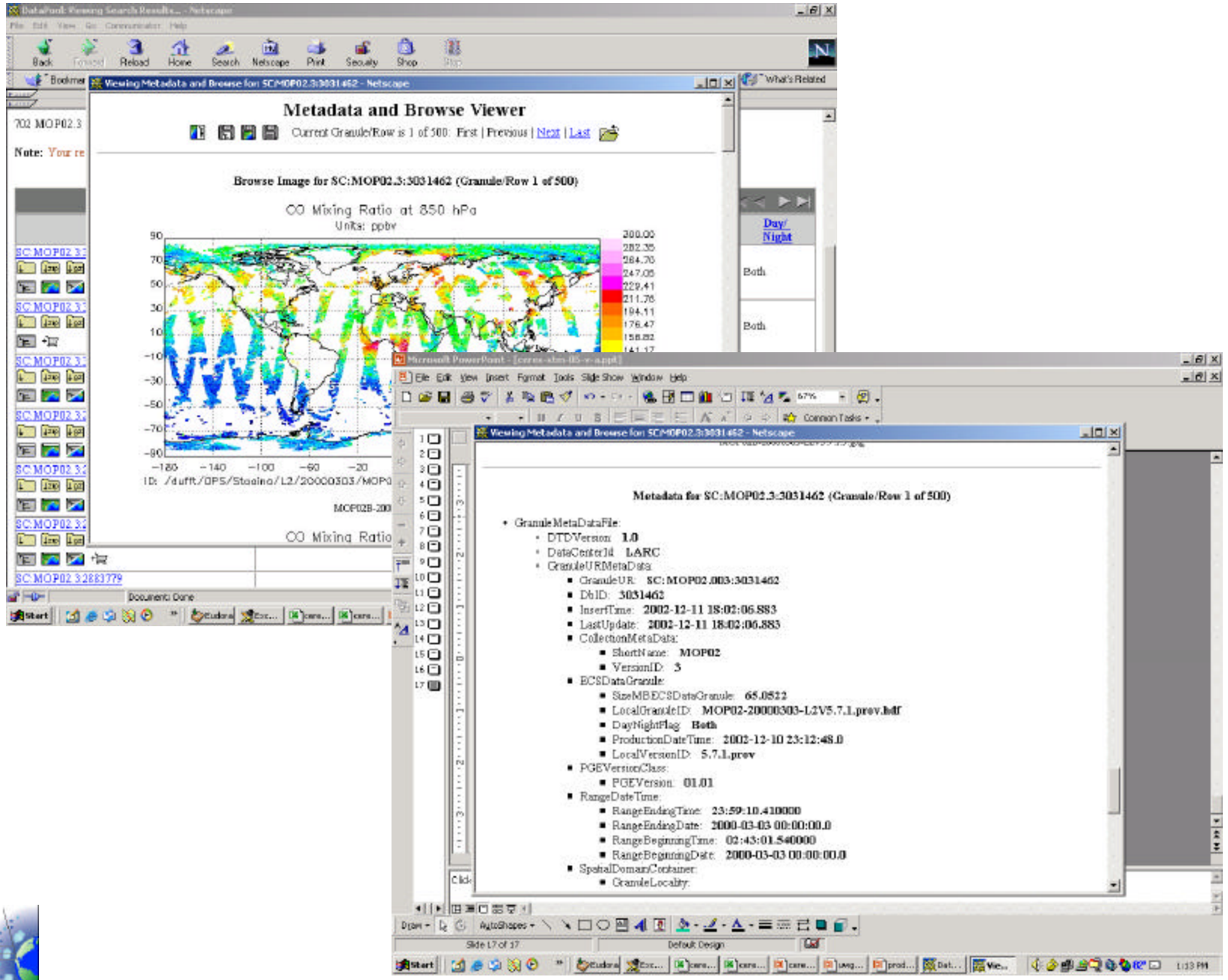
	Volume Distributed (GB)		
Year	U.S.	Foreign	Yearly Total
FY 1998	229	351	579
FY 1999	1,565	620	2,185
FY 2000	407	213	620
FY 2001	1,999	552	2,551
FY 2002	4,214	1128	5,342


CERES Data Product Customers - Cumulative
Number of Customers
250
200
150
100
50
0
27
74
105
146
238
FY 1998
FY 1999
FY 2000
FY 2001
FY 2002


CERES Data Product Customers
Number of Customers
150
125
100
75
50
25
0
9
18
10
48
9
41
18
47
42
83
FY 1998
FY 1999
FY 2000
FY 2001
FY 2002
U.S.
Foreign

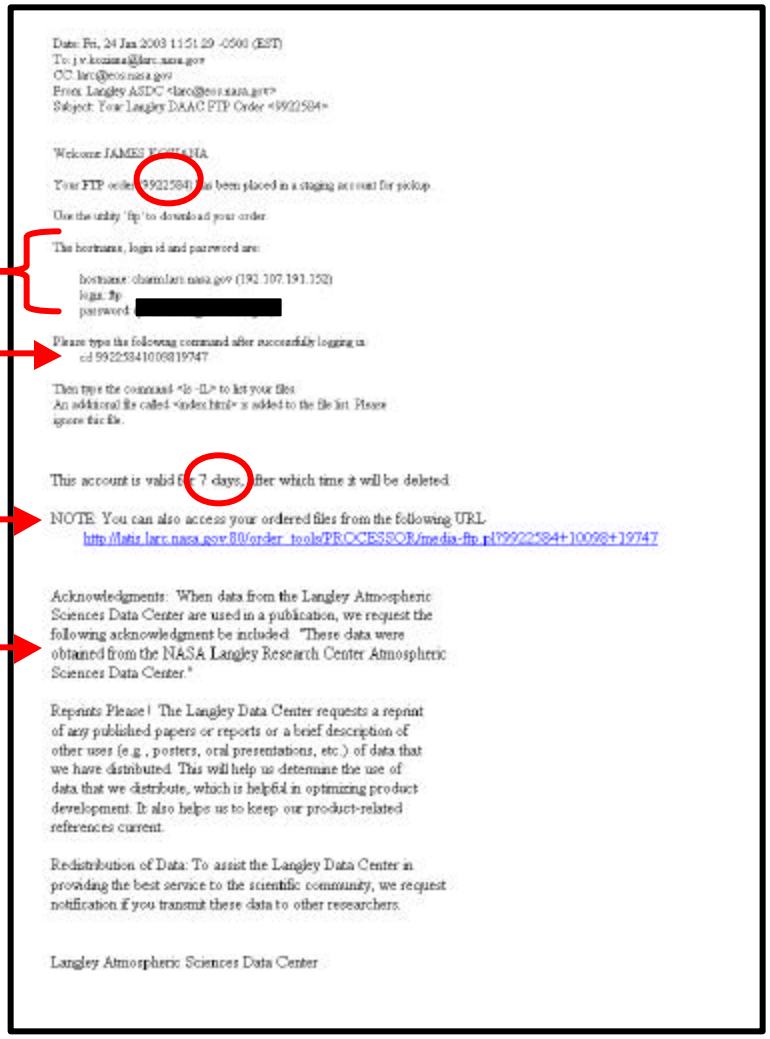

CERES Level 2 Production - Daily Average
Successful Jobs/Day
600
450
300
150
0
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
ERBE-Like
MOA
Clouds- Inversion
SARB


CERES Level 3 Production - Daily Average
Successful Jobs/Day
450
300
150
0
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
ERBE-Like
GGEO
TISA Grid (SFC)
TISA Avg
TISA Grid (FSW)
Inst. SARB
Syn. SARB


Metadata and Browse Viewer
Current Granule/Row is 1 of 500: First | Previous | Next | Last
Browse Image for SC:MOP02.3:3031462 (Granule/Row 1 of 500)
Metadata for SC:MOP02.3:3031462 (Granule/Row 1 of 500)
GranuleMetaDataFile:
DTDVersion: 1.0
DataCenterId: LARC
GranuleURMetaData:
GranuleUR: SC:MOP02.003:3031462
DbID: 3031462
InsertTime: 2002-12-11 18:02:06.883
LastUpdate: 2002-12-11 18:02:06.883
CollectionMetaData:
ShortName: MOP02
VersionID: 3
ECSDataGranule:
SizeMBECSDataGranule: 65.0522
LocalGranuleID: MOP02-20000303-L2V5.7.1.prov.hdf
DayNightFlag: Both
ProductionDateTime: 2002-12-10 23:12:48.0
LocalVersionID: 5.7.1.prov
PGEVersionClass:
PGEVersion: 01.01
RangeDateTime:
RangeEndingTime: 23:59:10.410000
RangeEndingDate: 2000-03-03 00:00:00.0
RangeBeginningTime: 02:45:01.540000
RangeBeginningDate: 2000-03-03 00:00:00.0
SpatialDomainContainer:
GranuleLocality:

Where is my Data ??

Email Notification



Date: Fri, 24 Jan 2003 11:51:29 -0500 (EST)
To: j.v.kozma@larc.nasa.gov
CC: larc@eos.nasa.gov
From: Langley ASDC <larc@eos.nasa.gov>
Subject: Your Langley DAAC FTP Order <99225841>

Welcome JAMES KOZMA

Your FTP order (99225841) has been placed in a staging account for pickup.

Use the utility 'ftp' to download your order.

The hostname, login id and password are:

hostname: chamulari.nasa.gov (192.107.191.152)
login: ftp
password: [redacted]

Please type the following command after successfully logging in:
cd 99225841009819747

Then type the command <ls -lL> to list your files.
An additional file called <index.html> is added to the file list. Please ignore this file.

This account is valid for 7 days, after which time it will be deleted.

NOTE: You can also access your ordered files from the following URL:
http://datir.larc.nasa.gov:80/order_tools/PROCESSOR/media-ftp.pl?99225841+100981+19747

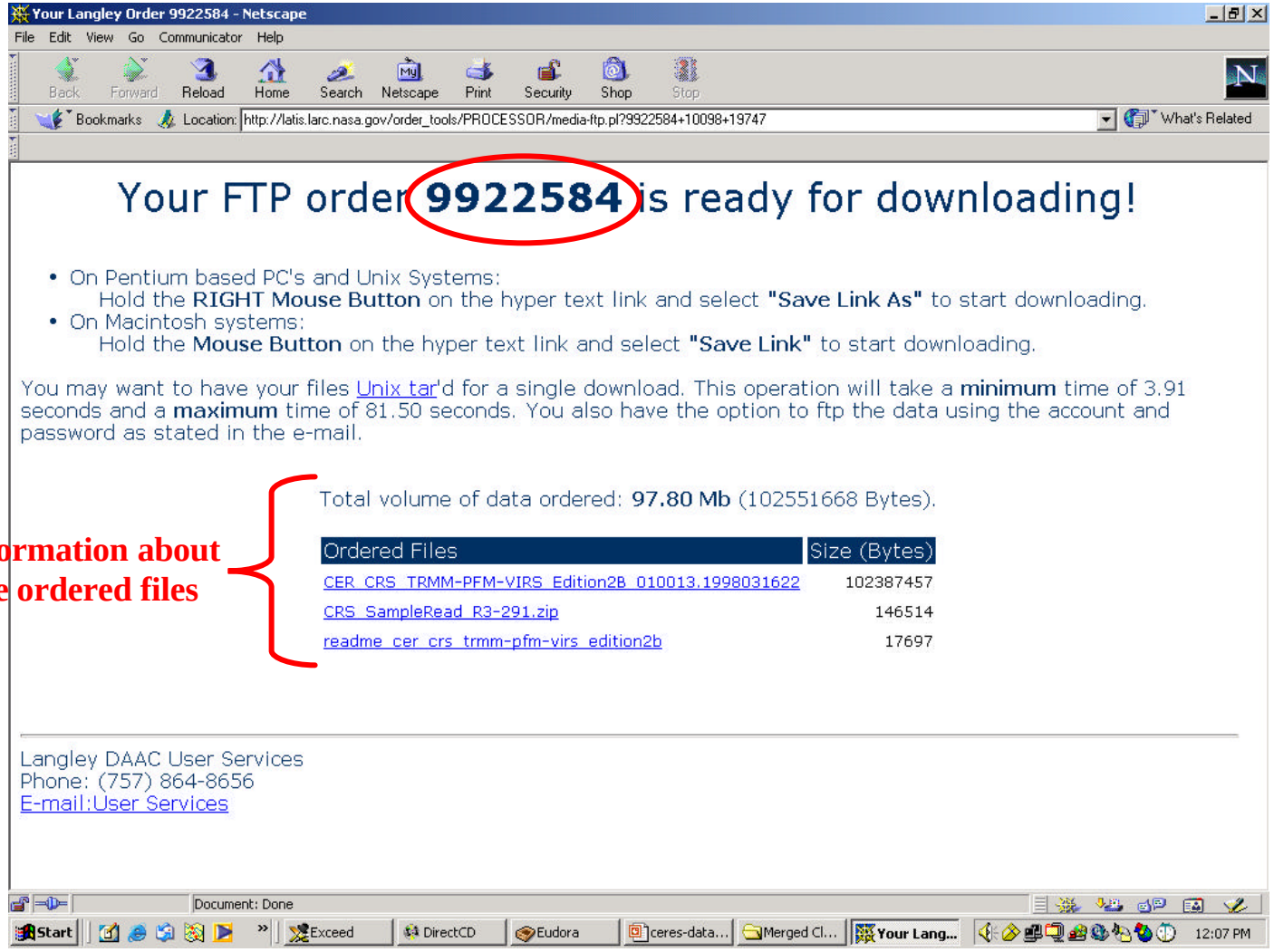
Acknowledgments: When data from the Langley Atmospheric Sciences Data Center are used in a publication, we request the following acknowledgment be included. "These data were obtained from the NASA Langley Research Center Atmospheric Sciences Data Center."

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.

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.

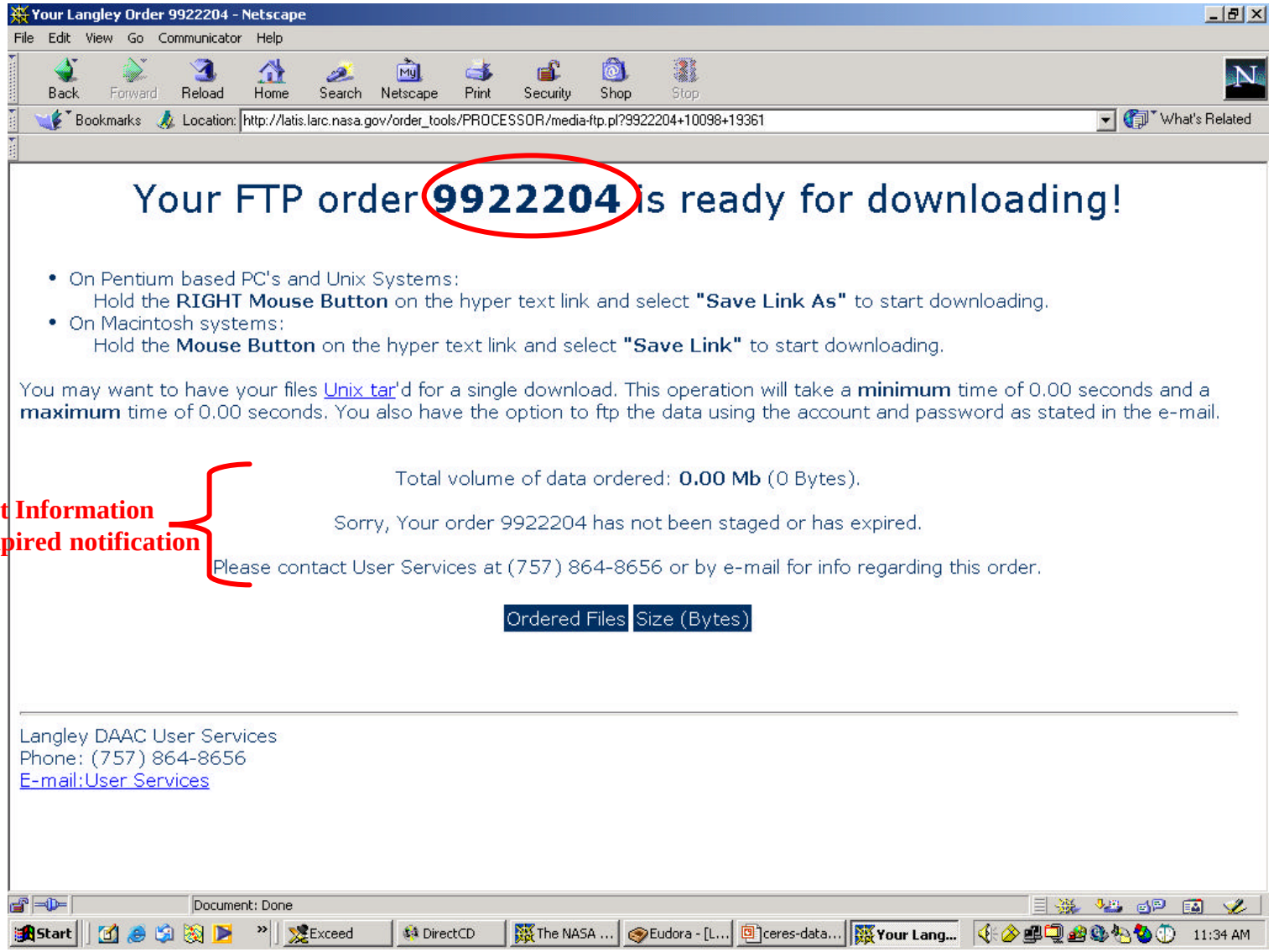
Langley Atmospheric Sciences Data Center

Html Access Page



Information about The ordered files

Html Access Page
Expired



Contact Information
And expired notification

Use of Data from the Langley Data Center

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

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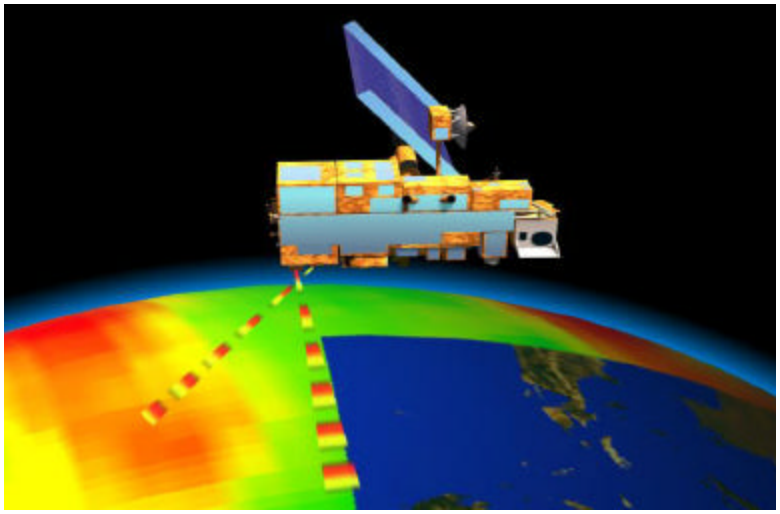
Clouds and The Earth's Radiant Energy System (CERES)

TRMM (1 scanner-***PFM1***) launch November 1997

Terra [EOS-AM] (2 scanners ***FM1 and FM2***), 10:30 a.m. sun-synchronous orbit, December 18, 1999.

Aqua [EOS-PM] (2 scanners ***FM3 and FM4***), 1:30 p.m. sun-synchronous orbit, EOS Aqua on May 4, 2002.



Orbits:

Terra: 705 km altitude, 10:30 a.m. descending node sun-synchronous, near-polar

Aqua: 705 km altitude, 1:30 p.m. ascending node, sun-synchronous, near-polar

TRMM:350 km altitude, 35° inclination

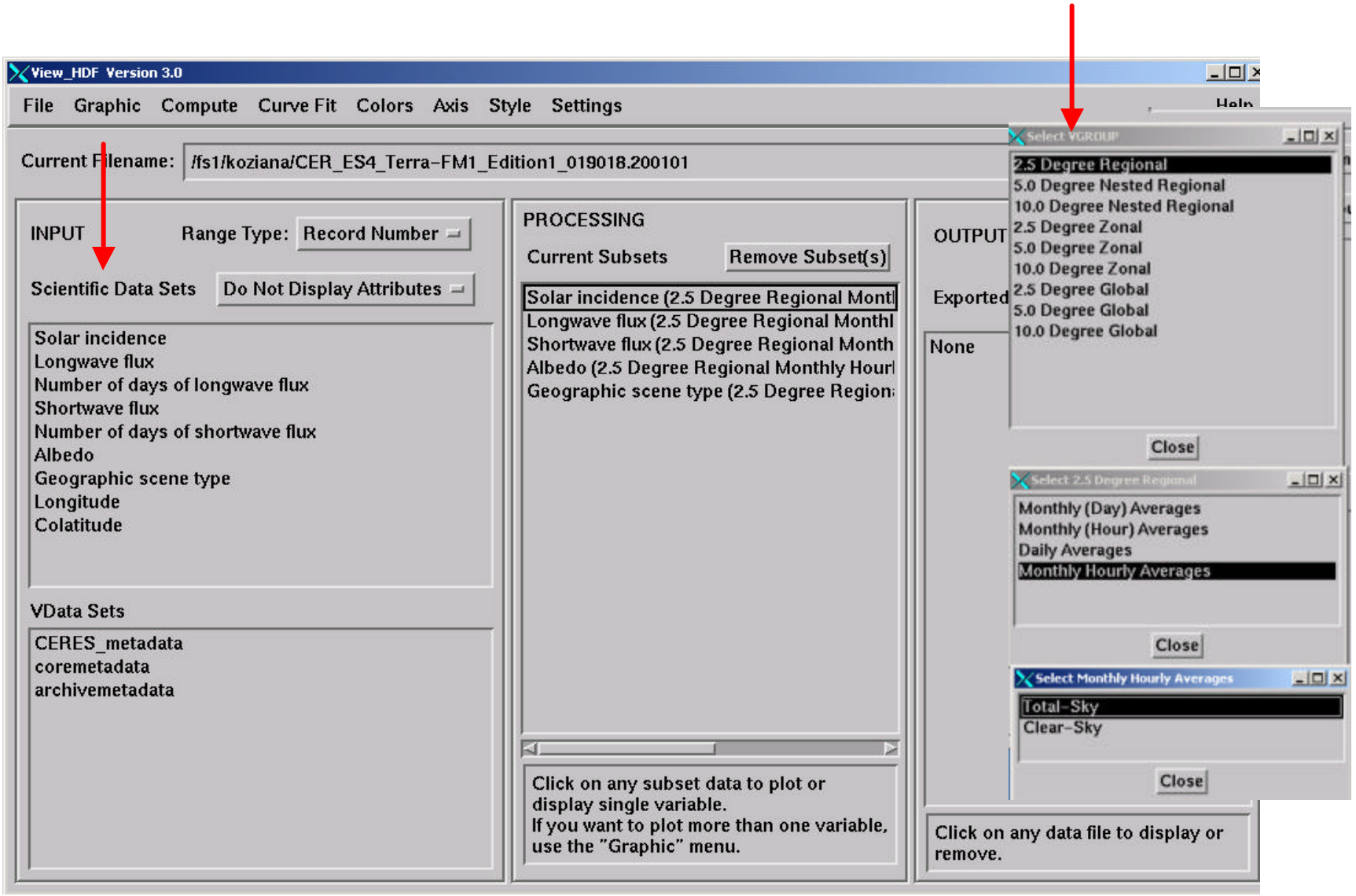
Spectral Channels:

- Solar Reflected Radiation (Shortwave): 0.3 - 5.0 µm
- Earth Emitted Thermal Radiation Window: 8 – 12 µm
- Total: 0.3 to > 100 µm

Swath Dimensions: Limb to limb

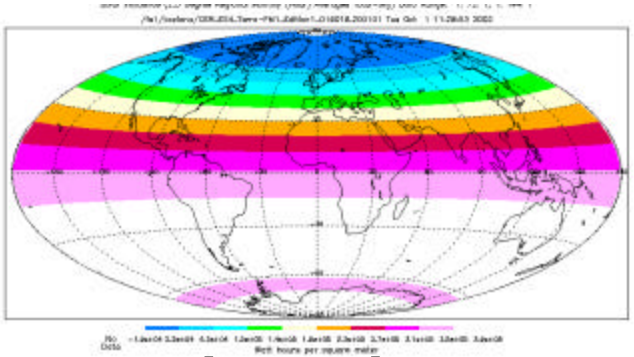
Angular Sampling: Spatial Resolution: 20 km at nadir (10 km for TRMM)

View_hdf

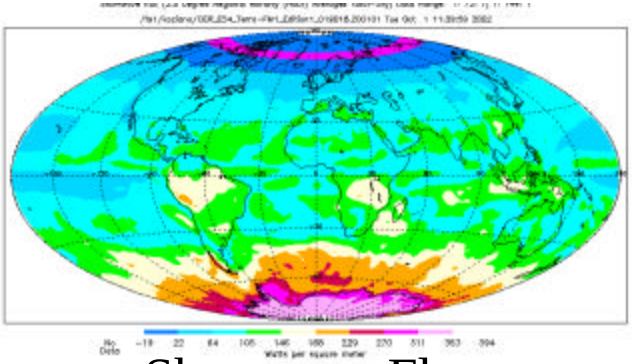

View_HDF Version 3.0
File
Graphic
Compute
Curve Fit
Colors
Axis
Style
Settings
Help
Current Filename:
/fs1/koziana/CER_ES4_Terra-FM1_Edition1_019018.200101
INPUT
Range Type:
Record Number
Scientific Data Sets
Do Not Display Attributes
Solar incidence
Longwave flux
Number of days of longwave flux
Shortwave flux
Number of days of shortwave flux
Albedo
Geographic scene type
Longitude
Colatitude
VData Sets
CERES_metadata
coremetadata
archivemetadata
PROCESSING
Current Subsets
Remove Subset(s)
Solar incidence (2.5 Degree Regional Monthl
Longwave flux (2.5 Degree Regional Monthl
Shortwave flux (2.5 Degree Regional Month
Albedo (2.5 Degree Regional Monthly Hourl
Geographic scene type (2.5 Degree Region
Click on any subset data to plot or display single variable.
If you want to plot more than one variable, use the "Graphic" menu.
OUTPUT
Exported
None
Click on any data file to display or remove.
Select VGROUP
2.5 Degree Regional
5.0 Degree Nested Regional
10.0 Degree Nested Regional
2.5 Degree Zonal
5.0 Degree Zonal
10.0 Degree Zonal
2.5 Degree Global
5.0 Degree Global
10.0 Degree Global
Close
Select 2.5 Degree Regional
Monthly (Day) Averages
Monthly (Hour) Averages
Daily Averages
Monthly Hourly Averages
Close
Select Monthly Hourly Averages
Total-Sky
Clear-Sky
Close

2.5 Degree Regional Monthly Hourly Averages (Total Sky)

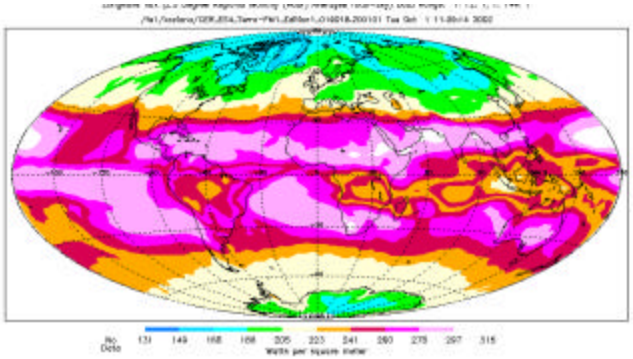
(CER-ES4-FM1_Edition1_019018.200101)



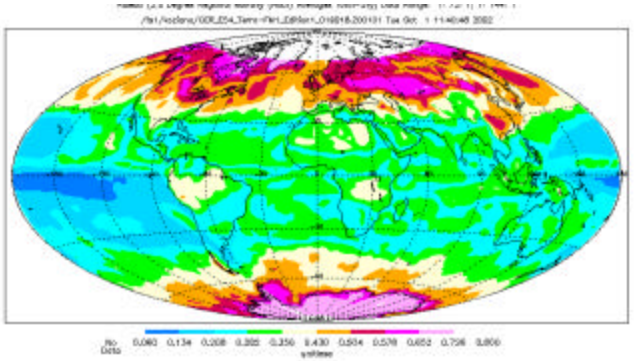
Solar Incidence



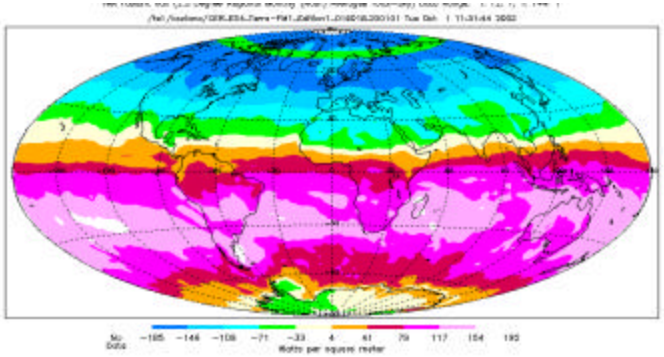
Shortwave Flux



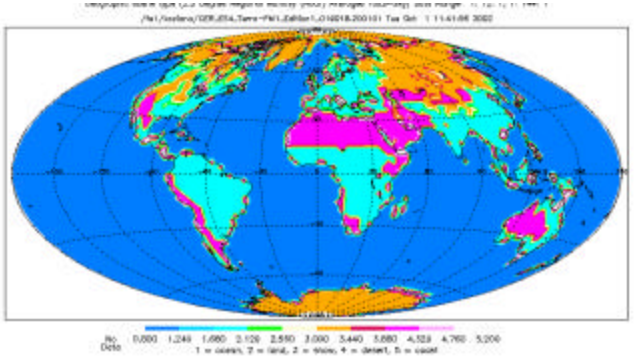
Longwave Flux



Albedo



Net Radiance Flux



Geographic Scene Type