VOLUME III
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THE LANGLEY DAAC newsletter

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FIRST CERES DATA AVAILABLE

The first archival data product from the CERES (Clouds and the Earth's Radiant Energy System) experiment was made publicly available on July 13, 1998. This product is the Level-1b BiDirectional Scan (BDS) data product which contains filtered radiances with geolocations for each CERES footprint. At initial release approximately six months of data were made available through the Langley DAAC (http://eosweb.larc.nasa.gov). Additional data days are being added on an on-going basis as they are produced and assessed for quality.

CERES was launched from Tanegashima, Japan, on November 27, 1997, as part of the TRMM (Tropical Rainfall Measuring Mission). After an initial checkout period, CERES has been obtaining Earth-viewing data on solar-reflected and Earth-emitted radiation since December 27, 1997. Initial focus of the CERES Team has been on instrument evaluation, production and validation of the Level-1b data, and validation of products for comparison with data from the earlier Earth Radiation Budget Experiment (ERBE). The Langley DAAC has been processing the Level-1b data since initial operations began, and several versions have been produced as part of the validation process.

The BDS product now being made available is the Edition1 version which has been approved by the CERES Science Team for general release. The BDS product is produced on a daily basis and contains radiances for each of three CERES channels: a total channel covering the wavelength range from about 0.4 microns to beyond 200 microns, a shortwave channel covering the wavelength range from about 0.4 microns to about 4.5 microns, and a window channel covering the wavelength range from about 8.0 microns to about 12.0 microns. The CERES Team has performed a variety of validation and quality assurance processes on this data set, including development of a calibration error budget, determination of instrument offsets using deep space observations, verification of ground calibration transfer to space operations, monitoring of calibration stability using internal and solar calibration sources, and verification of geolocation using coast-line crossings. Data users are strongly

*(See **First CERES Data** on page 3)*

MISR Team members at DAAC for SSI&T

The Langley DAAC is conducting formal Science Software Integration and Test (SSI&T) for the Multi-angle Imaging SpectroRadiometer (MISR) Version 2.0 science software. Two members from the MISR team visited the Langley DAAC from June 23, 1998 to July 2, 1998 to participate in SSI&T activities. The DAAC staff will continue SSI&T activities for the MISR Version 2.0 software through mid-July.

MISR and DAAC staff performing SSI&T

The MISR Version 2.0 software consists of eight (8) product generation executives (PGEs). During the course of SSI&T, each PGE was compiled and linked with the ECS Science Data Processing Toolkit. Test cases were conducted at the "command line" as directed by the MISR test procedures, and resulting output was compared with expected results provided by MISR. Any discrepancies were resolved with the MISR team. All "command line" testing was successfully completed.

In preparation for testing the MISR PGEs in the ECS Planning and Data Processing Subsystem (PDPS), all required ECS Earth Science Data Types (ESDTs) were inspected and installed. The other steps necessary for PGE registration and testing through PDPS were completed for two PGEs. These two PGEs have been run successfully through PDPS with the assistance of the Langley DAAC staff, the ECS Science Office Staff, and the MISR team.

MISR SSI&T activities are continuing with additional testing of these two PGEs, along with preparations to run the remaining PGEs through PDPS. MISR Version 2.1 science software is expected to be delivered to the Langley DAAC for formal SSI&T later this year.

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FIRE.ACE

Campaign

Update

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The

Transatlantic

Educational

Demonstration

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FIRE.ACE Spring '98 Campaign a Success

Phase I of the FIRE.ACE Campaign conducted from April 7th through June 26th in Fairbanks, Alaska, has been completed (see *Langley DAAC Newsletter* Spring 1998). An international team of scientists conducted research in Alaska's Beaufort Sea and over the coastal town of Barrow. Participants included more than 80 researchers from eight NASA centers, five U.S. agencies, 13 U.S. universities and educational consortia, and three private U.S. companies, as well as scientists from Canada, Great Britain and the Netherlands.

"The data have surpassed even my most optimistic expectation," said Dave McDougal, FIRE.ACE Project Manager. "A combination of factors has contributed to this success: aircraft and instruments all worked very well; excellent support from the entire staff; extreme enthusiasm among the PIs and students; very good weather forecast support; and helpful cooperation and support from people on the ship. Even the weather 'cooperated'."

Staff members from the Langley DAAC provided the Domain Name Server, provided web site assistance and posted information in near real time to the web site. The server provided general information about FIRE.ACE to the world; served as a forum for investigators to provide current status of aircraft, ship, and instruments at the FIRE.ACE site and elsewhere; and helped facilitate an exchange of data among investigators, as well as provided results to investigators. Through the host table and the domain name server, communication between the FIRE.ACE local area network and outside networks were enabled.

According to McDougal, "The capability to interact electronically among the widely-spread researchers was instrumental in the successful planning, conduct, and acquisition of data during the field campaign. Not only will the researchers be further ahead in the data reduction and analyses of their own data, they will be able to more easily and quickly begin their intercomparison and collaborative analyses with each other."

The second phase of the FIRE.ACE campaign is currently underway (July 7–29). The NCAR C-130 airplane, the "Des Groseilliers" ship, surface sensors at Barrow, and the Langley DAAC are continuing to participate during this phase.

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S'COOL Project:
The Transatlantic Educational Demonstration

Excerpted from NASA Langley Researcher News, June 12, 1998.

A Transatlantic education project developed at NASA's Langley Research Center for grades 3 to 12 has caught the attention of First Lady Hillary Clinton.

Mrs. Clinton and NASA Administrator Daniel Goldin were guests for a demonstration of the CERES S'COOL project—she in Paris and he in Washington, D.C. Four schools in France and the U.S. participated in the event which kicked off a joint effort between NASA and the French space agency, CNES.

The event featured interactive, Internet-based demonstrations of the French Titus software for studying SPOT imagery, and of the Clouds and the Earth's Radiant Energy System (CERES) Students' Clouds Observations On-line (S'COOL) Project.

Prior to the demonstration, students in three of the schools made cloud and weather observations and reported them to the S'COOL database at the Langley DAAC. Corresponding satellite images were obtained from GOES-8 and METEOSAT for the same period. The week chosen proved to be an interesting one. Thick clouds were present most of the time, so the students observed mostly low clouds, while the satellite saw mid- and high-level clouds. ...

Personnel from the DAAC, Atmospheric Sciences Division (ASD), the Office of Education and Langley's Learning Technologies Project provided assistance to the students in preparation for the demonstration. The guests were given a computerized satellite tour of Paris, New York City, and Washington, D.C. Using NetMeeting and the Titus Software over the Internet, students at each school displayed a SPOT image of their city and showed the guests famous landmarks. A student in Paris modified the images to compare the amount of vegetation in Paris and Washington, D.C.

Students then used IChat over the Internet to explain the S'COOL project. Each school included images and text in their reports of cloud observations. The schools also showed how their observations compared with those of the satellite.

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New Data

Available

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CERES BDS

Data

(continued)

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New Data Available

CER_BDS_TRMM_PFM_Edition1 — The CERES BiDirectional Scan (BDS) TRMM Prototype Flight Model (PFM) Edition1 data set consists of daily products (24 hours) of filtered radiances with geolocations for each footprint. A filtered radiance includes the instrument spectral response. There are three channels for each footprint. The data are arranged in 6.6 second scans, with 660 samples per scan.

LASE_VALIDATION — The LIDAR Atmosphere Sensing Experiment (LASE) Validation data set includes measurements of atmospheric water vapor and aerosols using a Differential Absorption LIDAR (DIAL) system flown on a NASA ER-2 aircraft in September, 1995. Flights were made from Wallops Island, VA, both inland and over the Atlantic Ocean. Measurements were made under a variety of atmospheric conditions.

SCAR_B_G8_FIRE — The Cooperative Institute for Meteorological Satellite Studies (CIMSS) at the University of Wisconsin-Madison has produced diurnal GOES-8 derived fire products for the 1995 fire season in Brazil with version 5.5 of the GOES-8 Automated Biomass Burning Algorithm (ABBA). The data set consists of ASCII text files for each time period and corresponding daily GIF and HDF image files.

SCAR_B_UWC131A — SCAR-B data was generated from instruments on board the University of Washington C131A aircraft. The data covers the period August 17, 1995 to September 20, 1995.

TARFOX — Five data sets from the Tropospheric Aerosol Radiative Forcing Observational eXperiment (TARFOX) have been archived, including data from instruments on board the University of Washington C-131A aircraft, and particle size, radiosonde and meteorological observations made at Wallops Island, Virginia. TARFOX was conducted July 10-31, 1996, to characterize the chemical, physical, and optical properties of aerosols carried over the Western Atlantic Ocean from the U.S.

New Data Available from the DAAC

DATA SET NAME	NO. OF GRANULES	VOLUME (MB)
CER-_BDS_TRMM-PFM_Edition1	166	141836.22
LASE_VALIDATION	18	267.29
TARFOX_ONRP_AMESSUNP	15	8.06
TARFOX_UWC131A	35	46.82
TARFOX_WALLOPS_MET	16	2.05
TARFOX_WALLOPS_SMPS	23	0.71
TARFOX_WALLOPS_SONDE	25	3.37

ACCESSING DATA:

The Langley DAAC provides multiple interfaces to access its data holdings. The graphical and character user interfaces allow users to search and order data. The web interfaces allow direct access to some data holdings for immediate downloading or placing media orders, for searching the data holdings and downloading electronically available holdings, and for ordering prepackaged CD-ROMs and videocassettes. All of these methods are easily accessible from the Langley DAAC web site at:

http://eosweb.larc.nasa.gov

PUBLICATION ACKNOWLEDGMENT:

The requested form of acknowledgment for any publication in which Langley DAAC data are used is: "These data were obtained from the NASA Earth Observing System Data and Information System, Distributed Active Archive Center at the Langley Research Center." We request two reprints of any published papers or reports which cite the use of our distributed data. And to assist us in providing the best service to the scientific community, we also request notification if the data are transmitted to other researchers.

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First CERES Data (Continued from page 1)

urged to examine the quality assessment flags associated with each measurement to determine if the data for that footprint are good.

The BDS data and associated information can be obtained from the Langley DAAC web site using either an HTML-based or a Java-based interface or through direct contact with the DAAC User Services Office. Along with individual BDS products, a sample read software program and a small test data product are available. Also available through the ordering tools is a brief description of the BDS developed by the CERES team which summarizes the product and its validation status. Users desiring to order the data are asked to acknowledge having read this description.

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The Langley DAAC Newsletter is a quarterly publication of the Langley Distributed Active Archive Center, NASA Langley Research Center, Hampton, VA 23681-2199. Contributions, comments, or questions are welcomed and may be submitted to the Langley DAAC User and Data Services office by phone at (757) 864-8656, by FAX at (757) 864-8807, or via e-mail at userserv@eosdis.larc.nasa.gov.

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The Langley DAAC Newsletter is now available on-line at http://eosweb.larc.nasa.gov/ You will need a PDF reader such as Adobe Acrobat to open and view the Newsletter.

Upcoming Events:

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CERES Science Team Meeting
State University of New York - Stoney Brook
September 15–17, 1998

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UWG Meeting
Langley DAAC
September 1998

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In This Issue

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First Lady Hillary Clinton talks with a student in Paris about the S'COOL project (see article on page 2).

In this issue:

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National Aeronautics and Space Administration

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Official Business
Penalty for Private Use, $300

Bulk Rate
Postage Fees Paid
NASA
Permit No. G-27