National Space Science Data Center

NSSDC NEWS

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NSSDC News Moves To Electronic Medium

by Joe King

The format of *NSSDC News* changes significantly with this issue. In the few pages that follow, you will see highlights and summaries of full newsletter articles. The full articles themselves are available for reading over the Internet via both the World Wide Web (WWW) and the more traditional NSSDC Online Data and Information Services (NODIS) captive account.

These changes are being implemented to save costs, in recognition of the fact that a large and growing fraction of our newsletter readership has convenient Internet access (and often WWW access) to NSSDC's computers. We realize that the electronic publication is inconvenient for both our "into the briefcases for evening reading" and our not-yet-Internetted readers. As always, we encourage your comments about our newsletter and its distribution, which may change again depending in part upon your response to this new format.

One further change we will implement for the next issue is to electronically distribute even this synopsized paper newsletter as an announcement of the full version's electronic accessibility. To register for this E-mail distribution list, send E-mail to majordomo@nssdc.gsfc.nasa.gov. The SUBJ line is irrelevant. The body of the message should say "subscribe nssdc-news". Your originating Internet address will be captured.

In parallel with electronically announcing the availability of each new issue, NSSDC will continue to mail this synopsized paper newsletter to all readers, except those who, when registering for the electronic version, indicate they do not want the paper version.

The Universal Resource Locator (URL) for the WWW version of the *NSSDC News* is http://nssdc.gsfc.nasa.gov/nssdc_news/toc.html.

Our newsletter also is available from the NSSDC WWW home page, URL http://nssdc.gsfc.nasa.gov/, from which many other NSSDC information and data services are available as well.

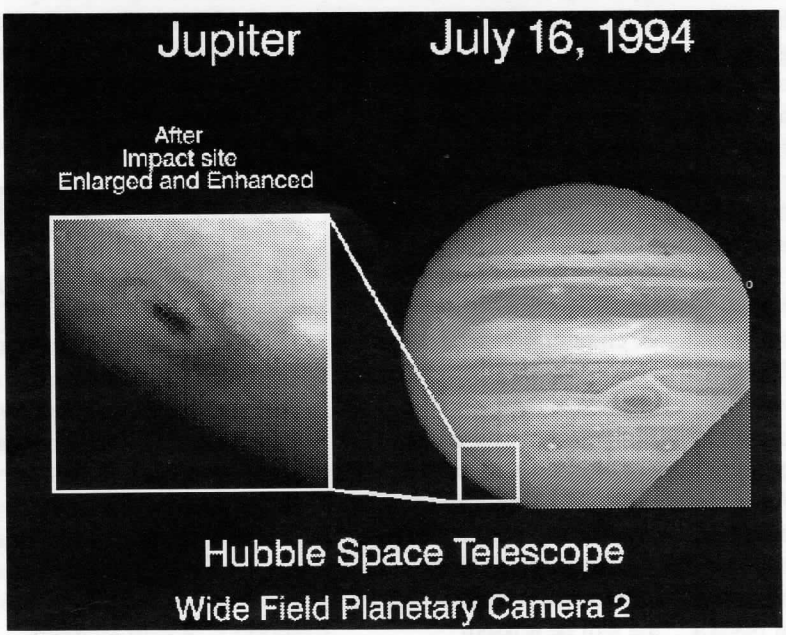
The NODIS pathway to *NSSDC News* is available by TELNET NSSDCA.GSFC.NASA.GOV (or SET HOST NSSDC over DECnet), USERNAME = NODIS. Follow the prompts and menus.

NSSDC Delivers Shoemaker-Levy 9 Data in Near Real Time

by Syed Towheed

Thousands of scientists and non-scientists alike were fascinated by the recent spectacle of Jupiter being bombarded by the Shoemaker-Levy 9 comets. The NSSDC made Shoemaker-Levy 9 images from a variety of sources available via World Wide Web in near real time.

The result was record-breaking usage of NSSDC's WWW, as nearly 400,000 accesses were logged from July 18-29, 1994. The author, systems programmer and WWW coordinator, along with Dave Williams, planetary scientist, created the Shoemaker-Levy 9 system. In the electronically accessible article, he tells the story in detail.



So far, this Hubble Space Telescope image of fragment A's impact is NSSDC's most popular World Wide Web picture of the Shoemaker-Levy 9 comet's collision with Jupiter.

IRI Advances Using New Approaches

by Dieter Bilitza

For three weeks of July 1994, a special 12-person task force, including the author, met at the International Center for Theoretical Physics (ICTP) to evolve the International Reference Ionosphere in the region of the F1 layer. The workshop used computers and networks extensively. The first week was oriented toward hardware, software, and science preparation, and participant familiarization. The second week was time-separated into six parts corresponding to six well-focused science questions relevant to F1 layer modeling. Each question-specific day began with a plenary session with all participants contributing to best approaches to progress, followed by subgroups of two or three people each accessing ICTP's computers and networks. The final week was for wrapping up. Strong endorsement of the ICTP workshop was given at the IRI Working Group meeting at the COSPAR meeting soon thereafter.

Farewell to Dr. Joy Beier

by Joe King

Dr. Joy Beier has recently left the Hughes STX team supporting NSSDC to join the Hughes Applied Information Systems group, where she will work in the science office of the EOSDIS Core System. In her five years with us, Joy progressed from being an Earth science Master Directory Discipline Coordinator to Head of the NSSDC/Hughes STX science support team of mostly scientists.

Joy became very well known to NSSDC's customer community through her Master Directory, Planetary Data System interface, Life Science Data Archive planning, and other roles. She was the primary planner of NSSDC booths at American Geophysical Union and similar meetings. Internally, she played a key role in defining and guiding Continuous Measurable Improvement (cmi) activities at NSSDC. She will be missed!

NOST News

by John Garrett, Don Sawyer, Barry Schlesinger

A new Technical Panel has been formed to revise the "NOST Definition of FITS" standard to incorporate the IMAGE and BINTABLE extensions and conventions for physical blocking on different media. NOST continues as the Technical Editor for the Consultative Committee for Space Data Systems Recommendation entitled "SFDU—Control Authority Data Structures," which has completed its formal review and received approval from the international space agencies. Don Sawyer, NOST Head, participated in a new IEEE thrust to define a Metadata Reference Model. The NOST Librarian, Nicki Fritz, has left NOST to take another position; her replacement will be announced when selected.

NSSDC's WWW Support: An Update

by Ed Bell

A broad range of NSSDC services are now accessible over the World Wide Web, some of which include the OMNI dataset of hourly near-Earth solar wind parameters and its deep-space counterpart (COHO); geophysical models (atmosphere, ionosphere, geomagnetic fields, trapped particles); Coordinated Data Analysis Workshop (CDAW); Satellite Situation Center (SSC); solar images from Yohkoh and Skylab; images from the crash of comet Shoemaker-Levy into the Jupiter; and WWW access to NSSDC's nearline data (on "NDADS"). The full article also discusses NSSDC's plans for future WWW-accessible services.

Employees Honored

The Space Science Data Operations Office held its annual Peer Awards Luncheon in August to honor two staff members. Selected by their coworkers for outstanding attitude as well as performance, Bobby Candey and Marjorie Pasini were delighted to accept their framed certificates of appreciation and modest cash bonuses. The full article includes a description of their citations.

Magellan Venus FMAPs on CD-ROM Arrive at NSSDC

by Dave Williams

The United States Geological Survey (USGS) is producing a set of about 170 CD-ROMs containing digital full-resolution (75 m/pixel) Venus radar maps based on Magellan Full-resolution Mosaicked Image Data Records (F-MIDRs). Each CD-ROM will contain two 12-degree by 12-degree FMAP quadrangles. The 340 total quadrangles are in sinusoidal equal area projection. The first CD-ROM has been issued and the next four are in preparation.

NSSDC will order many copies to meet expected demand, since USGS will not distribute these for sale. NSSDC is now trying to assess how many to order, since after depletion of the initial set, these will only be available on a more expensive CD-Recordable basis. If you might be interested in this full set, please contact NSSDC's Dave Williams at (301) 441-4197.

NASA MD & NSSDC Information Systems Update

by Jim Thieman

As previously announced, the NASA Master Directory (NMD) and the Global Change Master Directory (GCMD) are being separated. The GCMD will reside on a Silicon Graphics machine within the Global Change Data Center at GSFC. The NASA Master Directory will be placed on a DEC Alpha Workstation within the NSSDC. The split reflects the current organization and emphases within NASA as a whole and GSFC in particular.

The full article reports the status of the NMD's operational independence of the GCMD and discusses plans for its fuller integration into the NSSDC information and data environment.

Common Data Format Update

by Greg Goucher

News from the Common Data Format staff includes the following:

- Version 2.5 of the CDF software and documentation is currently under development and scheduled for release in late fall. A port to Macintosh is a key feature of V2.5.
- The CDF Tools and Utility programs will be developed with the standard Macintosh user interface containing dialog boxes to specify qualifiers and options unique to that program.
- Various lossless data compression algorithms are being evaluated for incorporation into future (i.e., later then 2.5) versions of the CDF library.
- The CDF anonymous ftp directory on ncgl.gsfc.nasa.gov (128.183.10.238) now includes application programs in addition to the CDF software.
- The CDF team performed low-level validation of CDFs produced by the ISTP Project at GSFC and, in the process, developed "checkCDF" software.

Please refer to the full article for more detail about each of these topics.

David Silberberg Joins NSSDC Support Team

by Kenneth Silberman

David Silberberg recently joined the Hughes STX team supporting NSSDC. Coming to us from the Space Telescope Science Institute, where he was a senior computer scientist, David assumes key management responsibilities for the software groups developing the NSSDC information systems (NASA Master Directory, etc.), data systems (NSSDC Data Archive and Distribution System, etc.), and the NASA/Science Office of Science and Technology. In all, David is responsible for the activities of about 14 software professionals. The full article discusses David's background and experience in more detail.

NSSDC Hosts Data Center Directors' Meeting

by Joe King

NSSDC and its World Data Center-A for Rockets & Satellites (WDC-A-R&S) hosted the annual meeting of the Directors of National Data Centers and WDC-A centers on July 20-21. The meeting was convened by the National Academy of Science's Committee on Geophysical and Environmental Data, led by Chairman Dr. Francis Bretherton. The International Council of Scientific Unions Panel on World Data Centers was also represented (S. Ruttenberg, F. Webster).

Reports were given by representatives (mostly directors) of six NOAA, USGS, and DOE National Data Centers, plus NSSDC, and of ten related WDC-A sites. (WDC-B, WDC-C, and WDC-D sites are elsewhere in the world.) Also representing NASA, in addition to NSSDC, were Paul Chan of the Goddard EOS DAAC and D. Butler of HQ/OMTPE.

Several issues of common interest to the data center directors were discussed. One, stimulated by Butler's discussion, had to do with a data review and certification role of data centers in today's distributed environment wherein many scientists can and do bring their uncertified data to network accessibility. The linking of the peer review of scientific papers with the review of underlying data sets on which the papers are based was discussed. The certification of data sets was seen as an activity with roles for both the science community and data center staffs.

NSSDC Helps Ulysses Team Visualize Trajectory

by Sardi Parthasarathy

Almost four years from its October 1990 launch and 2.5 years since its February 1992 Jovian encounter, the Ulysses spacecraft attained its extreme southerly heliocentric latitude of –80.17 deg on September 13, 1994. This ESA spacecraft carries 11 ESA and NASA instruments for the in situ measurements of solar wind fields and plasmas, plus cosmic rays and other energetic particles. Already, Ulysses has yielded significant new insights into the solar wind and cosmic ray phenomenology of the never-before-visited high heliolatitude regions. Extreme northerly solar latitude of 80.17 deg will be attained on July 30, 1995. Prior to Ulysses, the extreme latitude reached by an Earth emissary (Voyager 1) was 33 deg N.

The full article describes the Ulysses trajectory data provided, via a variety of presentations, to the Ulysses scientists and responsible NASA/HQ program managers. The computation of solar sources (latitude, longitude) of radially flowing solar wind observed at Ulysses hours-days after leaving the sun, and the dissemination of the results thereof, are also described. Finally, the role of NSSDC in providing such information at a major IACG workshop in early 1994, aimed at the coordination of observations of Ulysses, IMP-8 (in-ecliptic, 1AU fields, plasmas, and energetic particles), and Yohkoh (solar X-ray images), completes the full article.

NSSDC's Photo Lab Closes

The last of the NSSDC photo lab's processing equipment was disconnected in early September, and the lab has shut down. Both space and fiscal considerations resulted in this decision, along with a decrease in photo processing work relative to digital work at NSSDC. This closure should be invisible to our customers because extra-NSSDC photo processing facilities will be used now to satisfy external requests. Hopefully, changes in response times and user costs will be modest, and product quality will be at least maintained. (NSSDC will pass on its costs, including a modest request-tracking cost as at present, to its customers.)

NSSDC continues to maintain its film archive, with the help of Bob Tice and Jay Friedlander of the now-closed photo lab. They also will serve as interface persons to the extra-NSSDC facilities, thereby assuring continuity of quality.

CD-ROM and WWW Educational Browse Facility

by Karinn Hassan

In a concerted effort to embrace the science educator community and make popular NASA data and materials more readily accessible, NSSDC has established a CD-ROM and World Wide Web Educational Browse Facility. NSSDC also carries and distributes over 250 unique CD-ROMs (Compact Disc-Read Only Memory). In addition, the data center is working on making much of its data available electronically. NSSDC is constructing a space science education home page at http://www.gsfc.nasa.gov/education/education_home.html. The complete article offers more specific information about these services.

NSSDCNEWS

NSSDC News is published quarterly by NASA's National Space Science Data Center. Please send your address changes and requests to the appropriate address listed in the box at right. Your comments are welcome.

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How To Get NSSDC Data or Information:

To discuss the archiving of data at NSSDC, contact:

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NASA, Goddard Space Flight Center
Greenbelt, MD 20771 U.S.A.

To request data or information from NSSDC, contact:

NSSDC (for U.S. requesters) or
WDC-A-R&S (for non-U.S. requesters)

both at:

Coordinated Request and User Support Office
NSSDC, Code 633
NASA/Goddard Space Flight Center
Greenbelt, MD 20771 U.S.A.

Telephone: (301) 286-6695
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NSI/DECnet: NSSDC::REQUEST

To access NSSDC's online services (NODIS), log on:

TELNET: 128.183.36.23
Username: NODIS

To access NSSDC's WWW home page, enter this URL:

http://nssdc.gsfc.nasa.gov/

New Data Arrive at NSSDC

by Joe King

Since the last *NSSDC News*, these data sets were newly received at NSSDC: MAGSAT magnetometer data at 0.5-s resolution on CD-ROM (actually, created at NSSDC); solar irradiance data from Nimbus-7 ERBE for 1978-1993; and COBE DMR Time-ordered and Skymap data.

Also, the following data sets were extended by submissions over the past few months: IMP-8 magnetometer and energetic particle data (U. Md.) to the end of 1993; Magellan F-BIDR and Gravimetry data; Viking 1&2, Voyager 1, and Galileo images; IUE ultraviolet and ROSAT X-ray data; Pioneer Venus electric and magnetic field data; and Yohkoh solar X-ray data.

During the interval since our last *NSSDC News*, the following data sets have been ingested to NSSDC's nearline data store (NDADS) for network access: IUE ultraviolet and ROSAT X-ray data; ASTRO-1 UIT and WUPPE data; Vela 5B Gamma ray data; IMP-8 magnetometer data; Yohkoh solar X-ray data; and Astronomical Data Center source catalogs.

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