2007 ANNUAL STATISTICS AND HIGHLIGHTS REPORT FOR THE NATIONAL SPACE SCIENCE DATA CENTER

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PREFACE

The National Space Science Data Center (NSSDC) serves as the permanent archive for NASA's Office of Space Science (OSS). A major component of its mission is to ensure future data accessibility and usability. NSSDC also provides current data access, complementary to the efforts of other NASA/OSS "active archives," in support of the NASA and international astrophysics and space physics research enterprises. Finally, NSSDC is a conduit for the general public and education community to acquire NASA space science data that may interest them.

Herein we report on the activities of the NSSDC for the calendar year 2007. As much as possible, we report the same statistics as in previous years to enable interested parties who wish to compare accomplishments year-to-year. Nevertheless, as NSSDC evolves, some statistical tables have been updated to better reflect current operations. This report covers only the NSSDC. Reports before 2003 covered both the NSSDC and the Space Physics Data Facility (SPDF), who were organizational peers within the GSFC Space Sciences Data Operations Office (SSDOO). Following a NASA reorganization the two entities are now in separate GSFC divisions, NSSDC within the Solar System Exploration Division and SPDF within the Heliophysics Science Division. Note also that many statistics in this report are only comparable to those from the 2005 and later, since our central NIMS database was revamped in 2005.

NSSDC is pleased to issue this 2007 Annual Report describing the 2007 growth and evolution of NSSDC's data archives, access pathways, and other tools and services, as well as the access to those data and services by NSSDC's customer communities. This report has been made WWW-accessible in the hope that readers will avail themselves of the opportunity to link to the services reported herein.

I welcome suggestions from users for improvements to this Annual Report and to NSSDC services.

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1. INTRODUCTION

This report characterizes NSSDC's data holdings, metadata holdings, access pathways, and value-added data products, tools, and services at the end of 2007, with a focus on the 2007 activities leading to that end-of-year state. In addition this report characterizes the nature and access to NSSDC's data and services by its many users from various communities. It is assumed the reader will have a general familiarity with NSSDC and its mission. For more information see the top NSSDC web page is at http://nssdc.gsfc.nasa.gov/ .

In 2005 we assembled an external user group, the NSSDC User Group (NUG), which meets annually to advise us on our short and long range goals. The group's reports, most recently from February 2007, are on-line and can be linked to from the NSSDC homepage.

In April 2007 NSSDC sponsored the workshop on Science Archives in the 21st Century at the University of Maryland. Over 50 scientists from around the world were convened to share information. One concept introduced there was the Trustworthy Repositories Audit and Certification (TRAC), which has now been customized for internal use. The information about and materials from the workshop are also available from a link on the NSSDC homepage.

2. SOME SELECTED STATISTICS

Key statistics for 2007 or totals as of 12/31/07 include:
Volume of data at NSSDC: 53.3 TB
Distinct datasets: 4465
Distinct digital media volumes: 61,957
Media Volumes arriving in 2007: 1530
Data volume reaching NSSDC during 2007: 4.2 TB
Datasets (total) with data ingested in 2007: 91
Datasets of legacy data ingested in 2007: 58
Files downloaded from NSSDC via ftp: 2,340,516
Number of offline requests satisfied: 130

IMPORTANT NOTE: Statistics herein are NOT comparable to those in reports earlier than 2005. As explained in the 2005 NSSDC Annual Report, this discontinuity was introduced by improvements and updates in the NIMS database of NSSDC supporting information.

3. HIGHLIGHTS

The center of this report is the 13 Tables which summarize NSSDC activities in 2007. In most cases these numbers speak for themselves, though it is irresistible to address a few highlights.

The most important result of NSSDC's 2007 continuing activities is the preservation of growing space science data volumes, ensuring their continuing and future accessibility to the space science, education and general public communities. NSSDC's archive has now grown to 50.0 TB of space science data and an additional 3.3 TB of Earth science data. During 2007, 4.2 TB of data were added to the NSSDC. That only appears severely reduced from last year's 12.2 TB,

which was artificially inflated by a 9.5 TB delivery of HEASARC backup data. Ignoring the HEASARC data, which arrives at irregular, roughly annual intervals, in 2007 we received 4.2 TB of data compared with 2.7 TB in 2006.

In 2007 we accepted delivery of the Gravity Probe-B total project archive of 0.54 TB, delivered via RAID. The GP-B science data are not yet included in the NSSDC statistics, since the ingest procedures for data delivered this way are still evolving.

In 2001 NSSDC began using its reengineered data management approach, which stores data as Archive Information Packages (AIPs; bundles of data files and companion attribute files as prescribed by the ISO/CCSDS Archive Reference model) written to DLTs (to SuperDLTs since 2006). Its first application was for migration of NSSDC Data Archive and Dissemination System (NDADS) data files, which was essentially completed in 2003. About half the AIPs constituent data and attribute files also were written to a unix-based RAID magnetic disk environment for external user access. The IMAGE spacecraft project was the first to use NSSDC-provided software to prepare AIPs for submission to NSSDC and ingestion to the permanent archive. This facilitates an automated NSSDC data ingest and management pipeline. The approach or subsequent versions of it will hopefully be replicated with other missions and individuals preparing data for NSSDC submission to support the rapidly growing data ingest volumes. One such success was the installation of MPGA at the PDS Small Bodies Node and the Atmosphere Node; we have received 62 GB of data via AIPs from the former in 2007.

4. DATA MANAGED AT NSSDC AND 2007 INFLOW AND OUTFLOW

There are several ways to characterize the multi-disciplinary NSSDC archive. Byte counts are a common metric for modern archives and will be reported herein. Numbers of distinct datasets and numbers of media volumes managed are also very important. The diversity of datasets and of media types relates to the intellectual and technical heterogeneity of the archive, respectively, and we shall report on these also.

For the remainder of this section we will present this variety of statistics in tables, similar in format to prior years' reports, though recognizing that the content of some tables will not be comparable to those for years earlier than 2005 (see Sec. 2 above). We intersperse brief discussions, highlighting occasional specifics from individual tables.

Table 1. Counts of NSSDC Datasets on December 31, 2007

Discipline	Digital	Non-Digital	Total
Astronomy	226	77	303
Space/Solar Phys	1245	666	1911
Planetary	700	761	1461
Earth	123	131	254
Other (incl Ephem)	98	438	536
Total	**2392**	**2073**	**4465**

By the end of 2007 NSSDC was managing 4,465 distinct datasets and accompanying documentation packages. Table 1 indicates the disciplines from which these datasets come and whether the datasets are digital or non-digital. By dataset count space physics is the dominant discipline, accounting for nearly half of NSSDC's holdings. This reflects that in its early years NASA launched a preponderance of space physics missions and also that space physics spacecraft typically carry more independent experiments than do astrophysics missions.

NSSDC manages almost as many non-digital (e.g. film, microfilm and microfiche) datasets as digital datasets, though in recent years newly arriving data has been all digital. NSSDC also has generated digital versions for some of its film archive, often in response to requests.

Table 2. State of the NSSDC Archive December 31, 2007

	All Digital Data (TB)
Astrophysics	18.87
Space Physics	24.50
Planetary	6.45
Earth Science	3.30
Other	0.20
Total	**53.32**

Table 2 is a different characterization of the NSSDC archive, showing byte counts for the entire digital archive. Some of the byte counts, particularly for older media, are estimates, involving assumptions about the mean numbers of bytes on various media types for some datasets. We foresee a shift in coming years with the expected arrival of large planetary datasets. For more details on NSSDC planning the NSSDC Archive Plan is available within the NSSDC website.

Table 3. Data Ingested to Nearline Permanent Archive

	2005		**2006**		**2007**	
	AIPs	**GB**	***AIPs***	**GB**	***AIPs***	**GB**
ALOUETTE	*26,410*	16.31	*60668*	37.26	*17151*	9.79
CDAWEB	*2352*	626.61	*3805*	769.91	-	-
DE	*512*	0.32	-	-	-	-
IMAGE	*3,294*	43.76	*1043*	16.13	-	-
IMP8	*2,357*	0.36	-	-	-	-
ISEE	*3,034*	2.57	-	-	-	-
ISIS	*1*	<0.01	*45344*	25.40	*133581*	67.34
LEGACY DATA	-	-	-	-	*310*	2.48
PDS DATA	-	-	-	-	*5*	62.26
RHESSI	*11,100*	796.08	*9826*	698.04	*8042*	574.88
SAN MARCO			*1790*	0.04	-	-
ULYSSES	*971*	1.02	-	-	-	-
WIND	*395*	0.32	*361*	0.29	*332*	0.26
Totals	***50,426***	**1487.35**	***122,837***	**1547.08**	***159,422***	**717.25**

Data are also being moved from NSSDC's traditional offline archive to a near line archive based on DLT and SDLT jukeboxes attached to unix and linux servers, respectively. Data are newly archived in Archive Information Packages (AIPs), which hold data files and companion attribute files and are media-independent and platform-independent. These are defined as per the AIP concept of the ISO/CCSDS Open Archival Information System reference model. Table 3 shows the volumes of data ingested to this portion of the archive for 2005-7; the total of data stored as AIPs has reached 6.8 TB.

About half of the data stored in AIPs are made network-accessible from NSSDC for the convenience of some portions of the user community. Table 4 (below) lists by project NSSDC's network-accessible Space Physics data as of 31 December 2007.

Table 4. Space Physics Data FTP Accessible from NSSDC on December 31, 2007

SPACECRAFT	ftp://nssdcftp/spacecraft_data GB
ACE	32.07
CRRES	34.06
DE	186.64
DIRBE	19.96
DMR	8.36
GEOTAIL	2.70
HELIOS	1.15
IMAGE	261.06
IMP	26.15
ISEE	17.08
ISIS	187.14
MAGSAT	1.87
OMNI	14.57
PIONEER	2.01
SAMPEX	57.39
ULYSSES	247.18
VOYAGER	28.35
WIND	25.48
Others*	6.00
TOTAL	**1159.22**

Others total includes spacecraft with <1Gb data each, including AE-C,-D,-E, AEROS, Alouette, Apollo, ARCAD, Cassini, Explorers 22 & 31, Galileo, Genesis, Hinotori, Mariner 10, OGO, Prognoz 6,7, & 9, San Marco, SNOE, and additional Soviet spacecraft; SWAS not included as per 2005 MOU with LAMBDA.

Table 5. Counts of Volumes* at NSSDC Archive on Dec 31, 2007

Media Type	Astro Physics	Space Physics	Planetary Science	Earth Science	TOTAL
4-mm Tape	429	92	3	97	**621**
8-mm Tape	189	503	74		**766**
9-Track Tape	529	2,658	3,721	17,290	**24,198**
3480 Cartridge	491	1,938	1,126	2,707	**6,262**
DLT	65	31	2		**98**
CD	512	21,904	5,344	54	**27,814**
DVD	737	928	255	0	**1,920**
12-in Worm		4			**4**
M-O Disk	274				**274**
TOTAL	**3,226**	**28,058**	**10,525**	**20,148**	**61,957**

* Backup volumes and those not attributable to these 4 disciplines are not included.

Table 5 characterizes the digital media types managed at NSSDC, not including backup copies. It should be noted that most volumes are replicable and have one backup volume.

Table 6. Analog Data Products at NSSDC by Discipline

Discipline	Micro-film	Micro-fiche	Film (feet)	Film (frames)	Movie Reels	Slides
Astrophysics	6,020	18,524	11975	11975		126
Earth Science	1,430		64610	64610	4	
Planetary Science	3,294	6,345	335053	335053	181	768
Space Physics	20,195	14,669	6173	6173	2	88879
Communications	183					
Other	162		6206	6206	20	2112
Totals	**31,284**	**39,538**	**426,613**	**424,017**	**207**	**91,885**

Table 6 lists NSSDC's analog archive holdings by disciplines and by form factor. We completed an inventory of the photo materials in 2007, thus there are new totals for the Film and Movie columns. Movie reels had not been called out separately in previous reports, now they are. Film (feet) are reels of uncut film containing sequences of still photos, so for the present time have been inventoried that way. Also we removed from the inventory any backup copies of images, which had notably increased previously reported numbers. These changes give the most accurate inventory of the analog archive, but, given the changes, the numbers in those columns are not comparable to reports for previous years. The counts of microfilm, microfiche and slides are unchanged from recent years. Inventories of those media are underway and should be completed within 2008.

4.1 Data Inflow

Tables 7 and 8 characterize the inflow of digital data to NSSDC during 2007.

Table 7. Media Arriving at NSSDC During 2007*

	Astro Physics	Space Physics	Planetary Science	Total
4-mm Tapes	99	0	0	99
DLTs	0	0	0	0
CDs	0	798	139	937
DVDs	230	193	71	494
3480s	0	0	0	0
Totals	**329**	**991**	**210**	**1530**

* Ephemeris and Other data not included.

Table 7 characterizes the in-flowing media types by discipline. As in recent years, CDs continued as the dominate input media type overall. For 2007 we have eliminated the distinction between CD-ROM and CD-WriteOnce and reported just CDs. (Actually, we received no data deliveries via CD-ROMs in 2007.)

Table 8. Data Arriving at NSSDC During 2007

Astrophysics	GB	Planetary	GB	Space Physics	GB
FUSE	750.96	2001 Mars Odyssey	14.74	Alouette	9.79
GALEX	1480.11	Comet Nuclei Properties	<0.01	FAST	514.32
		Comet 9P/Tempel1	10.59	Geotail	148.87
		Deep Impact	69.01	ISIS	67.34
		Deep Space 1	<0.01	Legacy Data	2.48
		Mars Global Surveyor	210.32	Polar	286.27
		PDS SBN	62.26	RHESSI	574.89
		Rotation of Comet Nuclei	<0.01	Twins	7.80
		Stardust	0.32	Wind	0.48
Totals	**2231.06**		**367.24**		**1612.48**
		GRAND TOTAL	**4210.78**		

Table 8 shows by project the data volumes that NSSDC received in 2007, approximately 4.2 TB of new data via a combination of electronic deliveries and on media. Dominating the statistics are GALEX and FUSE in Astrophysics and RHESSI within Space Physics. In coming years we expect the largest data deliveries from Planetary missions.

4.2 Data Outflow

Much of the data outflow discussed in NSSDC Annual Reports before 2003 was activity within SPDF, which maintains the Active Archive for NASA Space Physics missions. Recognizing this distinction, the activities of CDAWeb, etc, now are covered in SPDF reports elsewhere. The Geophysical Models & Services, reported as Table 9 for 2003-2006, moved to the Community Coordinated Modeling Center in 2007, so those activities are also now reported elsewhere.

NSSDC provides user access to its data holdings with network-accessible data for chosen datasets and, in addition, through a user support infrastructure for the mailing of offline digital and non-digital data volumes. Most electronic interfaces are accessible through NSSDC's WWW home page and include special WWW-based interfaces to specific datasets or groups thereof and ftp pathways to a range of data files maintained permanently on NSSDC disks. The CDF-formatted data underlying CDAWeb are at ftp://cdaweb.gsfc.nasa.gov/ while all other data are at ftp://nssdcftp.gsfc.nasa.gov/ . Because NSSDC and SPDF have been and are still co-located since the latter's inception, nssdcftp is and remains a shared resource.

A great many NSSDC datasets and other information services are held permanently on disk for ftp access. The reader is invited to review all these services from the ftp link on the NSSDC home page. Table 9 (below) gives the annual counts of files downloaded, both overall and for selected directories with high activity. The Photo Gallery remains of high public interest. Downloading by researchers via ftp of data files from the spacecraft_data subdirectory had increased greatly in 2005 and for 2007 sustained much of this increase, showing the high interest in and great value of these services provided by NSSDC and SPDF on this shared resource. Ftp downloads related to modeling software for a portion of the year is also included.

Table 9. Number of Files Downloaded via FTP

	2002	2003	2004	2005	2006	2007
Photo Gallery	1,516,658	1,633,333	1,277,133	1,190,555	936,039	720,213
Spacecraft Data	746,008	572,791	468,580	1,154,900	802,438	689,961
All others on nssdcftp	275,234	549,025	813,537	1,263,719	998,388	930,342
Total	**2,537,900**	**2,755,149**	**2,559,250**	**3,609,174**	**2,736,865**	**2,340,516**

WWW access statistics are frequently misleading, insofar as they usually individually count the many files (buttons, etc.) that make up a page. Nevertheless, WWW accesses are indicative of the continuing use of the WWW-provided NSSDC services. In 2007 there was an average of 8.7M monthly error-free accesses to NSSDC's web pages, slightly lower than 9.8M for 2006. Total web hits averaged 9.7M per month, also a decrease from 11.0M per month for 2006.

Table 10. NSSDC User Community (Offline Requests Only) for CY 2007

Affiliation Category	Total Requests	Percent
No Affiliation [General Public]	46	35.4
Non_US	16	12.3
US Academic Institutions	18	13.8
US Private Industry	7	5.4
NASA/GSFC	33	25.4
NASA Centers, Excluding GSFC	8	6.2
Other Government Agencies	1	0.8
Miscellaneous	1	0.8
Total	**130**	**100**

NSSDC encourages electronic dissemination to all users whenever possible. The dominant mode of dissemination of data to the research communities is via the internet, so that offline data dissemination has gradually decreased. Still, in 2007 NSSDC responded to 130 (compared to 182 in 2006) distinct requests for "traditional" products. Table 11 characterizes that user community. To a very large extent it is the U.S. and international general public, the education enterprise, publishers, etc. and their desire for NASA imagery that have accounted for most of NSSDC's offline request activity.

Table 11. Number of Requests for Offline Data by Discipline

DISCIPLINE	Data Set Requests 1968 - 2007	Data Set Requests 2007
Astrophysics	11447	20
Earth Science	7151	1
Planetary Science	47490	88
Space & Solar Physics	9152	25
Ephemeris	97	1
Other	43	0
TOTAL	**75380**	**135**

Table 11 gives the counts of requests for offline datasets from various disciplines in 2007, and as integrated over NSSDC's history. Note particularly the dominance of planetary data over both time scales. This is largely associated with lunar and planetary image data that are widely requested by the general public. The number of requests is slightly larger than in Table 11 because some requests are for data/items related to more than one discipline, so are double counted.

In 2007 the dominant mode of digital data dissemination continued to be ftp. Some media was distributed, but the downward trend is presumably because more members of the general public

are able to access NSSDC's data electronically. Beginning in 2005 NSSDC began tracking data requests by "items" within four broad categories defined in the Notes below. Table 12a shows the distribution of data served within these categories for 2007 and the previous two years; Table 12b shows the distribution of the items by discipline for the same years. Both Tables 12a and 12b allow us to show the substantial and growing distribution of data via ftp, even though these statistics include only ftp data that were newly posted in response to a request, not previously available.

Tables 12a,b. NSSDC Offline Data Dissemination Statistics 2005-2007

Table 12a

ITEMS	2005	2006	2007
DISCs	700	872	441
PRINTED	531	534	177
OTHER	265	119	9
FTP	2585	14318	20907
TOTAL	**4081**	**15843**	**21534**

Table 12b

DISCIPLINE	2005	2006	2007
Astrophysics	1237	4395	277
Planetary	1928	3401	2311
Space Physics	660	8040	18946
Other	256	7	0
TOTAL	**4081**	**15846**	**21534**

NOTES:
DISCs include CDs & DVDs
PRINTED materials include Photos, Posters, Maps, Documents
OTHER media include Microfilm, Microfiche, Tapes, Videos
FTP include Data, Documents, & Photos posted for FTP download, not files already posted

5. ADDITIONAL NSSDC SERVICES

In addition to its archive of scientific data and the variety of data interfaces characterized in the preceding sections, NSSDC offers a number of additional services, which are described below.

5.1 NSSDC Information Management System (NIMS)

The NSSDC Information Management System (NIMS) encompasses most of the separate databases that NSSDC has used to track data and information through the years. The NSSDC has a long term goal of incorporating its off-line data inventory system into NIMS, a major effort this is underway.

Table 13. NIMS/JEDS Database Statistics for CY 2007

Subpartition	Number of Records as of 12/31/07	Number Added in 2007
Spacecraft	6343	120
Experiment	5341	34
Dataset	5153	34
Totals	**16,837**	**188**

Number of spacecraft with experiment records - 1,070
Number of experiments with datasets at NSSDC - 1,559
Additional datasets associated only with spacecraft, not experiments - 631
Additional datasets that are not associated with spacecraft/experiment - 86

NIMS identifies virtually all launched spacecraft, the experiments carried by many of these spacecraft, and datasets from these spacecraft primarily as archived at NSSDC. This portion of the database is the source of information for many of NSSDC's WWW information pages. The NSSDC Master Catalog (NMC) dynamically generates WWW pages so that the latest information is presented to the user. A number of discipline and project pages are based on information derived from NIMS or utilize the NMC to generate such information.

5.2 SPASE

Our effort continues as a participant in the development of the Space Physics Archive Search & Exchange (SPASE), the dictionary which will be the common language among space physics archives as we move into the age of VOs. Version 1.2.0 of SPASE was released on May 22, 2007. NSSDC has made available its databases as the source of information and identifiers for SPASE data descriptions and has released use/testing interfaces for generating lists of observatories (spacecraft) and instruments (experiments), plus descriptions of both. More information can be found at http://www.spase-group.org/ which also has a link from NSSDC through its VO Portal.

5.3 Consultative Committee for Space Science Data Systems (CCSDS)

The NSSDC continues to lead within the Consultative Committee for Space Data Systems (CCSDS) for the widespread adoption of the Reference Model for an Open Archival Information System (OAIS). This standard provides a conceptual model of a digital archive, including a functional view and an information view. The model establishes initial criteria for recognition of a true archival function and should lead to improved archival implementations, provide a basis for further standardization, and provide more cost-effective vendor support. Its use has been considered by an ever growing variety of organizations including data centers, libraries, national archives, and commercial organizations around the world.

5.4 NASA/Science Office of Standards and Technology (NOST) at NSSDC

NOST's mission is to facilitate the recognition and use of standards to reduce cost/benefit ratios in the exchange and management of scientific data among NASA entities and the scientific

communities they serve. NOST's Web Home Page is at http://ssdoo.gsfc.nasa.gov/nost/ . The NOST strategy is to play a coordinating role in helping the science disciplines identify new standards requirements. NOST participates in partnerships with them, other agencies, and industry on facilitating the adoption of leading-edge technologies with national or international visibility that can be tailored to meet NASA science information management and exchange requirements, and it assists in the process of moving these technologies toward standards with commercial support.

NOST operates NASA's highest level Control Authority office in accordance with the applicable Consultative Committee for Space Data Systems (CCSDS, see above) and ISO standards to formally archive data descriptions for interchange and long term preservation. NOST also participated in the development of draft CCSDS/ISO standards applicable to multi-discipline and sub-discipline information interchange. The WWW is the ideal forum for the worldwide standards work. The reader is referred to http://www.ccsds.org/ for specifics.

5.5 Virtual Observatories (VOs)

As the designated permanent archive for the Office of Space Science (OSS), with over 30 years experience in managing and preserving digital information comprising thousands of datasets, NSSDC is acutely aware of the need to acquire and preserve data and adequate documentation to ensure they are independently understandable and usable for current and future researchers. This remains our primary mission. But in this era of Virtual Observatory concepts for more seamless access to data, NSSDC must also play a larger role, especially for data not available from Active Archives. NSSDC will continue to expend considerable effort becoming part of the Virtual Observatories.

5.6 Sun-Earth Connection Education Forum (SECEF)

In 2007 the NASA Sun-Earth Connection Education Forum (SECEF) team, with major NSSDC participation, prepared for and orchestrated Sun-Earth Day 2007 with the theme "Living in the Atmosphere of the Sun -- IHY" joining in the celebration of the International Heliophysical Year. Many thousands packets of information were sent to teachers, scientists and others for Sun-Earth Day programs, reaching hundreds of thousands of people with live webcasts and podcasts. SECEF also sponsored a number of workshops and teacher professional development events reaching thousands of teachers, amateur astronomers, and the general public in partnership with Heliophysics missions, museums, science centers, and planetariums as well as science and educational professional societies. The SECEF web site for Sun-Earth Day is at http://sunearth.gsfc.nasa.gov/ **.**

Glossary

ACE	Advanced Composition Explorer
AE	Atmospheric Explorer
AEROS	AERONomy Satellite
AIP	Archive Information Package
ARCAD	Arc Aurorale et Densite
CCSDS	Consultative Committee for Space Data Systems
CDF	Common Data Format
COBE	Cosmic Background Explorer
CRRES	Chemical Release and Radiation Effects Satellite
DE	Dynamics Explorer
DLT	Digital Linear Tape
DVD	Digital Versatile Disk (originally, V = video)
FAST	Fast Auroral SnapshoT
FTP	File Transfer Protocol
GB	Gigabyte
GOES	Geostationary Observational Environmental Satellite
GSFC	Goddard Space Flight Center
IMAGE	Imager for Magnetopause-to-Aurora Global Exploration
IMP	Interplanetary Monitoring Platform
ISEE	International Sun-Earth Explorer
ISIS	International Satellite for Ionosphere Studies
ISO	International Organization for Standardization
ISTP	International Solar-Terrestrial Physics
JEDS	Java Experiments, Datasets, Spacecraft
LANL	Los Alamos National Laboratory
MAGSAT	MAGnetic field SATellite
M-O	Magneto-optic
MPGA	Multifile Package Generator and Analyzer
NDADS	NSSDC Data Archive and Distribution System
NEAR	Near Earth Asteroid Rendezvous
NIMS	NSSDC Information Management System
NMC	NSSDC Master Catalog
NOST	NASA/Science Office of Standards and Technology
NSSDC	National Space Science Data Center
OAIS	Open Archival Information System
OMNI	Interplanetary Medium Data (not an acronym)
OSO	Orbiting Solar Observatory
OSS	Office of Space Science
RAID	Redundant Array of Independent Disks (or I = “Inexpensive”)
SAMPEX	Solar Anomalous and Magnetospheric Particle Explorer
SPASE	Space Physics Archive Search & Exchange
SEC	Sun Earth Connection
SECEF	Sun Earth Connection Education Forum
SNOE	Student Nitrogen Oxide Explorer
SOHO	Solar and Heliospheric Observatory
SWAS	Submillimeter Wave Astronomy Satellite
TB	Terabyte
VO	Virtual Observatory
WORM	Write-Once, Read-Many