

A Memorandum of Understanding
between
The Space Physics Data Facility (SPDF)
and
The National Space Science Data Center (NSSDC)

March 6, 2013

S / Edwin J. Grayzeck

Edwin J. Grayzeck
Head, NSSDC

S / Robert E. McGuire

Robert E. McGuire
Head, SPDF

Concurrence:

John H. Lee
Program Executive for NSSDC

Jeffrey J.E. Hayes
Program Executive for SPDF

1. Introduction

This Memorandum of Understanding (MOU) between the National Space Science Data Center (NSSDC) and the Space Physics Data Facility (SPDF) at GSFC documents the roles of these organizations in the acquisition, management, dissemination and preservation of data from NASA and NASA-collaborative space physics missions. This MOU supersedes any prior agreements between NSSDC and SPDF regarding the archiving and dissemination of relevant data.

The NSSDC and SPDF are co-located at NASA Goddard Space Flight Center. As such, they currently share certain common resources, both infrastructure and staff, which has proven cost-effective. It is the mutual understanding of both organizations that they will continue this arrangement to best serve the community.

NSSDC was created in 1966 as NASA's only archive for space and Earth science data. NSSDC's data management role has evolved with the emergence of a series of active and final archives in both space and Earth science. Presently NSSDC has deep archiving responsibility for space science data supporting NASA missions. It has active archiving responsibilities in certain special cases in the space science discipline areas, and it has additional roles not germane to this MOU. The NSSDC home page is at <http://nssdc.gsfc.nasa.gov/>

SPDF was created organizationally in 1992 with one primary purpose, to support the then upcoming ISTP (International Solar Terrestrial Physics) missions and to improve overall research community access to and usability of space physics data. SPDF now stands as a distinct Heliophysics Data and Modeling Center project. Under the Heliophysics Science Data Management Policy (HpSDMP), SPDF serves as one of two heliophysics active Final Archives, supports critical Heliophysics Data Environment (HpDE) infrastructure, and is a center of excellence for heliophysics data services. The SPDF home page is located at <http://spdf.gsfc.nasa.gov>.

Both NSSDC and SPDF will adhere to the current HpSDMP articulated in February 2009 <http://lwsde.gsfc.nasa.gov/Heliophysics_Data_Policy_2009Apr12.pdf>. Under this policy, SPDF and NSSDC will work together with appropriate elements of the HDMC (Heliophysics Data and Modeling Consortium) project to ensure all online heliophysics datasets have SPASE (Space Physics Archive Search and Extract) descriptions.

This MOU will be reviewed by NSSDC and by SPDF at least annually. Inconsistencies between current practices and MOU statements, or future modifications to this MOU, will be addressed and resolved/agreed by the directors of NSSDC and SPDF, with involvement of relevant NASA program managers when needed.

2. SPDF as a Heliophysics Final Archive

SPDF is the NASA active Final Archive for non-solar heliophysics mission data and relevant ancillary data and services. It now interfaces with NASA and NASA-collaborative spaceflight missions (and with other relevant programs designated by NASA) in the creation and implementation of pre-launch arrangements (PDMP/Project Data Management Plan or

MAP/Mission Archive Plan) and post launch agreements specifying what data, in what formats, and with what accompanying support material will be delivered to SPDF, and on what schedules.

Work with non-solar missions on PDMPs was previously a responsibility of NSSDC. The NSSDC signature on these documents certified that it would be ready to manage the data cost-effectively and efficiently for the data user on the needed schedule. SPDF will interact continuously from mission concept throughout the operational mission phase to ensure the definition and eventual flow of data and supporting material from the missions into SPDF as an active Final Archive.

SPDF works with the missions, with other elements in the HpDE, and with NASA HQ to ensure that the data and supporting material are effectively findable, accessible and correctly usable by potential users from the NASA and international research communities, according to the requirements in the HpDE policy. It is expected that most if not all user access will be electronic but for occasional data requests to be sent to or retrieved from offline storage, SPDF will work with NSSDC to ensure that such requests are satisfied.

As NSSDC restores existing offline products into a form suitable for active archiving, these products will be transmitted to SPDF in a mutually agreed-upon manner. SPDF may also provide data it receives on media (CD, DVD, or similar) to NSSDC for storing the media and making their data content network retrievable by SPDF for SPDF to subsequently archive and serve. The detailed interfaces and quality assurance processes for media and electronic transfers will be jointly determined by SPDF and NSSDC.

SPDF will provide a backup copy of its holdings to NSSDC on at least an annual basis to enable SPDF or any other agent designated by NASA to recover these data in the event of a catastrophe at SPDF.

SPDF provides estimates to NSSDC annually of the data volumes (e.g. numbers of tapes) it expects to provide to NSSDC for each of the coming three years.

The SPDF acquisition scientists will continue to be a shared resource with NSSDC, available for limited work on appropriate NSSDC tasks under NSSDC funding.

3. NSSDC as Deep Archive

NSSDC receives NASA space physics data and supporting material from SPDF on physical media and will hold these media offline either at NSSDC or at a remote archival facility as requested by SPDF. NSSDC is expected to hold media from SPDF as received; NSSDC is not expected to migrate or maintain the data as the media age. SPDF is responsible for the correctness of the data and supporting material. At this time, the remote archival facility is the Iron Mountain facility in Ashland, Virginia.

At the request of SPDF, the NSSDC provides back to SPDF the media as originally supplied by SPDF. Access to media stored at Goddard can be provided typically in less than a working day; media stored remotely can only be supplied back on the schedule negotiated for data deliveries and retrieval with the remote archival facility.

At the request of SPDF, NSSDC will promote selected SPDF media data to electronic form for SPDF retrieval. This will be done if there are sufficient resources. NSSDC will subsequently hold these media offline either at NSSDC or at a remote archival facility but is not expected to further migrate or maintain the data as the media age.

Upon request from SPDF, NSSDC will replicate and mail data volumes to requesters. It will charge end users fees just sufficient to cover incremental costs of satisfying requests.

NSSDC will point to SPDF from its high level, space physics-relevant web pages as the source of space physics data for researchers and the general public.

4. Pre-SPDF space physics data at NSSDC

NSSDC holds a mix of digital and analog space physics data from older missions that are not part of the current SPDF holdings. Some of these data are online in the nssdcftp server and some are still in NSSDC's offline archive. NSSDC has conducted community-wide reviews of this "legacy data" and established a process to migrate the highest priority digital data to modern formats and to make them electronically accessible, or at least available on new media.

The older NSSDC digital heliophysics data (both non-solar and solar missions) that have been electronically accessible at NSSDC, will now be archived and publicly served as functions of SPDF.

- 1) It is assumed that SPDF will accept responsibility for serving all digital Space Physics and Heliophysics data collections that are currently available on nssdcftp.
- 2) SPDF will copy these Space Physics and Heliophysics data collections to its server, notifying NSSDC when each collection has been moved and providing NSSDC with the URLs for those data.
- 3) As appropriate, NSSDC will point users to the data transferred to SPDF after SPDF has completed and verified the data transfer..
- 4) NSSDC will provide notices in appropriate online locations to advise users that the data have been transferred to SPDF and will provide links to appropriate SPDF top-level data directories. SPDF will provide notices in appropriate online locations to advise users that some data relevant to space physics from planetary missions remain with NSSDC and will provide links to appropriate NSSDC top-level data directories.
- 5) NSSDC will notify SPDF as new datasets are restored from media or existing static datasets are extended.