

**Memorandum of Understanding
between
The Infrared Science Archive at the Infrared Processing and
Analysis Center
and
The National Space Science Data Center**

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1. Introduction

This is a Memorandum of Understanding (MOU) between the National Space Science Data Center (NSSDC) and the Infrared Science Archive (IRSA) at the Infrared Processing and Analysis Center (IPAC). It documents the roles of those organizations in the acquisition, management, dissemination and preservation of data from NASA and NASA-collaborative astrophysical space missions (and selected ground-based programs). This MOU supersedes any prior agreements between NSSDC and IPAC or IRSA regarding the archiving and dissemination of relevant data.

Active archives interface with Science Mission Directorate (SMD) and SMD-collaborative missions in acquiring data for general access, and they provide such access to data and supporting material to the general research community. The permanent archive receives data from the active archives, or sometimes from projects as arranged by the active archives, preserves the data, and provides them back to active archives when requested.

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 archives in both space and Earth science. Presently it has permanent archiving responsibility for NASA space science mission data. It has active archiving responsibilities in certain space science discipline areas. It has additional roles not germane to this MOU. The NSSDC home page is at <http://nssdc.gsfc.nasa.gov/>.

IRSA was created in 1999 as NASA's "active archive" for infrared astrophysical data; its charter has recently been extended to include sub-millimeter data. It is a "Science Archive Research Center" (SARC) on a par with 1) the High Energy Astrophysics SARC (HEASARC) whose responsibility is gamma ray and X-ray data, and 2) the Multi-Mission Archive at the Space Telescope Science Institute (MAST), whose responsibility is optical and ultra-violet data. The relevant SARCs will resolve issues related to management of data at the wavelength boundaries between SARCs. The IRSA home page is at <http://irsa.ipac.caltech.edu/>.

This MOU will be reviewed by NSSDC and by IRSA annually, and by their advisory groups as desired by them. Inconsistencies between current practices and MOU statements, or future modifications to this MOU, will be addressed and resolved/agreed by the Director of NSSDC, the Task Lead of IRSA and the Executive Director of IPAC, with involvement of relevant SMD program executives when needed.

2. The responsibilities of IRSA

IRSA is a NASA Astrophysics Science Archive Research Center. As such it is the primary active archive for astrophysical infrared and sub-millimeter data. For missions of major GSFC scientific involvement (e.g., COBE, MAP) or other missions (e.g., SWAS), it may at its discretion delegate some or all deep archiving responsibility to NSSDC.

The active archive interfaces with NASA and NASA-collaborative infrared and sub-millimeter space-flight missions (and with other relevant programs designated by NASA/SMD) in the creation of Project Data Management Plans (PDMP). These are documents specifying what data in what formats and with what accompanying supporting material will be delivered to which active archive, and on what schedules. The signature of the active archive on PDMPs certify that it will be ready to manage the data cost effectively and support users effectively on the needed schedule. For missions involving any NSSDC active archiving role, there will be an IRSA-NSSDC addendum to this MOU specifying the relative roles for that mission.

The active archive interfaces with missions during their operational phases to ensure the flow of data and supporting material from the missions to the active archive and, for some missions, directly to NSSDC-as-permanent-archive as per the conditions set in the PDMP.

It ensures that the data and supporting material are effectively locatable, accessible and correctly usable by potential users from NASA, other-US, and international research communities and, for appropriate data sets, by the public. It is expected that most if not all user access will be electronic, but the active archive will also satisfy occasional requests for data to be sent on permanent media.

It assists users of the data and of supporting material (e.g., software tools) in their usage as needed.

It provides a copy of such supporting material to NSSDC-as-permanent-archive that would be needed to reestablish the management and dissemination of usable data at/from the active archive in the event of a catastrophe at the active archive.

IRSA provides estimates to NSSDC annually of the data volumes it (or the projects it interfaces with) expects to provide to NSSDC for each of the coming three years, by mission.

It is understood that IRSA and NSSDC (and their successors if any) have futures of equal longevity. Therefore, IRSA's ensuring the IRSA-independent usability of NSSDC-held, IRSA-provided data (against the possibility that NSSDC will outlive IRSA and its possible successors) is not a requirement.

3. Delivery of infrared and sub-millimeter data sets to the NSSDC

NASA's infrared and sub-millimeter projects will provide to NSSDC for permanent archiving, copies of the same publicly released data that will be served on-line through IRSA.

4. Responsibilities of NSSDC

NSSDC receives NASA/SMD-sanctioned IR and sub-millimeter data and supporting material from IRSA, from NSSDC-as-active-archive and/or from individual missions and ensures their long-term preservation against both media deterioration and technology obsolescence. The NSSDC permanent archive is not externally electronically accessible. NSSDC assumes (and the active archive ensures) the correctness of the data and supporting material.

NSSDC provides back to IRSA at its request copies of data and/or supporting material at the file level or at the media volume level, according to the level of file/media inventory information provided by IRSA or projects initially.

Upon request from IRSA, 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 report usage statistics to IRSA every six months.

NSSDC will point to IRSA from its high level, astrophysics-relevant web pages as the source of relevant infrared and sub-millimeter data for researchers and the general public.

5. Pre-IRSA infrared and sub-millimeter data at NSSDC

As resources permit, NSSDC and IRSA will work together, along with the research community and with NASA/SMD to determine the best disposition of infrared data that pre-date IRSA. Options are to upgrade to network accessibility from IRSA, to retain only in the NSSDC permanent archive, or to drop support.