

Preparing an NSF Data Management & Sharing Plan (DMSP)

Last updated: July 2026

Important Policy Changes

NSF has updated its Data Sharing Policy ([PAPPG 24-1 Supplement 2](#)). These changes apply to any award issued on or after January 22, 2026.

1. Share more than just data

NSF now expects you to make all research outputs publicly available — samples, physical collections, software, inventions, curriculum materials, code, etc. Use permissive licenses so others can reuse your work.

2. When to share your data (and other research outputs)

NSF expects investigators to publicly share data, samples, physical collections, software, inventions, curriculum materials, and other project outputs within a reasonable timeframe and at no more than incremental cost. At a minimum, data supporting an NSF-funded publication must be shared at the time of publication. Any exceptions must be justified in the DMSP.

3. Use NSF's new required online tool to create your DMSP

Previously, DMSPs were submitted as a 2-page PDF. Now, NSF requires submitters to fill out their Research.gov DMSP webform that launched April 27, 2026. The form is directorate specific, so the version you see depends on your field. View their guidance [here](#).

What is a DMSP and why does it matter?

A Data Management and Sharing Plan (DMSP) tells NSF how you will handle, store, and share the data you collect. It's reviewed as part of your proposal and can affect your funding. The plan must be submitted via Research.gov and should address these areas:

- Types of data you'll produce
- Standards you'll use for formatting and documenting data
- Who can access the data and any limitations on sharing
- How others can reuse or redistribute the data
- Where, when, and how long you'll archive the data

NSF offers DMSP guidance specific to some directorates, offices, divisions, and programs:

- [Biological Sciences \(BIO\)](#)
- [Engineering \(ENG\)](#)
- [Geosciences \(GEO\)](#)
- [Mathematical and Physical Sciences \(MPS\)](#)
- [Office of Polar Programs \(OPP\)](#)
- [Social, Behavioral and Economic Sciences \(SBE\)](#)
- [STEM Education \(EDU\)](#)
- [Designing Materials to Revolutionize and Engineer our Future \(DMREF\)](#)

If guidance specific to a directorate, division, or program is not provided: follow the general requirements detailed in [PAPPG NSF 24-1](#)

Want feedback before submitting? Use the new NSF template in [DMPTool](#) to draft and send to us for review, or email dla@whoi.edu.

Filling Out the New Research.gov Form

You'll fill out the Research.gov form for the primary Directorate you're applying to. The form is organized around "Data or Research Product Categories" that group your data by type into up to four categories. It's sufficient to list high-level categories that group several data types together. Each category will need its own entry.

The form is made up of eight sections. You'll fill these out for each Data or Research Product Category. For some Directorates, there will be predefined options, but for others you must add your own. Below, you'll find guidance for each section, including brief instructions on how to answer each field and examples.

Section 1: Data or Research Product Category

NSF Form Field: Data or Research Product Category Title

What to do: Try to pick the closest option from the dropdown. If none fit, use "Add New" and write a clear, descriptive title. This selection will determine the options displayed in the later "Data Standards and Metadata" and "Public Archiving" sections.

Example Research Product Categories

Shipboard sensor data
Physical samples (water, sediment, rock, biological specimens)
Imagery and video data
Model outputs and simulations
Derived/processed data products
Code and analysis scripts

NSF Form Field: Description of Data or Research Product Category

What to do: Write 2-4 sentences describing what the data is, how it will be collected or generated, and approximate size if known. Use standard terminology and language for your field in these descriptions.

Example Description

Continuous physical oceanographic measurements collected underway and at stations using a CTD rosette system, including temperature, salinity, dissolved oxygen, and fluorescence profiles, along with underway meteorological data (wind speed/direction, air temperature, barometric pressure). Approximately 50–80 CTD casts are expected over the cruise period, generating an estimated 2–5 GB of raw and processed data. CTD data will be recorded in the Sea-Bird.cnv format.

Section 2: Access Policies and Limitations

NSF requires you to share your data publicly. This section is where you declare any exceptions — reasons why certain data cannot or should not be shared. If you have data that cannot be shared publicly:

- You can have up to six exceptions. Select each one that applies to your data
- Consider any directorate-specific guidance regarding the exceptions
- You must enter an explanation and justification of each exception in the text box that appears below the dropdown

NSF Form Field — Access Limitation(s)/Exception(s)

What to do: If all your data will be shared openly, select “Not Applicable”. If some data can’t be shared, select all exceptions that apply and complete the written explanation below each selection. If the selection you need isn’t listed, select “Add New”. See available exception categories below.

Example Explanation

The high-resolution bathymetric and acoustic data cannot be shared because it poses a dual-use risk to national security by exposing sensitive undersea navigation. Instead, we’ll keep the raw data in a secure repository and make it available to qualified researchers only through a restricted-use agreement.

Exception Category	What It Actually Means
Data Sovereignty	Data collected from or about Indigenous communities (e.g., tribal lands, Native species with cultural significance). May be governed by tribal agreements.
Dual Use Concerns	Any of a set of considerations related to the potential misuse of shared data for purposes that might harm individual human rights or national interest.
Human Data Protection	Data involving human subjects that require additional consideration of their privacy and rights. Examples: surveys, health information, identifiable personal data.
Legal Considerations	A contract, law, or regulation prevents sharing, e.g., a non-disclosure agreement, HIPAA data, or international treaties.
National Competitiveness	Sharing would harm US national security or economic interests.
Natural Resource Protection	Sharing location or similar data could harm critical natural resources such as ecosystems or endangered species. Example: precise coordinates of endangered coral populations or rare species nesting sites.
Resource Limitations	Sharing is too expensive or technically impractical because of things like computing costs and lack of personnel. Use sparingly and include thorough justification.

Section 3: Data Standards and Metadata

Metadata is the description of your data — what it is, how it was collected, what the units are, who collected it, and when. A metadata standard is an established guideline or framework that defines how the metadata is structured, formatted, and shared across different systems.

Example

A CSV file of temperature readings is your data. The metadata — whether in an accompanying file or embedded in the data itself — tells you: sea surface temperatures in °C, measured by a thermosalinograph on R/V Atlantis in the North Atlantic, August 2024. The standard followed is ISO 19115-2.

A few commonly used standards are NetCDF CF Conventions, ACDD, Darwin Core, ISO 19115-2, IOOS DMAC, and SeaBASS.

Not sure which standard to use? Contact the DLA at dl@whoi.edu or check with your target repository. Search the [RDA Metadata Standards Directory](#).

NSF Form Field — Data/Metadata Standard

Note: the dropdown options shown here depend on which Data Category you selected in Section 1.

What to do: Select the data/metadata standard for this category. Check what your repository requires first because they often specify a standard. If no standard exists for your data type, use “Add New”.

Section 4: Data or Research Product Provenance

What is provenance?

Provenance is where your data came from. Did you collect it? Reuse an existing dataset? Pull from a large database?

NSF Form Field — Data Source

What to do: Select the option that best fits your data source, or “add new” if none fit. If data is coming from an existing resource, you must indicate this. The options to choose from are:

- New data collection: collected or generated during the project
- Existing dataset: reusing data already collected and shared. Example: data published by a colleague in 2024
- Existing data resource: data downloaded from a large established database like World Ocean Atlas, NCEI, etc.

Section 5: Public Archiving

Not sure where to archive your data?

The first thing to know is whether your Directorate or Program requires deposit in a specific repository. Some have designated repositories where your data must be shared, and you should follow that guidance.

If yours does not specify a repository, you should select data repository that adheres to FAIR principles, and which can provide a plan for long-term preservation. Below is a non-exhaustive list of data repositories that are commonly used in the WHOI community, some of which are the designated repositories for funders:

- [BCO-DMO](#)
- [WHOI's Dataverse](#)
- [National Centers for Environmental Information](#)
- [CLIVAR and Carbon Hydrographic Data Office \(CCHDO\)](#)
- [Arctic Data Center](#)
- [Interdisciplinary Earth Data Alliance](#)

There are many other options out there! [re3data.org](#) is a registry of data repositories that can help you sort through them. The DLA is also happy to help: dla@whoi.edu.

NSF Form Field — Data Sharing Location

What to do: Specify the repository (or repositories) where your data will be made publicly available. Some directorates and programs require a specific repository. If yours doesn't, choose the repository most appropriate for your data type. If your repository isn't listed, use “Add New”.

Section 6: Timeline for Public Accessibility

When does NSF expect data to be shared publicly?

Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF awards. At a minimum, data supporting NSF-funded publications must be shared at the time of publication.

NSF Form Field — Data Sharing Timeline

What to do: Select when the data will be shared publicly or choose “Not Applicable” if it will not be shared.

Note: “Not Applicable” requires a justified exception in Section 2.

Section 7: Data Availability

NSF Form Field — Data Availability Period

What to do: Specify how long the data will remain available. Select the longest period that applies or select “Add New” if the duration isn’t listed. Check your repository’s retention policies to confirm. If you select “Less than 2 years”, you must provide written justification.

Section 8: Accountability

NSF Form Field — Responsible Personnel

What to do: Select the PI or Co-PI from the dropdown. Only PI and Co-PI names listed in Research.gov will appear. You can add personnel from the “Manage Personnel and Subaward Organizations” page to populate the dropdown. For separately submitted collaborative proposals, non-lead proposals must be linked for the personnel to display in the dropdown.

Questions? Get Help.

WHOI Data Library & Archives (DLA)

dla@whoi.edu

Data management plans, repository selection, DOIs, metadata standards, general DMSP questions, and much more