

TIGER TIPS

RESOURCES FOR AUBURN RESEARCHERS

Data Management Plans

Researchers are increasingly required to provide timely access to data generated during the course of sponsored projects. The National Science Foundation is the first federal sponsor to mandate inclusion of a Data Management Plan (DMP) as part of the grant application materials subject to panel review. The NSF policy states:

“Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical conditions and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing.”

The National Institutes of Health require data sharing plans in investigator-initiated applications with direct costs of \$500,000 or more in any single year, and may also specify a need to include plans in responses to specific Funding Opportunity Announcements.

The following information is provided to assist researchers in the development of DMPs:

Many topic-oriented data repositories are available nationally and internationally, and also may serve to meet needs to store and make your data accessible to other researchers. See, for example, the resources compiled by the [Duke University Libraries](#) the [MIT Libraries](#), and the [Open Access Directory](#).

Other resources to assist faculty in the development of DMPs include:

- Compiled information and instructions on DMPs from the [NSF Grant Proposal Guide](#) (see below)
- [NSF Requirements by Directorate, Office, Division, Program, or other NSF Unit](#)
- [NSF Data Management & Sharing Frequently Asked Questions \(FAQs\)](#)
- Creating Data Management Plans for NSF proposals: Template (see below)
- [Data Management and Publishing \(MIT Libraries\)](#) is an excellent resource
- [NIH Data Sharing Policy Information and Resources](#)

Compiled DMP information and instructions (from the Grant Proposal Guide)

- All proposals must describe plans for data management and sharing of the products of research (including preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products), or assert the absence of the need for such plans.
- A valid Data Management Plan may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification.
- Proposals for supplementary support to an existing award are not required to include a Data Management Plan.
- DMP should be no more than 2-pages in length, and be labeled “Data Management Plan.”
- Proposers who feel that the plan cannot fit within the supplement limit of two pages may use part of the 15-page Project Description for additional data management information. Proposers are advised that the Data Management Plan may not be used to circumvent the 15-page Project Description limitation.
- DMP should be included in the Special Information and Supplementary Documentation section of the proposal (see GPG Chapter II.C.2.j.).
- Simultaneously submitted collaborative proposals and proposals that include subawards are a single unified project and should include only one supplemental combined Data Management Plan, regardless of the number of non-lead collaborative proposals or subawards included. Fastlane will not permit submission of a proposal that is missing a Data Management Plan. See GPG Chapter II.C.2.j. for additional guidance on data management plan requirements for collaborative proposals.
- The proposal budget may request funds for the costs of documenting, preparing, publishing or otherwise making available to others the findings and products of the work conducted under the grant. This generally includes the following types of activities: reports, reprints, page charges or other journal costs (except costs for prior or early publication); necessary illustrations; cleanup, documentation, storage and indexing of data and databases; development, documentation and debugging of software; and storage, preservation, documentation, indexing, etc., of physical specimens, collections, or fabricated items. Additional information on charging publication/documentation/ dissemination costs to an NSF award is available in the Award and Administration Guide, Chapter V.B.7.
- The Data Management Plan will be reviewed as an integral part of the proposal, coming under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of relevance.

Data Management Plan Content:

The DMP should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results (see below), and may include:

1. the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
2. the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
3. policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
4. policies and provisions for re-use, re-distribution, and the production of derivatives; and
5. plans for archiving data, samples, and other research products, and for preservation of access to them.

Data management requirements and plans specific to the Directorate, Office, Division, Program, or other relevant NSF unit, are available at: <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>. If guidance specific to the program is not available, then the requirements established in this section apply.

NSF Policy on Dissemination and Sharing of Research Results:

- a. Investigators are expected to promptly prepare and submit for publication, with authorship that accurately reflects the contributions of those involved, all significant findings from work conducted under NSF grants. Grantees are expected to permit and encourage such publication by those actually performing that work, unless a grantee intends to publish or disseminate such findings itself.
- b. 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 grants. Grantees are expected to encourage and facilitate such sharing. Privileged or confidential information should be released only in a form that protects the privacy of individuals and subjects involved. General adjustments and, where essential, exceptions to this sharing expectation may be specified by the funding NSF Program or Division/Office for a particular field or discipline to safeguard the rights of individuals and subjects, the validity of results, or the integrity of collections or to accommodate the legitimate interest of investigators. A grantee or investigator also may request a particular adjustment or exception from the cognizant NSF Program Officer.
- c. Investigators and grantees are encouraged to share software and inventions created under the grant or otherwise make them or their products widely available and usable.

d. NSF normally allows grantees to retain principal legal rights to intellectual property developed under NSF grants to provide incentives for development and dissemination of inventions, software and publications that can enhance their usefulness, accessibility and upkeep. Such incentives do not, however, reduce the responsibility that investigators and organizations have as members of the scientific and engineering community, to make results, data and collections available to other researchers.

e. NSF program management will implement these policies for dissemination and sharing of research results, in ways appropriate to field and circumstances, through the proposal review process; through award negotiations and conditions; and through appropriate support and incentives for data cleanup, documentation, dissemination, storage and the like.

Creating Data Management Plans for NSF Proposals: Template (Note: 2-page limit)

1. Description of the project

Suggested practice:

- Describe the purpose of the research.
- Describe the organizations and staff involved.
- Describe data management responsibilities: i.e., which persons will actually be responsible for ensuring data management; how will compliance with this plan be monitored and ensured over time?

2. The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project

Suggested practice:

- Describe the materials to be produced in the course of the proposed project.
- Describe what raw data will be generated, and what processed data will be generated.
- Indicate which will be shared and at what stage (raw, processed, analyzed).
- Describe who is expected to use the (shared) data, and why the materials are of interest to a broader community (impact).

3. The standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies)

Suggested practice:

- Identify the [formats](#) of data files created over the course of the project.
- Select file formats for sharing that maximize the potential for reuse and longevity, and describe plans for conversion to those formats, if necessary.
- Identify [metadata](#) standards to be used, who will create metadata and at what stage.

4. Plans for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements

Suggested practice:

- Plans for short-term storage and data management: e.g., [file formats](#), [local storage and back up procedures](#), and practices that will be used to maximize security and protect privacy, if applicable.
- [Legal and ethical issues](#): e.g., intellectual property, confidentiality of study participants.
- NSF recognizes that legal and ethical requirements may preclude sharing of some kinds of data. Trade secrets and commercial information are also not subject to the data sharing requirement.

5. Policies and provisions for re-use, re-distribution, and the production of derivatives

Suggested practice:

- Describe usage rights, licenses, or other policies related to re-use and redistribution of data. How will you make it available to others, any restrictions needed, etcetera.

6. Plans for archiving data, samples, and other research products, and for preservation of access to them

Suggested practice:

- Describe means by which you will provide access to data and applicable time frame.
- Provisions for long-term archiving and preservation, if different from above, e.g., in a data [archive](#).