

NSF Data Management Plan

Beginning January 18, 2011, all proposals submitted to NSF must include a **supplementary document** of no more than two pages labeled “Data Management Plan” ([see NSF policy announcement](#)). This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. **Proposals that do not include a data management plan will be returned.**

NSF Data Sharing Policy

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.

Overview of Data Management Plan

- **Size limitation:** no more than two pages. If more space is needed than the 2 pages, part of the 15-page narrative can be used for data management. Proposers are warned not to use the Data Management Plan to circumvent the 15-page narrative limit.
- **Sub-awards or collaborative proposals:** If more than one institution is participating in a submission, only one data management plan should be submitted.
- **Basic Template in Grant Proposal Guide (GPG)**—Second bullet on page 45 of the PDF version of the new GPG (http://www.nsf.gov/pubs/policydocs/pappguide/nsf11001/nsf11_1.pdf)
 - The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
 - 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);
 - Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
 - Policies and provisions for re-use, re-distribution, and the production of derivatives;
 - Plans for archiving data, samples, and other research products, and for preservation of access to them.
- **Research that does not require data management:** A Data management Plan may include only the statement that no detailed plan is needed, as long as that statement is clearly justified.

Directorate Specific Templates

Engineering Directorate (http://nsf.gov/eng/general/ENG_DMP_Policy.pdf)

The Engineering Directorate first talks about the kind of data that should be archived and made available—analyzed data and metadata. OMB has said that the **following data are not included:** “preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. “ Raw data are considered preliminary analyses. The Data Management Plan for projects involving proprietary information that may lead to commercialization should discuss conditions that might prevent or delay data sharing and the difference between released

and restricted data. Engineering tells PI's to contact the program officer if they anticipate having exceptions to the standard data-management policies. Engineering recommends that the Data Management Plan should have the following structure:

1. Expected Data—the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project. The Plan should also describe the types of data to be retained.
2. Period of Data Retention—minimum of three years after conclusion of the award or three years after public release, whichever is later. Data involving patents should be retained for the entire term of the patent, and the document describes other circumstances where data should be retained for longer periods of time.
3. Data Formats and Dissemination—specific data formats, media, and dissemination approaches to make data, including metadata, available. This section should include the items in the General GPG template above, Number 3.
4. Data Storing and Preservation of Access—physical and cyber resources and facilities that will be used for the effective preservation and storage of research data.

Geosciences Directorate

Division of Earth Sciences (http://www.nsf.gov/geo/ear/2010EAR_data_policy_9_28_10.pdf)

The Division does not put forward a separate template for the Data Management Plan, but it does outline NSF's expectations:

1. Preserving all data, samples, and physical collections, and other supporting materials
2. Providing accessible information in data archives about the holdings and how to locate and obtain data
3. Making results, data, derived data products, and collections available to the research community in timely manner and at a reasonable cost
4. Making data available for secondary use through submission to a national data center, journal or book publication, a website, or through the institutional archives that are standard for a particular discipline (e.g., IRIS)
5. Making data openly available as soon as possible but no later than two years after the data were collected. Extensions of this period must be negotiated between the PI and NSF.
6. Publishing data inventories in a public database periodically and when there are changes in type, location, or frequency
7. Adopting more stringent data submission procedures if needed, in consultation with NSF and other funders

Two other Programs in the Geosciences Directorate provide detailed information on data management policies: the Integrated Ocean Drilling Program

(http://www.nsf.gov/bfa/dias/policy/dmpdocs/geo_iod.pdf) and the Division of Ocean Sciences (<http://www.nsf.gov/pubs/2004/nsf04004/start.htm>)

Mathematical and Physical Sciences Directorate

The Divisions of Astronomical Sciences (<http://www.nsf.gov/bfa/dias/policy/dmpdocs/ast.pdf>) and Chemistry (<http://www.nsf.gov/bfa/dias/policy/dmpdocs/che.pdf>) give advice to PI's and provide a

template for the Data Management Plan, which follows the order of the GPG but has slightly different wording. The Plan should include the following:

1. Products of the Research
2. Data Format
3. Access to Data and Data Sharing Practices and Policies
4. Policies for Re-Use, Re-Distribution, and Production of Derivatives
5. Archiving of Data

The Division of Materials Research (<http://www.nsf.gov/bfa/dias/policy/dmpdocs/dmr.pdf>), Division of Mathematical Sciences (<http://www.nsf.gov/bfa/dias/policy/dmpdocs/dms.pdf>), and Division of Physics (<http://www.nsf.gov/bfa/dias/policy/dmpdocs/phy.pdf>) give general policies and some recommendations to their PI's, but no Data Management Plan template.

Social, Behavioral, and Economic Sciences Directorate
(http://www.nsf.gov/sbe/SBE_DataMgmtPlanPolicy.pdf)

The Directorate gives a general rationale for the Data Management Plan requirement and recommends the following template:

1. Expected data (both what types of data will be generated through the project and which types of data will be retained). PI's are asked to consider such things as (a) the types of data that may be generated and then shared and under what conditions data will be shared; (b) how data are to be managed and retained; (c) factors that might impinge on PI's ability to manage data; (d) the lowest level of aggregated data that PI's might share with others in the scientific community, given that community's norms on data; (e) the mechanism for sharing data; and (f) other types of information that should be maintained and shared regarding data, e.g., the way it was generated and analyzed and the metadata.
2. Period of data retention—timely access strongly recommended
3. Data formats and dissemination
4. Data storage and preservation of access
5. Additional possible data management requirements