

Writing an NSF Data Management Plan

Below are questions for MIT prospective NSF awardees to consider when drafting an NSF Data Management Plan according to the general NSF requirements. Keep in mind that your particular NSF division or unit may have its own guidelines.

For more information, consult the [Data Management and Publishing Guide](#).

1. Types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project

- What type of experiment or research produced this data?
- What type of and how much data will be generated for this research?
- How and when will the data be collected?
- Are you using data that someone else produced? If so, where is it from and why was it chosen for this research?
- What software is required to read or view the data?

2. 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)

- What file formats will be used?
 - Are you using a format(s) that is standard to your field? If not, how will you document the alternative(s) you are using?
 - Do these formats conform to an open standard and/or are they proprietary?
- What metadata will you be creating in order to make the data understandable by other researchers?
 - Are you using a metadata standard(s)? If not, how will you document the alternative(s) you are using?
 - How will the metadata be generated (e.g., automatically or manually)?
 - How will the metadata be managed and stored?
 - What unique data identifiers will be used?
 - What (if any) naming conventions will be employed?

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

- What data will be shared, when and how?
- Will there be any embargoes on the data (if applicable)?
- Who holds intellectual property rights for the data and other information created by the project?
 - Will any copyrighted or licensed material be used? If so, can/will the project obtain permission to use/disseminate this material?
 - Are there any patent- or technology licensing-related restrictions on data sharing associated with this grant? (The TLO can provide this information)
- Does sharing the data raise privacy, ethical, or confidentiality concerns and, if so, how will they be addressed?
 - Have you allowed for the ultimate sharing of (anonymized) data in your informed consent process?
 - Does the data have to be protected (e.g., access restricted to only certain authorized users) and, if so, what is your plan for protection (e.g., for financial or personal data)?

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

- How will you make the data available for re-use?
 - Will you permit reuse, redistribution, or the creation of new tools, services, data sets, or products (derivatives), and will commercial use be allowed?
 - Could a licensing approach or particularly a Creative Commons License serve your goals for encouraging, simplifying, and setting parameters for reuse?

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

- Will you be archiving the data?
 - If so, will you be storing it in an archive or repository for long-term access? Is a discipline specific repository available? If not you could consider depositing your data into DSpace@MIT. Please contact the MIT Libraries at data-management@mit.edu if you are interested in using DSpace@MIT to store your data.
 - If not, how will you preserve access to the data?
- What transformations will be necessary to prepare data for preservation/data sharing? (e.g., data cleaning, anonymization, converting your data to more stable file formats)
- Are software or tools needed to utilize the data? Will these be archived?

For help on writing your data management plan, or data management issues in general, contact data-management@mit.edu.