

## Data Management Plans

Many external funding agencies now require data management or data sharing plans as part of the grant proposal. Although ISU does not have any official policies on data sharing or data management, we have put together the following information to help you with this new requirement.

Data management plans (DMP) are a useful tool to help organize your research work. These plans specify the data you intend to collect, how they will be shared amongst collaborators, and how they will be archived for access by future researchers. Having a plan before work begins ensures that everyone on the research team follows the same guidelines and understands the degree to which data will be shared. The plan also demonstrates to the funding agency that the data will be preserved and accessible after funding has ended, yielding a long-term benefit beyond peer-reviewed publications.

If you are conducting research without external funding, a DMP is not required but still may be a helpful tool for managing your data.

### Step 1: Choose the Template

The expected format and content of DMPs will vary by funding agency, discipline, and research theme. To ensure you include all the required information in your plan, we recommend you use an online resource such as **DMPTool** which provides templates for data management plans, both generic and agency-specific. Some funding agencies also have templates you can use, but, again, these are on the DMPTool.

**DMPTool** (<https://dmptool.org/>) is a free, open-source, online application that helps researchers create data management plans. The DMPTool provides a click-through wizard for creating a DMP that complies with funder requirements. It also has direct links to funder websites, help text for answering questions, and resources for best practices surrounding data management.

### Step 2: Complete the Template

For illustrative purposes, the sections of the generic DMP from DMPTools are shown below. If you use this online tool you will find questions and explanations of the sort of information needed for each step. If you choose an agency-specific template, it will have many of the same sections and questions.

#### COLLABORATORS

Who are the members of your research team? Who will be responsible for what? Who will be listed as owners of the data or authors of publications?

#### WRITE A PLAN

Data collection - What data will you collect or create? How will the data be collected or created?

Documentation and Metadata - What documentation and metadata will accompany the data?

Ethics and Legal Compliance - How will you manage any ethical issues? How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

Selection and Preservation - Which data are of long-term value and should be retained, shared, and/or preserved?

Data Sharing - How will you share the data? Are any restrictions on data sharing required?

Storage and Backup - How will the data be stored and backed up during the research? After the research is completed?

Security - How will you manage access and security?

Responsibilities and Resources - Who will be responsible for data management? What resources will you require to deliver your plan?

## RESEARCH OUTPUTS

Type – audiovisual, collection, data paper, dataset, event, image, interactive resources, model representation, physical object, service, software, sound, text, workflow, other

Intended repository – we strongly encourage our researchers to utilize a national- or discipline-specific repository for long-term data storage. Many disciplines have repositories, as do some funding agencies. DMPTool provides a search function to help you find a repository in your field. At this time ISU does not have an institutional data repository, so researchers who are unable to find a repository beyond ISU will sometimes use BOX. Keep in mind, data stored in BOX is not accessible by those outside ISU. For it to be shared, you will need to provide the data to those who request it.

Metadata standards -- implement a national standard and specify a common standard across all parts of the project, if at all possible. Describe data formats (.xlxs, vector/raster, etc.).

### **Step 3 Implement the DMP**

When the research commences, you can implement the sections of your plan to ensure appropriate data gathering, storage, and sharing for all members of the research team. When you have finished the project, store the data and make it accessible as described in your plan.