

Writing a Research Data Management Plan

1. Writing a Research Data Management Plan

1.1 Start

Research Data Management Planning

To begin, click the START button.

1.2 Introduction

Welcome to *Writing a Research Data Management Plan* Tutorial!

You can listen to or view the contents of this tutorial on the menu on the left side.

To navigate forward click the NEXT button located in the bottom right hand corner of this screen.

To utilize closed-captioning, click the caption icon to the left of the scrollbar, next to the volume icon. Once enabled, captioning will continue until it is disabled.

1.3 Learning Outcomes

This is an introduction to understanding the process of creating a brief but thorough data management plan.

After completing this tutorial :

- **You will be able to understand why preparing a RDMP is important and know more about some of the major components of your documentation.**
- **We will also discuss the importance of planning for metadata creation and for establishing policies on access, sharing and reuse of your data.**
You will also learn how to document your plan for the long-term storage and management of your data and incorporating a budget.
You will learn how the DMPTool can be used to simplify the process of writing your plan.

1.4 Research Data Management

Creating a data management plan is not just about fulfilling funding agency requirements it's about making your work reusable and verifiable.

Following the Research Data Management Basics tutorial this lesson walks you through the process of writing a research data management and sharing plan.

A Research Data Management Plan, which we will call an R.D.M.P. for short is not just about storing and preserving data. Think of it as a sharing plan. It's about making decisions about what you share so that future researchers will have outcomes consistent with your work.

A RDMP outlines what you will do with your data during and after you complete your research project. It is a formal (but evolving) document in which you lay out a method to ensure that your data will be available and preserved for present and

future uses.

1.5 Why Prepare a DMP?

The main purpose of writing a data management plan is to save you time, improve your research efficiency, and increase visibility of your work. Deciding how you will organize and describe your data early will allow you to devote more time to your research and less time on fixing problems, especially if they are not realized until late in the project phase where the stakes and time needed to repair data issues are higher.

A thorough RDMP will make it easier to share your data and get credit for your work.

Data management plans are important because most funding agencies require them and therefore an improperly prepared plan can hamper your ability to meet compliance standards and secure grant awards.

1.6 Components of a data management plan

Click on the description of each main component of a data management plan to find out more about it.

When you have completed each section, click the “Next” button to proceed.

1.7 Data and Data Formats

The first part of an RDMP includes a description of the data to be collected, followed by how the data will be processed and which data formats will be used.

Describe in detail what types of data will be collected and the process you will use to gather the data such as special instruments, software, and procedures.

Clearly indicate the file formats you will use, and consider migrating proprietary or unique file formats into more widely accepted formats such as rich text format, pdf, csv and others so that the files can be widely read, shared and will also be able to be digitally preserved longer.

Include any procedures to process the data after collection.

Finally, incorporate some steps in your plan to ensure quality control of your data and its collection.

1.8 Metadata

Next indicate your metadata strategy

Metadata is simply consistent information that describes, identifies and provides the necessary contextual understanding of your data so that it can be understood and used by others. This can include descriptive information such as the file naming standards, object dimensions, and other physical or organizational descriptions of the files or data. It can also include information about the ownership and custodial management of the data.

1.9 Metadata file naming

Look at the data you will collect and determine what information you need to capture or record in order for your team and others to properly understand, reuse, or potentially reproduce your results.

For example, if part of your data set included brain scans captured in a sequence to show changes over time, you will want to establish a simple sequential file-naming system so that your team can quickly determine where certain images fall in line in that sequence and provide a reference point. You may also want to include the date of capture, camera equipment used, image resolution, image ownership information, and other important details that better explain the images and provide context to the file.

1.10 Metadata standards

Your project and area of research will inform what types of metadata standards you will use. There is not a “one-size fits all” schema or standard for every project. However, there may be a metadata standard that is commonly used in your area of study. ASU librarians are available to help you identify if a standard exists.

This portion shows the funder that you are creating a consistent plan throughout the project which may be more important than conforming to a specific standard.

Ask an ASU librarian if you have any questions about how to create and organize metadata for your project or about specific metadata standards. Request a consultation at: lib.asu.edu/research and select the “contact us” link.

1.11 Policies for Access, Sharing, and Reuse

This section addresses ethical and privacy issues associated with access, sharing and reuse of your data as prescribed by your funder, publisher and institutional policies.

Your professional community may have requirements and ethical standards but you will also need to review your funder documentation, institutional policies, and publisher data sharing requirements to ensure you do not have any conflicting legal obligations between these interested parties.

1.12 Property or copyright issues

With this information you will address any intellectual property or copyright issues:

- including defining who owns the copyright to your data? This could be important to clarify and understand early as Institutions and/or funding agencies often have a policy for intellectual property and copyright.**
- stipulate an embargo on your data due to patents, or journal requirements.**
- contact the ASU Library if you would need help determining an appropriate license for your data at lib.asu.edu/research.**

1.13 Policies for sharing strategies

You will also want to indicate and describe policies that inform the sharing strategy including:

- When will access be granted to interested users?**
- Who will have access to the data?**
- How will they gain access?**

Finally, indicate if you or your team will require notification of request for access to your data before making available for reuse.

Important Tip:

If your data involves human subjects, endangered species, or locations of sensitive habitats, you may need special considerations for data sharing. ASU's Office of Research Integrity and Assurance is available to assist in adhering to government and university regulations.

1.14 Transformation and formats

Describe what data transformations and formats need to be preserved to ensure future usability of your data. Indicate if it will be collected in proprietary software files, and needs conversion to a more common or open format for long-term accessibility.

- Contact the data repository you will use early in the project on recommended or required data formats. This will save time later.

Identify the appropriate contact information for the data center

- This is especially important if there are restrictions on data use and users are required to contact the data collector before reusing data.

1.15 BUDGET

Include any costs that may be incurred such as:

- Salary for assistants to prepare and document your data

- **Costs of hardware or software to process the data**
- **Costs required to store and archive as indicated earlier in your plan.**

Identify how these anticipated costs will be covered and note them within this section.

Depending on the source they may be included in your overall funding request.

For help budgeting research data storage and processing, contact ASU Research Computing

1.16 Storage Plan Description

- **Describe your long-term storage strategy.**
Describe what data will be preserved.
Not all of your data needs to be kept for extended lengths of time. In general, any raw data or products that were particularly expensive to obtain, time consuming, or otherwise difficult to replace should be preserved.
- **Identify *where* you will *archive* your data**
Search the Registry of Research Data Repositories (re3data.org) to find out a data repositories used in your discipline. Or ask an ASU Librarian for help.
Provide the name, link, and brief description of the archival services.
Depositing your data in a data center or research data repository is recommended to improve the discoverability of your data and your data is typically sustained longer in a research repository rather than a lab or personal website.

1.17 Resource for writing your plan:

Although, we have shown you lots of parts, writing your data management plan should not be difficult once you think through and align these steps with your funding or publisher requirements.

Data management plans are typically less than two pages and there are many examples of previously written plans you could use to serve as guides.

Consider using the DMPTool, a data management step by step guide and checklist, that covers the essential elements of a RDMP with funder based templates.

Go to dmptool.org

- Check out their [Quick Start Guide](#) for an overview
- When ready to login select Arizona State University in the institution drop down list
- Follow the steps as outlined to complete the framework of your DMP

1.18 More Information

For further information on data management topics, we suggest:

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- The Data One organization education modules on research data management
The Data Curation Centre
The Data Preparation Guide from the Inter-university Consortium of Political and Social Research (ICPSR)
And finally the ASU Library's Guide on Research Data Management

1.19 Where Can I get help?

To request a consultation and get answers to other questions related to research project support, please visit the ASU Library Research and Publication Services page at lib.asu.edu/research.

The ASU Library can assist you in ensuring your research is accessible and reusable.

1.20 Learning Outcomes

- **Now that you have completed this tutorial:**
You should have a better understanding of why preparing a RDMP is important and know more about some of the major components of your documentation.
- **We will also discuss the importance of planning for metadata creation and for establishing policies on access, sharing and reuse of your data.**
- **You will also learn how to document your plan for the long-term storage and management of your data and incorporating a budget.**
- **You will learn how the DMPTool can be used to simplify the process of writing your plan.**

1.21 Congratulations!

Congratulations! you've completed the *Writing a Research Data Management Plan* tutorial!

If you are interested in taking a short assessment on the information presented please click the "Quiz" link.