



# Creating Research Data Management Plans Using DMPTool

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# GOALS FOR TODAY

1. Understand the basic principles of research data management;
2. Be aware of data management planning tools, support and guidance which are available to academic researchers;
3. Be able to use DMPTool to develop a data management plan, and maintain it through the course of your research.

# OVERVIEW

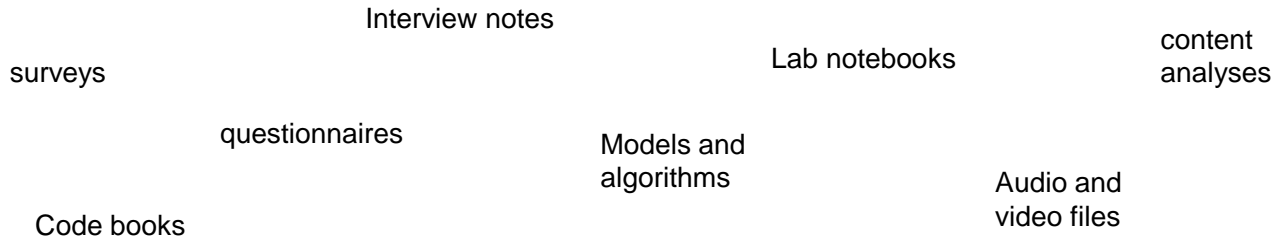
1. Why is data management important?
2. What is a data management plan?
3. Use the DMPTool

# OVERVIEW

1. **Why is data management important?**
2. What is a data management plan (DMP)?
3. The DMPTool

# WHAT IS RESEARCH DATA?

- ❑ Research Data is recorded, factual material commonly accepted in the scientific community as necessary to validate research findings (Awasthi & Tripathi, 2019)



# RESEARCH SCENARIO

- ❑ You have achieved global recognition with your groundbreaking study on genetic mutations and neurological disorders, resulting in two widely-cited papers. However, your life in the scientific community was disrupted three years later when another researcher accused you of data falsification, alleging statistical improbabilities and missing critical details in your research.

# WHAT IS RESEARCH DATA MANAGEMENT

- ❑ Research data management (RDM) is about handling research data effectively and appropriately throughout **the life of a research project and beyond**.
- ❑ RDM refers to all aspects of creating, storing, sharing and archiving data and is an essential aspect of conducting responsible research.

# WHY IS DATA MANAGEMENT IMPORTANT?

- ❑ Data management is a set of practices across the research lifecycle

## Mandate

Meet requirements and expectations set by funding agencies, publishers and domain associations

## Facilitate

Ensure that your data is complete, documented, and accessible to you and to future researchers

## Reuse

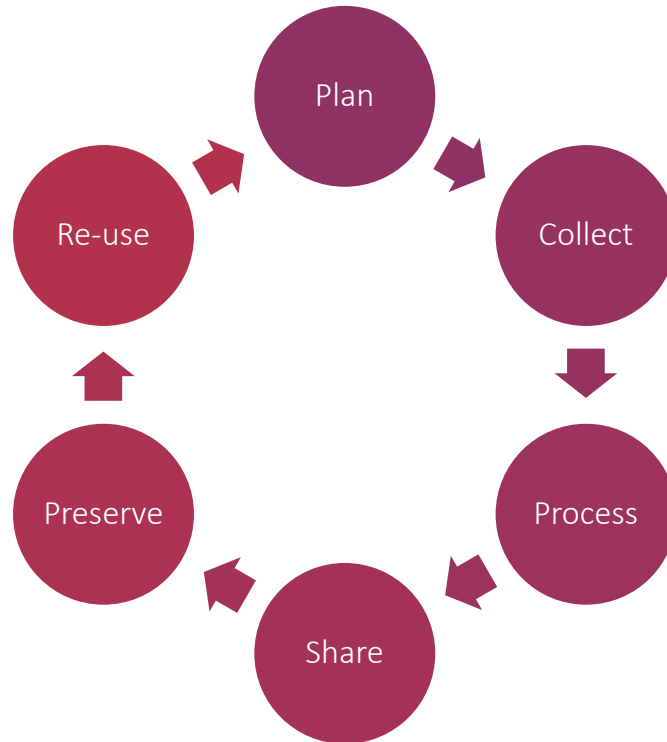
Encourage the discovery and reuse of your data to further discoveries in your field of research

## Impact

Receive credit for your data and increase its impact and visibility



# RESEARCH DATA LIFE CYCLE



# OVERVIEW

1. Why is data management important?
2. **What is a data management plan?**
3. The DMPTool

# DATA MANAGEMENT & SHARING MANDATES

- ✗ Journals – PLOS, Nature, JDAP partners
- ✗ Funders – NSF, NIH...
- ✗ The White House OSTP memo (2003) – Federal agencies with over \$100 million/year in R&D must develop a plan to support public access to research



# START WITH A DMP

- Funder requirements
- Institutional policy
- Mitigate error and loss
- Avoiding unforeseen costs
- Be able to return the data
- Getting a handle on the complexity of data



National  
Science  
Foundation



# COMPONENTS OF A BASIC DMP

1. Describing the Research Data
2. Data Standards and Metadata
3. Ethic Issue and legal Compliance
4. Intellectual Property and Re-use
5. Data Storage and Backup
6. Data Publishing, Sharing, and Preservation

# DESCRIBING THE RESEARCH DATA

- ❑ Give a brief description of the data. Outline and justify your choice of format and consider the implications of data format and data volumes in terms of storage, backup and access.

## **What data will you collect or create?**

- What type, format and volume of data?
- Do your chosen formats and software enable sharing and long-term access to the data?
- Are there any existing data that you can reuse?

## **How will the data be collected or created?**

- What standards or methodologies will you use?
- How will you structure and name your folders and files?
- How will you handle versioning?
- What quality assurance processes will you adopt?

# DATA STANDARDS AND METADATA

- ❑ Describe the types of documentation that will accompany the data to help other users to understand and reuse it.
- ❑ Metadata is the information that describes and documents research data. Metadata will make your datasets searchable in an archive or repository, easily located from a citation, and easily understood by people who might want to use your data.

## **What documentation and metadata will accompany the data?**

- What information is needed for the data to be to be read and interpreted in the future?
- How will you capture / create this documentation and metadata?
- What metadata standards will you use and why?

# ETHICS AND LEGAL COMPLIANCE

- ❑ Ethical issues affect how you store data, who can see/use it and how long it is kept. Managing ethical concerns may include: anonymization of data; referral to departmental or institutional ethics committees; and formal consent agreements.

## **How will you manage any ethical issues?**

- Have you gained consent for data preservation and sharing?
- How will you protect the identity of participants if required?  
e.g. via anonymization
- How will sensitive data be handled to ensure it is stored and transferred securely?

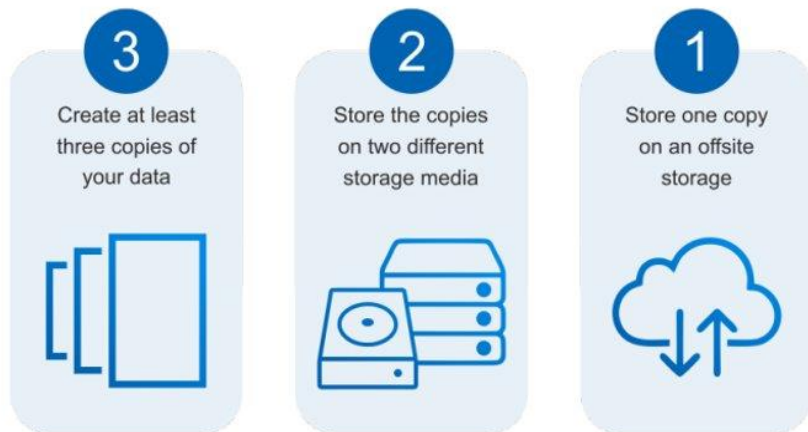


# INTELLECTUAL PROPERTY AND RE-USE

- ❑ State **who** will own the copyright and IPR of any data that you will collect or create, along with the licence(s) for its use and reuse.
- ❑ Consider any **relevant** funder, institutional, departmental or group policies on copyright or IPR.
- ❑ Consider **permissions** to reuse third-party data and any **restrictions** needed on data sharing.

# DATA STORAGE, ACCESS AND BACKUP

- ❑ Consider where data will be stored and backup during the research and how you will control access to the data.
- ❑ Consider how will you manage access and security



 **Handy Backup**

# DATA PUBLISHING, SHARING AND PRESERVING

- ❑ Consider how datasets that have long-term value will be preserved and curated beyond the lifetime of the project.
- ❑ Consider who will be responsible for data management.
- ❑ Consider how people might acknowledge the reuse of your data.
- ❑ Outline the plans for preparing and documenting data for sharing and archiving.

# TXST DATAVERSE REPOSITORY

Data will be published in Texas State University Dataverse Repository under a Creative Commons CC0 public domain dedication, so that others may freely access, use, and build upon the work.

The screenshot shows the Texas State University Dataverse Repository homepage. At the top, there is a navigation bar with the Texas State University logo, the text "Texas Data Repository", and links for Search, About, User Guide, Support, and Log In. Below this, the main header features the Texas State University logo, the text "Texas State University Dataverse Repository", and a link to learn more about Research Data Management services at TXST. A "Texas Data Repository >" link is also present. On the right, there are links for "Contact" and "Share". The main content area displays four featured datasets in a row, each with a circular icon and a title: "Cognitive Electrophysiology Lab", "Dalton & Trujillo (2021)-Brain Sciences", "Building COVID-19 Vaccine Confidence Among Nursing Students and the Community", and "Translational Health Research Center". Below this, there is a search bar with the placeholder text "Search this dataverse..." and a "Q" icon, followed by a link to "Advanced Search". The search results section shows "1 to 10 of 123 Results" and a "Sort" dropdown. The results list includes three entries: "UTC Bio-waste Materials Dataverse (Texas State University)" with a date of Sep 29, 2023 and a description of Sustainable and High-performance Infrastructure (SHI) Lab; "Habitat complexity predicts cognition and behavior in western mosquitofish" with a date of Sep 11, 2023 and a description of Kyndal Irwin Biology Letters Dataverse; and "Kyndal Irwin Biology Letters Dataverse (Texas State University)" with a date of Sep 11, 2023. On the left side of the search results, there are filters for "Dataverses (17)", "Datasets (106)", and "Files (9,879)". Below these, there are filters for "Dataverse Category" (Research Project (10), Laboratory (4), Research Group (3)) and "Publication Year" (2023 (10), 2022 (29), 2021 (19), 2020 (11), 2019 (20)). A "More..." link is also present.

**Texas State University Dataverse Repository**  
(Texas State University)

Search this dataverse... **Q** [Advanced Search](#)

**1 to 10 of 123 Results** **Sort**

- ☒ **Dataverses (17)**
- ☒ **Datasets (106)**
- ☐ **Files (9,879)**

**Dataverse Category**

- Research Project (10)
- Laboratory (4)
- Research Group (3)

**Publication Year**

- 2023 (10)
- 2022 (29)
- 2021 (19)
- 2020 (11)
- 2019 (20)

[More...](#)

**UTC Bio-waste Materials Dataverse** (Texas State University)  
Sep 29, 2023 Sustainable and High-performance Infrastructure (SHI) Lab  
Bio-waste Materials as Supplementary Cementitious Materials for Coastal Concrete Applications

**Habitat complexity predicts cognition and behavior in western mosquitofish**  
Sep 11, 2023 - Kyndal Irwin Biology Letters Dataverse  
Irwin, Kyndal, 2023, "Habitat complexity predicts cognition and behavior in western mosquitofish", <https://doi.org/10.18738/T8/606XMG>, Texas Data Repository, V1, UNF:6.XhnOuRvyWZmlWfuAkM63VA== [file:UNF]  
Includes the master data sheet with cognition and behavior scores, lat and long of sites, and normalized environmental complexity scores. Also includes pixel intensity data from the video analysis in image j.

**Kyndal Irwin Biology Letters Dataverse** (Texas State University)  
Sep 11, 2023

# OVERVIEW

1. Why is data management important?
2. What is a data management plan?
3. **The DMPTool**


# WHAT IS DMPTOOL

- ❑ The DMPTool is an online platform guiding DMP development according to the requirements of specific funding agencies.
- ❑ Texas State University researchers log in with their NetID and passwords.

# DMPTOOL FOR DATA MANAGEMENT PLANS

- ❑ Helps researchers meet requirements of NSF, NIH and other U.S. funding agencies.
- ❑ Guides researchers through the process of creating a data management plan.
- ❑ Is available to everyone.
- ❑ Provides additional help for researchers at DMPTool partner institutions


# Sign In



Build your Data Management Plan   Funder Requirements   Public DMPs   Help

Language ▼

Error: You need to sign in or sign up before continuing.



Create Data Management Plans that meet requirements and promote your research


Sign in / Sign up

Email address \*


For SSO, use institutional address.

Continue


Problems signing in? Contact us.



84,288 Users



363 Participating Institutions





81,456 Plans

Latest News from DMPTool

Announcing the FASEB Dataworks! Data Management Plan Challenge


View all news



To get started, go to [DMPTool.org](https://dmptool.org)




# Sign In



Build your Data Management Plan   Funder Requirements   Public DMPs   Help

Language ▾

Error: You need to sign in or sign up before continuing.



Create Data Management Plans that meet requirements and promote your research


Sign in / Sign up

Email address \*


For SSO, use institutional address.

Continue


Problems signing in? Contact us.



84,288 Users



363 Participating Institutions





81,456 Plans

Latest News from DMPTool

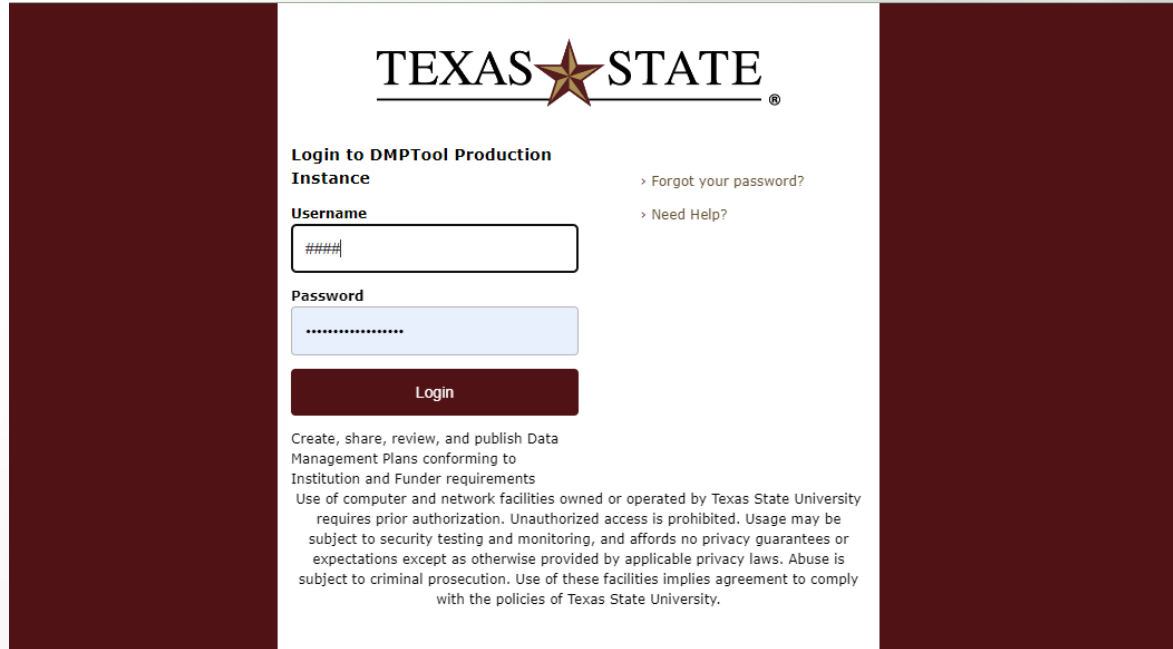
Announcing the FASEB Dataworks! Data Management Plan Challenge

View all news



- Use your **Texas State** email address
- Click **Continue**

# Sign In



**TEXAS STATE**®

**Login to DMPTool Production Instance**

[› Forgot your password?](#)

[› Need Help?](#)

**Username**

####

**Password**

\*\*\*\*\*


**Login**

Create, share, review, and publish Data Management Plans conforming to Institution and Funder requirements

Use of computer and network facilities owned or operated by Texas State University requires prior authorization. Unauthorized access is prohibited. Usage may be subject to security testing and monitoring, and affords no privacy guarantees or expectations except as otherwise provided by applicable privacy laws. Abuse is subject to criminal prosecution. Use of these facilities implies agreement to comply with the policies of Texas State University.

- Use your **Texas State NetID** and password to login

# Create a Plan

 **DMPTool**

Build your Data Management Plan

My Dashboard

Create Plan

Funder Requirements


Public DMPs


Help


user ▼


Language ▼

Texas State University (txst.edu)

 TXST Dataverse Repository

 TXST Data Management

 TXST Data Management Planning

 TXST Data Contact

Admin ▼

## My Dashboard

The table below lists the plans that you have created, and that have been shared with you by others. You can edit, share, download, make a copy, or remove these plans at any time.

Project Title	Template	Edited	Role	Test	Visibility	Shared	DMP ID	
DMP example	Digital Curation Centre	01-06-2023	Owner	<input type="checkbox"/>	Private	No	10.48321/D1R89Z	Actions ▼

Create plan

# Start developing DMP

The screenshot shows the 'Create a new plan' page of the DMPTool. The page has a header with the DMPTool logo and navigation links. The main content area contains a form with three required fields: 'What research project are you planning?', 'Select the primary research organization', and 'Select the primary funding organization'. Each field has a text input box and a checkbox for creating a test DMP. The 'Create plan' button is at the bottom left.

**DMPTool**  
Build your Data Management Plan | My Dashboard | Create Plan | Funder Requirements | Public DMPs | Help

Texas State University (txst.edu) | TXST Dataverse Repository | TXST Data Management | TXST Data Management Planning | TXST Data Contact | Admin

### Create a new plan

Before you get started, we need some information about your research project to set you up with the best DMP template for your needs.

**\* What research project are you planning?**

☐ mock project for testing, practice, or educational purposes

**\* Select the primary research organization**

Research organization:  - or - ☐ No research organization associated with this plan or my research organization is not listed

**\* Select the primary funding organization**

Funder:  - or - ☐ No funder associated with this plan or my funder is not listed

1. Enter the project title

Lock here if you would like to create a test DMP

2. Enter the funder information

3. Click **Create Plan**

# Project details

## DMP example

Project Details

Collaborators

Write Plan

Research outputs

Download

Finalize / Publish

DMP ID 10.48321/D1R89Z

Project title \*

DMP example

☐ mock project for testing, practice, or educational purposes

Project abstract

**B** *I*

This DMP is to demonstrate the procedures of creating a DMP in [DMPTool](#).

Research domain

Social Sciences

Project Start

01/05/2023

Project End

mm/dd/yyyy

☐ Research outputs may have ethical concerns

Funder

Texas State University (txst.edu)

☐ I cannot find my funder in the list

Funding status

Planned

Funding opportunity number

Grant number/url

Related works

+ Add a related work

Save

1. Enter the project title

2. Enter the project abstract

3. Enter the project and funding information

4. Click the + icon to add a related work if there is one

5. Click Save

### Select Guidance

To help you write your plan, DMPTool can show you guidance from a variety of organizations.

Select up to 6 organizations to see their guidance.

☒ DMPTool

☒ Texas State University (txst.edu)

Find guidance from additional organizations below

See the full list

Save

### Related works

Work Type

Article  
- Please select one -  
Article  
Book  
Dataset  
Paper  
Preprint  
Protocol  
Software

DOI or other URL based identifier

# Collaborators

## DMP example

[Project Details](#) [Collaborators](#) [Write Plan](#) [Research outputs](#) [Download](#) [Finalize / Publish](#)

### Project Contributors

Please list the project's Principal Investigator(s) and those responsible for data management.

No contributors have been defined.

[Add a contributor](#)

Add the contributors of the project as needed

### DMP Collaborators

Invite specific people to read, edit, or administer your plan. Invitees will receive an email notification that they have access to this plan.

Email address	Permissions	
x_zhou@txstate.edu	Owner	

### Invite collaborators

Email \*

Permissions \*

☐ Co-owner  
☐ Editor  
☐ Read only

[Submit](#)

invite your collaborators via email

# Write Plan

Click the + icon to see detailed instructions for each section and enter text .

## DMP example

Project Details Collaborators **Write Plan** Research outputs Download Finalize / Publish

This plan is based on the "Digital Curation Centre" template provided by Digital Curation Centre (dcc.ac.uk) - (ver: 2, pub: 2021-10-25).  
expand all | collapse all 13/13 answered

+ Data Collection (2 / 2)	+
+ Documentation and Metadata (1 / 1)	+
+ Ethics and Legal Compliance (2 / 2)	+
+ Storage and Backup (2 / 2)	+
+ Selection and Preservation (2 / 2)	+
+ Data Sharing (2 / 2)	+
+ Responsibilities and Resources (2 / 2)	+

Expandable sections for each topic covered in a DMP.

# Research Output

## DMP example

Project Details Collaborators Write Plan **Research outputs** Download Finalize / Publish

Please list your anticipated research output(s).

Add a research output

Click here to list your research output

## DMP example

Project Details Collaborators Write Plan **Research outputs** Download Finalize / Publish

### New research output

View all research outputs

Type \*

- Please select one -

Title \*

Abbreviation

Description

**B** *I* [List] [Link] [Image]

☐ May contain sensitive data?

☐ May contain personally identifiable information?

### Intended repositories

Add a repository

### Metadata standards

Add a metadata standard

Anticipated release date

mm/dd/yyyy

Initial access level

Open

Initial license

- Please select one -

For guidance on selecting a license:  
<https://creativecommons.org/about/cclicenses/>

Save

Cancel

Fill in (anticipated) research outputs information accordingly if needed



# Download

## DMP example

[Project Details](#) [Collaborators](#) [Write Plan](#) [Research outputs](#) [Download](#) [Finalize / Publish](#)

**Format**  

pdf

**Download settings**  
Optional plan components  
☒ project details coversheet  
☒ section headings  
☒ question text (will only display your answers)  
☒ unanswered questions

**PDF formatting**  
**Font**  
Face  

"Times New Roman", Times, Serif

11

Size (pt)

Margin (mm)

Top

Bottom

Left

Right

25

25

25

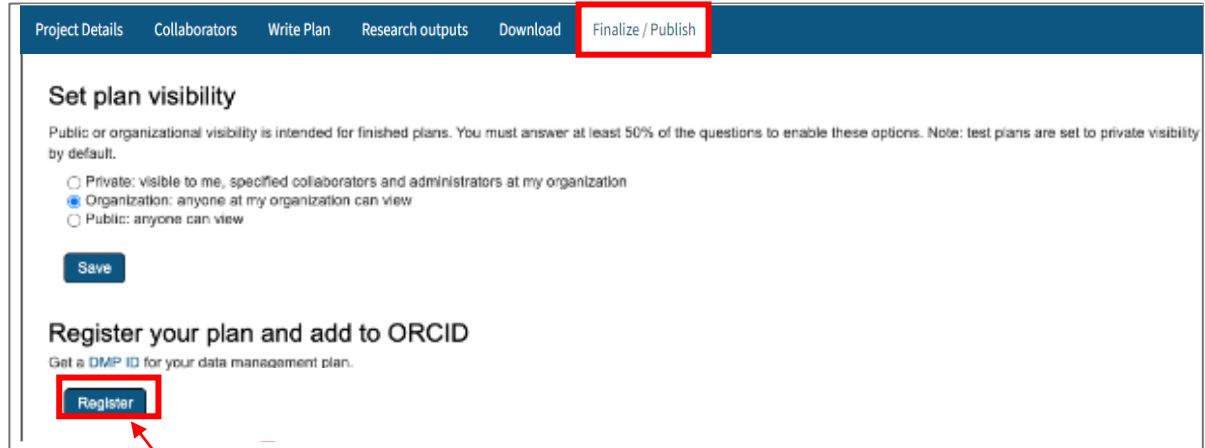
25

[Download Plan](#)

You can download your plan for view once you complete all the sections.

When you have completed all sections of your plan, you can publish your DMP when you are ready and decide the visibility of the plan

## Finalize / Publish



The screenshot shows a web interface with a dark blue header containing navigation tabs: 'Project Details', 'Collaborators', 'Write Plan', 'Research outputs', 'Download', and 'Finalize / Publish'. The 'Finalize / Publish' tab is highlighted with a red box. Below the header, the section 'Set plan visibility' is displayed. It includes a note: 'Public or organizational visibility is intended for finished plans. You must answer at least 50% of the questions to enable these options. Note: test plans are set to private visibility by default.' There are three radio button options: 'Private: visible to me, specified collaborators and administrators at my organization', 'Organization: anyone at my organization can view' (which is selected), and 'Public: anyone can view'. A 'Save' button is located below these options. Further down, the section 'Register your plan and add to ORCID' is shown, with the text 'Get a DMP ID for your data management plan.' and a 'Register' button highlighted with a red box. A red arrow points from the 'Register' button to the explanatory text below the screenshot.

Project Details Collaborators Write Plan Research outputs Download **Finalize / Publish**

### Set plan visibility

Public or organizational visibility is intended for finished plans. You must answer at least 50% of the questions to enable these options. Note: test plans are set to private visibility by default.

☐ Private: visible to me, specified collaborators and administrators at my organization  
☒ Organization: anyone at my organization can view  
☐ Public: anyone can view

**Save**

### Register your plan and add to ORCID

Get a DMP ID for your data management plan.

**Register**

You can register your plan for a unique DMP ID and link it to your ORCID

# Finalize / Publish

## DMP example

Project Details Collaborators Write Plan Research outputs Download Finalize / Publish

### Set plan visibility

Public or organizational visibility is intended for finished plans. You must answer at least 50% of the questions to enable these options. Note: test plans are set to private visibility by default.

- ☐ Private: visible to me, specified collaborators and administrators at my organization
- ☒ Organization: anyone at my organization can view
- ☐ Public: anyone can view

Save

the unique DMP ID and reference for citing

### This plan has been registered

When referencing this DMP in other systems, please use the DMP ID:


<https://doi.org/10.48321/D1R89Z>

When citing this DMP use:

Xuan Zhou. (2023). "DMP example" [Data Management Plan]. DMPTool. <https://doi.org/10.48321/D1R89Z>

# DMP ID

Given a DMP ID, you can access the ID to view a DMP landing page that includes details about the plan.



[View an example of a DMP ID landing page](#)

# University Libraries: Researcher Support

Guidance on support and resources through the University Libraries for researchers at all stages of the research lifecycle process.

[Home](#)[Research Data Management](#)[Data Management Plan  
Templates](#)[Sharing Research Work](#)[Digital Publishing Services](#)[Teaching and Learning](#)[Open Education](#)[Technologies and Micro-  
Credentials](#)[Special Collections and Exhibits](#)

## Texas State University Template Language for DMPs

Applicants for Federal funding requiring Data Management Plans (DMP) may incorporate or adapt the following language in their plans if they intend to use the [Texas State University Research Data Repository](#) to host their research data. Principal Investigators who intend to use the Data Repository can start the process by contacting Research Data Services Department at [UL-RDS@txstate.edu](mailto:UL-RDS@txstate.edu).

Texas State University provides Data Management Plan development support with the DMPTool at [dmptool.org](http://dmptool.org).

## Data Sharing and Access: Template Text

The online Texas State University Research Data Repository (<https://dataverse.tdl.org/dataverse/txst>) will be used to share datasets through the Texas Digital Library and managed by local Texas State University librarians. The Texas Digital Library (TDL) is a consortium of academic libraries in Texas with a proven history of providing shared technology services to support secure, reliable access to digital collections of research and scholarship. The Texas Data Repository is a project of the TDL and its member institutions to develop a consortial statewide research data repository for researchers at Texas higher education institutions.

Data will be curated in the repository following accepted standards (NISO Framework Advisory Group, 2007). A persistent identifier, a DOI, is created for each data set published. Datasets in the repository will be maintained for long term use.

The project team will work with Texas State University Research Data Service Department as necessary in assigning appropriate metadata and in determining appropriate embargo periods for the individual digital resources. For data sources that are embargoed for some period of time, the metadata records will be available to allow discovery of the resources. All project-related materials, such as technical reports, presentations, and publications, will be made accessible through the Texas State University Institutional Repository ([digital.library.txstate.edu](http://digital.library.txstate.edu)) and linked with the dataset in TXST Research Data Repository accordingly.

## Metadata for Data Management: Template Text

Metadata records will be created to describe each of the project's digital resources. Metadata for the project data will provide information on subject, provenance, authorship, methods and post-processing, and a Creative

# Templates For TXST Researchers

- Template Text: Data Sharing and Access
- Template Text: Metadata for Data Management

# FUTURE LIBRARY WORKSHOP

## OPENtxtst: TXST Dataverse Data Repository: Preserve, Publish, and Share Your Research Data

### Upcoming Sessions

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Tuesday, November 14, 2023, 2:00PM - 3:00PM ( 1 / 25 registered ) Online

### Topic Details

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#### Description:

The Texas State University Dataverse Repository is hosted on the Dataverse platform, developed and used by Harvard University. It offers researchers a trusted repository to deposit, share, manage, and publish their research datasets. Researchers can also find and cite data across all research fields. In the workshop, you will be able to recognize appropriate data sharing practices in order to minimize data loss and maximize efficiency. You will also be able to use the TXST Dataverse Repository in order to manage, preserve, publish, and share data in an open access repository.

#### Tags:

data-management, dataverse, faculty, faculty-commons, graduate, library, open-access, open-txtst, principle-investigators, repository, research, staff, workshops

#### Duration:

60 minutes

#### Department:

University Library

#### Additional Info:

<https://www.library.txst.edu/services/research-services/research-data-management.html>

# THANK YOU!

Xuan Zhou, PHD  
Research Data Services  
University Libraries  
[UL-RDS@txstate.edu](mailto:UL-RDS@txstate.edu)

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# References

Awasthi, S., & Tripathi, M. (2019). A Selective Review of Literature on Research Data Management in Academic Libraries. *DESIDOC Journal of Library & Information Technology*, 39(6).

The University of Edinburgh. (2020, September). *MANTRA: Research Data Management Training*. Available at: <https://mantra.edina.ac.uk/index.html>