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# Data Management Plans - What You Need to Know

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# Introductions

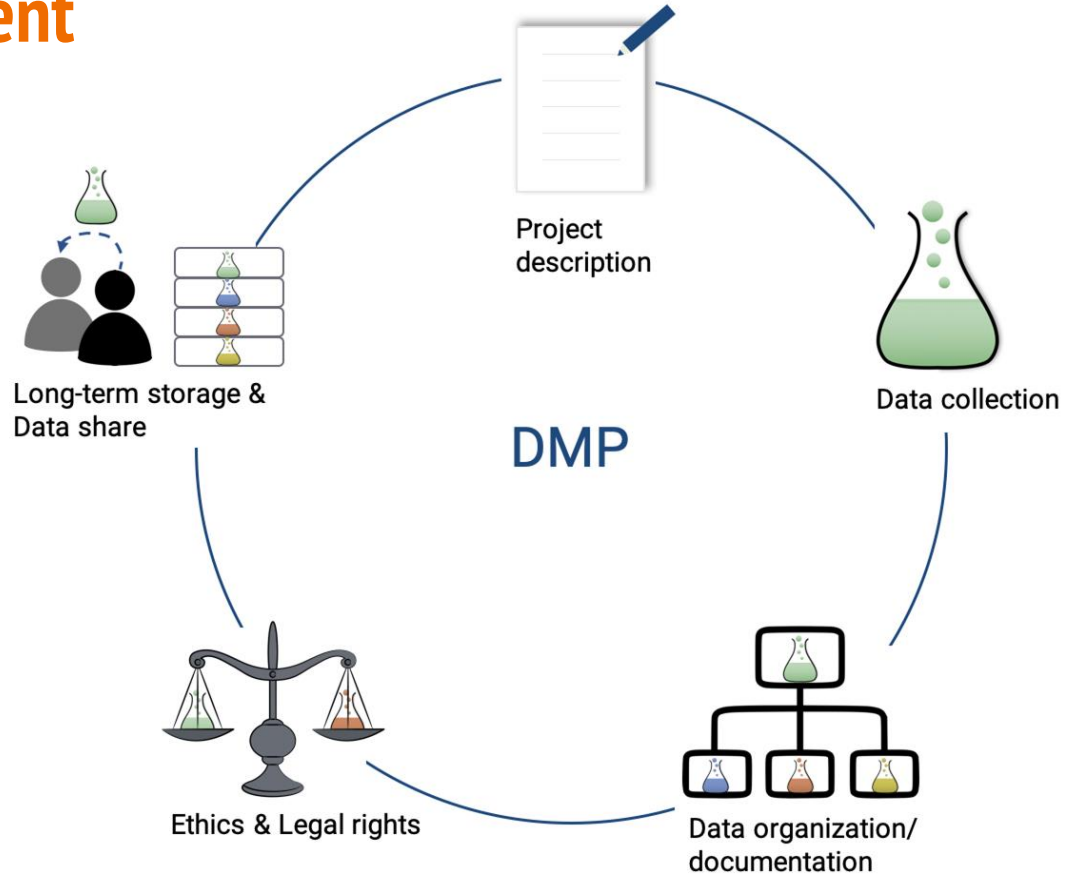
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**And you?**

# What is a data management plan (DMP)?

1. Description
2. Collection
3. Organization
4. Ethics
5. Storage



# Why does it matter?

- Grant funding requirements
- Journals requiring the research data alongside the article/study
  - Increase impact and visibility
- Reproducibility
  - Maximize transparency, accountability and scrutiny of research findings
- Enable reuse and new research projects

# Funder Requirements: NIH example



## Sherpa Juliet

Browse Search Statistics Our APIs

### National Institutes of Health

#### ^ Funder Information

Funder Name	National Institutes of Health (NIH) [English]
URL	<a href="http://www.nih.gov/">http://www.nih.gov/</a> [English]
Identifiers	FundRef DOI: 10.13039/1000000002
Country	United States of America

#### ^ Requires Open Access Archiving

Requirement	National Institutes of Health <b>requires</b> Open Access Archiving
What to archive	Peer-reviewed publications
Publication version	Author's final version
When to archive	When accepted for publication
Permitted Embargo	12 months
Where to archive	Named repository
Named Repositories	PubMed Central <a href="http://www.ncbi.nlm.nih.gov/pmc/">http://www.ncbi.nlm.nih.gov/pmc/</a> (Required)

#### ^ Requires Open Data Archiving

Requirement	National Institutes of Health <b>requires</b> Open Data Archiving
Types of Data	Research Data Supporting Documentation
When to archive	Within a reasonable time after completion of the work
Where to archive	Any appropriate repository (Required)
Named Repositories	NIH Databases <a href="http://www.nlm.nih.gov/databases/">http://www.nlm.nih.gov/databases/</a> (Example)
Effective for all new projects from	1 October 2003
Special Conditions	Applies to applications seeking \$500,000 plus in direct costs within any year of the project period. Include a data sharing plan within application, Sharing of data no later than publication of final results
Policy links	NIH Data Sharing Policy [Policy]: <a href="http://grants.nih.gov/grants/policy/data_sharing/Implementation_Guidance_Guide/FAQ/">http://grants.nih.gov/grants/policy/data_sharing/Implementation_Guidance [Guide/FAQ]:</a> <a href="http://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm">http://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm</a>

# Funder Requirements: NSF example



## Sherpa Juliet

[Browse](#) [Search](#) [Statistics](#) [Our APIs](#)

### National Science Foundation

#### ^ Funder Information

Funder Name	National Science Foundation (NSF) <small>[English]</small>
URL	<a href="http://www.nsf.gov/">http://www.nsf.gov/</a> <small>[English]</small>
Identifiers	FundRef DOI: <a href="https://doi.org/10.13039/1000000001">https://doi.org/10.13039/1000000001</a>
Country	United States of America

#### ^ Requires Open Access Archiving

Requirement	National Science Foundation <b>requires</b> Open Access Archiving
What to archive	Conference papers Peer-reviewed publications
Publication version	Publisher's version (Optional) Author's final version (Optional)
When to archive	At the earliest possible opportunity
Permitted Embargo	12 months
Where to archive	Named repository
Named Repositories	Public Access Gateway for Energy and Science (PAGES) <a href="http://www.osti.gov/pages/">http://www.osti.gov/pages/</a> (Required)
Metadata Record	Metadata must be deposited at the date of publication

#### ^ Requires Open Data Archiving

Requirement	National Science Foundation <b>requires</b> Open Data Archiving
Types of Data	Research Data Specimens and Samples Associated Metadata Program Code
When to archive	Within a reasonable time after completion of the work
Where to archive	
Effective for all new projects from	18 January 2011
Data Access Cost	Costs of access provision may be recovered on a not-for-profit basis.
Special Conditions	Applies to primary datam samples, physical colletions and supporting materials created or gatehred in the course of the work, Encouraged to share software and inventions, Data Management Plan must detail the types of data to be shared, the standards of data and metadata format and content, the policies for access and sharing of data, the policies for provisions of re-sue and re-distribution, as well as plans for archiving, Data should acknowledge support of NSF and award number, Applies to all approved NSF Individual Research and Development plans for NSF employees and Intergovernmental Personnel Act assignes
Policy links	Dissemination and Sharing of Research Results [Policy]: <a href="http://www.nsf.gov/bfa/dias/policy/dmp.jsp">http://www.nsf.gov/bfa/dias/policy/dmp.jsp</a>

# Grant Compliance Checkers

The screenshot shows the Sherpa Juliet website. At the top, there is a dark blue header with the Jisc logo and navigation links for Digital Resources and Open Access. Below this is a teal banner with the title "Sherpa Juliet" and a secondary navigation bar with buttons for Browse, Search, Statistics, Our APIs, Suggest, and Admin. The main content area features the heading "Research Funders' Open Access Policies" and a sub-heading "Sherpa Juliet enables researchers and librarians to see funders' conditions for open access publication." Below this is a search bar with the placeholder text "Search for a funder policy" and a "Search" button. A paragraph of text describes the database: "SHERPA Juliet is a searchable database and single focal point of up-to-date information concerning funders' policies and their requirements on open access, publication and data archiving. Read more...". At the bottom, there are three service boxes: "Open access services from Jisc" (Services to support open access), "SHERPA Services" (Helping authors and institutions make informed and confident decisions in open access publication and compliance), and "Managing open access costs" (A guide from Jisc).

<http://v2.sherpa.ac.uk/juliet/>

The screenshot shows the SPARC website. The top navigation bar includes the SPARC logo and links for Who We Are, What We Do, Why It Matters, and Become a Member. The main heading is "Browse Data Sharing Requirements by Federal Agency". Below this is a paragraph of text: "This community resource for tracking, comparing, and understanding both current and future U.S. federal funder research data sharing policies is a joint project of SPARC & Johns Hopkins University Libraries. Click the icons below to select up to three agencies to view or compare. Click here to download the full data set. Email corrections to [nick@sparcopen.org](mailto:nick@sparcopen.org)". A red button labeled "VIEW ARTICLE SHARING POLICIES" is positioned below the text. A search bar with the placeholder "Search for an agency..." is located below the button. The main content area displays a grid of logos for various federal agencies, including AHRQ, ASPR, CDC, Department of Defense, Department of Education, Department of Energy, Department of Transportation, FDA, NASA, and National Institute.

<http://researchsharing.sparcopen.org/data>

# Examples

## Pacific

Boilerplate describing Scholarly Commons

Writing guides from ORSP Research  
Development

[Guidance from NIH Office of Extramural  
Research](#)

## External

- [Example of NIH Data Sharing Plans](#)
  - Three short examples of data-sharing plans from the NIH website
  - [Create a Resource Sharing Plan](#)
  
- [NSF Data Sharing Requirements](#)
  - Requirements by Directorate or other NSF unit



# Data Repositories - Scholarly Commons

Pacific branded  
Unlimited storage  
Any file type  
Excellent SEO  
Customizable display &  
metadata  
FAIR Principles

The screenshot shows the University of the Pacific Scholarly Commons website. The header features the university's name and logo on the left, and "Scholarly Commons" on the right. A navigation bar includes links for HOME, ABOUT, FAQ, and MY ACCOUNT. The main content area is divided into several sections:

- SEARCH:** Includes a search input field with a "Search" button, a dropdown menu for "In this repository", and options for "Advanced Search" and "Notify me via email or RSS".
- BROWSE:** Lists categories such as "Collections", "Disciplines", and "Authors".
- AUTHOR CORNER:** Contains links for "Author FAQ" and "Submit Research".
- SCHOLARLY COMMONS ISSN:** 2572-6803
- Browse Research and Scholarship:** A section with a "Follow" button and a list of featured collections:
  - [College, School, Department, or Center](#)
  - [Holt-Atherton Special Collections](#)
  - [Pacific Theses and Dissertations](#)
  - [Journals](#)
  - [Pacific Expertise](#)
- Image:** A photograph of a University of the Pacific sign in front of a garden of colorful roses.
- Description:** A paragraph explaining the service: "Scholarly Commons is a service of the University of the Pacific Libraries. Research, scholarship and creative works included here have been selected and deposited by the individual colleges, departments and centers of the University. Online access is provided to both published and unpublished works by the University of the Pacific community including journal articles, books, book chapters, theses, dissertations, reports, conference proceedings, teaching materials, data sets, university publications, digital and multimedia collections. In addition to deposited works, Scholarly Commons is publishing original knowledge in the form of several journals, conferences and open educational resources (OER). Contributions to this repository showcase the intellectual and creative output of University of the Pacific faculty, students, alumni and staff, ensuring long-term preservation and worldwide electronic accessibility. For more information please [contact the repository administrator](#)."
- At a Glance:** A section with three sub-sections:
  - Top 10 Downloads:** All time
  - Recent Additions:** 20 most recent additions, Activity by year
  - Item of the Day**
- Figure:** A circular sunburst chart titled "Explore works in 805 disciplines". Below the chart is a "View Larger" link with a right-pointing arrow.

# FAIR Principles

1. Findable
2. Accessible
3. Interoperable
4. Reusable

<https://www.go-fair.org/fair-principles/>  
<https://www.nature.com/articles/sdata201618>

**GO FAIR**

FAIR Principles Implementation Networks News Events Resources About GO FAIR Q

## FAIR Principles

Home > FAIR Principles

- > **FAIR Principles**
  - > **F1: (Meta) data are assigned globally unique and persistent identifiers**
  - > **F2: Data are described with rich metadata**
  - > **F3: Metadata clearly and explicitly include the identifier of the data they describe**
  - > **F4: (Meta)data are registered or indexed in a searchable resource**
  - > **A1: (Meta)data are retrievable by their identifier using a standardised**

In 2016, the '**FAIR Guiding Principles for scientific data management and stewardship**' were published in *Scientific Data*. The authors intended to provide guidelines to improve the findability, accessibility, interoperability, and reuse of digital assets. The principles emphasise machine-actionability (i.e., the capacity of computational systems to find, access, interoperate, and reuse data with none or minimal human intervention) because humans increasingly rely on computational support to deal with data as a result of the increase in volume, complexity, and creation speed of data.

**Findable**

The first step in (re)using data is to find them. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the **FAIRification process**.

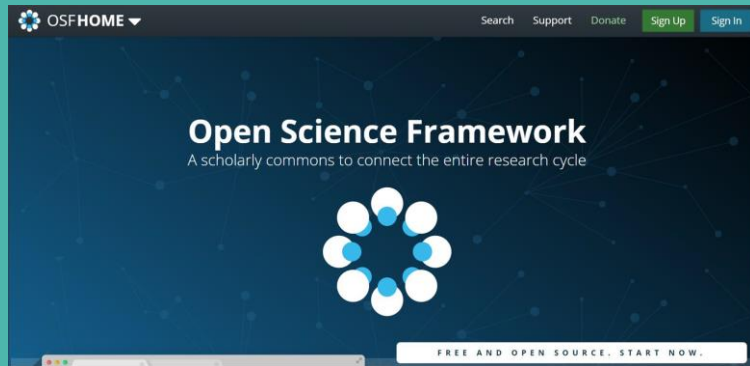
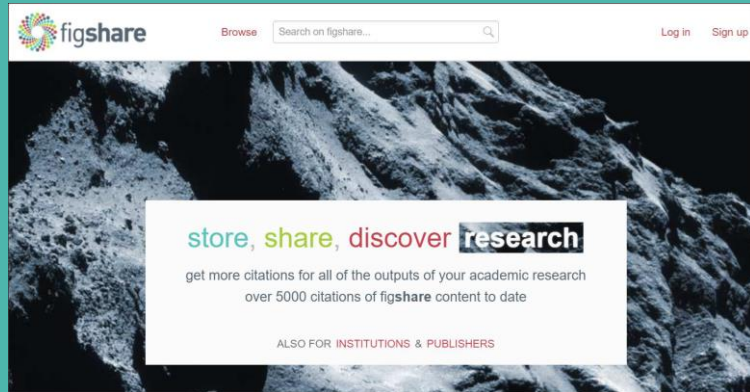
- F1. (Meta)data are assigned a globally unique and persistent identifier**
- F2. Data are described with rich metadata (defined by R1 below)**
- F3. Metadata clearly and explicitly include the identifier of the data they describe**
- F4. (Meta)data are registered or indexed in a searchable resource**

# Data Repositories - External

Figshare: <https://figshare.com/>

OSF: <https://osf.io/>

Re3data:  
<https://www.re3data.org/>



# DMP Tool

<https://dmptool.org/>

# Additional DMP Resources



# QUESTIONS?

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