

# Data management plans 2.0: Helping you manage your data

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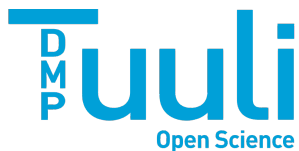
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# Overview

Machine-actionable DMPs

DMPRoadmap project

<https://github.com/DMPRoadmap/roadmap>



New DMPTool!

Planning &  
administration

Create, analyze,  
manage data

Publishing & reuse



Planning &  
administration

Create, analyze,  
manage data

Publishing & reuse



- DMP on periphery
- Often done at grant stage and not looked at again
- Opportunities to (re)use information being missed
- Disconnected & unlinked

Planning &  
administration

Create, analyze,  
manage data

Publishing & reuse

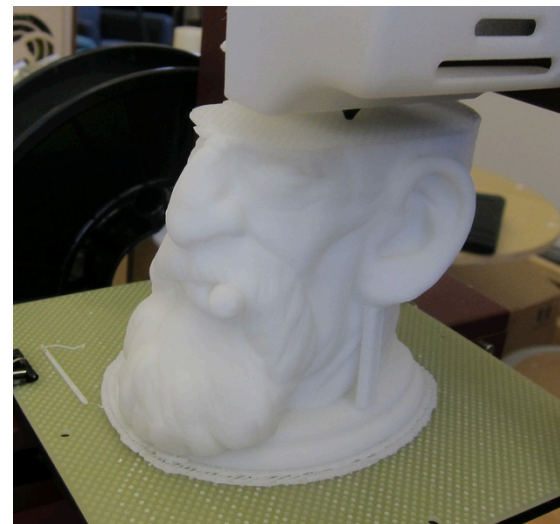


- DMP on periphery
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# Defining machine-actionable DMPs

This term refers to information that is structured in a consistent way so that machines, or computers, can be programmed against the structure.

[Data Documentation Initiative](#)



[Make Magazine, CC BY 2.0](#)

# Stakeholders



Researcher



Funder



Ethics review



Legal expert



Publisher



Infrastructure  
provider



Repository  
operator

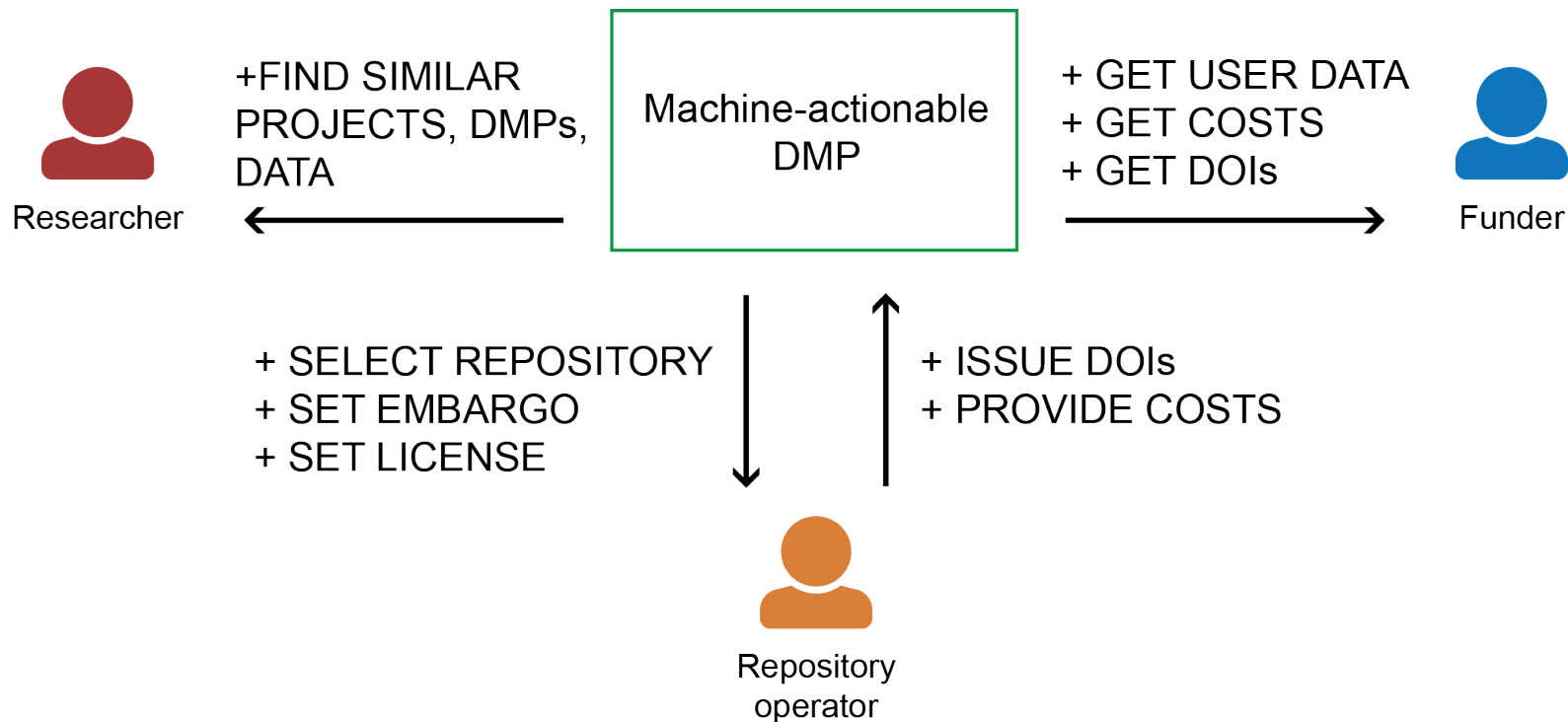


Research  
support staff



Institutional  
administrator

# What do we want machine-actionable DMPs to do?





# The vision:

Machine-actionable DMPs will **make it easier** to manage your data

Parts of the DMP will be automatically generated and shared, thereby **alleviating administrative burdens** and **improving the quality** of information

# Our traveling roadshow for machine-actionable DMPs





Assign a DOI to DMP of record. Use this to get award details back into a DMP.

Leverage other PIDs to populate DMP over time:

Researcher IDs ([ORCID iDs](#))

Funder IDs ([Crossref Funder Registry](#))

Grant IDs

Org IDs ([working group](#))

Research Resource IDs ([RRIDs](#))

antibodies, organisms, cell lines, tools

Also enables compliance monitoring





# IDCC17 workshop

47 participants from 16 countries

- Funders
- Developers
- Librarians
- Service providers
- Researchers

Understand research workflows

Develop use cases

Set priorities for future work



**RIO** Articles About About Pensoft Books E-Books Blog Journals

Workshop Report Research Ideas and Outcomes 3: e13086 (05 Apr 2017) <https://doi.org/10.3897/rio.3.e13086> Reviewable v1

## Machine-actionable data management plans (maDMPs)

▼ Stephanie Simms, Sarah Jones, Daniel Mietchen, Tomasz Miksa

**Abstract** ▼

This report presents outputs of the International Digital Curation Conference 2017 workshop on machine-actionable data management plans. It contains community-generated use cases covering eight broad topics that reflect the needs of various stakeholders. It also articulates a consensus about the need for a common standard for machine-actionable data management plans to enable future work in this area.

**Keywords** ▼

interoperability; persistent identifiers; research data management; research workflows; data discovery; research infrastructure; research policy; research funding; research publishing

**Date and place** ▼

The workshop took place on February 20 in Edinburgh, UK, as part of the 12th International Digital Curation Conference (February 20-23, 2017). The workshop materials are available via <http://www.dcc.ac.uk/events/workshops/postcard-future-tools-and-services-perfect-dmp-world>.

**Aims of the workshop** ▼

With growing interest in active, actionable data management plans, the Digital Curation Centre (DCC) and University of California Curation Center (UC3) at the California Digital Library took the opportunity of the IDCC17 conference to convene a workshop on the topic. The aim of the workshop was to understand different stakeholder requirements and bring together a diverse international group to develop specific use cases for machine-actionable data management plans. The workshop participants included 47 people from 16 different countries, representing funders, developers, librarians, service providers, and the research community. In practical, brainstorming exercises, the groups discussed use cases focused on interoperability

Interoperability with research systems  
 Leveraging PIDs  
 Institutional perspective  
 Repository use cases  
 Data discovery & reuse  
 Evaluation & monitoring  
 Disciplinary tailoring  
 Publishing DMPs

>> Common standards





# RDA P9

- DMP Common Standards WG
- Exposing DMPs WG
- Domain/infrastructure specialty WG
- Funder liaison WG
- Software management plans WG





From Flickr by Wally Gobetz

## RDA P10

Active DMPs & Domain Repos joint session

- [Bio/FAIRsharing.org](http://Bio/FAIRsharing.org)
- Data Management Records at UQ
- ...





From Flickr by Pascal Volk

# Force2017

FAIR DMPs working group  
10 Simple Rules





# #activeDMPs

*A place where all DMP ideas meet!*

Find Out More

## IDCC18

DMPRoadmap demo  
[activedmps.org](http://activedmps.org)



# RDA P11

Common Standards WG  
Exposing DMPs WG



[From Flickr by Pascal Volk](#)



Next steps: machine-actionable DMP pilots



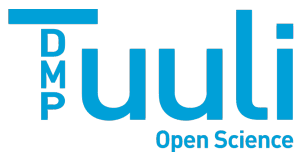
[From Flickr by Allen, CC BY 2.0](#)

# DMPRoadmap project

Build a single DMP system to:

1. Harness community development efforts
2. Create next-generation, machine-actionable DMPs

<https://github.com/DMPRoadmap/roadmap>



Bigger team, bigger voice

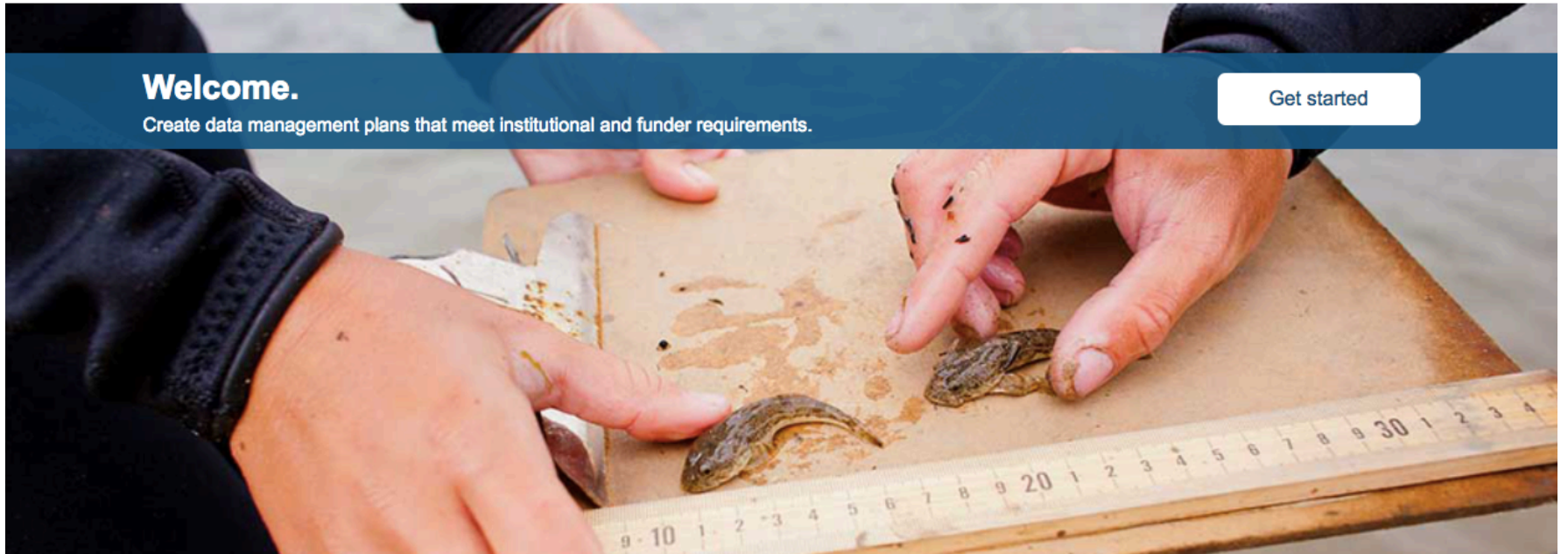




## Welcome.

Create data management plans that meet institutional and funder requirements.

[Get started](#)



### DMPTool by the numbers



**28,324**  
Users



**24,524**  
Plans [More](#)



**228**  
Participating institutions [More](#)

### Top 5 templates

- NSF-GEN: Generic
- NSF-SBE: Social, Behavioral, Economic Sciences
- NIH-GEN: Generic
- NSF-BIO: Biological Sciences (2015- )
- Digital Curation Centre

[More](#)

# Funder requirements

Templates for data management plans are based on the specific requirements listed in funder policy documents. The DMPTool maintains these templates, however, researchers should always consult the program officers and policy documents directly for authoritative guidance. Sample plans are provided by a funder or another trusted party.

Template ^	Download	Funder ↕	Last edited ↕	Funder links	Sample plans (if available)
BCO-DMO NSF OCE: Biological and Chemical Oceanography	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-28-2018	<a href="#">NSF OCE Sample and Data Policy</a> <a href="#">NSF GEO Directorate Guidance</a>	
NSF-AGS: Atmospheric and Geospace Sciences	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-28-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-AGS Advice to PIs on DMPs</a>	
NSF-AST: Astronomical Sciences	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-13-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-AST Advice to PIs on DMPs</a>	
NSF-BIO: Biological Sciences	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	03-02-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-BIO Guidance on DMPs</a>	
NSF-CHE: Chemistry Division	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-13-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-CHE Advice to PIs on DMPs</a>	
NSF-CISE: Computer and Information Science and Engineering	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-13-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-CISE Data Management Guidance</a>	
NSF-DMR: Materials Research	<a href="#">DOCX</a> <a href="#">PDF</a>	National Science Foundation (NSF)	02-13-2018	<a href="#">NSF Grant Proposal Guide (PAPPG)</a> <a href="#">NSF-DMR Advice to PIs on DMPs</a>	



# Public plans

Public plans are plans created using the DMPTool and shared publicly by their owners. They are not vetted for quality, completeness, or adherence to funder guidelines.



Project title	Template	Organization	Owner	Download
Pawan Takhar UIUC DMP	USDA - NIFA: National Institute of Food and Agriculture	University of Illinois at Urbana-Champaign (UIUC)	Pawan Takhar	<a href="#">PDF</a>
Data Management Plan_Cong Liu	USDA - NIFA: National Institute of Food and Agriculture	University of Connecticut (UConn)	Cong Liu	<a href="#">PDF</a>
Integrating heat stress metabolome with tissue function in swine, implication for growth and carcass quality	USDA - NIFA: National Institute of Food and Agriculture	Purdue University	Kolapo Ajuwon	<a href="#">PDF</a>
Data Management Plan	USDA - NIFA: National Institute of Food and Agriculture	Oklahoma State University	Babajide Ojo	<a href="#">PDF</a>
Seedling establishment and woody-plant encroachment in Southwest Rangelands	USDA - NIFA: National Institute of Food and Agriculture	Arizona State University (ASU)	Luis Weber-Grullon	<a href="#">PDF</a>
Investigating the Genetic Diversity of Pantoea ananatis strains endemic to Georgia	USDA - NIFA: National Institute of Food and Agriculture	University of Georgia (UGA)	Spencer Stumpf	<a href="#">PDF</a>
Testing of the non-target effects of RNAi, siRNA, and miRNA: Unintended molecular impacts and life-history consequences	USDA - NIFA: National Institute of Food and Agriculture	Michigan State University (MSU)	Susan L. Balfe	<a href="#">PDF</a>

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Papers published: **8**

Total pages: **60**

Printed version: **Paperback**






## Public Data Management Plans created with the DMPTool

Sort by: [Publication date new](#) ▾

See more ▾





### Machine-actionable data management plans (maDMPs)

 Stephanie Simms,  Sarah Jones,  Daniel Mietchen, Tomasz Miksa

Workshop Report


doi: 10.3897/rio.3.e13086

 05-04-2017  Unique: 1021 | Total: 1831  Reprint: € 4,80

[HTML](#) [XML](#) [PDF](#) 








### Data Management Plan for Moore Investigator in Data Driven Discovery Grant

 Ethan White

Data Management Plan

doi: 10.3897/rio.2.e10708

 04-10-2016  Unique: 799 | Total: 1288  Reprint: € 2,60

[HTML](#) [XML](#) [PDF](#)  







### Data Management Plan for PhD Thesis "Climatic Limitation of Alien Weeds in New Zealand: Enhancing Species Distribution Models with Field Data"

Jennifer Pannell

Data Management Plan

doi: 10.3897/rio.2.e10600

 27-09-2016  Unique: 563 | Total: 1165  Reprint: € 2,60

[HTML](#) [XML](#) [PDF](#) 








### Migration of legacy data to new media formats for long-time storage and maximum visibility: Modern pollen data from the Canadian Arctic (1972/1973)

Harvey Nichols, Susann Stolze

Data Management Plan

doi: 10.3897/rio.2.e10269

 25-08-2016  Unique: 633 | Total: 1093  Reprint: € 2,30

[HTML](#) [XML](#) [PDF](#)  

<https://riojournal.com/collection/3/>

# Participating institutions

Participating institutions/organizations can configure the tool to point to their resources and services, provide customized help, and provide suggested answers to the questions asked by funding agencies. DMPTool users affiliated with participating institutions can log in with their own institutional accounts. For more information visit the [About](#) page.

Institution <sup>▲</sup>	Institutional sign-in enabled
American University (AU)	✓
American University of Beirut (AUB)	✓
Appalachian State University	
Arizona State University (ASU)	✓
Augusta University	✓
Auraria Library (UCD, MSU Denver, CCD)	
Baylor University	✓
Binghamton University	✓
Boise State University	✓
Boston College (BC)	✓
Boston University (BU)	✓
Brandeis University	✓
Brown University	✓
California Institute of Technology	✓
California Polytechnic State University-San Luis Obispo (CalPolySLO)	✓
California State University, Chico (CSU Chico)	✓
California State University, Fresno (CSU Fresno)	✓
California State University, Fullerton (CSU Fullerton)	✓



## My dashboard

[Create plan](#)

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 ▾	Last edited ▾	Permissions	Test	Visibility	Shared	
DMPRoadmap: Making Data Management Plans Actionable	NSF-GEN: Generic	02-27-2018	Owner	<input type="checkbox"/>	Public	Yes	Actions ▾
data revise new dmptool bco-dmo	BCO-DMO NSF OCE: Biological and Chemical Oceanography	02-12-2018	Owner	<input checked="" type="checkbox"/>	N/A	No	Actions ▾
UCSF test plan	NIH-GDS: Genomic Data Sharing	06-08-2017	Owner	<input checked="" type="checkbox"/>	N/A	No	Actions ▾
My First DOT DMP	U.S. Department of Transportation Public Access Guidance v1	11-02-2016	Owner	<input checked="" type="checkbox"/>	N/A	No	Actions ▾
NOAA template 28 Oct test	NOAA Data Sharing Template	10-28-2016	Owner	<input checked="" type="checkbox"/>	N/A	No	Actions ▾
Experiments on atmospheric concentrations of CO2 (NSF-AGS)	NSF-AGS: Atmospheric and Geospace Sciences	09-27-2016	Owner	<input type="checkbox"/>	Private	No	Actions ▾

## University of California, Office of the President (UCOP) Plans

The table below lists the plans that users at your organization have created and shared within your organization. This allows you to download a PDF and view their plans as samples or to discover new research data.

Project title ▾	Template ▾	Owner	Last edited ▾	Download
A unified approach to preserving cultura ...	NEH-ODH: Office of Digital Humanities	dmpcurator@gmail.com	06-05-2014	PDF
Peer Power	NSF-CISE: Computer and Information Science and Engineering	dmpcurator@gmail.com	05-30-2014	PDF
Arthropod responses to grassland nutrien ...	NSF-GEN: Generic	dmpcurator@gmail.com	05-30-2014	PDF
Atmospheric CO2 Concentrations, Mauna Lo ...	NSF-AGS: Atmospheric and Geospace Sciences	dmpcurator@gmail.com	05-30-2014	PDF

# Edit profile

Personal details

Notification preferences

Please note that your email address is also your username. If you change this remember to use your new email address on sign in. If your account is created with your institutional credentials you must contact us to change your email or organization.

## Email

stephanie.simms@ucop.edu

## First name

Stephanie

## Last name

Simms

## Organization

University of California, Office of the President (UCOP)

## My privileges

Super Admin

## ORCID

 <https://orcid.org/0000-0001-9129-3790> 

Save

## Create a new plan

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

### What research project are you planning?



Mock project for testing, practice, or educational purposes

### Select the primary research organization



- or -  My research organisation is not on the list *or* no research organisation is associated with this plan

### Select the primary funding organization

- or -  No funder associated with this plan

### Which template would you like to use?



We found multiple templates corresponding to your funder.

Create plan

Cancel

# DataONE webinar plan

Project details

Plan overview

Write plan

Share

Download

## Project title

DataONE webinar plan



mock project for testing, practice, or educational purposes

## Funder

National Science Foundation (NSF)

## Grant number (optional)

## Project abstract

**B** *I*

Powered by TinyMCE

## Principal Investigator

### Name

Stephanie Simms

### ORCID ID

0000-0001-9129-3790

### Email

stephanie.simms@ucop.edu

## Plan guidance configuration

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

Find guidance from additional organizations below

[See the full list](#)

[Submit](#)

# DataONE webinar plan

Project details

Plan overview

Write plan

Share

Download

expand all | [collapse all](#)

0/5 answered

+ Types of data (0 / 1)

+ Data and metadata standards (0 / 1)

+ Policies for access and sharing (0 / 1)

+ Policies and provisions for re-use, re-distribution (0 / 1)

+ Plans for archiving and preservation of access (0 / 1)



# DataONE webinar plan

[Project details](#)[Plan overview](#)[Write plan](#)[Share](#)[Download](#)[expand all](#) | [collapse all](#)

0/5 answered

## – Types of data (0 / 1)

The Division of Earth Sciences requires that full data sets, derived data products (e.g. model results, output, and workflows), software, and physical collections must be made publicly accessible within two (2) years of final collection.

**B** *I*

Powered by TinyMCE

[Save](#)[Guidance](#)[Comments](#)[NSF](#)[DMPTool](#)[expand all](#) | [collapse all](#)

### + Data collection

### – Data sharing

- How will you share the data, e.g., deposit in a data repository, use a secure data service, handle data requests directly, or use another mechanism? The methods used will depend on a number of factors such as the type, size, complexity, and sensitivity of the data.
- When will you make the data available? Research funders expect timely release. They typically allow embargoes but not prolonged exclusive use.

# Redefining success

Not just creating DMPs that respond to funder requirements

But achieving goals of those requirements

Alleviating burden and making DMPs a useful exercise for everyone

[From Flickr by lwp komunikacio](#)



# Summary

Think of DMPs as key elements of a networked data management ecosystem:

- connected via a shared vocabulary
- actionable by humans and software
- versioned
- public





Website		<a href="https://dmptool.org">dmptool.org</a>
Twitter		<a href="https://twitter.com/TheDMPTool">@TheDMPTool</a>
Blog		<a href="https://blog.dmptool.org">blog.dmptool.org</a>
GitHub		<a href="https://github.com/CDLUC3/dmptool">CDLUC3/dmptool</a> <a href="https://github.com/CDLUC3/DMPRoadmap/roadmap">DMPRoadmap/roadmap</a>

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- S Simms and S Jones. 2017. Machine-actionable data management plans (maDMPs): IDCC17 workshop materials. Zenodo <https://doi.org/10.5281/zenodo.475054>
- SR Simms and S Jones. 2017. Next-Generation Data Management Plans: Global, Machine-Actionable, FAIR. International Journal of Digital Curation 12(1). <https://doi.org/10.2218/ijdc.v12i1.513>
- S Simms, S Jones, D Mietchen, and T Miksa. 2017. Machine-actionable data management plans (maDMPs). Research Ideas and Outcomes 3: e13086. <https://doi.org/10.3897/rio.3.e13086>
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- T Miksa, S Simms, S Jones, and D Mietchen. 2018. Ten simple rules for machine-actionable data management plans (preprint). <https://zenodo.org/record/1172673>
- DMPRoadmap GitHub <https://github.com/DMPRoadmap/roadmap>
- DMPTool GitHub <https://github.com/CDLUC3/dmptool>
- RDA Active DMPs Interest Group <https://www.rd-alliance.org/groups/active-data-management-plans.html>
- Common Standards for DMPs Working Group <https://www.rd-alliance.org/groups/dmp-common-standards-wg>
- Exposing DMPs Working Group <https://www.rd-alliance.org/groups/exposing-data-management-plans-wg>
- [activedmps.org](http://activedmps.org)