Public Access to Articles and Data for Funding Agencies

Dan Tracy and Heidi Imker

OSTP Public Access Memo

INCREASING ACCESS TO THE RESULTS OF FEDERALLY FUNDED SCIENTIFIC RESEARCH

direct results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community. Such results include **peer-reviewed publications** and **digital data**.

OSTP Public Access Memo

- maximize the impact and accountability of the Federal research investment

- accelerate scientific breakthroughs and innovation, promote entrepreneurship, and enhance economic growth and job creation.

- each Federal agency with over $100 million in annual conduct of research and development expenditures to develop a plan to support increased public access to the results of research funded by the Federal Government.

- http://go.illinois.edu/OSTP_Memo

Overview of Implementation Plans

● Full Coverage   ◐ Partial Coverage   ○ No Coverage

Funder	Policy Coverage		Policy Stipulations					Support Provided			
	Published Outputs	Data	Time Limits	DMP	Access / Sharing	Long-term curation	Monitoring	Guidance	Article Repository	Data Repository	Costs
AHRQ	●	●	●	●	●	◐	◐	◐	●	◐	◐
ASPR	●	●	●	●	●	●	●	◐	●	◐	◐
CDC	●	●	●	●	●	◐	●	◐	●	◐	◐
DOD	●	●	●	●	●	○	●	○	●	○	◐
DOE	●	●	●	●	●	◐	◐	◐	●	◐	◐
DOT	○		○						○		
FDA	●	●	●	●	●	◐	●	◐	●	◐	◐
NASA	●	●	●	●	●	◐	●	◐	●	◐	◐
NIH	●	●	●	●	●	◐	◐	◐	●		◐
NIST	◐	●	◐	●	●	●			●		
NOAA	●	●	●	●	●	●	●	◐	●	◐	◐
NSF	●	●		●	●	◐	●		●	●	●
USDA	●	◐				◐	○	○	●		●
USAID	○	●	○		◐		○	○	○		
USGS		●		●	◐						
VA	◐	○		○		○	○				

Last updated: May 7, 2015

Valen, Dan; Blanchat, Kelly (2015): Overview of OSTP Responses. figshare. http://dx.doi.org/10.6084/m9.figshare.1367165 Retrieved 17:18, Jun 03, 2015

Crowd-sourced Google Doc

Comprehensive resource for article and data requirements expected from the implementation plans.

Spreadsheet	Complementary FAQ
http://bit.ly/FedOASummary	http://bit.ly/FOPOP-FAQ

Whitmire, Amanda; Briney, Kristin; Nurnberger, Amy; Henderson, Margaret; Atwood, Thea; Janz, Margaret; Kozlowski, Wendy; Lake, Sherry; Vandegrift, Micah; Zilinski, Lisa (2015): A table summarizing the Federal public access policies resulting from the US Office of Science and Technology Policy memorandum of February 2013. figshare. http://dx.doi.org/10.6084/m9.figshare.1372041. Retrieved [2015-06-03]

Articles

Official OSTP Memo Language

To the extent feasible and consistent with law; agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed below, the results of **unclassified research that are published in peer-reviewed publications directly arising from Federal funding should be stored for long-term preservation and publicly accessible** to search, retrieve, and analyze in ways that maximize the impact and accountability of the Federal research investment.

Publication Deposit Mandate

- Requires making federally funded research openly available.

- Requires deposit whether or not the original publication is open access.

- Is fulfilled in most cases through deposit to a central government repository (like PubMed), but may for some agencies be fulfilled by open access publication on the publisher's website, or deposit into an institutional repository.

- Generally will need to be filled within a year of publication or of acceptance for publication.
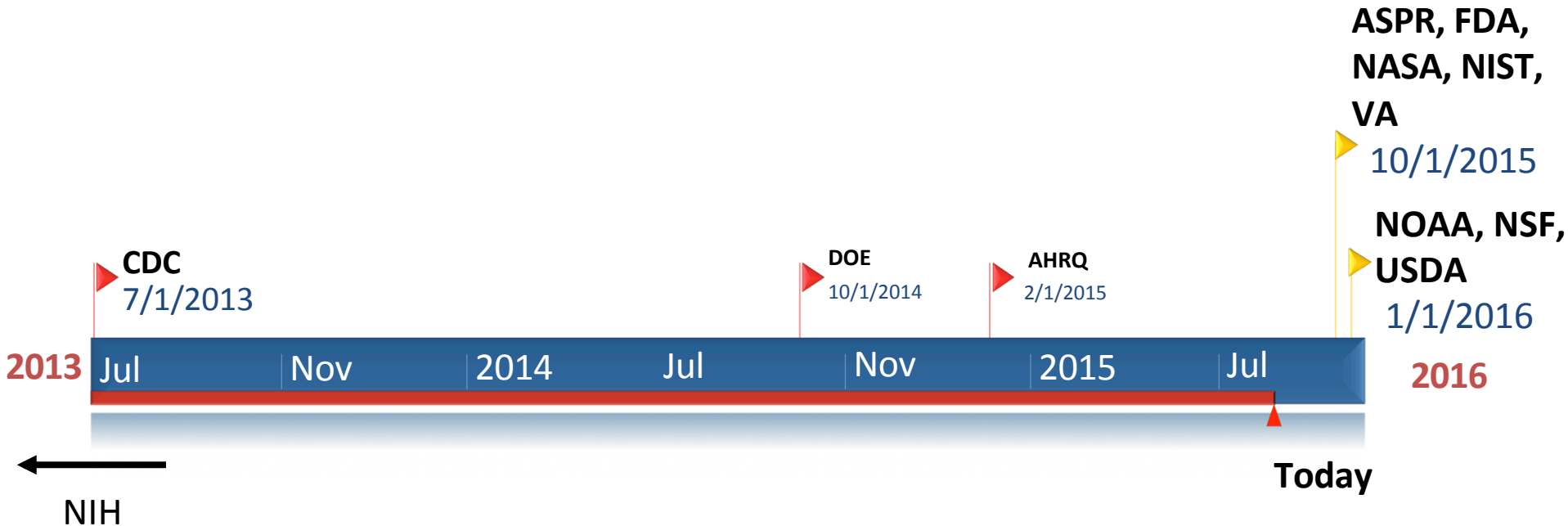
Sample Implementation Plan

Agency for Healthcare Research and Quality

- *For scholarly publications, the AHRQ Public Access Policy will require that authors **submit the final peer-reviewed accepted journal manuscripts to PubMed Central (PMC).** In lieu of the final peer-reviewed manuscript, AHRQ **will accept the final published article, provided the awardee can ensure AHRQ has the rights to make the published version public**. AHRQ's Public Access Policy is subject to law; Agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed in the OSTP directive.*

- Also: *Authors will regularly report on the status of their deposit of materials using quarterly reports, where applicable; annual progress reports; and final progress reports.*

Effective Dates for Publication Deposit

ASPR, FDA, NASA, NIST, VA 10/1/2015

NOAA, NSF, USDA 1/1/2016

CDC 7/1/2013

DOE 10/1/2014

AHRQ 2/1/2015

2013 | Jul | Nov | 2014 | Jul | Nov | 2015 | Jul | 2016

Today

NIH

Unspecified: DOT, DOD, USAID, USGS

These dates generally indicate when the agency plans to incorporate requirements into the application process, but several indicate the policy will apply to existing grants that are still in progress, so some dates may be earlier in practice.

What Do You Deposit

- Any peer-reviewed research publication.
- Generally either the final accepted manuscript or, when allowed by the publishing contract, the final published version.

Where is the Publication Deposited?

Agency	Location
AHRQ, ASPR, FDA, NIH, NIST, VA	PubMed
USDA	PubAg
CDC	CDC Stacks
DOD	Defense Technical Information Center
DOE	1) Article publisher, 2) local repository [e.g., IDEALS at U Illinois], or 3) OSTI [note: metadata and a DOI for the version of record must be provided to OSTI for all publications for indexing purposes, and will be searchable through PAGES, and OSTI must receive copies of all articles to keep in a dark archive for use if option 1 or 2 fails]
NASA	NASA-branded version of PubMed
NOAA	New NOAA Institutional Repository
NSF	PAGES

Who Deposits the Publication?

- Many journal publishers will deposit either the final accepted version of the article or the final published version in PubMed for NIH-funded research, but not all.

- Details, including participating journal and publisher lists: https://publicaccess.nih.gov/submit_process.htm

- Those that do may not all extend this service to research funded by newer agency mandates, either articles going into PubMed or other agency options (PubAg, CDC Stacks, etc).

When Do You Deposit?

- For most agencies, deposit of articles is required **within 12 months of publication**, although many also specify deposit (or at least initiation of the process) upon acceptance for publication.

- Be sure to check your journal's **author agreement** before you sign to ensure that deposit of your work will not conflict.

- Some agencies explicitly indicating that compliance will be tracked and affect eligibility for future awards.

Scholarly Commons

- Help you evaluate your publisher agreement to make sure there are no conflicts with deposit requirements.

- May be able to help you determine if your publisher will automatically deposit your work for you.

- Work with subject liaison to determine high impact OA publishing options.

e-mail sc@library.illinois.edu

Research Data

UNIVERSITY LIBRARY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

OSTP Memo - Articles

To the extent feasible and consistent with law; agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed below,

the results of unclassified research that are published in peer-reviewed publications directly arising from

Federal funding should be stored

for long-term preservation and publicly accessible

to search, retrieve, and analyze

in ways that maximize the impact and accountability of the Federal research investment.

OSTP Memo - Research Data

applicable   and policy[2]

To the extent feasible and consistent with ^law; ^agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed below,

digitally formatted scientific data resulting from unclassified research supported wholly or in part by

Federal funding should be stored

~~for long-term preservation~~ **and publicly accessible**

to search, retrieve, and analyze

~~in ways that maximize the impact and accountability of the Federal research investment.~~

2 https://www.whitehouse.gov/omb/circulars_a130_a130trans4/

Long-Term Preservation

DOD Implementation Plan

… assessment on the inherent value of the data and provide a recommendation on whether to transfer the data elsewhere or to abandon the notion of preservation. Pg 15

NIH Implementation Plan

The costs and benefits of data management should be considered in policy development and implementation. It is important to note that not all digital scientific data need to be shared and preserved. A fundamental determinant of the need to share and preserve data is the further insight to be gained from increased public access. Pg 24

NSF Implementation Plan

… rarely does NSF expect that retention of all data that are streamed from an instrument or created in the course of an experiment or survey will be required. Pg 15

OSTP Key Points for Research Data

- free public access to research data
- data management planning
- citation of datasets
- private sector collaborations
- education and workforce development
- assessment of data preservation needs
- development of sustainable solutions

OSTP Research Data Bottom Line

> **"requiring researchers to better account for and manage the digital data resulting from federally funded scientific research"**

- Data management plans will be come compulsory

- Providing public access to data will become more routine

What's in Common

- **DMP coverage**
  - What data is produced, how will the data will be accessible, how the data will be preserved, what access restrictions are expected

- **DMPs currently required by NSF, DOE, and USGS**

- **DMP impending requirements**
  - 8 in Oct 2015 (AHRQ, ASPR, CDC, DOD, DOT, FDA, NASA, NIH,* NIST)
  - 2 in Jan 2016 (USDA, NOAA)

  * NIH moving from a single paragraph "Data Sharing Plan" required only from grants with >$500K direct costs per year to DMP for all research applications

What's Variable

Specific language can vary between agencies, between sub-agencies, and even between different funding announcements.

What's Very Variable

NASA ROSES Directorate FAQ

8. I don't want my proposal rejected because I didn't do this right. You need to give more details and or answer my questions about this at 11 pm the night that my proposal is due.

- Unless you are proposing to one of the few calls like A.36, B.7, C.7, or D.2 that evaluates data archiving as part of merit**, no one will get rejected for an inadequate DMP.**

NASA ROSES Directorate FAQ

10. Can I propose anything I want for my data, may I just post it on my web page?

- … Maybe you can't put it in one of our official archives because NASA really doesn't want it, then your webpage is OK. …

Science 26 June 2015

SCIENTIFIC STANDARDS

Promoting an open research

...promote transparency, openness, and reproducibility

By B. A. Nosek,* G. Alter, G. C. Banks,
D. Borsboom, S. D. Bowman,
S. J. Breckler, S. Buck, C. D. Chambers,
G. Chin, G. Christensen, M. Contestabile,
A. Dafoe, E. Eich, J. Freese,
R. Glennerster, D. Goroff, D. P. Green, B.
Hesse, M. Humphreys, J. Ishiyama,
D. Karlan, A. Kraut, A. Lupia, P. Mabry,
T. A. Madon, N. Malhotra,
E. Mayo-Wilson, M. McNutt, E. Miguel,
E. Levy Paluck, U. Simonsohn,
C. Soderberg, B. A. Spellman,
J. Turitto, G. VandenBos, S. Vazire,
E. J. Wagenmakers, R. Wilson, T. Yarkoni

Summary of the eight standards and three levels of the TOP guidelines

Levels 1 to 3 are increasingly stringent for each standard. Level 0 offers a comparison that does not meet the standard.

	LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3
Citation standards	Journal encourages citation of data, code, and materials—or says nothing	Journal describes citation of data in guidelines to authors with clear rules and ...	Article provides appropriate citation for data and materials used, consistent with journal's author guidelines	Article is not published until appropriate citation for data and materials is provided that follows journal's author ...
Data transparency	Journal encourages data sharing—or says nothing.	Article states whether data are available and, if so, where to access them.	Data must be posted to a trusted repository. Exceptions must be identified at article submission.	Data must be posted to a trusted repository, and reported analyses will be reproduced independently before publication.
Research materials transparency	Journal encourages materials sharing—or says nothing	Article states whether materials are available and, if so, where to access them.	Materials must be posted to a trusted repository. Exceptions must be identified at article submission.	Materials must be posted to a trusted repository, and reported analyses will be reproduced independently before publication.
Design and analysis transparency	Journal encourages design and analysis transparency or says nothing.	Journal articulates design transparency standards.	Journal requires adherence to design transparency standards for review and publication.	Journal requires and enforces adherence to design transparency standards for review and publication.
Preregistration of studies	Journal says nothing.	Journal encourages preregistration of studies and provides link in article to preregistration if it exists.	Journal encourages preregistration of studies and provides link in article and certification of meeting preregistration badge requirements.	Journal requires preregistration of studies and provides link and badge in article to meeting requirements.
Preregistration of analysis plans	Journal says nothing.	Journal encourages preanalysis plans and provides link in article to registered analysis plan if it exists.	Journal encourages preanalysis plans and provides link in article and certification of meeting registered analysis plan badge requirements.	Journal requires preregistration of studies with analysis plans and provides link and badge in article to meeting requirements.
Replication	Journal discourages submission of replication studies—or says nothing.	Journal encourages submission of replication studies.	Journal encourages submission of replication studies and conducts blind review of results.	Journal uses Registered Reports as a submission option for replication studies with peer review before observing the study outcomes.

http://www.sciencemag.org/content/348/6242/1422.summary

Journal Requirements for Data

e.g. Science **General Information for Authors**
(*but PLOS, Evolution*, **others…)**

Data and materials availability All data necessary to understand, assess, and extend the conclusions of the manuscript must be available to any reader of *Science*.

First preference: Their website (but 25 MB limit) or existing established repository
Second preference: "…authors will commonly be required to sign an agreement to make a copy of the data[base], as it exists at the time of publication, publicly available on their own Web sites for a period of at least five years after the paper's publication date."

http://www.sciencemag.org/site/feature/contribinfo/prep/gen_info.xhtml#unpublished

Post Publication Review via Commentary

The Irish Potato Famine Pathogen Phytophthora infestans Translocates the CRN8 Kinase into Host Plant Cells
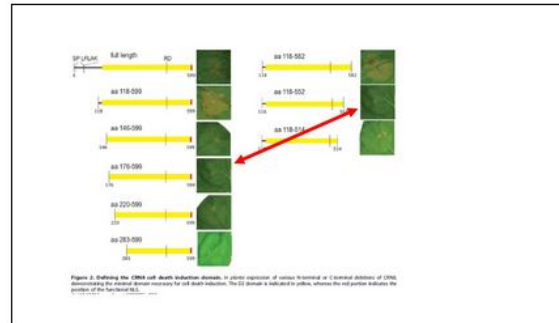van Damme et al
PLoS Pathogens 2012

Posted on **PubPeer**
https://pubpeer.com/publications/D3DF6B4B19C383804BB3748B60604D

"The Irish Potato Famine Pathogen Phytophthora infestans Translocates the CRN8 Kinase into Host Plant Cells"
Mireille van Damme, Tolga O. Bozkurt, Cahid Cakir, Sebastian Schornack, Jan Sklenar, Alexandra M. E. Jones, Sophien Kamoun, PLoS Pathogens (2012)

Comments (19):

0   **Unregistered Submission:** (January 18th, 2015 5:58am UTC)

I would like to aware the authors that one of the figure panels in Figure 2 seems to be used twice in the same figure. Probably an mistake?
http://i.imgur.com/AXkccDC.jpg

Reply   Report

Permalink

Peer 1: (January 18th, 2015 8:14am UTC)

Seems to me that these photos are similar but not identical (e.g., in the thickness of the vein that runs diagonally from bottom right.)

Reply   Report

Take-Aways

1. New expectations for greater transparency with associated technologies, platforms, and policies for enabling it.

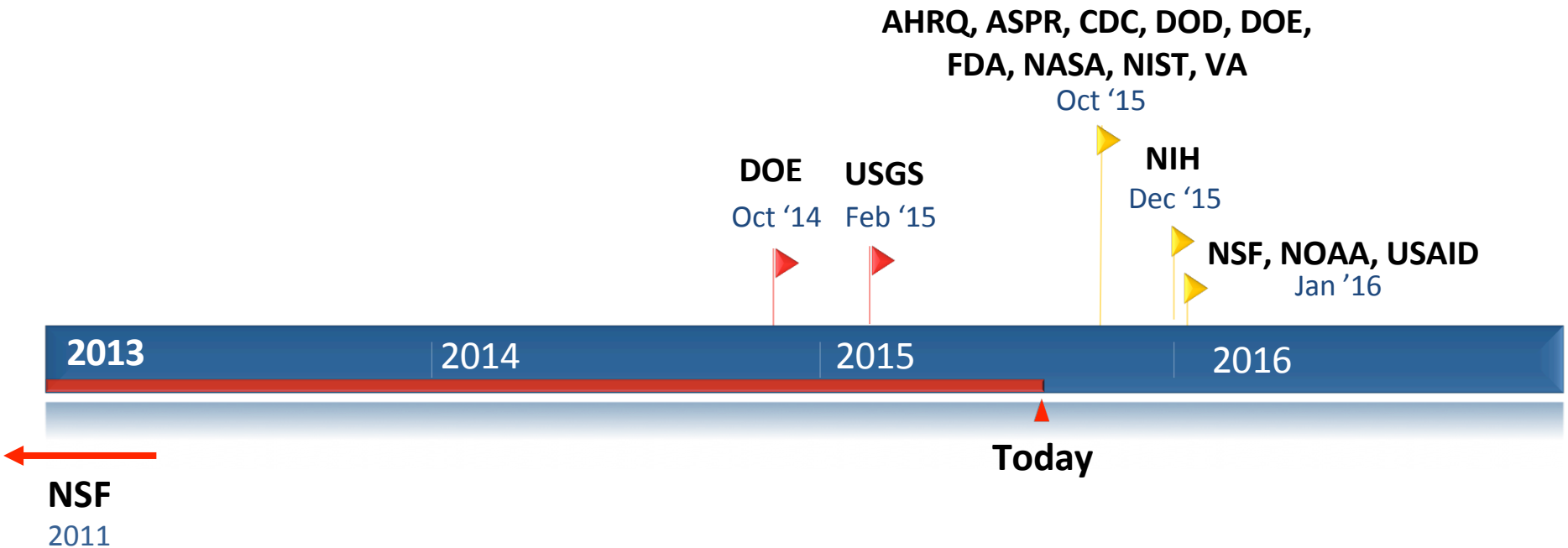2. Fraction targeted likely will be small, but be prepared for…

Niabot CC BY-SA 3.0

Effective Dates?
Data Management Plans Only!

**AHRQ, ASPR, CDC, DOD, DOE,
FDA, NASA, NIST, VA**
Oct '15

NIH
Dec '15

DOE
Oct '14

USGS
Feb '15

NSF, NOAA, USAID
Jan '16

2013   2014   2015   2016

Today

NSF
2011

Unspecified: DOT, USDA

What Data is Deposited?

Data is defined, consistent with OMB circular A-110, as:

the digital recorded factual material commonly accepted in the scientific community as necessary to validate research findings including data sets used to support scholarly publications

but does not include ...

- lab notebooks
- preliminary analyses
- drafts of scientific papers
- plans for future research
- peer review reports
- communications with colleagues
- physical objects, such as lab specimens

Where is the Data Deposited?

- Support established, disciplinary repositories

- Several mention a "Commons"

- Several mention an "Inventory"

- Veterans Affairs just a gave up and said… *Partnering with HHS, NIH, FDA, and DoD on "effective mechanisms"*

Who Deposits the Data?

researcher

When is the Data Deposited?

- most agencies say with article publication

- or within 30 months of collection

- or with 1 year of collection

- or within a reasonable time

- or consistent with public interests

- or it's being explored

Research Data Service

The **Research Data Service** (RDS) provides the Illinois research community with the **expertise, tools, and infrastructure** necessary to manage and steward research data.

Research Data Service

Expertise

- Knowledge around data policies, tools, resources, archiving, and preservation
- Consultation and workshops for data management planning and implementation

Tools

- Data Management Plan creation wizard (DMPTool.org)
- Tools for data citation (DOI minting)

Infrastructure (*in progress*)

- Centralized, managed storage for active ("working") data
- Solutions for public access to research data

DMP Consultation – Option 1

https://dmptool.org/

- online wizard for creating a ready-to-use DMPs
- help text, links to resources, and Illinois-specific suggestions
- login with Illinois NetID and password to automatically create an account
- create, save, and edit plans

DMP Consultation – Option 2

Email to researchdata@library.illinois.edu

We'll request:
- link to the application instructions
- proposal abstract
    - *confidential* – simply to provide direction to most appropriate resources
- deadline that the application needs to be OSPRA

We provide:
- review in 1-2 business days (usually 1 and frequently outside of work hours)
    - more time = more comprehensive review
- guidance including suggested resources, revisions, or language

We don't provide:
- a DMP written wholesale
- funding guarantees

Contact

Dan Tracy

dtracy@illinois.edu

Scholarly Commons

http://www.library.illinois.edu/sc/

Heidi Imker

imker@illinois.edu

Research Data Service

http://researchdataservice.illinois.edu/