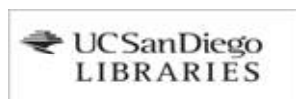June 2, 2011

# A tool to create Data Management Plans

Trisha Cruse

Director, UC Curation Center

California Digital Library

June 2, 2011

Air velocity table and aspiration table:

| Volts | Air velocity in feet/minute. | | | Venturi in open. (No comb. ch.) |
|---|---|---|---|---|
| | Venturi flush. | 2" in | 8" in | |
| 4 | 885 | 898 | 989 | 966 |
| 6 | 1,312 | 1,334 | 1,361 | 1,310 |
| 8 | 1,693 | 1,707 | 1,696 | 1,671 |
| 10 | 1,925 | 2,029 | 2,026 | 1,933 |
| 12 | 2,225 | 2,333 | 2,357 | 2,280 |

Aspiration in inches of water.

| Volts. | Venturi flush. | 2" in | 8" in | Venturi in open. |
|---|---|---|---|---|
| 4 | 3.0 | 3.1 | 3.0 | 3.1 |
| 6 | 5.2 | 5.6 | 5.5 | 5.6 |
| 8 | 7.6 | 8.0 | 7.8 | 8.0 |
| 10 | 10.2 | 10.8 | 10.5 | 10.5 |
| 12 | 13.0 | 14.0 | 14.0 | 13.6 |

Test of complete boiler and burner with auxiliary (starting) nozzle. (1st design. Opening into side of venturi)
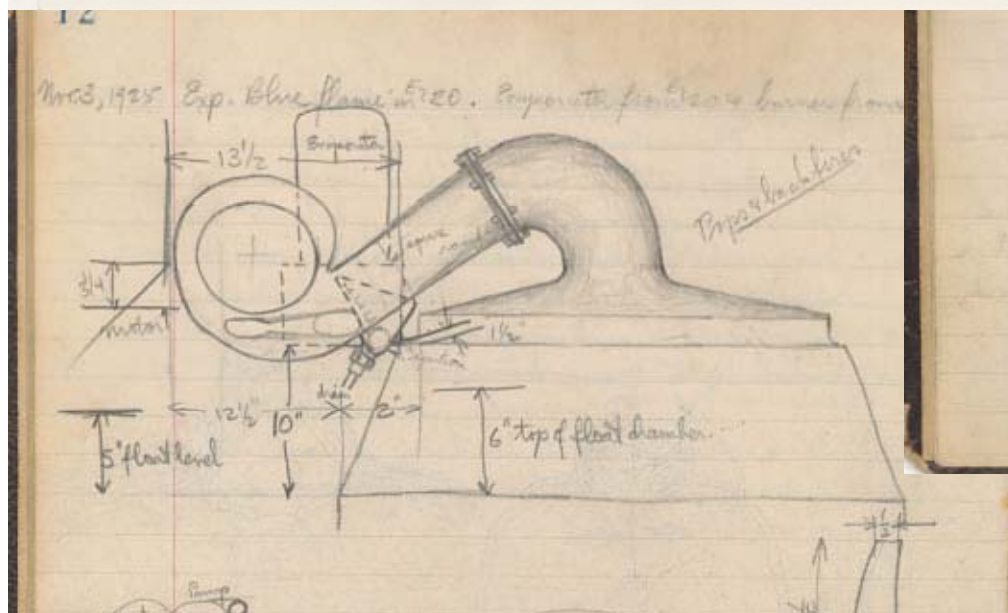
1. Almost impossible to ignite. Starter apparently blows out before aspiration commences in main venturi.

2. Starter frequently failed to ignite at all.

Failure #1 is apparently due to the entrance of the starting flame into the main venturi.

Failure #2 is apparently due to the small and restricted shape of the starting chamber. (and to incorrect handling of the low pressure air supply?)

The "Panther" starting-nozzle did not change the result in any way.

Due to the greater hight to which the fuel must be lifted, the aspiration starts enough later than on the D.D to make an appreciable difference in the



Nov 3, 1925 Exp. Blue flame in 5:20. Evaporator, gas & burner flame

TABLE Y-12A. CALCULATED EMISSIONS FROM LIGHT-DUTY ICEVS (G/MI, EXCEPT AS NOTED) (BEST CEFS) (U. S. 2010)

| Pollutant | CG | RFG | ULSD | M100 | M85 | CNG | CH2 | E100 | E90 | LPG | Gas mix |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fuel evaporation or leakage | 0.40 | 0.34 | 0.02 | 0.43 | 0.41 | 0.09 | 0.09 | 0.22 | 0.23 | 0.19 | 0.34 |
| NMOC exhaust | 0.56 | 0.39 | 0.28 | 0.51 | 0.48 | 0.12 | 0.01 | 0.51 | 0.49 | 0.28 | 0.39 |
| Evaporation +NMOC exhaust | 0.96 | 0.73 | 0.30 | 0.93 | 0.89 | 0.21 | 0.10 | 0.72 | 0.73 | 0.47 | 0.73 |
| Carbon in evap. + NMOC exh. | 0.82 | 0.61 | 0.26 | 0.36 | 0.42 | 0.16 | 0.01 | 0.39 | 0.42 | 0.38 | 0.61 |
| Ozone-weighted total NMOC | 0.86 | 0.63 | 0.17 | 0.28 | 0.36 | 0.07 | 0.00 | 0.45 | 0.48 | 0.19 | 0.63 |
| CH4 exhaust | 0.044 | 0.044 | 0.022 | 0.022 | 0.027 | 0.665 | 0.002 | 0.066 | 0.064 | 0.044 | 0.044 |
| CO exhaust | 7.3 | 5.9 | 1.5 | 4.4 | 4.7 | 4.4 | 0.2 | 4.4 | 4.6 | 4.4 | 5.9 |
| N2O exhaust | 0.060 | 0.060 | 0.015 | 0.060 | 0.060 | 0.045 | 0.000 | 0.060 | 0.060 | 0.060 | 0.060 |
| NOx as NO2 exhaust | 0.82 | 0.70 | 1.24 | 0.74 | 0.73 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.70 |
| SOx as SO2 (incl. lube oil) | 0.070 | 0.008 | 0.003 | 0.004 | 0.005 | 0.001 | 0.001 | 0.003 | 0.004 | 0.002 | 0.008 |
| PM exhaust | 0.023 | 0.023 | 0.046 | 0.009 | 0.012 | 0.005 | 0.005 | 0.009 | 0.011 | 0.006 | 0.023 |
| Non-CO2 C in fuel and lube | 4.01 | 3.18 | 0.94 | 2.27 | 2.48 | 2.55 | 0.08 | 2.33 | 2.44 | 2.30 | 3.18 |
| Non-CO2 C in lube oil | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| CO2 from fuel | 328.1 | 328.9 | 268.5 | 276.3 | 288.6 | 242.4 | 5.14 | 292.4 | 297.0 | 285.1 | 328.9 |
|   CO2 biofuel credit | n.a. | n.a. | n.a. | (276.3) | (211.8) | (242.4) | n.a. | (292.4) | (255.1) | n.a. | n.a. |
| CO2 from fuel (g/10⁶ BTU) | 67,777 | 67,928 | 71,444 | 61,956 | 63,396 | 51,409 | 1,218 | 65,600 | 65,898 | 61,065 | 67,928 |
| SO2 from fuel (g/10⁶ BTU) | 14.51 | 1.60 | 0.85 | 0.90 | 1.07 | 0.28 | 0.26 | 0.74 | 0.86 | 0.47 | 1.60 |
| | | | | | | | | | | | |
| CO2 equivalents | | | | | | | | | | | |
| Non-CO2 gases | 107.7 | 94.8 | 84.7 | 63.4 | 70.7 | 66.9 | 1.40 | 64.7 | 68.6 | 63.1 | 94.8 |
|   CO2 biofuel credit | n.a. | n.a. | n.a. | (8.3) | (6.4) | (9.3) | n.a. | (8.5) | (7.5) | n.a. | n.a. |
| Total CO2*+nonCO2 | 435.8 | 423.7 | 353.2 | 339.6 | 359.2 | 309.3 | 6.5 | 357.1 | 365.6 | 348.2 | 423.7 |

$CO_2$ from fuel (g/10⁶ BTU), $SO_2$ from fuel (g/10⁶ BTU)

**Cars and Light Truc**

Recent Additions | Contact Us    Sear
You are here: EPA Home » Transportatic
Car List Data Files

en Vehicle
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Economy

cle Recalls

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Regulations

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## Test Car List Dat

Return to Fuel Economy Page

This web site provides links to EPA's
1984 and been formatted to downlc

Description and Instructions on Tes

# Motive

- Data is a scholarly asset (upstream mgmt helps preserve its value)
- Funders requiring data management

  so….

- a flexible online tool, DMP Tool,  to help researchers generate data management plans (and others to contribute to, consult, or mine them)

Caveat……..Early days

# Motive & Opportunity

1. Funders ($600M to UC from NSF in 2010)
2. "The alternative, a 'go it alone' strategy, will only lead to dangerous isolation... yielding idiosyncratic, expensive, and ultimately unsustainable infrastructures."

   (New Roles for New Times, ARL, 2011)
3. Interest & expertise
4. Allow researchers to focus on research (and benefit from managing data)

# What - Why

## a DMP includes:

1. **Content Characteristics**: types of data, physical collections, software…
2. **Standards**:  data and metadata format
3. **Access**:  policies for acess, appropriate protection of privacy, confidentiality, security, intellectual property…
4. **Sharing**: policies and provisions for re-use, re-distribution, if any
5. **Archiving:** save what - complete or samples, other research products; long-term access

## A DMP adds value by:

Meeting funders' data <span style="color:red">mgmt/sharing polices</span>

Meeting Journals  (Nature, Science, and PLoS)  data <span style="color:red">sharing requirements</span>.
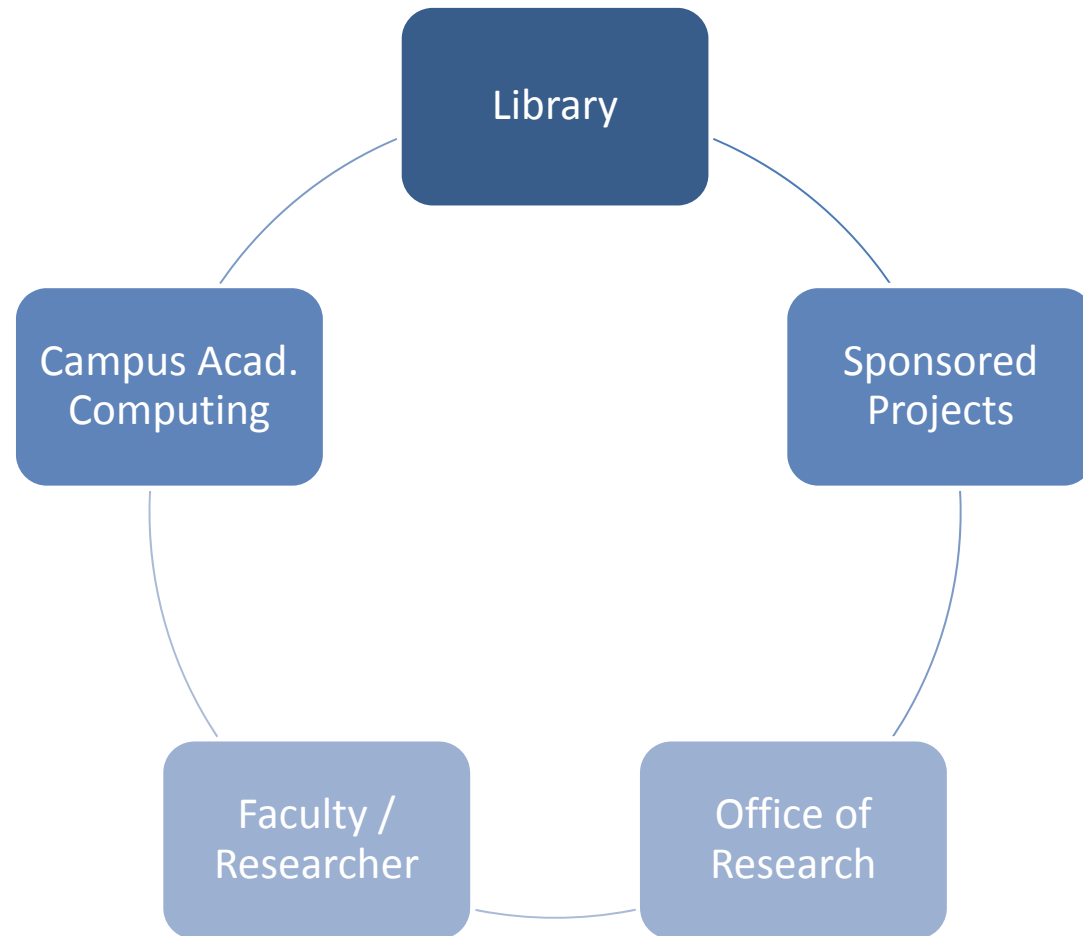
Distributing research results to <span style="color:red">increase citations</span> (Piwowar et al., 2007)

A shared, common data set may help researchers collaborate and <span style="color:red">accelerate discoveries</span>  (NY Times, 2010).

**For the researcher:**
- helps organize data
- cultivate quality and efficiency
- help with preserving and sharing data

# Data management planning – local

# Data mgmt planning – byob*



* Beyond Your Own Backyard

# A look at the *DMP Tool*

- Creates - editable document for submission to a funding agency
- Accommodates versions as funding requirements change
- Open source – bitbucket
- Customizable (by org.)
- Guidance and help
- Four types of users / administrators:
    1. Researcher
    2. Institution
    3. Funder
    4. DMP content editor

**1.**

# DMP Tool

Guidance and resources for writing data mangement plans

Sign up  | Login

**4.**

**5.**

Grant-funded projects are increasingly required to document how data generated by the project will be managed both during and beyond the life of the grant. This tool will guide you through that process and generate a data management plan to include with your proposal.

**2.**

## Who can use the DMP Tool?
Anyone can create an account to generate a data mangement plan. If you are affiliated with one of the partner institutions, you will also find links to local resources for data management as you complete your plan.
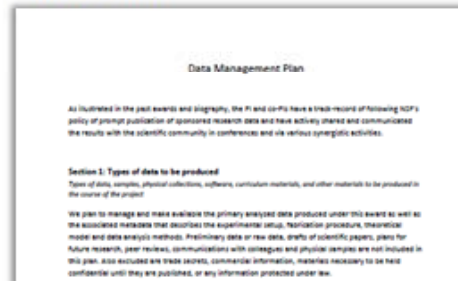
## How does it work?
Choose the grant you're applying for and the DMP Tool will generate a form with that grant's specific DMP requirements. The tool provides information and guidance for each question and will link you to relevant resources. In some cases, the tool may provide suggested answer text relevant to your institution. When you've completed the form, you can generate an editable document that can be included in your grant application. You can create as many plans as you need, you can return later to edit a plan, and you can publish a PDF version of your plan to share with others.

## How do I start?
Check the list of supported grants, make sure you have access to have access to any documentation for your grant thus far, and create a DMP Tool account to being preparing your plan.

### Sample plans

Data Management Plan

As illustrated in the past awards and biography, the PI and co-PIs have a track-record of following NSF's policy of prompt publication of sponsored research data and have actively shared and communicated the results with the scientific community in conferences and via various synergistic activities.

Section 1: Types of data to be produced
Types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project

We plan to manage and make available the primary analyzed data produced under this award as well as the associated metadata that describes the experimental setup, fabrication procedure, theoretical model and data analysis methods. Preliminary data or raw data, drafts of scientific papers, plans for future research, peer reviews, communications with colleagues and physical samples are not included in this plan. Also excluded are trade secrets, commercial information, materials necessary to be held confidential until they are published, or any information protected under law.

- **NSF - Behavioral Sciences (UCLA)**
- **NSF - Behavioral Sciences (University of Virginia)**
- **NSF - Engineering (University of Virginia)**
- **NSF - Ethics Education in Science and Engineering (UC San Deigo)**
- **NSF - General (University of Virginia)**
- **NSF - Geosciences (UC San Diego)**
- **NSF - Geosciences (Smithsonian Institution)**
- **MORE>**

### DMP News

**Open Access and Climate Research Data**
3/23/2011
Advocates for data sharing often speak about the need for a "culture shift" among scientists before open...
[more]

**Data, Data Everywhere...A Deluge of Data Management Articles**
3/21/2011
Data management is an issue that has been heating up for a while in the scientific community, and last...
[more]

**University of Illinois at Urbana-Champaign joins DMP Tool partners**
3/14/2011
Researchers at UIUC will now have access to information about local resources and services for data management...
[more]

# Select home institution -- routes users through their organization's authentication gateway -- pick up branding

Login screen will look slightly different for organizations routing users through their own authentication system.

# Home screen: once the user has logged in presented with a view of their work and options

## Preview

Select a funding agency to see its data management plan requirements:

**1.**   General NSF ▾

**2.**   **Resources:**

Describe the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project.  **Learn more**

General NSF DMP Requirements page from NSF site

Describe the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies).  **Learn more**

NSF Data Management Plan FAQ

Sample NSF-GEN plan from NSF

Describe policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements. **Learn more**

Describe policies and provisions for re-use, re-distribution, and the production of derivatives. **Learn more**

Describe plans for archiving data, samples, and other research products, and for preservation of access to them. **Learn more**

# DMP Tool
### Guidance and resources for writing data mangement plans

**Home**          **Partner Institutions**          **News**          **Demo**          **Help**          **My Plans**

## Create a New NSF- General Plan    1.

### Progress

Sections marked with a check are complete.  You can navigate to a section and edit at any time.    2.

**Introductory text**

**Types of data produced**

**Data and metadata formats**

**Policies for access and sharing**

**Policies for re-use, re-distribution**

**Plans for Archiving and Preservation**

**Closing text**

The NSF-GEN plan will cover the subject areas listed to the left.  A two-page data management plan must be provided as a supplementary document for all NSF General research proposals submitted.  (You will be able to edit the document this tool generates if it is longer than two pages).

You can save a plan in progress and return later to finish or edit.  Introductory and closing remarks are optional, but all other sections of the plan require at least some text.

Data plan name:
This will not appear in the document; you will use it to indentify this plan in the future.

Optional introductory text:
Provide any brief introductory remarks for this data management plan.

### Resources

ALL FOR NSF - GENERAL

3.

* Archiving & Sharing Data Guidance

* Documentation & Metadata Guidance from UVa

* File Format Guidance from UVa

How to get a Libra account

NSF Data Management Plan FAQ

NSF Data Management Plan Requirements

Sample Plan NSF - General Data Management

SciDaC Web Page

Next

# DMP Tool

Guidance and resources for writing data management plans

**Home**          **Partner Institutions**          **News**          **Demo**          **Help**          **My Plans**

**1.**

## Create a New NSF-GEN Plan

**Section 1:** Types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project

### Progress

Sections marked with a check are complete. You can navigate to a section and edit at any time.

**2.**

✓ **Introductory text**

**Types of data produced**

**Data and metadata formats**

**Policies for access and sharing**

**Policies for re-use, re-distribution**

**Plans for Archiving and Preservation**

**Closing text**

Give a short description of the data, including amount (if known) and content. If the project will be collecting data of a sensitive nature, note here and reflect upon it in subsequent sections. Data types could include text, spreadsheets, images, 3D models, software, audio files, video files, reports, surveys, patient records, etc. Andwer these questions:

1. What data will be generated in the research?
2. What data types will you be creating or capturing?
3. How will you capture or create the data?
4. If you will be using existing data, state that fact and include where you got it. What is the relationship between the data you are collecting and the existing data?

**3.**

B  *I*  U  ☷  ☷

Text will automatically be saved when you click Next.

[ Preview ]  [ Next ]

### Resources

THIS SECTION
* Data Types Guidance from UVa

* SciDaC Web Page

THIS FUNDER
NSF Data Management Plan FAQ

NSF Data Management Plan Requirements

Sample Plan NSF – General Data Management

## Create a New NSF-GEN Plan

**Section 5:** Plans for archiving data, samples, and other research products, and for Preservation of access to them

### Progress

Sections marked with a check are complete.  You can navigate to a section and edit at any time.

✔ **Introductory text**

✔ **Types of data produced**

✔ **Data and metadata formats**

✔ **Policies for access and sharing**

✔ **Policies for re-use, re-distribution**

**Plans for Archiving and Preservation**

**Closing text**

### Resources

THIS SECTION
* Archiving & Sharing Data Guidance

* How to get a Libra account

* SciDaC Web Page

THIS FUNDER
NSF Data Management Plan FAQ

NSF Data Management Plan Requirements

Sample Plan: NSF - General Data Management

---

This portion of the Data Management Plan asks you to provide a long-term strategy for archiving and preserving the data from the research described in the proposal. You should address the following questions in your response:

1. What is the long-term strategy for maintaining, curating and archiving the data?
2. Which archive/repository/database have you identified as a place to deposit data?
3. What procedures does your intended long-term data storage facility have in place for preservation and backup?
4. How long will/should data be kept beyond the life of the project?
5. What data will be preserved for the long-term?
6. What transformations will be necessary to prepare data for preservation / data sharing?
7. What metadata/ documentation will be submitted alongside the data or created on deposit/ transformation in order to make the data reusable?
8. What related information will be deposited?

* **Additional help for University of Virginia researchers:**

The University of Virginia is developing an institutional repository (Libra), which will serve as an ideal long-term storage facility for digital research data. This section provides suggested answer text that addresses questions 1-4 above for researchers who will be using Libra to store their data.

If you will be using a different repository, or if you will be storing your data for longer than five years, you can modify or  delete the suggested answer text below.

Don't forget to answer questions 5-8 in your text.

**Suggested answer text provided; edit or remove as needed.**

---

**B** *I* <u>U</u> ☰ ☷

As advised by University of Virginia Library staff members, I plan on depositing    my research data in the UVA institutional repository – Libra.  I will submit the necessary metadata and other resources to make my data accessible for future users.  In accordance with the University of Virginia policy RES-002, "Policy: Laboratory Notebook and Recordkeeping," the data will be preserved for a minimum of five years upon completion of the project. However the current preservation plan for Libra will be to preserve the data indefinitely.  The Libra   backup plan provides for data redundancy including off-site storage.

---

Text will automatically be saved when you click Next.

[ Restore suggested text ]    [ Preview ]    [ Next ]

## The DMP Tool Deliverable:
## A Data Management Plan

**DMP Tool**
Guidance and resources for writing data mangement plans

logo

Contact Us | Logout
logged in as jpratt

Home    Partner Institutions    News    Demo    Help    My Plans

**Create a New NSF-GEN Plan**
Finish plan

**Progress**

Sections marked with a check are complete. You can navigate to a section and edit at any time.

✅ Introductory text
✅ Types of data produced
✅ Data and metadata formats
✅ Policies for access and sharing
✅ Policies for re-use, re-distribution
✅ Plans for Archiving and Preservation
✅ Closing text

Your data management plan is displayed below. You can still use the side navigation to edit any section of the plan.

You have the option to publish as MS Word, Rich Text Format or PDF. *We strongly recommend* that you export this document in an editable format and use your prefered editor to check the length and spelling or change the formatting of this DMP.

**Data Management Plan**

As illustrated in the past awards and biography, the PI and co-PIs have a track-record of following NSF's policy of prompt publication of sponsored research data and have actively shared and communicated the results with the scientific community in conferences and via various synergistic activities.

**Section 1: Types of data to be produced**
*Types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project*
We plan to manage and make available the primary analyzed data produced under this award as well as the associated metadata that describes the experimental setup, fabrication procedure, theoretical model and data analysis methods. Preliminary data or raw data, drafts of scientific papers, plans for future research, peer reviews, communications with colleagues and physical samples are not included in this plan. Also excluded are trade secrets, commercial information, materials necessary to be held confidential until they are published, or any information protected under law.

**Section 2: Data and metadata formats:**
*Standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies)*
The data will be available in print from publishers or electronically in PDF format.

**Section 3: Policies for access and sharing**
*Policies for access and sharing; Provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements*
All analyzed primary data under this award will be published promptly. Published data such as articles, dissertations and book chapters are accessible from publishers or upon request to the senior and student researchers involved, subject to privacy, confidentiality, security, and intellectual property right policy of individual publishers. Subscription or printing charges may apply.

**Section 4: Policies for re-use, re-distribution**
*Policies and provisions for re-use, re-distribution, and the production of derivatives*
Materials generated under the project will be disseminated in accordance with the University of Virginia policies: http://www.virginia.edu/grants/data-terms-of-use.html.

**Section 5: Plans for Archiving and Preservation**
*Plans for archiving data, samples, and other research products, and for Preservation of access to them*
As advised by University of Virginia Library staff members, I plan on depositing my research data in the UVA institutional repository - Libra. I will submit the necessary metadata and other resources to make my data accessible for future users. In accordance with the University of Virginia policy RES-002, "Policy: Laboratory Notebook and Recordkeeping," the data will be preserved for a minimum of five years upon completion of the project. However the current preservation plan for Libra will be to preserve the data indefinitely. The Libra backup plan provides for data redundancy including off-site storage.

Data will be retained for a minimum of three years after conclusion of the award or three years after public release (publication), whichever is later. Data related to a student's research work will be retained for at least three years after the degree is awarded. Data that support patents will be retained for the entire term of the patent. Longer periods will apply when questions arise from inquiries or investigations with respect to research.
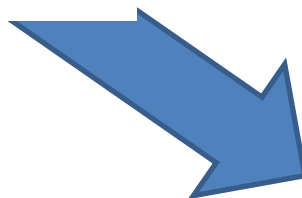
**Select format:**
◉ Rich Text Format
○ MS Word
○ PDF

[Export]

**Select format:**
◉ Rich Text Format
○ MS Word
○ PDF

[Export]

# User Type 1: DMP Tool Use Case – Researcher

**What a researcher can do**

1. Establish an account

2. View sample plans

3. Preview funder requirements

4. Create, save, edit, publish plan

5. View, use, past plans

6. Use help (generic and

institution specific)

7. View news and latest changes

# UC3 Services that Support Data Management Plans

## Merritt Repository

- Open to the UC community
- Discipline agnostic
- Work collaboratively
  - Deposit
  - Manage
  - Share
  - Access
  - Preserve

## EZID, easy identifier service

- Create and manage identifiers
- Enables easier to access, re-use and verify
- Enables  reuse and verification of data
- Provides a key to allow the impact of data to be tracked
- Provides a scholarly structure that recognizes and rewards data producers

UC3 Merritt

UC3EZID
long-term identifiers made easy

# UC Library DMP Contacts

**UC Berkeley**

Mary Ann Mahoney: Head, Chemistry and Chemical Engineering Library

Jeffrey Loo, Chemical Informatics Librarian

**UC Davis**

Phoebe Ayers: Physical Sciences and Engineering Librarian

Raquel Abad: Health Sciences Librarian, Blaisdell Medical Library, Sacramento

Ruth Gustafson: Biological-Agricultural Sciences Librarian

Deanna Johnson: Assistant Head, Health Sciences Library

**UC Irvine**

Mitchell Brown: Research Librarian for Chemistry, Earth System Sciences, and Russian Studies

**UC Los Angeles**

Stephen Davison: Head, Digital Library Program

Claudia Horning

**UC Merced**

Emily Linn, Librarian

**UC Riverside**

Diane Bisom: Associate University Librarian,Information Technology and Systems

Barbara Schader: Assistant University Librarian, Collections and Scholarly Communications

**UC San Diego**

Ardys Kozbial: Technology Outreach Librarian

**UC San Francisco**

Kathleen Cameron: Manager, Digital Content Development

**UC Santa Barbara**

Lucia Snowhill: Co-Acting University Librarian and Associate University Librarian, Collection Development

**UC Santa Cruz**

Elizabeth Cowell: Associate University Librarian

**California Digital Library**

Patricia Cruse, Director, UC Curation Center, CDL