

Putting a **Good** Data Management Plan into **Action** and making **Impact**

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www.libraries.uc.edu

Research & Data Services | UC Libraries

Data Management

These data services align with researchers at the time of proposal planning and continue through the course of the project. These services include consultations with researchers regarding collecting/generating, storing, sharing and preserving research data.

Data Analytics

Performed by a combination of librarians and graduate students, these services will assist researchers in generating insight from data to inform decisions and research outcomes. Our analytics services can assist researchers in identifying appropriate analyses, explaining statistical methods, interpretation of results, data wrangling and statistical computation, and implementing models and algorithms in supported software environments.

Biomedical Informatics

These services are designed to assist researchers navigate biomedical databases and acquire genomic and proteomic data for research purposes.

Geographic Information System

Performed by a combination of librarians and graduate students, these services are centered on the utilization of spatial and/or geographic data. Researchers can gain assistance on gathering data, spatial analysis, map design, and web mapping applications.

The Research & Data Services group provides innovative and effective research partnerships by engaging researchers in data services through collaboration, consultation, and training that aims to amplify the global UC research profile.

3-Tiered Service Model

TRIAGE

General consultation to discuss research needs or concerns.

AMPLIFY

Training education and assistance provided to increase your understanding and aid in effective use of research resources.

PARTNERSHIP

Team member plays a critical role in the design, development, and analysis of your project.

The Research Data Management Lifecycle



Data management planning

Storing data
- Onedrive

Processing /Analyzing data
- ARC

Archiving, sharing data
- scholar@uc



A data management plan should answer the following:

- What data will be produced?
- What standards will be used to document the data?
- How will the data be protected especially sensitive and restricted data
- How will the data be archived and preserved?
- How will reuse of the data and access to the data , and IP rights, if applicable, be facilitated?

https://figshare.com/articles/Data_Management_Plan_Checklist/1130852

Source- Kristin Briney

Who requires a data management plan?

Federal Funding agencies, and other grant issuing agencies -

- [Agency for Healthcare Research & Quality \(AHRQ\)](#)
- [Centers for Disease Control and Prevention \(CDC\)](#)
- [Department of Defense \(DOD\)](#)
- [Department of Energy \(DOE\)](#)
- [Department of Transportation \(DOT\)](#)
- [Food and Drug Administration \(FDA\)](#)
- [National Aeronautics and Space Administration \(NASA\)](#)
- [National Institutes of Health \(NIH\)](#)
- [National Institute of Standards and Technology \(NIST\)](#)
- [National Oceanic and Atmospheric Administration \(NOAA\)](#)
- [National Science Foundation \(NSF\)](#)
- [US Agency for International Development \(USAID\)](#)
- [US Department of Agriculture \(USDA\)](#)
- [US Geological Survey \(USGS\)](#)
- [More info on Federal Funding Agencies' policies](#)

When writing the plan :

- Be **specific**
- **Think and plan ahead**

When the project is running:

- Put the DMP into **action**
- **Reference** the plan **and adjust** as the project evolves

What data will be produced?

	Complete / Detailed	Addressed issue, but incomplete	Does not address the issue	NSF Directorates Req
Describes what types of data will be captured, created, or collected	This project will produce: observational data in binary format, which is then converted by proprietary instrumentation software into ASCII text; Matlab mat-files for working data during the analysis phase; CSV and/or HDF5 files for data sharing and preservation."	"We will collect zooplankton data from net tows. We will also collect elemental ratio data from preserved samples."		All
	<i>Clearly defines data type(s). E.g. text, spreadsheets, images, 3D models, software, audio files, video files, reports, surveys, patient records, samples, final or intermediate numerical results from theoretical calculations, etc. Also defines data as: observational, experimental, simulation, model output or assimilation</i>	<i>Some details about data types are included, but DMP is missing details or wouldn't be well understood by someone outside of the project</i>	<i>No information about data types is included; fails to adequately describe data types</i>	

How will reuse of the data and access to the data...?

		Complete / Detailed	Addressed issue, but incomplete	Does not address	Directorate w/ this req.
3.1	Provides details on when the data will be made publicly available	<p>clearly specifies when the data will be made available to people outside of the project.</p> <p><i>"Data generated from our research will be shared incrementally throughout the time period of the project, and the full dataset will be available no later than one year after the project end"</i></p>	<p>Verifies that the data will be made available outside of the project but does not identify when, such as a time frame (e.g., duration of the project, or for a period after the conclusion of the project).</p> <p><i>"It will be the policy of the project to publish relevant findings expeditiously in the peer-reviewed literature".</i></p>	Does not specify when the data will be made available outside of the project.	All
3.2	Describes how the data will be made publicly available	<p>Includes specific details on the means by which the data will be made available. E.g., this may include a publically accessible data repository or a description of how the researcher or a 3rd party will provide access</p> <p><i>"The data we collect will be made publicly accessible via submission to our university's repository service, which has capability for data set ingest and review"</i></p>	<p>Provides vague or limited information on how the data will be made available, or details about sharing can be inferred from the mention of a repository or archive that will be used for depositing the data.</p> <p><i>"The data will be made accessible to others upon request".</i></p>	Includes no details on the means by which the data will be made available.	All
3.3	If the data are deemed to be of a "sensitive" nature, describes what protections will be put into place to protect privacy or confidentiality of research subjects	<p>Actions that will be taken to address the sharing of sensitive data are clearly described</p> <p><i>"Because of confidentiality issues, each subject will be assigned an arbitrary code. Personal information will be permanently removed prior to data analysis. All data will be stored and backed-up by the PI. The de-identified electronic data will be preserved on DVDs and external hard drives. Copies of these data will also be preserved offsite at a university storage facility. Completed surveys, consent forms, and written analyses of students' lessons will be stored in a locked file cabinet accessible only to the PI"</i></p>	<p>Actions that will be taken to address the sharing of sensitive data are vaguely described.</p> <p><i>"Prior to publication, the data will be maintained confidential and stored in the lab, and in the PI's machine."</i></p>	Actions that will be taken to address the sharing of sensitive data are not described	All




Using data management plans as a research tool - <https://osf.io/kh2y6/>

<https://doi.org/10.1371/journal.pcbi.1004525>



Ten Simple Rules for Creating a Good Data Management Plan

William K. Michener 

Published: October 22, 2015 • <https://doi.org/10.1371/journal.pcbi.1004525>



DMPTool

Build your Data Management Plan

<https://dmptool.org/>



<https://dmptool.org/>

Table of Contents

- [Introduction](#)
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Choose option 1 – institution – University of Cincinnati Main Campus
Login with 6+2

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

- or -

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

* Select the primary funding organization

- or -

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

Create plan

Cancel

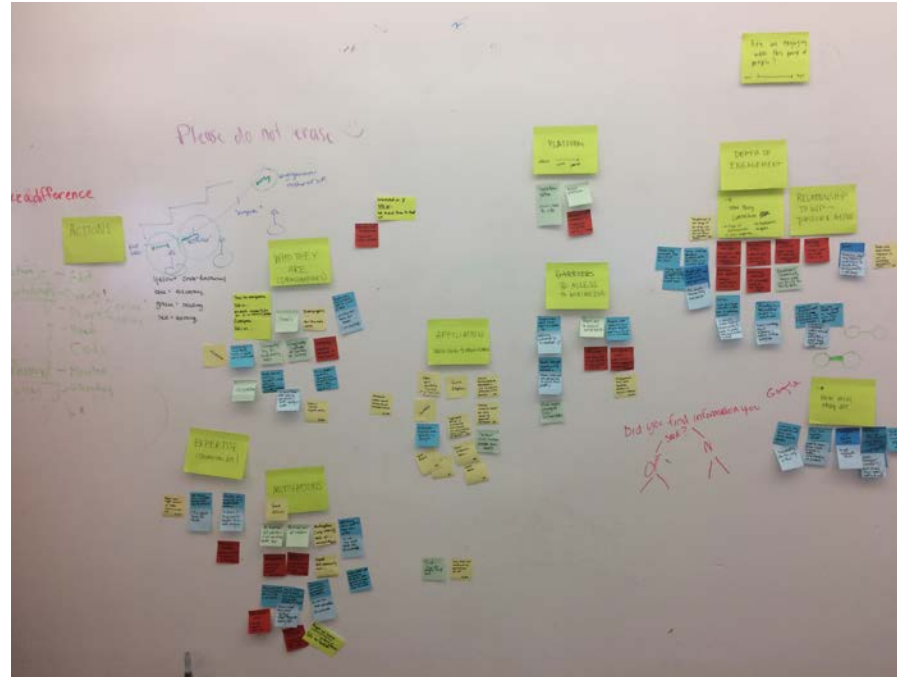
Project planning – Data Management Plan



Project begins



All the hard work



Project end –
Publishing/Archiving/Sharing



Journal Article/
Data - Repository

Data Sharing

www.libraries.uc.edu

Best place to share your data:

- Subject repository
- Repository that...
 - Is easy to use
 - Accepts many types of files
 - Provides description - Metadata
 - Allows content to be indexed, searched and retrieved
 - Provides permanent access – PURL, DOI
 - Has analytics – page views, downloads
- Sensitive Data needs a gatekeeper
 - ICPSR - <https://www.icpsr.umich.edu/icpsrweb/>
 - *Center for Health Informatics - <https://www.med.uc.edu/chi>

* You can get data, but not necessarily store here

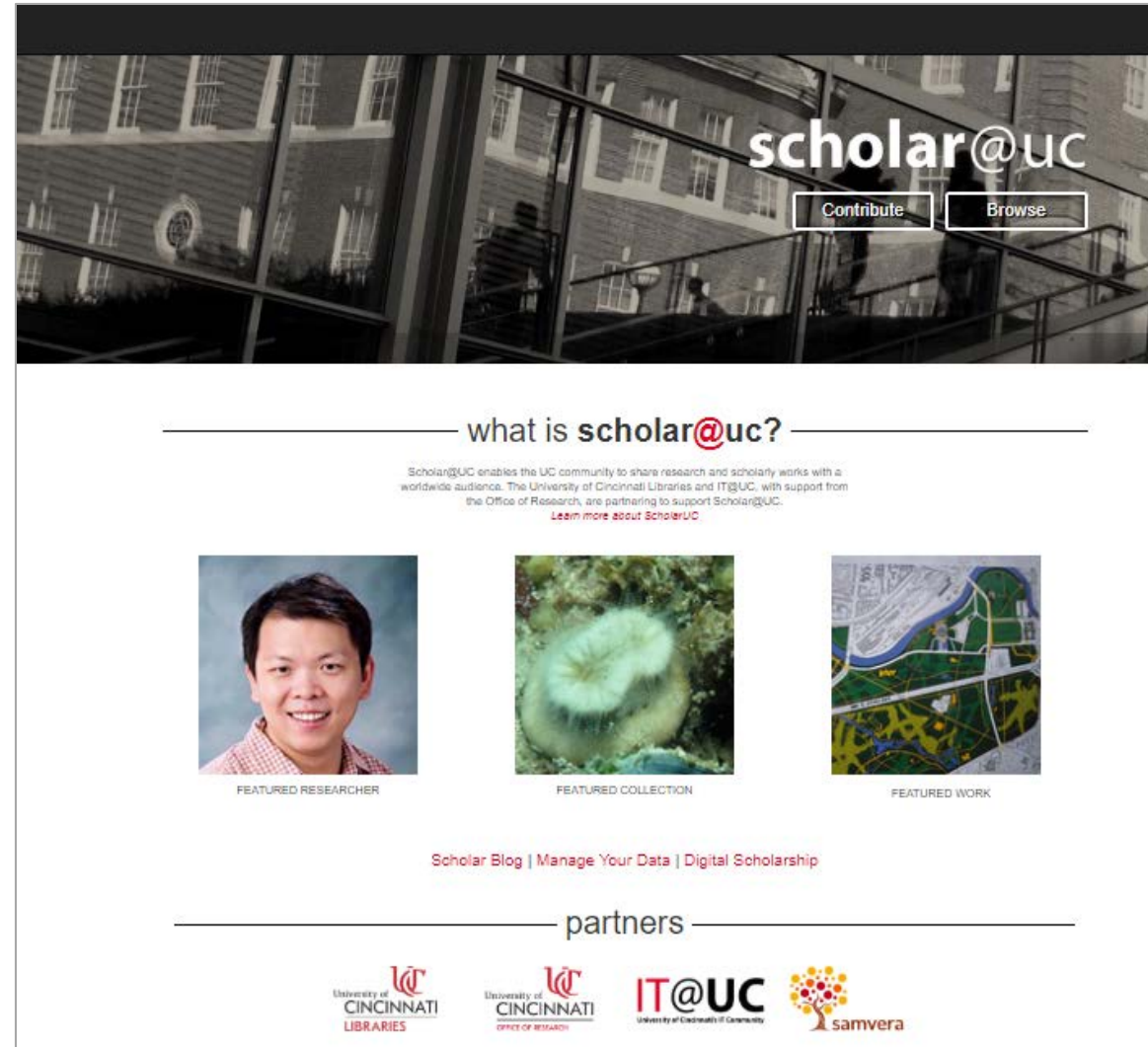


<https://www.re3data.org/>

<https://www.nature.com/sdata/policies/repositories>

www.libraries.uc.edu

UC's data sharing solution > scholar@uc



The screenshot shows the scholar@uc website. At the top is a header image of a building with the text "scholar@uc" and two buttons: "Contribute" and "Browse". Below this is a section titled "what is scholar@uc?" with a paragraph explaining the service and a link to "Learn more about ScholarUC". Underneath are three featured items: "FEATURED RESEARCHER" with a portrait of a man, "FEATURED COLLECTION" with a green biological specimen, and "FEATURED WORK" with a map. Below these is a link to "Scholar Blog | Manage Your Data | Digital Scholarship". At the bottom is a "partners" section with logos for the University of Cincinnati Libraries, the University of Cincinnati Office of Research, IT@UC, and samvera.


scholar@uc

Contribute Browse


what is **scholar@uc**?

Scholar@UC enables the UC community to share research and scholarly works with a worldwide audience. The University of Cincinnati Libraries and IT@UC, with support from the Office of Research, are partnering to support Scholar@UC.

[Learn more about ScholarUC](#)



FEATURED RESEARCHER






FEATURED COLLECTION



FEATURED WORK

[Scholar Blog](#) | [Manage Your Data](#) | [Digital Scholarship](#)

partners



Log in with 6+2

Under the works menu,
choose add new work

Choose work type - dataset

Follow the wizard

- Add metadata
- Choose to create /link DOI
- Add files
- Links to other works in Repo
- Allow access for editing
- License
- Visibility
 - private, UC only, embargoed, public

To see the UC only content, you need to be logged in. If off campus, use the VPN.

Home / Dashboard / Works / Add New Work

If you would like guidance on submitting a dataset, please read the [Documenting Data](#) help page.

Add New Dataset

Metadata DOI Files Relationships Sharing

To create a separate work for each of the files, go to [Batch upload](#)

The more descriptive information you provide the better we can serve your needs.

[Attaching a file](#) is highly recommended but not required.

Title required

Enter the title of your Dataset. If the Dataset does not have a title, please enter a brief descriptive label.

Creator required

Enter the names of creators of the Dataset, in *LastName, FirstName* format. These could include important authors, co-authors, or other significant contributors.

[+ Add another Creator](#)

College required

Select the college associated with the submitter of this work.

Suggested Documentation for data

- Read Me file = **instruction sheet** – how to use the data
 - File relationship
 - File naming convention
 - Data dictionary
 - Variable explanation
 - Terms that are unique to the dataset
 - Keywords
 - Omissions and errors explained
 - Methodology - protocol
 - Metadata following a suggested schema if appropriate
 - Contact information


Readme File Template from U of Minnesota:

<https://drive.google.com/file/d/0B5Dm3XFQIoc4RDY4VEM40FJobUk/view>

Sharing Data – Dr. Christy Holland

PLOS article link - <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0177786>

My Collections / Clot on a Suture Dataset



Clot on a Suture Dataset Open Access

No Description


Total Items: 10
Size: 84.7 GB
Creator: Huang, Shenwen

Submitter: huangsw@mail.uc.edu
Rights: All rights reserved

Items in this Collection

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Sort By: relevance Show 10 per page Refresh

Title	Date Uploaded	Visibility
 Porcine and Human Clot SEM Images >	04/11/2017	Open Access



<https://scholar.uc.edu/collections/bc386p70c>

Discoverability is...



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[Watch a video, get the facts, and find out how.](#)

DOI allows you to connect other resources to your work

- ORCID
- Citations

DOI Providers

- Crossref
- Datacite

Giving Your Content a DOI - From Scholar@UC to your ORCID Profile



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Attributes

Attribute Name	Values
Creator	Koshoffer, Amy
Submitter	Amy Koshoffer
College	Libraries
Department	Geolog-Math-F
Publisher	University of C
Rights	Attribution-Non

DOI

doi:10.7945/C2NP4P

This DOI link is the best way for others to cite your work.

Best Practices for Research Data Services:
Practices and Opportunities at the University of Cincinnati
Amy Koshoffer¹, Tiffany Grant² and Don Jason³
Science Informationist¹, Research Informationist², Clinical Informationist³

Transformations @ UC Libraries: Applying Institutional Best Practices to UC Current Practices

Pillars of UC Libraries' Strategic Plan

- People
- Data to Information to Knowledge
- Space
- Digital technologies & innovations

Core Library Functions

- Central Research Hub ▶ In Progress
- Clear Data Policy ▶ UC Policy # 10/10-43-18
- Modern Infrastructure ▶ NSF Grant 100 Gb internet
- Data Registry ▶ Not planned
- Institutional Repository ▶ Scholar@UC - June 2015
- Data Literacy Program ▶ Engaging Stakeholders
- Measures of Success ▶ Per program

Opportunities for UC Libraries and Informationists:

- Data Services Group
- Awareness of Tools & Services
- Grants and Outside Funding
- Evaluating Space
- Community Engagement
- Data Literacy program
- Leadership Areas

Reference: Grant T. and Koshoffer A., Research Data Management at Academic Research Institutions: An Evaluation of Best Practices and a Comparative Assessment of Practices and Opportunities at the University of Cincinnati (White paper 2014)

RDAP Summit: Minneapolis, Mn. Apr

Works (17) + Add works Bulk edit IT Sort

Developing Data Literacy Programs: Working with Faculty, Graduate Students and Undergraduates
Bulletin of the American Society for Information Science and Technology
2015-07 | journal-article
DOI: DOI:10.1002/bult.2015.1720410608
Source: Amy Koshoffer Preferred source

RDAP_2015_poster_Best_practices
2015 | other
DOI: 10.7945/C2NP4P
Source: DataCite search and link Preferred source

Melanocytic Galectin-3 Is Associated with Tyrosinase-Related Protein-1 and Pigment Biosynthesis
2014 | journal-article
DOI: 10.1038/jid.2014.315
EID: 2-s2.0-84906030200
URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84906030200&partnerID>
Source: Scopus to ORCID Preferred

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CINCINNATI
LIBRARIES



www.libraries.uc.edu

<http://orcid.org/> <http://research.uc.edu/directory.aspx>

Data Citation:

System can generate a statement such as “When citing these data, please use the following citation”:

Author, Year of publication, Dataset Title, Data Repository or Archive, Version of data set, Global Persistent Identifier.”

-Derived from Metadata entered

DataCite 2014:

[Sarah Callaghan's presentation \(PPTX - 3.1 Mb\)](https://www.force11.org/node/4771)
(<https://www.force11.org/node/4771>)

Features

Multiple file type accepted

3 Gb per file upload using browser max – larger files consult Repo support

Metadata for discovery

Multiple editors

Ability to form collections of related works

Create DOIs (Datacite)

PURLs

Check sum for data integrity

Levels of access

Resources

www.libraries.uc.edu



UC Offices that affect Data Policies

- 1) Board of Trustees - <http://www.uc.edu/trustees.html>
- 2) General Counsel - <http://www.uc.edu/gencounsel.html>
- 3) Office of Research - <http://research.uc.edu/home.aspx>
- 4) Intellectual Property Office - <http://www.ipo.uc.edu/>
- 5) Information Security - <http://www.uc.edu/infosec/about.html>
- 6) Export control <http://researchcompliance.uc.edu/ExportControls/ExportControls.aspx>

Data Policies

3361:10-43-18

Records: responsibilities and rights concerning ownership, access to and maintenance of original scientific records.

<https://www.uc.edu/trustees/rules.html> > <http://codes.ohio.gov/oac/>

(6) Provision of a record sufficient to demonstrate compliance by the university with applicable laws and regulations.

UC must **retain the scientific record** in sufficient detail to accomplish these goals **for** a period of not less than **five years** beyond the completion of the research unless statute or regulation requires a longer retention period.

Policy 9.1.1

Data Protection – <http://www.uc.edu/infosec/compliance.html>

The Library can help with....

- Best practices
 - Checklists
- Tools
- Workshops
- Consultation

<http://guides.libraries.uc.edu/datamanagementplanning>

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UC Libraries

Libraries » CampusGuides » Health Sciences Library » Data Management Planning

Admin Sign In

Data Management Planning

Tags: big data, data, data management, data planning, data sets

This guide on data management planning and data discovery focuses on STEM fields.

Last Updated: Jun 5, 2014 | URL: <http://guides.libraries.uc.edu/datamanagementplanning> | [Print Guide](#) | [RSS Updates](#) | [Email Alerts](#)

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Welcome!

Welcome to UCL's resource guide for Data Management Planning!

Credit to MIT Libraries and the California Digital Library, University of California Curation Center for permission to use and adapt their pages and information for this guide! Thank you!

Comments (0)

Contacts

Contact us with questions regarding data management planning!

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Amy Koshoffer

Research Informationist, Science and Engineering Library

Comments (0)

11/2013 Workshop Slides

11/2013 Workshop Slides

Data Management Planning 101 slides

Comments (0)

Data Management Planning Process

```
graph LR; A[Proposal Planning Writing] --> B[Project Start Up]; B --> C[Data Collection]; C --> D[Data Analysis]; D --> E[Data Sharing]; E --> F[End of Project]; F --> G[Data Archive]; G -- Re-Use --> H[Data Discovery]; H --> C; C -- Re-Purpose --> D; D -- Deposit --> G;
```

Source: <http://dmconsult.library.virginia.edu/files/2013/03/DataLifeCycle1.jpg>

Comments (0)

Related Information

Check out related pages created by University of Cincinnati librarians and informationists:

Author Identifiers

This guide provides an overview of unique author identifiers and provides examples of several frequently used identifiers such as ORCID.

Data Sets

NIH Public Access Policy

Research Impact & Citation Analysis

This guide provides information on citation analysis and HSL resources available for citation analysis.

Comments (0)

Data Management Planning Survey

Data Management Planning Survey

We'd love your feedback on this guide and your data management planning activities. Your thoughts are welcome. Please let us know about other resources to include. Thanks!

Email

ASKDATA@UC.EDU



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The University has two supported storage strategies for unstructured data.

OneDrive

- Enterprise Cloud Storage - preferred solution, leverages our investment in O365 technologies
- No additional cost passed on to the individual or department
- Unlimited storage
- It is not designed to be a Departmental share - you can share files and folders but it's tied to the individuals account
- Data is secure and encrypted during sync
- Export Control Compliant - Please refer to the Universities Export Controls Office for policy.

Isilon Storage

- On Premise Enterprise SAN for unstructured data
- \$.05 per GB - monthly
- Ability to grow data footprint as needed
- Data is synchronized to SOCC - off site copy
- Share permissions are managed by your local IT support or IT@UC
- Requires AD authentication
 - Externally accessible via VPN
- No backend encryption
 - Can be encrypted by mounting Isilon CIFS\NFS share to server that runs encryption software
 - Additional cost for Server
- Export Control Compliant - Please refer to the Universities Export Controls Office for policy.