Policies and Regulations

The good stuff is from Carole Palmer and Cheryl Thompson

V2: As an example:

A whirlwind tour of science-oriented data policies

Some important data policies in science
brought to you by NIH, NSF, CISE, and others.

NIH Policies related to data

- Sharing Policies
  - Data, publications, and clinical trial information

- Responsible Conduct of Research
  - Ensure scientific integrity
  - Trainings on data acquisition, management, handling, and sharing

- Intellectual Property Policy

NIH Data Sharing Policy

The NIH policy on data sharing applies:

- To the sharing of **final research data** for research purposes.
- To applicants seeking $500,000 or more in direct costs in any year of the proposed project period through grants, cooperative agreements, or contracts.

NIH-supported repositories

- Cancer Imaging Archive
- PeptideAtlas
- EyeGENE
- FlyBase
- ZebraFish Model Organism Database
- WormBase
- Protein Data Bank
- And many more…

NIH Public access plan for scientific publications

"…all investigators funded by the NIH [must] submit . . . to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication . . . "

And as a result: https://www.ncbi.nlm.nih.gov/pubmed/

National Science Foundation (NSF)

Data Sharing Policy:

"Investigators are expected to **share with other researchers**,
at no more than incremental cost and within a reasonable time,
the **primary data, samples, physical collections and other supporting materials**
created or gathered in the course of work under NSF grants. "

Data Management Plan (DMP) Requirements:

Proposals . . . must include a "Data Management Plan".
https://www.nsf.gov/bfa/dias/policy/dmp.jsp

Computer & Information Science & Engineering (CISE) Directorate, NSF

CISE DMP should address the following:

- The types of **data, metadata, samples, physical collections, software, curriculum materials, and other materials t**o be collected and/or generated in the course of the project;
- 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);
- The **physical and/or cyber resources and facilities** (including those supplied by third parties) that will be used to store and preserve the data after the grant ends;
- The **policies for access and sharing** including provisions for appropriate protection of **privacy**, confidentiality, security, **intellectual property**, or other rights or requirements;
- The **policies and provisions for re-use**, re-distribution, and the production of derivatives;
- The **plans for archiving** data, samples, and other research products, and for preservation of access to them after the award ends; and
- The **roles and responsibilities** of all parties with respect to the management of the data (including contingency plans for the departure of key personnel from the project) after the grant ends.

https://www.nsf.gov/cise/cise_dmp.jsp

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http://conservancy.umn.edu/policies.jsp

PRESERVATION

University Digital Conservancy Preservation Policy

The University Digital Conservancy is committed to providing long-term access to the digital works it contains, and adheres to digital preservation best practices to ensure data accessibility, fixity, and usability in perpetuity. Understanding that software, hardware, and format obsolescence is a complex issue with outcomes that are difficult to predict, the UDC uses digital preservation strategies designed to anticipate unknown changes in the technological environment. The University Digital Conservancy cannot promise the same support for digital objects in all formats, but will promise to make explicit the level of support it will provide for each file format MIME type deposited in the UDC, and will provide best practices guidance for contributors in selecting formats for inclusion in the UDC.

Contributors should understand that the level of preservation support provided for works is determined by the file format in which it is submitted.

The overarching goal of the Digital Conservancy's preservation program is to deliver long-term access to digital information. Access to the intellectual content of files is dependent on the maintained integrity and usability of digital items. The following principles illustrate the Digital Conservancy preservation objectives.

Stability
The University Digital Conservancy **maintains fixity** (bitstream integrity) for all digital objects submitted in the UDC. This is accomplished using a checksum algorithm (MD5) that verifies that the bitstream of a digital object matches its original bitstream (from date of original deposit in the UDC).

Accessibility
The University Digital Conservancy provides **persistent access** to all digital objects in the original formats in which they were submitted. This is accomplished through the use of persistent identifiers that point to the digital objects and/or their metadata. The UDC provides secure storage and backup services.

Usability
The University Digital Conservancy will take reasonable steps to **ensure the usability** of digital objects placed in its custody. Preservation steps include format migration, emulation, and normalization. Which steps the UDC will take to perpetuate usability of a file are determined by the nature of the file format. More extensive actions will be taken to preserve usability for objects in file formats that are fully disclosed, well documented, widely adopted, and are most accessible for migration, emulation, or normalization actions. Fewer actions will be taken to preserve usability for file formats that are proprietary and/or undocumented, and those that are considered working formats (e.g., Photoshop .psd) and/or are not widely adopted.

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PRESERVATION

Digital Preservation Support Levels

	Full Support (level 1)	Limited Support (level 2)	Minimal Support (level 3)
Assigns a persistent identifier that will always point to the object and/or its metadata	•	•	•
Creates provenance records and other preservation metadata to support accessibility and management over time	•	•	•
Provides secure storage and backup	•	•	•
Performs periodic refreshment to new storage media	•	•	•
Performs routine fixity checks using proven checksum methods	•	•	•
Undertakes strategic monitoring of format	•	•	
Provides storage in a trusted preservable format (making a normalized version, if necessary)	•		
Plans and performs migration to succeeding format upon obsolescence	•		

Full Support (level 1)
Will take all reasonable actions to maintain usability. Actions may include migration, emulation, or normalization. Will ensure access and data fixity.

Limited Support (level 2)
Will take limited steps to maintain usability. May actively transform a file from one format to another to mitigate format obsolescence. Will ensure access and data fixity.

Minimal Support (level 3)
Will provide for access to the item in its submission file format only. Will work to ensure data fixity (make sure the physical bitstream of the file does not change).