SCIENTIFIC DATA AT RISK

UNDERSTANDING THE PREDICAMENT AND THE ROLE OF SPECIAL LIBRARIANS

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ABSTRACT

In the quest for knowledge scientists produce vast amounts of data, and often these data are not properly preserved or archived. These **at risk data** are often fragile, deteriorating, insufficiently described or simply unknown to other scientists. Data that are old often retain scientific value. Future research will be hampered if valuable, historical scientific data are ignored or lost.

In conjunction with CODATA, the UNC Metadata Research Center's Data At Risk Initiative (DARI) aims to mitigate the risk of loss. DARI researchers have conducted **a web survey of information custodians** to understand the data at risk predicament from their perspective. Librarians and information professionals working in science, research or other special libraries offer a unique viewpoint given their position in the organization and their LIS training.

This poster presents the survey findings and suggests ways that special librarians can participate in and help resolve the data at risk predicament.

METHOD

The survey method was used to collect information on the data at risk such as type, format, volume, risk level, reasons for risk and future plans for these data. Data sharing practices and the demographics of custodians also were captured. A survey invitation was sent to the discussion lists of the ASIS&T, SAA, SLA and ACRL. Forty-three information custodians completed the full survey. Quantitative analyses of the survey data have been conducted.

RESULTS

Demographics of respondents

Gender: 65% female

Age category: median 46-50 years

Years in current position: mean 7.6, sd. 8.9

Education: 53% Masters in LIS, 33% Masters in other

- **Professional identity:** 52% identified as an information professional, 38% identified as a librarian, 31% identified as a scientist and 28% identified as an archivist*
- **Work setting:**
  - 52% academic institutions
  - 17% corporations
  - 7% government agencies
  - 3% health/medical centers
  - Other institutions: research & cultural heritage centers

Credit: http://johnkingworld.com/

Data at risk characteristics

- **Research area:** A variety of research areas was reported. The most common were geology (42%), biology (39%), climate (39%), chemistry (34%) & astronomy (29%) *.
- **Formats**: There was a wide range of the formats. The most common were non-digital text documents (67%), handwritten notes (65%), digital files (58%), CDs (56%) & floppy disks (54%) *.
- **Location of data:** 75% institution's library or archive, 53% scientist's workspace, 40% scientist's personal storage & 25% external repository*.

**Respondents were able to check all that apply. The percents will not equal 100.*

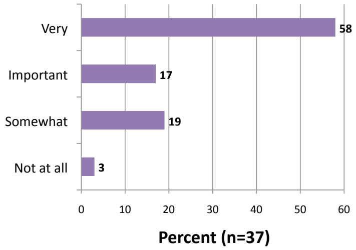
Data practices

- **Metadata**: 54% have a data catalog using metadata. Metadata standards used were Dublin Core, FGDC, SPASE, DACS, DIF, FITS and local/institutional standards.
- **Data management:** 44% comply with a data curation standard. Standards reported were OAIS, PREMIS and funder requirements.
- **Ownership of data:** 73% institution, 41% funding agency, 32% government & public/public domain (32%) *.
- **Data sharing:** 76% make a version of the data publicly available. The most common limits to data sharing were time involved in making data usable (73%), accessing files from storage (59%) & gaining intellectual property rights protection (34%).

Custodians' data responsibilities

Data duties (n=35)	Complete or shared responsibility
Determining the appropriate metadata to describe data sets (i.e., descriptive information to enable others to reuse data)	68%
Determining provisions for short-term data preservation (5 years or less)	57%
Determining provisions for long-term data preservation (more than 5 years)	56%
Deciding which data are important to preserve	47%
Determining what constitutes compliance with commercial licenses, government regulations, funding agency mandates, etc.	43%
Deciding whether data can be safely shared	33%
Determining standards for de-identifying sensitive data	31%

Importance of saving data at risk



EMERGING ROLES FOR SPECIAL LIBRARIANS

The findings illustrate that data at risk is a predicament and the special library community can assist researchers in saving these data. The data at risk predicament provides an opportunity for special librarians to assist users in curating their data and to assume leadership roles in several areas such as:

- Set institutional data management policies
- Develop and adhere to standards of good practice
- System development for data sharing and reuse
- Collection development
- Cataloguing & metadata generation
- Protect the rights of data contributors
- Set deaccession policies
- Provide training to scientists
- Promote the inventory of research data

Data At Risk Inventory

DARI is creating an inventory of valuable scientific data that are at risk of being lost to posterity. It is not a repository for data. It is a descriptive inventory of endangered data that are held by others: individuals and research institutions. A goal of DARI is to design rescue efforts to save these data.

To contribute to the Inventory, please submit a description at:
http://ibiblio.org/data-at-risk/contribution

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