

*Sharing Services for Long-Term Management
of Geospatial Data*

Robert R. Downs

Senior Digital Archivist and Senior Staff Associate Officer of Research

Center for International Earth Science Information Network (CIESIN)
The Earth Institute, Columbia University

*November 18, 2010
Library of Congress
Washington, DC*

Framing a National Strategy for the Appraisal and Selection of Geospatial Data
November 17-18, 2010

Services for Long-Term Management of Geospatial Data

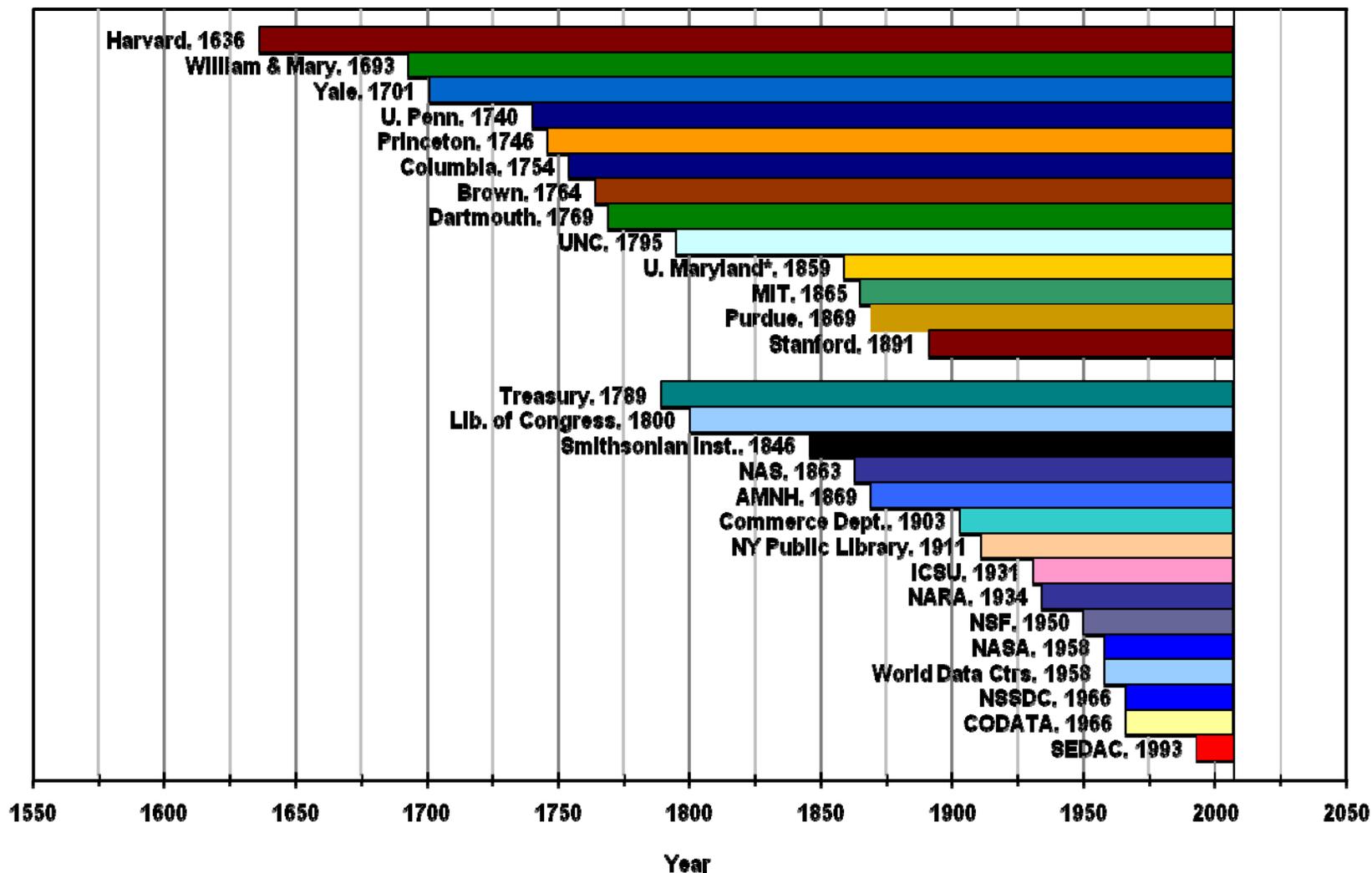
- **Preservation for future Use**
 - Maintaining the original data
 - Migration to current media platforms
 - Conversion to current formats
- **Continuing dissemination to enable use**
 - Enabling discovery
 - Providing capabilities for access and analysis
 - Offering expertise when needed
- **Need related services for other digital research resources**
 - Scientific data and products representing various disciplines
 - Unpublished scholarship and research-related resources

Providing Long-Term Data Management



- Organizational commitment to preserving scientific data and research-related information for future use
 - Mission compatible with geospatial data preservation
 - Demonstrated long-term stewardship of scholarship and research artifacts
- Sustainable infrastructure for managing geospatial data
 - Management, Staff, Information and Communication Technologies
 - Capacity to Foster Ongoing Use
 - Organizational Structure to manage research resources
 - Data stewardship plans for that are consistent with mission

Examples of Organizational Longevity



Based on Downs and Chen (2010), *Journal of Digital Information*

<http://journals.tdl.org/jodi/article/view/753>

A Model for Shared Academic and Government Stewardship of Digital Research Resources

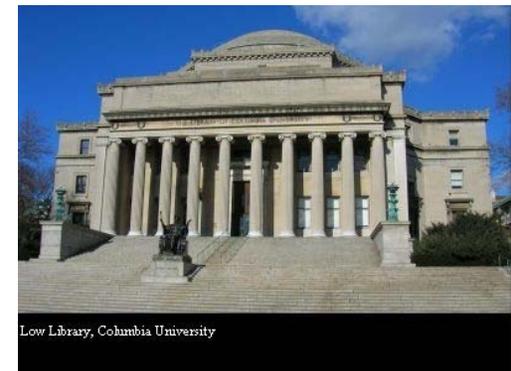
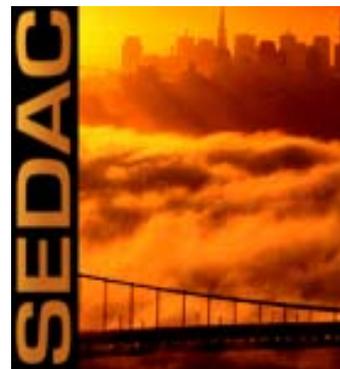
- **Collaboration between stakeholder entities**
 - Shared resources enhance capabilities
 - Shared risks and benefits
- **Academic and government partnerships**
 - Shared legacy of research and scholarship artifacts
 - Shared history of partnerships

SEDAC Long-Term Archive: an example of shared academic and government data stewardship

- **Collaborating Entities**
 - Columbia University Libraries, Columbia University's Earth Institute, and the NASA Socioeconomic Data and Applications Center
- **SEDAC LTA Mission**
 - The SEDAC Long-Term Archive acquires, preserves, and maintains the content of selected high-quality data, data products, documentation, and services relevant to human dimensions of global change in a digital form to support the discovery, access, and use of archived resources by scientific, educational, and decision-making communities for at least the next 50 years.

The SEDAC Long-Term Archive

- Experiment in sustainable governance for stewardship of interdisciplinary scientific data
- Initiated in 2004 to preserve scientific data and research-related information disseminated by the NASA-supported Socioeconomic Data and Applications Center (SEDAC) for future access and use
- Managed collaboratively by SEDAC, the Columbia University Libraries, and the Earth Institute of Columbia University



Based on Downs and Chen (2008) Creating a Trustworthy Digital Repository for a Long-Term Archive of Interdisciplinary Scientific Data: A Case Study. *21st CODATA Conference*. Kyiv, Ukraine.
<http://ciesin.columbia.edu/documents/CreatingTrustworthyDgtlRepositryPrsntn.pdf>

Shared Sustainable Stewardship of Scientific Data

Organizational Representation on the SEDAC Long-Term Archive Board

NASA
SEDAC
(chair & 2
members)

Columbia
University
Libraries
(2 members)

The
Earth Institute,
Columbia
University
(2 members)

- In the event of a lapse in SEDAC funding:
 - Libraries will replace chair and one of the SEDAC members
 - CIESIN will name the other SEDAC member
 - => Libraries and CUIT will have majority of members
 - Columbia University will appoint the Long-Term Archive Manager and other staff as needed

Derived from: SEDAC Long-Term Archive Implementation Plan (Draft revised 2008)

Continuous Improvement of the LTA

- Implemented a VITAL / Fedora digital repository
 - Migrating from traditional procedures to archiving in digital repository
 - Developed a model for online submission and workflow of scientific data, Downs and Chen. 2010. Submission and Workflow Services for Preserving Interdisciplinary Scientific Data. *Earth Science Informatics* 3(1):101–110. <http://dx.doi.org/10.1007/s12145-010-0051-6>.
 - Developing capabilities to test transfer between repositories
- Continuing Review
 - Completed a self-assessment based on the Trusted Repositories Audit and Certification: Criteria and Checklist (TRAC) requirements, Downs and Chen (2010), *Journal of Digital Information* <http://journals.tdl.org/jodi/article/view/753>
 - Conducting a self-assessment based on the proposed standard, Consultative Committee for Space Data Systems (2009) *Audit and Certification of Trustworthy Digital Repositories: Draft Recommended Standard. Red Book, Issue 1*. Available: <http://wiki.digitalrepositoryauditandcertification.org>