

# THE ODUM INSTITUTE

FOR RESEARCH IN SOCIAL SCIENCE

## Odum Institute Data Archive DIGITAL PRESERVATION POLICY

### Introduction

The Odum Institute Data Archive Digital Preservation Policy outlines the implementation of the digital preservation strategic plan adopted by the Odum Institute Data Archive. The development and ongoing maintenance of a comprehensive standards-based digital preservation strategic plan demonstrates the Odum Institute Data Archive's commitment to the preservation of, long term retention of, management of, and access to its digital data collections. The Odum Institute Data Archive accepts responsibility for fulfilling the requirements of its digital preservation strategic plan as described and formalized by this document.

### Archival Standards Compliance

Odum Institute Data Archive systems, policies, and procedures have been developed in alignment with prevailing standards for trustworthy digital repositories as outlined in [ISO 14721 Reference Model for an Open Archival Information System \(OAIS\)](#) and [ISO 16363 Audit and Certification of Trustworthy Digital Repositories](#). Odum Institute Data Archive digital preservation systems and workflows as they comply with these standards are described in [Odum Institute Data Archive Workflow and Infrastructure](#).

### Administrative Responsibility

Founded by Howard W. Odum in 1924, the Odum Institute is considered to be the oldest interdisciplinary social science institute at a research university in the United States. In 1969, the Odum Institute Data Archive was formally established when it received funds from the National Science Foundation to create an academic center of excellence in science to include computing facilities for a Social Science Statistical Laboratory and Data Center.

Throughout its history, the Odum Institute Data Archive has demonstrated its leadership in social science data curation and archiving through its development of innovative archival technologies and workflow processes to support and enhance long-term digital data preservation. The Odum Institute Data Archive has been an active contributing member of the data archiving community as a founding member of the Data Preservation Alliance for the Social Sciences (Data-PASS), the Inter-university Consortium for Political and Social Research, and the Curation for Reproducibility Consortium, and has served in leadership positions for international organizations such as the International Federation of Data Organizations (IFDO).

Consistent with this role, the Odum Institute Data Archive mission is:

**To provide trusted long-term preservation and stewardship of research data assets to enhance social science research, broaden scientific inquiry, and foster data literacy now and into the future.**

## Purpose

The Odum Institute Data Archive Digital Preservation Policy framework is based on the seven attributes of a trusted digital repository as outlined by the [Digital Preservation Policy Framework: Development Guide 2.1](#) and contains references to other Odum Institute policy and procedure documents. The audience for this document includes Odum Institute staff, University of North Carolina administrators, and Odum Institute Data Archive collaborators, funders, users, and digital content contributors.

## Mandate

The Odum Institute Data Archive mission complements the [Odum Institute Mission](#), which supports the broader teaching, research, and public service mandate of the University of North Carolina at Chapel Hill. The Odum Institute Data Archive upholds the following mandates:

- **Commitment to teaching and research.** The Odum Institute Data Archive supports and enhances social science teaching and research by providing enduring access to digital data assets.
- **Open Access practices and advocacy.** Whenever possible, the Odum Institute Data Archive makes digital data assets freely and publicly accessible to the scholarly community. It also offers access to reliable archival infrastructure to encourage researchers to provide open access to their data to the benefit of the scientific community as a whole.
- **Contractual obligations.** The Odum Institute Data Archive provides contractual services to individuals and organizations to add value to the data to ensure long-term preservation, access, and reuse.
- **Grant funding.** The Odum Institute Data Archive pursues grant funding from government agencies and private-sector foundations to develop and refine archival infrastructures and workflows to address continual changes in technology and research practices.

## Objectives

To achieve its mission and fulfill its mandate, the Odum Institute Data Archive digital preservation strategic plan defines the following objectives:

- Maintain a comprehensive digital preservation program comprised of standards-based archival infrastructure and processes that identifies, acquires, enhances, preserves, and makes digital data assets accessible to the designated user community
- Adapt digital preservation strategies to accommodate emerging technologies and techniques in responsive and cost-effective ways
- Implement and promote data preservation and management best practices to ensure digital data assets meet quality standards for interpretability and reuse over time
- Cultivate relationships with social science researchers and other members of the designated user community to remain responsive to expressed or demonstrated needs and preferences
- Foster collaborative partnerships with members of the professional archives community to establish standards, share practices, and make the best use of available resources to provide comprehensive services

- Complete regular self- and external audits to ensure compliance with OAIS and other applicable standards for trustworthy digital repositories

## Organizational Viability

The Odum Institute Data Archive preserves, manages, and distributes digital data assets and associated materials acquired in accordance with the [Odum Institute Data Archive Collection Development Policy](#). The digital preservation processes and procedures employed by the Odum Institute Data Archive demonstrate an explicit institutional commitment to the long-term preservation of and access to its digital data holdings now and into the future.

### Scope

The Odum Institute Data Archive maintains responsibility for long-term preservation of and access to digital data assets in its collections to the parent institution, depositors, other digital repositories, partners, and all other applicable members of the designated user community.

### Operating Principles

Odum Institute Data Archive operations adhere to an established set of principles upon which its digital preservation program has been developed and implemented.

- Compliance with prevailing digital preservation standards and practices (e.g., OAIS and ISO 16363)
- Alignment with standards and guidance established by the Data-PASS
- Development and maintenance of reliable systems to ensure digital data access to digital content
- Adoption of technical and metadata standards for interoperability that allow for the exchange of data and metadata among archive partners
- Enforcement of data and metadata quality standards to sustain and enhance the value of data, and facilitate discovery, access, and reuse of the data

### Roles and Responsibilities

The Odum Archive Data Archive is one of several units within the H. W. Odum Institute for Research in Social Science at the University of North Carolina at Chapel Hill (UNC) that provides social science research support. The Odum Institute falls under the governance of the Office of the Vice Chancellor for Research. See the [Office of the Vice Chancellor for Research Organizational Chart](#) for an illustration of the organizational structure.

Management and implementation of the digital preservation program is accomplished primarily by Odum Institute staff to include: Assistant Director for Archives, Research Data Archivist, Graduate Research Assistants, Assistant Director of Cyberinfrastructure, Systems Programmer/Analyst, Applications Analyst, Systems Administrator, and other Odum Institute administrative and research staff.

### Staffing

The Odum Institute Data Archive is led by the Assistant Director for Archives, who provides administrative oversight and direction to Archive operations and enforces established Odum

Institute Data Archive policies, standards, and best practices. The Assistant Director for Archives holds a library and information science graduate degree from an ALA-accredited graduate program. She also has a background in social science research and demonstrated supervisory and leadership experience. The Research Data Archivist is responsible for the day-to-day operations of the Archive in accordance with Odum Institute Data policies, standards, and best practices. The Research Data Archivist holds a library and information science degree from an accredited graduate program and has received training in social science research. Graduate Research Assistants (GRAs) support Archive operations by performing data curation tasks. GRA positions are filled by graduate students enrolled in the UNC School of Information and Library Science who have an expressed interest in data management and/or digital archives and seek opportunities to gain practical experience in the archives field.

The Odum Institute Data Archive works alongside the Odum Institute's Cyberinfrastructure unit, which provides information technology support to develop and maintain storage, computing, and network systems. Cyberinfrastructure operations are overseen by the Assistant Director of Cyberinfrastructure, who supervises a staff that includes a Systems Programmer/Analyst who provides software programming and network maintenance, an Applications Analyst who develops archival software enhancements and solutions, and a Systems Administrator responsible for desktop workstation maintenance.

Other units within the Odum Institute provide additional support to the Data Archive. Administrative support for accounting and human resources functions is provided by the Odum Institute Business Operations unit. Statisticians and Methodologists offer social science research training and domain expertise that informs Data Archive services.

### **Selection and Acquisition**

The Odum Institute Data Archive identifies and solicits contributions of social science data considered by the Designated Community to be of significance to the study and understanding of society and social relationships. Data are selected and acquired in accordance with appraisal criteria and collecting priorities as set forth in the [Odum Institute Data Archive Collection Development Policy](#).

### **Access and Use**

The Odum Institute Data Archive defines its Designated Community as consisting primarily of members of the academic community engaged in social science research or research that includes a social component. These members include research faculty, students, and other individuals that participate in such academic research. Because the Odum Institute Data Archive provides free and open access to its collections, data are also accessed by journalists, policymakers, citizen scientists, and others interested in the collections.

The [UNC Dataverse Terms of Use Policy](#) provides details on restrictions to use of Odum Institute Data Archive digital data collections and services based on several factors such as user age, copyright and intellectual property laws, data sensitivity, and appropriateness of content.

### **Challenges and Risks**

The Odum Institute Data Archive acknowledges the challenges and risks to long-term digital preservation. Despite these challenges and risks, the Odum Institute Data Archive remains

steadfast in its commitment to provide enduring access to digital data assets to support the research community. The Odum Institute Data Archive's digital preservation program works to address these challenges and risks as described below:

- **Changes in technology.** The risk of technological obsolescence and other breakdowns can arise as technologies evolve and introduce new capabilities and content types. Therefore, the Odum Institute Archive continually monitors and responds to changes in technology.
- **Shifts in normative research practice.** As the adoption of novel research techniques become widespread, the Odum Institute Data Archive must become aware of and understand the new tools, practices, and data types these novel techniques yield. The Odum Institute Data Archive adapts its preservation program to accommodate these and other shifts in scholarly practice.
- **Growth of interdisciplinary research.** The increase in interdisciplinary research activities has challenged discrete definitions of specific scholarly domains. The Odum Institute defines social science broadly to include research in any domain that includes a social component. This interdisciplinary view requires that the Odum Institute Data Archive become familiar with tools, practices, and data types of other disciplines that appear in research projects for which this broader definition of social science applies.
- **Expansion of archive roles and responsibilities.** The role of the archive is as dynamic as the landscape in which it serves. Changes in technology, research practices, domain definitions, and stakeholder expectations require Odum Institute Data Archive staff to receive appropriate training and professional development opportunities to be able to expand roles and responsibilities in order to effectively develop, implement, and maintain a comprehensive digital preservation program.

## Financial Sustainability

The University of North Carolina and the Odum Institute demonstrate their commitment to the continued operations of the Odum Institute Data Archive by providing financial and administrative support, and underwriting inter-institutional collaborations and partnerships.

## Institutional Commitment

The Odum Institute receives funding support from a several primary and secondary sources. The majority of support is financed through State of North Carolina budget allocations. Additional funding sources include contracts that support Odum Institute Data Archive services for specific individuals and organizations that require dedicated or specialized services. The Odum Institute Data Archive also pursues grant funds from federal agencies and private foundations to support the ongoing development and maintenance of infrastructure and workflows. Contracts and grants are administered through the University of North Carolina at Chapel Hill Office of the Vice Chancellor for Research. Details of funding for Odum Institute Data Archive operations can be found in the Odum Institute Annual Report and the Odum Institute annual budget, available upon request to [odumarchive@unc.edu](mailto:odumarchive@unc.edu).

## Cooperation and Collaboration

The demands of sustaining a comprehensive digital preservation program threaten to exceed the amount of resources available to any one individual institution. Therefore, the Odum Institute Data Archive has placed importance on collaborative partnerships with other archives as well as

the broader digital data archiving community. As a member of Data-PASS, the Odum Institute Data Archive has entered into an agreement to cooperate with Data-PASS partners to achieve common objectives to archive social science data, provide access to these data in a shared catalog, participate in a preservation network, and engage and digital preservation best practices. The Data-PASS partnership is integral to the Odum Institute Data Archive succession plan, which dictates the transfer of Odum Institute Data Archive collection to Data-PASS partners should the Odum Institute Data Archive become unable to meet these objectives. More information is available on the [Data-PASS website](#).

### Technological and Procedural Suitability

The Odum Institute Data Archive employs several digital preservation strategies and techniques to achieve its objectives. These strategies and techniques are informed by guidelines and procedures published by Data-PASS and developed to align with established archival standards and best practices.

The primary content of the Odum Institute Data Archive collections consists of quantitative social science data presented in tabular file formats as well as textual documents that contain information required to identify, verify, interpret, and use the data. Digital preservation strategies require that the Odum Institute Data Archive apply all reasonable efforts to ensure the integrity, authenticity, and completeness of the digital content it acquires and distributes.

The Odum Institute Data Archive has adopted file format normalization and migration as its main digital preservation strategy. For tabular data files, a software-agnostic tab-delimited file derivative is generated and preserved alongside the original file. Other non-preferred file formats are normalized and/or converted to optimal preservation formats as recommended by the [Library of Congress Recommended Formats Statement](#) for bit-level preservation. An annual review of Archive systems and content is conducted to determine the necessity of hardware and software migration. Criteria for migration are based on requirements of the Designated Community. These criteria include media longevity and viability, susceptibility to physical damage, and user preferences for data file access and use.

To support fulfillment of Digital Preservation Plan requirements, the Odum Institute Data Archive requires data contributors (excluding self-deposit contributors) to complete and sign a [Data Deposit Form](#) that enables authentication of digital content using included provenance information, and sets clear roles, rights, and responsibilities of the data contributor and the Odum Institute Data Archive.

### System Security

Levels of data curation, which are described further in the [Odum Institute Collection Development Policy](#), address the preservation needs of digital files that may include file normalization, identification of issues of data sensitivity and confidentiality, and resolution of data quality deficiencies. These actions are key to ensuring that the digital data assets are publicly discoverable, accessible, and usable into the long-term future. Implementation of data curation is described in detail in the [Odum Institute Data Archive Data Curation Workflow](#) document.

The Odum Institute Data Archive and its systems are bound by the [University of North Carolina Information Technology Services \(ITS\) Information Security Policy](#) and all other applicable ITS policies and guidelines for the storage, management, handling, and transmission of data.

The archival infrastructure of the Odum Institute Data Archive is built using reliable and robust systems committed to the long-term integrity and accessibility of digital materials. Several measures have been put in place to monitor for and prevent unauthorized use and access of systems and digital content. Systems include network, storage, and power redundancy to reduce the risk of system failure and loss of content. A diversified storage solution for file backup stores copies of all content in both local locations and in off-site storage in geographically distributed locations. The [Odum Institute Data Security Guidelines](#) provides additional information on adherence measures, policy protections, and technological protections in place to comply with applicable laws and regulations governing data security.

The membership of the Odum Institute Data Archive in the Data-PASS partnership is central to the long-term protection of Odum Institute Data Archive digital data assets. Should the Odum Institute Data Archive be affected by disaster, the content of its collections are to be transferred to a Data-PASS partner institution for long-term stewardship and preservation in accordance with the [Data-PASS Memorandum of Understanding](#).

## Procedural Accountability

The Archive is dedicated to promoting trust with its designated user community, collaborative partners, the professional archives community, and the larger scholarly community through self-assessment, audit, and transparency of policies and procedures.

## Audit and Transparency

The Odum Institute Data Archive is committed to self-assessment and audit as defined by prevailing standards for trustworthy digital repositories. To demonstrate this commitment, the Odum Institute Data Archive earned the [Data Seal of Approval \(2014-2017\)](#). It also works continually to expand and improve its systems and processes in order to achieve compliance with ISO 16363 metrics. As part of these efforts, the Odum Institute Data Archive routinely revisits and adjusts its policies and procedures to remain responsive to changes and advances in accepted digital preservation standards and best practices.

The Odum Institute Data Archive makes its policies, procedures, and results of assessments publicly available online via its [website](#) or upon request to [odumarchive@unc.edu](mailto:odumarchive@unc.edu).

## Framework Administration

The Odum Institute Data Archive Digital Preservation Policy is subject to three-year review or upon the emergence of new standards and best practices, whichever may come first. The current policy was approved and issued on May 1, 2017.

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