

DataNetONE: Protecting the Future of Environmental and Ecological Data

Suzie Allard

University of Tennessee Email: sallard@utk.edu

Patricia Cruse

California Digital Library Email: Patricia.Cruse@ucop.edu

Robert Sandusky

University of Illinois, Chicago Email: Sandusky@uic.edu

Carol Tenopir

University of Tennessee Email: ctenopir@utk.edu

This interactive panel addresses the theme of the conference “Thriving on Diversity- Information Opportunities in a Pluralistic World” by exploring the role of librarians and information scientists in DataNetONE (Observation Network for Earth), an emerging cyberinfrastructure project that supports the full data lifecycle for scientists in the diverse domains that are embodied in environmental and ecological science. Collaborations between scientists and information professionals are increasingly important, which is reflected by the soon to be announced “Science and Metadata Community” within the Dublin Core Metadata Initiative.

The research activities of environmental and ecological scientists produce diverse multi-scale, multi-discipline, and multi-national observational data. These data provide insights to address new environmental, social and technological challenges caused by climate variability, altered land use, population shifts, and changes in resource availability (e.g., food, water, and oil). Therefore scientists, educators, librarians, land managers, and the public need open, persistent, and secure access to well-described and easily discovered Earth observational data. These data are critical because they form the basis for good scientific decisions, wise management and use of resources, and informed decision-making.

Securing our global scientific knowledge base by preserving these documents and datasets requires active management of the resources and the supporting technology, as well as, an awareness of current research.

DataNetONE is one of two National Science Foundation DataNet Partners. The DataNet Partners serve as exemplars for national and global data research infrastructure organizations, and provide unique opportunities to communities of researchers to advance science and engineering research and learning. Eventually there will be five DataNet Partners.

DataNetONE focuses on multi-disciplinary observational data collected by biological (genome to ecosystem) and environmental (atmospheric, ecological, hydrological, and oceanographic) scientists, national and international research networks, and environmental observatories. However, the DataNetONE structure is designed to be domain-agnostic, so that it can be extended to serve a broader range of science domains both directly and through interoperability with other DataNet Partners.

This panel of DataNetONE investigators focuses on four areas related to the challenges of the preservation of digital scientific data. The panel will be facilitated to encourage the audience to provide feedback and exchange ideas related to the role of information science, libraries and librarians in the process of creation, discovery, access, and manipulation of electronic scientific data.

About DataNetONE

A Case Study: DataNetONE’s potential is best illustrated through case study that helps illustrate what Seeing the DataNetONE process helps illustrate the relationship between scientists and librarians/information professionals. This describes the figure below.

STEP 1: The scientist needs efficient and effective tools to manage and upload her work to a database that can be accessed through the DataNetONE network. Usability design and testing will create tools that can be used easily by practicing scientists while only minimally impacting their normal workflow. These tools will also help tag data so that it can be more easily discovered. Additionally the tools provide the foundation for better preservation practices. The scientist takes the time to learn these tools because she has learned through various media, the importance of best practices for electronic ecological data.

STEP 2: Proper labeling of the data through standardized metadata and interoperability of the system allow other ecologists to discover and access her records.

