Digital Object Identifiers (DOI) usage and adoption in U. S. Geological Survey

**Background**
Addressing grand environmental science challenges requires unprecedented access to easily understood data that cross the breadth of temporal, spatial, and thematic scales. From a scientist’s perspective, the big challenges lie in discovering the relevant data, dealing with extreme data heterogeneity, large data volumes, and converting data to information and knowledge. Historical linkages between derived products, such as publications and associated datasets, have not existed in the earth science community.

The US Geological Survey’s (USGS) Core Science Analytics and Synthesis (CSAS), in collaboration with Department of Energy’s Oak Ridge National Laboratory (ORNL) Mercury Consortium (funded by NASA, USGS and DOE), established a Digital Object Identifier (DOI) service for USGS data, metadata, and other media. This service is offered in partnership through the University of California Digital Library EZID service.

USGS scientists, data managers, and other professionals can generate globally unique, persistent and resolvable identifiers for any kind of digital objects. Additional efforts to assign DOIs to historical data and converting data to information and knowledge. Historical linkages between derived products, such as publications and associated datasets, have not existed in the earth science community.

**Policy**

In 2013, the USGS CSAS established a DOI service to associate DOIs to its data, metadata, and other media. This service is offered in partnership through the University of California Digital Library EZID service.

**USGS Data Lifecycle**

**Release Data via Web at Science Center: October 28, 2013**

**Digital Object Identifier (DOI)**

A DOI is one type of unique, persistent identifier that is permanently assigned to a specific electronic resource. When a DOI is assigned, the electronic object receives a unique sequence of alphanumeric characters that remain tied to that object, no matter how many times the object moves to different servers or property rights owners. A DOI supports scientific integrity in that it provides access to the data, workflow, or software version used in a research project from which results can be reproduced.

**Who We Are**

CSAS combines fundamental and applied research, and integrates scientific data with information analysis and synthesis. We do this by conducting: biological occurrence data acquisition, biological taxonomic analysis and interpretation, performing computational analytics, and informational synthesis.

The USGS Science Strategy emphasizes applied Earth systems information research with a focus on data integration and new methods of investigation. CSAS works closely with other mission areas to leverage expertise and apply it to the computing and information needs of science research projects. To help respond to complex and sometimes perplexing science questions, CSAS collaborates with other USGS Mission Areas, and partners with institutions, programmers, modelers, application developers, and others.

**Access**

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USGS Core Science Metadata Clearinghouse
Integrated Taxonomic Information System
Biocomplexity Thesaurus
ScienceBase
Information and Library Science
CSAS GeoPortal
Biological Information Serving Our Nation
Ocean Biogeographic Information Systems
National Fish Habitat Action Plan
Vegetation Inventory Program
Aquatic Gap Analysis Program

Collaborators and Partners

**Education/Outreach**

**Data Management Website** provides useful information for all aspects of Science Data Lifecycle.

**Community developed FAQ document informs producers of science data products about use of DOIs.**

Outreach efforts promote importance of DOIs for data citation

**Policy**

Updated policies include:

- A DOI Requirement Policy
- A DOI in Education/Outreach Policy

**Version**

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- 06
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