

## **USGS EROS OPERATIONAL PROCEDURE**

**SUBJECT / TITLE:** Acceptance of Data Collections by the USGS

### 1.0 Purpose.

This procedure documents the appraisal process (Appendix A), selection criteria (Appendix B), and records management plan (Appendix C) for the consideration, acceptance, and retention of remotely sensed, cartographic, and Earth science data from other agencies and organizations for long-term preservation and access from the U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center.

### 2.0 Definitions.

Long-term – more than 5 years.

### 3.0 Procedure.

#### 3.1 Roles and Responsibilities.

The USGS EROS Archivist is responsible for the consideration of data collections offered to or solicited by EROS. The EROS Archivist leads the scientific records appraisal process and issues recommendations to EROS Senior Managers and USGS Programmatic Managers. A final decision memo, reflecting USGS input, will be issued by the EROS Director indicating whether a collection is to be accepted by EROS for long-term preservation and access.

#### 3.2 Process.

The EROS policy is to utilize the EROS scientific records appraisal process to determine if collections sought by or offered to EROS, by other government and affiliated organizations, non-governmental organizations, and commercial firms are appropriate for long-term preservation and access by EROS. Upon the conclusion of the scientific records appraisal process, the EROS Director will issue a memo to the EROS Archivist and relevant EROS Senior and Project Managers documenting whether a collection is to be accepted by EROS for long-term preservation and access. Collections intended to be part of the National Satellite Land Remote Sensing Data Archive will additionally be reviewed using the established selection criteria.

Collections must complement or supplement existing EROS holdings and align to the missions of the Department of the Interior, the USGS, the Geography Discipline, and EROS. Resources must be identified to support long-term preservation and access costs.

Collections evaluated through the scientific records appraisal process will collate information in the areas of:

- Mission relevancy
- Policy
- Attributes
- Physical characteristics
- Metadata quality and availability
- Cost/benefit analysis

EROS retains the right to not accept collections or return to offering entities collections that do not meet EROS acceptance criteria. Conditions of the data transfer and subsequent distribution generally will be specified in a memorandum of understanding or other written agreement between EROS and the source agency or organization. EROS must receive formal, written documentation transferring legal ownership to the USGS prior to any physical transfers of data. All transfers are coordinated and approved by the EROS Archivist.

The EROS Archivist will follow the appraisal process provided in Appendix A to review the information provided by an entity offering collections, as well as collections sought by EROS:

Deliverables as a result of the appraisal process include:

- Investigation results
- Briefing materials
- Recommendation memo to EROS Senior Managers and USGS Programmatic Management
- Acceptance/rejection memo from the EROS Director to the EROS Archivist and EROS Senior and Project Manager(s)

#### 4.0 Appendices.

Appendix A. EROS Scientific Records Appraisal Process.

Appendix B. National Satellite Land Remote Sensing Data Archive Selection Criteria.

Appendix C. USGS EROS Records Management Plan.

## **Appendix A. EROS Scientific Records Appraisal Process**

1. USGS Program Coordinator, Project Manager, Science Council, or outside entity proposes to the EROS Archivist a collection for review.
2. Appraisal team assembled including:
  - a. Archive staff
  - b. Science staff
  - c. Project manager
  - d. Archivist
3. Team collects facts about collection.
4. Science team members review collection and provide their comments.
5. Collection documented using the online appraisal tool.
  - a. <http://eros.usgs.gov/government/RAT/tool.php>
6. Team briefs Archivist and Project Manager
7. Archivist sends recommendation memo to USGS Program Manager and EROS Senior Managers for review.
  - a. Retain or Accept
  - b. Dispose or Reject
8. The USGS Program Manager and EROS Senior Managers pass their comments to the EROS Director.
9. EROS Director accepts or rejects the recommendation.
  - a. EROS Director informs Archivist and Project Manager of his decision via memo.
  - b. Purge recommendations result in a search for a new home. Destruction is the last resort.

## **Appendix B. National Satellite Land Remote Sensing Data Archive** **Appraisal Criteria**

The U.S. Geological Survey (USGS) Center for Earth Resources Observation and Science (EROS) has a formal process in place to appraise scientific collections it maintains or is offered. The USGS has established a Collection Policy, which states the type of observational records that are of interest to the USGS. Once it is determined that the collection is in accordance with this policy, the USGS performs a comprehensive appraisal involving scientists and managers. The criteria outlined below form the last element of the process by which collections are reviewed for possible inclusion into the National Satellite Land Remote Sensing Data Archive (NSLRSDA), which was established by the USGS in accordance with the Land Remote Sensing Policy Act of 1992, Public Law (P.L.) 102-555. The NSLRSDA Appraisal Criteria<sup>1</sup> are:

- Collections may include any land surface data including satellite, airborne or in-situ sources.
- Collections with significance to global environmental change research. Such collections provide for the societal benefits supporting the U.S. Integrated Earth Observation System.<sup>2</sup>
- Collections that have unique seasonality; spectral bands; and/or ground resolution that complement, supplement or are compatible with the current NSLRSDA holdings.
- Collections that provide the potential to develop global observation records or have frequent synoptic coverage of the Earth, i.e., long-term, consistent, repetitive observations.
- Collections with a ground resolution ranging from 5 meters to 1 kilometer.<sup>3</sup>
- Accessibility to the collection can be extended to all users without restrictions.<sup>4</sup>

Collections that shall not be evaluated for inclusion into the NSLRSDA include oceanic or atmospheric collections, and collections that do not include the necessary ancillary data to make them useful to the land remote sensing user community (ephemeris data, processing parameters, metadata, instrument characteristics, and calibration parameters).

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<sup>1</sup> The USGS appraisal process does take into consideration the fiscal impacts of accepting a collection. Once a collect has been determined to be of interest to the USGS, per the appraisal process, the USGS will endeavor to secure the needed funding.

<sup>2</sup> The benefit areas include records related to weather, natural disasters, ocean resources, climate variability and change, human health, ecological forecasts, agriculture and forestry. Additional U.S. economic and national security interests include land use planning and management, public lands conservation and management, national security operations, transportation planning and management, property valuation, flood plain assessment, foreign agriculture assessment, and infrastructure planning and management.

<sup>3</sup> Higher-resolution data (e.g., <5m) and lower-resolution data (e.g., >1km) from U.S. or international systems would also be considered if unique or significant.

<sup>4</sup> Data may be accepted that contain a copyright or license arrangement which require a period of time where only a restricted set of users are allowed access. However, all restricted collections must have a written sunset clause indicating when the collection becomes Public Domain. All archived collection can be offered at no cost or at the minimal cost of fulfilling a user request.

**Appendix C. USGS EROS Records Management Plan**

**EROS RECORDS MANAGEMENT PLAN**



Chickamin Glacier, on the eastern slopes of Dome Peak (2,723 m). Glacier Peak Wilderness, Skagit County, Washington. September 23, 1965.

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## DEFINITIONS

USGS personnel should understand commonly used terms and principles employed while archiving science records. Even the terms, *archives* and *archiving* can be used in multiple ways. A practical way to achieve good archiving is to follow records management principles. Terms related to archiving and records management are listed below:

### LIFECYCLE OF RECORDS

Records follow a natural evolution from creation, maintenance and use, and finally disposition.

### RECORDS

n. ~ 1. A written or printed work of a legal or official nature that may be used as evidence or proof; a document. – 2. Data or information that has been fixed on some medium; that has content, context, and structure; and that is used as an extension of human memory or to demonstrate accountability. – 3. Data or information in a fixed form that is created or received in the course of individual or institutional activity and set aside (preserved) as evidence of that activity for future reference

### ARCHIVES

n., – also **archive** ~ 1. Materials created or received by a person, family, or organization, public or private, in the conduct of their affairs and preserved because of the enduring value contained in the information they contain or as evidence of the functions and responsibilities of their creator, especially those materials maintained using the principles of provenance, original order, and collective control; permanent records. – 2. The division within an organization responsible for maintaining the organization's records of enduring value. – 3. An organization which collects the archives of individuals, families, or other organizations; a collecting repository. – 4. The professional discipline of administering such collections and organizations. – 5. The building (or portion thereof) housing archival collections. – 6. A published collection of scholarly papers, especially as a periodical.

### PROVENANCE

n., – **provenancial**, adj. ~ 1. The origin or source of something. – 2. Information regarding the origins and custody of an item or collection.

Provenance is a fundamental principle of archives, referring to the individual, family, or organization which created or received the items in a

collection. The **principle of provenance** or the *respect des fonds* dictates that records of different origins (provenance) be kept separate to preserve their context.

## FONDS

n. ~ The entire body of records of an organization, family, or individual that have been created and accumulated as the result of an organic process reflecting the functions of the creator.

## RESPECT FOR ORIGINAL ORDER

n. ~ The organization and sequence of records established by the record's creator.

## PRIMARY VALUE

n. ~ The value of records derived from the original use that caused them to be created.

## SECONDARY VALUE

n. ~ The usefulness or significance of records based on uses other than the purpose for which they were originally created.

## BACKUP

n. ~ 1. A copy of all or portions of software or data files on a system kept on storage media, such as tape or disk, or on a separate system so that the files can be restored if the original data is deleted or damaged. – 2. Equipment held in reserve that can be substituted in case equipment in regular use fails. – v. ~ 3. To create such copies of data.

## PURGE/PURGING

n. ~ The process of pulling and disposing of unwanted materials.

## LONG-TERM

A period of time long enough for there to be concern about the impacts of changing technologies, including support for new media and data formats, and of a changing user community, on the information being held in a repository. This period extends into the indefinite future.”

**APPRAISAL**

n. ~ 1. The process of determining if materials have sufficient value to be accessioned into a repository. – 2. The process of determining the length of time records should be retained, based on legal requirements and on their current and potential usefulness. – 3. Determining the market value of an item; monetary appraisal.

**ACCESSION**

n. ~ 1. Materials physically and legally transferred to a repository as a unit at a single time; an acquisition.

v. ~ 2. To take legal and physical custody of a group of records or other materials and to formally document their receipt. – 3. To document the transfer of records or materials in a register, database, or other log of the repository's holdings.

**DEACCESSION**

n. ~ The process by which an archives, museum, or library permanently removes accessioned materials from its holdings.

**ARRANGEMENT**

n. ~ 1. The process of organizing materials with respect to their provenance and original order, to protect their context and to achieve physical or intellectual control over the materials. – 2. The organization and sequence of items within a collection.

**DESCRIPTION**

n. ~ 1. The process of creating a finding aid or other access tools that allows individuals to browse a surrogate of the collection to facilitate access and to improve security by creating a record of the collection and by minimizing the amount of handling of the original materials. – 2. RECORDS MANAGEMENT · A written account of the physical characteristics, informational content, and functional purpose of a records series or system.

**ACCESS**

n. ~ 1. The ability to locate relevant information through the use of catalogs, indexes, finding aids, or other tools. – 2. The permission to locate and retrieve information for use (consultation or reference) within legally established restrictions of privacy, confidentiality, and security

clearance. – 3. COMPUTING · The physical processes of retrieving information from storage media.

## REFERENCE

n. ~ 1. A note pointing to the source of information cited. – 2. A note pointing to sources for more information. – 3. An entry in a *DF: Distinguish from* · *Syn: Synonym* · *Abbr: 226 Abbreviation* catalog or index directing the user to another heading; a cross reference. – 4. A service to aid patrons in locating materials relevant to their interests; see reference interview. – 5. Something used for comparison. – 6 Consultation; use.

## PRESERVATION

n. ~ 1. The process of protecting materials from deterioration or damage; the non-invasive treatment of fragile documents. – 2. To keep from harm, injury, decay, or destruction. – 3. LAW · An order issued by a court designed to prevent the spoliation of materials potentially relevant to litigation and subject to discovery.

v. ~ 4. To keep for some period of time; to set aside for future use. – 5. CONSERVATION · To take action to prevent deterioration or loss.

## DISPOSITION

n., – also **final disposition** ~ 1. Materials' final destruction or transfer to an archives as determined by their appraisal. – 2. DIPLOMATICS · That portion of a record that expresses the will or judgment of the author.

## OUTREACH

n. ~ The process of identifying and providing services to Constituencies with needs relevant to the repository's mission, especially underserved groups, and tailoring services to meet those needs.

## Sources

"A Glossary of Archival and Records Terminology," Society of American Archivists 2004. (All definitions minus *Long-Term*)

Consultative Committee for Space Data Systems (*Long-Term*)

## APPRAISAL

Both the USGS EROS Director and Science Council have endorsed the use of a scientific records appraisal process. The process is required at EROS and contains the following steps:

1. USGS Program Coordinator, Project Manager, Science Council, or outside entity proposes to the EROS Archivist a collection for review.
2. Appraisal Team assembled including:
  - a. Archive staff
  - b. Science staff
  - c. Project manager
  - d. Archivist
3. Team collects facts about collection.
4. Science team members review collection and provide their comments.
5. Collection documented using the online appraisal tool.
  - a. <http://eros.usgs.gov/government/RAT/tool.php>
6. Team briefs Archivist and Project Manager
7. Archivist sends recommendation memo to USGS Program Manager and EROS Senior Managers for review.
  - a. Retain or Accept
  - b. Dispose or Reject
8. The USGS Program Manager and EROS Senior Managers pass their comments to the EROS Director.
9. EROS Director accepts or rejects the recommendation.
  - a. EROS Director informs Archivist and Project Manager of his decision via memo.
  - b. Purge recommendations result in a search for a new home. Destruction is the last resort.

All collections offered to or maintained at EROS are reviewed through the EROS scientific records appraisal process. This process is used to ensure that EROS maintains collections that align to our mission and best serve the land remote sensing research community.

Collections considered for National Satellite Land Remote Sensing Data Archive (NSLRSDA) inclusion go through an additional appraisal step to ensure that elements of Public Law 102-555 are addressed.

Contact the EROS Archivist to initiate an appraisal.

## ACCESSION

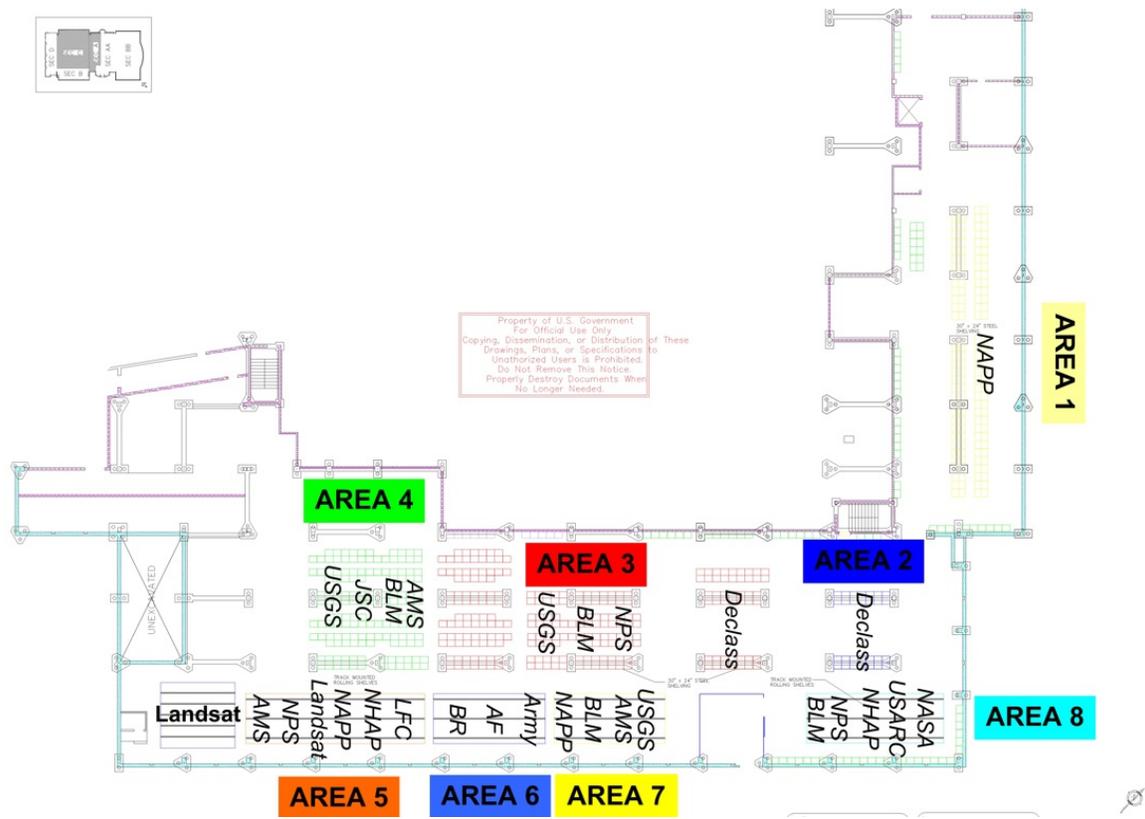
The process of transferring or accepting a collection into EROS follows the formal appraisal process. Accession requires that all documentation from the entity offering the collection be received prior to the physical transfer. MOUs, LOAs, and formal sunset date agreements are documentation examples. Shipping documents also need to be received prior to acceptance of a transfer to ensure that EROS is prepared for the shipment. It is preferred to receive all metadata and supplemental information such as logbooks and processing histories prior to the transfer as well. Having the metadata pre-loaded into a database can greatly assist the processing of the collection and helps to locate discrepancies in connections to the records being processed.

Collections that leave EROS go through the reverse process known as deaccession, often referred to as *purging* by EROS staff. All of the documentation and shipping summaries expected upon transfer to EROS are part of deaccessions.

The EROS Archivist will coordinate collection transfers to and from EROS.

# ARRANGEMENT

How collections are physically organized is more important to analog records and electronic media stored off-line. Records stored on-line or near-line are often arranged logically. The EROS film and digital archives use schemes to keep collections stored together for management efficiencies. The figure below describes the film archive arrangement layout:



## DESCRIPTION

EROS traditionally documents a collection as it receives and processes the records. Metadata is created in databases either dynamically through ingest routines, manually by archive staff, or by a combination of the two. Often, two levels of description are created. The first has commonly been called the collection or series-level and the second is the unit or record-level. Collection level documentation summarizes the collection and provides overall context. Unit or record-level documentation provides detail information at the lowest level and directly supports our public finding aids. EROS places great emphasis upon accessibility of collections underscoring the need for complete, reliable, electronic metadata.

## ACCESS

EROS has always felt committed to providing researchers with efficient and intuitive finding-aid tools. Historical examples of this commitment include the TTY connections offered in the 1980s and the release of the Global Land Information System (GLIS) in 1991. GLIS was the first system anywhere to combine collection- and record-level descriptions with graphic ground footprints and quicklook preview images. More recent examples of the value we place upon accessibility of science records are found in the Earth Explorer, PhotoFinder and GloVis finding aids.

The ability to provide usable, web-based access tools is directly related to the completeness of the description phase. Without adequate and complete metadata, records are often less visible and thus less exploited by researchers.

EROS is currently examining its multitude of public finding aids to determine the next generation of tools to field for researchers. The International Standards Organization Technical Committee 211 offers the recommended spatial metadata specification. It supersedes the Federal Geographic Data Committee previous specifications.

## REFERENCE

In general, EROS provides reference services through its extensive Customer Services staff and through the collection- and record-level documentation created during processing. One-on-one support is provided during weekday work hours, but more commonly, researcher needs are addressed directly through our extensive public finding aids.

## PRESERVATION

Because EROS was established to acquire and preserve remotely sensed data, the passion to preserve these records has persisted. The first large-scale effort was the Thematic Mapper and Multispectral Scanner Archive Conversion System (TMACS). This system took Landsat data from aging High Density Tapes (HDT) and converted them to Digital Cassette Tapes (DCT). The design, build and operations phases spanned more than 5 years. Additional large-scale records migration and transcription efforts have included the early Landsat Wide-Band Video Tapes, SPOT HDTs, and AVHRR 9-track and Digital Linear Tapes. The Landsat Archive Conversion System (LACS) was completed in 2007 and involved converting the TMACS tapes to the next generation media.

The EROS archive preservation recommendation is to maintain three complete copies of all the electronic records to be preserved long-term. A typical implementation of this approach is to have one copy residing online or in a near-line environment. The second copy would off-line, and the third copy would be offsite. All pertinent metadata and associated browse should have at least two total copies with the second stored off-site.

Archival electronic media need to be refreshed within a 3 to 5 year window. Guidance on the appropriate media is provided in the EROS Archival Media Trade Studies published at <http://igskmncngs030.cr.usgs.gov/government/records/tools.asp>

All projects anticipating transcription, migration or off-site storage need to create plans for these activities and have them reviewed by the EROS Archivist prior to preservation efforts starting.

## DISPOSITION

Often referred to as *purging* by the staff at EROS, disposing of records is considered to be part of the lifecycle of records. Disposing does not automatically mean destroying, in fact that step is considered to be a last resort. It does mean that the records will no longer reside at EROS. Through the EROS scientific records appraisal process records are recommended to be retained or disposed based upon many factors including mission alignment, cost to make accessible, and projected science utility. Collections to be disposed are advertised using the CEOS Purge Alert bulletin board system (<http://wgiss.ceos.org/purgealert/>). Organizations whose missions match the type of records being disposed, and who are willing to take on the responsibility for the collection, are sought. As an example, the University of New Mexico agreed on two separate occasions to take collections (Apollo and Shuttle Hand-Held) that EROS had deemed to not match our current mission.

The EROS Archivist will coordinate all planned dispositions to ensure that all Geography, USGS and NARA regulations and policies are addressed.

## **OUTREACH**

EROS typically does outreach through participation in workshops, conferences, papers and symposiums. Formal outreach is done through the Outreach Project, but many projects supplement this through their external participation already noted. The Earth as Art exhibit is a good example of an outreach effort. The NSLRSDA brochures are also examples of seeking to inform or educate researchers and the public of our scientific holdings.

## **ADVOCACY**

Building advocacy is done through our interactions with the Program Leads, the Geography Discipline, our agency, our Department, other Federal agencies, researchers and the public. Directly or indirectly, we have expanded our advocates through committees such as the NSLRSDA Advisory Committee and the LPDAAC Science Working Group for the AM Platform.

## **VITAL RECORDS**

People, financial resources, facilities, scientific records, and information are the lifeblood of an organization. Entities that experience major disasters often struggle when trying to reconstitute themselves. Because administrative and scientific records are valuable resources, it is the responsibility of every agency to protect its records and information from loss. Saving a facility may not ensure we can resume operations if the necessary records are not protected. Not having your vital records will affect how fast we can resume operations, provide services and return to a post-disaster state.

## ADDITIONAL SOURCES

### EROS Records Management

Policy documents, archival media trade studies, appraisal tool, newsletters.

<http://igskmncngs030.cr.usgs.gov/government/records/rm.asp>

### USGS Records Management (Internal)

Files management, records schedules, guidelines

<http://internal.usgs.gov/gio/irm/files.html>

### National Archives and Records Administration (NARA)

Training, policies, guidance.

<http://www.archives.gov/records-mgmt/>