



## **Implementation of the Data Seal of Approval**

The Data Seal of Approval board hereby confirms that the Trusted Digital repository EROS Center complies with the guidelines version 2014-2017 set by the Data Seal of Approval Board.

The afore-mentioned repository has therefore acquired the Data Seal of Approval of 2013 on April 1, 2015.

The Trusted Digital repository is allowed to place an image of the Data Seal of Approval logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the Data Seal of Approval website.

Yours sincerely,

The Data Seal of Approval Board

## Assessment Information

Guidelines Version:	2014-2017   July 19, 2013
Guidelines Information Booklet:	<a href="#">DSA-booklet_2014-2017.pdf</a>
All Guidelines Documentation:	<a href="#">Documentation</a>
Repository:	EROS Center
Seal Acquiry Date:	Apr. 01, 2015
For the latest version of the awarded DSA for this repository please visit our website:	<a href="http://assessment.datasealofapproval.org/seals/">http://assessment.datasealofapproval.org/seals/</a>
Previously Acquired Seals:	None
This repository is owned by:	<ul style="list-style-type: none"><li><b>U.S. Geological Survey</b><ul style="list-style-type: none"><li>U.S. Geological Survey</li><li>EROS Center</li><li>47914-252nd Street Sioux Falls, SD</li><li>USA</li><li>57198</li><li>57198 Sioux Falls</li><li>SD</li><li>USA</li></ul></li></ul> <p>T 605-594-6092 F 707-222-0223 E faundeen@usgs.gov W <a href="http://eros.usgs.gov/nslrda/">http://eros.usgs.gov/nslrda/</a></p>

# Assessment

## 0. Repository Context

### Applicant Entry

*Self-assessment statement:*

The U.S. Geological Survey's (USGS) Earth Resources and Observation Science (EROS) Center was established in 1972 to archive land remote sensing observations obtained from orbiting satellites and air planes. The mission has evolved to also include land cover, land use, and elevation records. Today, upwards of 1,000 new observations are received daily covering land areas from around the world.

Since its establishment, the EROS Center has functioned as an Archives co-located with a science staff allowing direct access to the treasures preserved. Serving the larger, global research community was originally fulfilled through the distribution of analog film and print copies. Beginning in the 1980s, distribution has shifted to be entirely electronic based.

For thirty years the role "Chief of Data Management" was used to guide the preservation and access functions of the EROS Center. In 2001, the position of Archivist was created to better direct the policy, oversight, and guidance needed for a national archive.

For additional background information the EROS Center home page can be located at URL <http://eros.usgs.gov> (accessed 10 Nov 2014)

To examine example observational records, please see URL <http://eros.usgs.gov/imagegallery> (accessed 10 Nov 2014)

A quarterly management report detailing the land-based collections preserved and made accessible can be viewed at URL [http://eros.usgs.gov/sites/all/files/external/eros/nslrda/Records\\_Management\\_Report\\_FY14\\_Q4.pdf](http://eros.usgs.gov/sites/all/files/external/eros/nslrda/Records_Management_Report_FY14_Q4.pdf) (accessed 10 Nov 2014)

### Reviewer Entry

*Accept or send back to applicant for modification:*

Accept

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*Comments:*

**1. The data producer deposits the data in a data repository with sufficient information for others to assess the quality of the data, and compliance with disciplinary and ethical norms.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

**Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

Because the USGS EROS Center has operated as an Archives for many years, offers or donations of collections are received regularly. In order to address these offers and donations efficiently and responsibly, a formal Scientific Records Appraisal Process was developed in 2006. This process is now a required policy that all offers or donations must follow before data are exchanged. To date, 65 collections have been appraised. The process has also been used on the collections already residing in the EROS Center Archives. This was done to validate that collections accepted decades earlier continue to align to the mission of the Center. Through this process 18 collections have either been disposed of or the offer/donation was not accepted. Part of this process was the creation of a set of questions intended to describe the collection. This 'appraisal tool' is recognized by the U.S. National Archives and Records Administration (NARA) as a best practice for U.S. Federal agencies. The appraisal tool incorporates the ISO 15489-1:2001(E) elements of Authenticity, Reliability, Integrity, and Usability. While required versus optional information is not identified in the appraisal tool, our emphasis is for comprehensive information to be collected to aid in the decision of whether or not resources should be expended to preserve and provide access to a collection.

The USGS EROS Center policy requiring the use of the Scientific Records Appraisal Process is hosted on an internal website. Per a request, however, it can be emailed for the Peer Reviewers. This policy details the minimum pieces of documentation that form the appraisal package: 1) Completed Appraisal Tool, 2) Scientist review, 3) Day-to-day manager review, 4) Archivist recommendation memo to senior management, and 5) Center Director memo endorsing or rejecting recommendation.

If the data has any element of copyright or proprietary involvement, a memo on letterhead must be provided clearly stating a title change from the donor/offerer transferring title to the U.S. Geological Survey. The USGS strives to provide Public Domain or open distribution collections. At a worst case scenario, the USGS strives to agree on a future date when copyrighted or proprietary collections may evolve to become Public Domain and freely distributed.

The USGS EROS Center Appraisal Tool URL is located at <http://eros.usgs.gov/government/ratool/> (accessed 10 Nov 2014) This tool identifies mission alignment, provenance, restrictions, spatial and temporal extents, size or volume information, processing levels, amount and quality of metadata, and perceptions of costs to accept the collection. Additional questions are used if the collection is analog film or paper.

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## **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **2. The data producer provides the data in formats recommended by the data repository.**

### *Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

## **Applicant Entry**

### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### *Self-assessment statement:*

Our Center strives to work with the format offered. If different from one that we have experience in, a migration will be planned.

The distribution format for the majority of the collections archived and distributed is either TIFF or GeoTIFF. The archive format may be a 'level 0,' but that is not offered for researchers. If a collection is offered to or sought by the USGS EROS Center and the format is not TIFF or GeoTIFF, the Center would expend funds to convert the format assuming the Scientific Records Appraisal recommendation was in place and Senior Management had approved the recommendation.

All new data must be ingested which serves as our initial quality control element. For analog records, we would do sample visual inspections prior to digitizing the film.

Again, any non-TIFF or Geo-TIFF formats would be discussed to determine the resources necessary to convert them to TIFF or GeoTIFF. Any previous processing performed on a collection would result in requests for documentation from the donor/offeror.

## **Reviewer Entry**

### *Accept or send back to applicant for modification:*

Accept

### *Comments:*

### **3. The data producer provides the data together with the metadata requested by the data repository.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

#### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

All collections preserved and accessible are to conform to the U.S. Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM). We extend that to also include the 8 million frames of analog, aerial photography from several collections. Without accurate and complete metadata, our collections would be of little value. Good metadata also fuels our data discovery tools. Spatial, temporal and collection-specific characteristics are the foundation that our online finding aids use to gain access to the extensive holdings. These data discovery tools describe our collections, provide query tools to determine relevance over a researchers area of interest, and allow direct data download. The vast majority of the holdings are Public Domain and are available at no cost.

If sufficient metadata are not available, the collection will either be rejected from consideration or the ingest delayed until the pertinent information is provided.

A primary data discovery and data access tool, Earth Explorer, is located at <http://earthexplorer.usgs.gov> (accessed 10 November 2014)

An additional data discovery and access tool using the paradigm of interacting with the actual data as one's query, the Global Visualization (GloVis) is available at <http://glovis.usgs.gov> (accessed 10 Nov 2014)

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

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#### **4. The data repository has an explicit mission in the area of digital archiving and promulgates it.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

#### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

One of our mandates stems from U.S. Public Law 111-314, subtitle VI of Title 51, United States Code, Chapter 601, originally the Land Remote Sensing Policy Act of 1992, Public Law 102-555. This legislation established the National Satellite Land Remote Sensing Data Archive (NSLRSDA) and charged the U.S. Department of the Interior, delegated to the U.S. Geological Survey (USGS), to permanently maintain an archive of land observations. See URL <http://eros.usgs.gov/nslrda/> (accessed 10 November 2014) for more details.

There are established selection criteria that apply to any collection considered for NSLRSDA inclusion. Note that the legislation and related USGS policies address both analog and digital records.

Promotional activities include releasing factsheets, speaking at conferences, and providing efficient access to our Archives for the research community that publishes scientific articles.

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

Succession planning is not mentioned here, but in criteria 9, so this statement is accepted.

## **5. The data repository uses due diligence to ensure compliance with legal regulations and contracts including, when applicable, regulations governing the protection of human subjects.**

### *Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

## **Applicant Entry**

### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### *Self-assessment statement:*

The U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center is a U.S. public agency. Thus, it is a legal entity within the U.S. government. The EROS Center was created in 1972 to receive, archive, and distribute observations taken over land surfaces.

Data producers often offer their collections to the USGS EROS Center. To adequately address these offers, a formal appraisal process was established in 2006 that includes, at a minimum, five levels of documentation. The appraisal process is also used to verify collections already maintained at USGS EROS still align to our agency and center mission. To date, over 60 collections have been appraised with approximately one-third of the collections reviewed either being rejected or disposed of. Part of the appraisal process has been judged to be a Best Practice from the U.S. National Archives and Records Administration (NARA).

If a collection is appraised to align to our agency and center missions, clear title to the collection is sought. Additionally, all collections received fall under the assumption that at some point the entire collection will be either public domain or open distribution. All such data are distributed at no cost to the research and public communities since 2008.

Collections at risk are prioritized for preservation activities. Some recent examples include aerial photography possessing acetate base (vinegar syndrome) conditions, which are scanned first. The film is then sent to the NARA who freezes it stopping any additional degradation. A further example involves satellite data received by ground stations around the world. Some of this data is decades old existing on out of data media. The EROS Center attempts to keep old processing computer strings working so that these old media can be processed to current standards.

## **Reviewer Entry**

### *Accept or send back to applicant for modification:*

Accept

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*Comments:*

## **6. The data repository applies documented processes and procedures for managing data storage.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

Preservation policy is part of our overall USGS EROS Data Management plan, which can be viewed at URL <http://eros.usgs.gov/government/records/info.php>. Our facility has a policy of maintaining three copies of all long-term science records. The first copy is usually on spinning disk to serve research needs. The second is either on a different server, in a silo, or on magnetic media in our Archives. The third copy resides on magnetic tape offsite at the U.S. National Archives and Records Administration (NARA) Federal Records Center located in Lees Summit, Missouri located approximately 5 hours drive. Updates are generally provided monthly. The current volume is approximately 4 PBs stored offsite at Lees Summit. The offsite storage facility is part of our Vital/Essential Records and form a big piece of our risk mitigation strategy. Our facility is in a tornado-prone area so with the offsite copies our function could be rebuilt. This strategy has been in place for over six years. We are now in the process of recalling the oldest media, migrating to new media, and resending the new tapes back to the off-site facility. This is done as part of our policy to migrate away from any media that is five years of age. We also have developed an offline archive media trade study to guide us in determining which media should be used. These studies are published every other year. To date we have conducted eight such studies, which can be viewed at URL <http://eros.usgs.gov/government/records/tools.php> (accessed 10 November 2014)

Security levels are based on roles and employed with regards to servers as well as to physical access to our Archives. The Archives utilizes a card key system, which is monitored multiple times a year to ensure the right personnel only have access. Additionally, the Archives utilizes cameras to monitor activity.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **7. The data repository has a plan for long-term preservation of its digital assets.**

### *Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

## **Applicant Entry**

### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### *Self-assessment statement:*

Since the 1972 formation of the USGS EROS Center, both archiving and access to the holdings have been foundational mission elements. For the collections that are covered by the Public Law 102-555, we are required to provide both long-term preservation and continued access. See URL <http://www.gpo.gov/fdsys/pkg/STATUTE-106/pdf/STATUTE-106-Pg4163.pdf> (accessed 10 November 2014) for the U.S. law pertaining to our obligations.

Any obsolescence, whether from hardware, software, operating system, media, firmware, or format are continually monitored. Our policy to migrate from all medias, including hard disk, every five years helps us mitigate obsolescence challenges.

Our planning involves working with the U.S. National Archives and Records Administration (NARA) regarding long-term data usability. We use the CCSDS definition of long-term, which states "Long Term is long enough to be concerned with the impacts of changing technologies, including support for new media and data formats, or with a changing user community. Long Term may extend indefinitely."

Our Archives utilizes 11 environmental data loggers to help manage the temperature and relative humidity levels throughout the year.

## **Reviewer Entry**

### *Accept or send back to applicant for modification:*

Accept

### *Comments:*

## 8. Archiving takes place according to explicit work flows across the data life cycle.

### *Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

## Applicant Entry

### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### *Self-assessment statement:*

Being a U.S. federal agency, some of the requirements listed here such as privacy, are dictated by U.S. law. We do, however, have several policy documents addressing collections offered to us (*Acceptance of Collections* policy and *Electronic Records Preservation* policy) and how we are to manage electronic records. If desired, these internal documents can be provided. The Acceptance of Collections policy details the workflow that occurs during the appraisal of records for consideration. This policy also outlines how decisions are made regarding collection offers. We also utilizing this policy to appraise collections housed here since the 1970s. Retaining these appraisal documents allows us to defend decisions made regarding the acceptance or rejection of collections.

The skills involved with the relevant staff include being certified through the U.S. National Archives and Records Administration (NARA) Knowledge Area training. This same training is now required for all U.S. federal agency Records Officers.

The repository preserves and makes accessible observational data obtained from satellite and aerial sources. It is expected that unmanned drone imagery will become part of the archives in the near future. Additionally, elevation data for the U.S. and the globe are maintained and distributed. Lastly, Land Use / Land Cover data are created, preserved and made accessible. Some volumes for these collections include:

- o Over 6M analog aerial film frames - we are actively scanning these. Over 3M scanned to date.

- o Over 7M digital satellite images

- o Over 100K files of elevation data

- o Over 10K files of land use / land cover data

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Currently, we manage over 12 petabytes of electronic records including copies. A little under 5 months and we add another petabyte. Additionally, we have 100,000 rolls of analog film. There are several workflows associated with the active collections. A typical one would include receipt of data from an orbiting satellite. The raw data is initially processed to a level 0 (zero). Applying initial ground control results in a level 1 being created. The level 1 is copied to a silo plus processed to a GeoTIFF product and made accessible with 24 hours to an online catalog (URL <http://earthexplorer.usgs.gov> (accessed 10 November 2014)). Additionally, the silo copy is written to LTO media and sent offsite to the NARA Lees Summit Federal Records Center.

The selection process question equates to our EROS Scientific Records Appraisal process. That is documented in the *Acceptance of Collections* policy that can be provided upon request. To summarize the process, a collection is offered to the USGS or an existing one is reviewed to confirm it continues to match our mission. The Archivist leads the process and compiles all of the relevant background information on the collection. This information is then provided to a scientist for review. The scientist can comment on any element of the collection, but must address the following three questions, at a minimum:

1) Is there another organization within the scientific community that might benefit from or have an interest in these records?

2) What were the original scientific uses for these records?

3) What may be future scientific uses of these records?

Once the science comments are captured the relevant Project Lead is provided an overview briefing. The outcome of this briefing is a recommendation to accept or reject the collection offer. The recommendation is formalized in a memorandum and provided to our senior managers for a two week period. At the end of two week period our Center Director provides a memorandum on acceptance or rejection of the recommendation.

If the decision is not to accept, or in the case of collections currently stored in our Archives that are judged to not meet our mission, a separate procedure, disposal, is begun. Here USGS seeks a relevant home for the collection. Destruction is the last resort and is rarely utilized.

As stated earlier, USGS must follow strict guidelines related to privacy. Our terminology is called PII or Personal Identifiable Information.

Data handling procedures depend on if the source material is digital or analog. Either way, once the data are received physical control is established by securing them in our Archives. Thereafter, intellectual control is built through creating metadata and eventually adding the records to our online finding aids. An example can be found at URL <http://earthexplorer.usgs.gov> (accessed 10 Novemebr 2014)

## **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*



## **9. The data repository assumes responsibility from the data producers for access and availability of the digital objects.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

Typically, the USGS does not enter into contracts to acquire data. More often, we generate the data from the satellites we manage. There are some instances where private firms are contracted to acquire imagery meeting certain specifications. In those cases, the data is inspected prior to being accepted. There is another, somewhat unique situation USGS possesses. As the designated repository for the National Satellite Land Remote Sensing Data Archive (NSLRSDA - P.L. 102-555 previously cited), all U.S. satellite launches that require a license from the U.S. Department of Commerce incorporate language stating that whenever one of these U.S. entities decides to purge any of their holdings, the U.S. government is to receive the first rights of refusal. That is where our Scientific Appraisal Process is used to determine the value to the U.S. This situation has occurred already in the past.

All U.S. federal agencies are required to have a Continuity Of Operation Plan (COO or COOP). Additionally, as part of EROS' risk mitigation strategy, all of our electronic, long-term science data are sent to the U.S. National Archives and Records Administration (NARA) Lees Summit, Missouri, which is five hours from our facility. We currently have over 4 PB of data stored on magnetic media at Lees Summit. Our metadata is stored offsite, separately, at a different facility.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **10. The data repository enables the users to discover and use the data and refer to them in a persistent way.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

### **Applicant Entry**

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Self-assessment statement:*

Archival formats often are not what is made available for researchers. As an example, it is common for satellite images to be stored in a "raw" or "level 0" state. The distribution format, however is GeoTIFF which was determined after soliciting community inputs. The distribution formats have also evolved during our Archives history. Originally, output formats were varied and often customized to individual research needs. The last several years we have endorsed the use of TIFF or GeoTIFF, both of which are generally readable by many software packages from all operating systems. In retrospect, this has been a good strategy. Even for our analog film products, the distribution copy is a scanned image in TIFF format.

We have offered on-site facilities since our inception in 1972. A fulltime research librarian is on staff who can tap into additional personnel for expert assistance. The in-person research visits have declined dramatically over the last 10 years. By far, most researcher seeking to understand our collections or to acquire copies of our records utilize online finding aids. We offer several, with each serving different ways to discover, learn about, and access our holdings.

Earth Explorer (<http://earthexplorer.usgs.gov> - accessed 10 November 2014) is a more traditional "metadata" system allowing users to specify characteristics such as spatial, temporal, and other collection specific information in order to determine if any records meet their needs.

GLOVIS (Global Visualization - <http://glovis.usgs.gov/> - accessed 10 November 2014) is in some ways a complete opposite of Earth Explorer in that it begins with a matrix of several images taken from a collection over a geographic area. The user can then 'drill' down through the stack of images acquired over time to determine which are of interest.

WELD (Web-Enabled Landsat Data - <http://weld.cr.usgs.gov/> - accessed 10 November 2014) is a finding aid to only one collection from the Program called Landsat. It's approach is very unique, however. Currently, WELD offers U.S. coverage of Landsat satellite data in a mosaic-like fashion based on a temporal period of a week, month, season, or year. The uniqueness is that the mosaics are built from individual pixels judged to be the best acquired during the specified time period. Analyzing data stacks of images through time at the pixel level allows

for interpretations few researchers could have resourced themselves. This concept will be expanded to include all world land areas in the near future.

We do allow outside entities to harvest our metadata as this allows for further awareness of our holdings.

Persistent identifiers are currently required for all of our publications in the form of digital object identifiers (DOIs). The Archives holdings will also have DOIs at the collection level. We anticipate this to occur over the next couple of years.

## **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## 11. The data repository ensures the integrity of the digital objects and the metadata.

### *Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

### **Applicant Entry**

#### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

#### *Self-assessment statement:*

For new collections, our inventory database includes POSIX standard cyclic redundancy check (CRC) checksum for each data file. If a legacy dataset is reworked, the checksum is added to the inventory database. It is estimated that over 90% of all inventoried data at USGS EROS Center has a checksum stored in the database.

Scripts are being developed to check validity of the inventory database with data stored in the Archives. The scripts will check for file name and datasize. Completion is expected by March 2015.

For the archive system, standard filesystem and tape CRC are used. In addition, with Oracle T10K-d tape technology we utilize Data Integrity Validation (DIV) in which checksum per block is stored on tape, and can be verified locally on tape drives.

Our current policy directs us to write to multiple tape copies, and includes more than one tape technology. The policy states that we are to maintain three electronic copies: one nearline or online, one nearline or offline, and one offsite. Our current tape technologies utilize Oracle T10000 and industry standard LTO medias.

Our policy is to refresh media within five years to ensure archive integrity.

In general, collections do not consist of multiple versions. If a data set has multiple versions, it is stored with a version number appended at the top level directory and basically treated as a new collection (eg. SRTM).

### **Reviewer Entry**

#### *Accept or send back to applicant for modification:*

Accept

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*Comments:*

## 12. The data repository ensures the authenticity of the digital objects and the metadata.

### *Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

### **Applicant Entry**

#### *Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

#### *Self-assessment statement:*

When we occasionally change the format available for copies of data or when we change a metadata field, extensive fore-warning is provided. Typically, we will post dialog boxes on our online finding aids (e.g. Earth Explorer URL <http://earthexplorer.usgs.gov> - accessed 10 November 2014) of the impending change.

Provenance data is captured particularly when a donation is offered. We strive to determine the entire lineage so that any ownership questions are averted. This information is also useful when questions about prior processing needs to be understood.

All of our collections have both collection- and file-based metadata directly linked. Our imagery is geospatially tied so good metadata must contain geographic coordinates. If a collection does not have these, we will strive to generate them. Our finding aids are set up to locate individual files from within collections based on geographics, temporal constraints, and other collection specific fields.

We generally do not maintain multiple versions of collections. In the few instances that the situation is present we have extensive documentation detailing the differences. Typically, these are format differences or slight differences done in processing.

During our EROS Scientific Records Appraisal Process the background of potential donors is checked. We may even perform on-site reviews.

### **Reviewer Entry**

#### *Accept or send back to applicant for modification:*

Accept

#### *Comments:*

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### **13. The technical infrastructure explicitly supports the tasks and functions described in internationally accepted archival standards like OAIS.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

#### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Self-assessment statement:*

The EROS Center employs the U.S. Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) for all of its metadata. The standard is also used to describe our analog film holdings. To verify this statement, please see our finding aid, Earth Explorer (<http://earthexplorer.usgs.gov> - accessed 10 November 2014), which allows for query results to be formatted on the fly in the FGDC CSDGM.

The approach we have taken is to provide the translation from our Oracle database files to the CSDGM, thus we do not store metadata in the standard, but provide it through software conversions on the fly. Once the U.S. transitions fully to the ISO standard, the EROS Center will adopt the ISO reference as well.

Infrastructure developments are planned and follow periods of study and preparation. Having all of our electronic records on spinning disk and offering these holdings for free downloads requires us to continuously monitor our hardware and telecommunications. Currently, we are preparing to update our computer networks to better manage the multiple terabytes of data that are received and sent out daily.

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **14. The data consumer complies with access regulations set by the data repository.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### **Applicant Entry**

*Statement of Compliance:*

0. N/A: Not Applicable.

*Self-assessment statement:*

While some of these situations or conditions did arise years ago, the current environment is that all holdings in the Archives are considered to be Public Domain and are free and open. We do perform some services for other U.S. federal agencies where a limited number of collections are available to only those agencies. The example here are records purchased from commercial sources that through licensing can only be distributed to certain elements within our Department of Defense. This is a very isolated situation.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*



**15. The data consumer conforms to and agrees with any codes of conduct that are generally accepted in the relevant sector for the exchange and proper use of knowledge and information.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

**Applicant Entry**

*Statement of Compliance:*

0. N/A: Not Applicable.

*Self-assessment statement:*

Similar to answers provided in the 16th section, the holdings in the Archives offered to the research community are *Public Domain* and are offered in a free and open manner. There are no codes of conduct involving our holdings, especially as they might relate to human subjects. In some regards, you could visualize many of holdings as "abstractions of the real world." For example, the satellite and aerial images capture areas of the earth and record them electronically or on film. Both images generalize a portion of the Earth based on a scale fraction or ground resolution. Thus, either a satellite or aerial image represents an area on the surface of the Earth that may be, at best, recognizable by the human eye, to be 1-meter by 1-meter, or in another example, 30-meters by 30-meters. We do not yet have the capability to observe the Earth at a 1:1 scale.

We do not possess or distribute confidential data.

**Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **16. The data consumer respects the applicable licences of the data repository regarding the use of the data.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

### **Applicant Entry**

*Statement of Compliance:*

0. N/A: Not Applicable.

*Self-assessment statement:*

Since 2008, the USGS EROS Center has followed a free to the user, open data policy as directed by the U.S. Department of the Interior, which is the parent organization for the USGS. Historically, the USGS EROS Center dealt with copyrighted data by attaching labels to physical media that spelled out the acceptable uses allowed. This situation has not been present for many years. Today, when a commercial entity offers a collection to the USGS, and after an appraisal recommendation favoring acceptance is documented, the offerer must be willing to provide a company letterhead statement transferring all legal titles to the USGS. With that transfer, the USGS can accept collections, prepare them for finding aids, and offer them to any and all researchers at no cost. The data are then considered to be in the *Public Domain*. While we request source credit, even this is not required. The data can be used for any purpose desired.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*