

The U.S. Geological Survey Geologic Collections Management System Policy Manual

GCMMS



Circular 1410—Appendix 3

GEMS



GCMS Policy Manual

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GCMS Policy Manual

This appendix provides an example of a collections policy manual developed for the Geologic Collections Management System (GCMS). It is intended to be used in conjunction with the suggested policies set out in the GCMS Operating Plan (Geologic Materials Repository Working Group, 2010).

Each repository or science center that maintains geologic collections will need to consider and address the following issues of responsibility and authority:

1. *Who will be on the Local Advisory Committee?*
2. *Who will be responsible for setting policies and procedures?*
3. *Who is, or will be, the Collections Manager?*
4. *What will the Collections Manager do?*
5. *Who will be the point of contact for information about the collections?*
6. *Will the Collections Manager be a member of the Local Advisory Committee?*

Clearly defined roles and duties for the personnel responsible for the collection materials will ensure that the repository is able to provide the necessary conditions for preservation, maintenance, reliability, accessibility, integrity, confidentiality, and security. In doing so, standards of accountability will be consistent throughout the GCMS.

Preamble

For over a century, the U.S. Geological Survey (USGS) has been dedicated to the study of earth history and the geologic processes that shape our physical world. Research personnel perform the tasks of field mapping and laboratory analysis to unravel the complex systems that govern resources, hazards, and landforms, as well as the interactions of the earth's surface with the biosphere and atmosphere. Research results are published in a timely manner so that government officials can incorporate the results into their policy-making decisions and the general public can apply relevant information to their everyday lives.

A major component of geologic research is tied to the physical samples that field personnel collect and analyze. These collections and their ancillary records serve as primary reference materials for understanding the solid earth and the processes that form our world. Materials range from fossils, rocks, and soil to stream and lake sediments, from mineral separates to analytical residues. Because these samples have both immediate and long-term value for research purposes, the USGS is committed to documenting, maintaining, and preserving its collections in the best of possible circumstances. By providing this long-term stewardship, the USGS guarantees their continued accessibility by staff scientists, outside researchers, and the general public.

Purpose

This document establishes policies and guidance for the management, use, and preservation of USGS geologic materials collections. These policies provide direction, define objectives, establish expectations, and develop consistency. They are intended to unify operations throughout the GCMS and have been designed to promote the long-term preservation of USGS geologic collections under minimum standards of care.

Mission Statement

The USGS characterizes the geological landscape and provides the Nation with fundamental geochemical and geophysical data necessary to address major societal issues involving geologic hazards and disasters, climate variability and change, energy and mineral resources, ecosystems and human health, and groundwater availability. The Geologic Collections Management System (GCMS) supports this mission as part of the agency's data integration effort by creating a uniform infrastructure and standardized master catalog of all USGS geologic sample collections. As a virtual network linking physical collections, the GCMS facilitates access to these samples by USGS personnel and the public through a Web-based portal. The set of common business and management practices developed by the GCMS promote the long-term preservation of these national resources.

Scope of Collections

Geologic collections at the USGS fall into general categories that include, but are not limited to, hand samples (rock, mineral, and geotechnical), drill cores and cuttings, stream sediments, fossils, fluids, and ice cores; some of the collections may contain a mixture of several types. There are also collections that are the result of analytical studies of field samples. These collections are retained because they are essential to the research mission of the USGS.

Relevant Concepts

Chain of custody is the documentation of sample ownership by successive parties; the principle of documenting where a sample originated, where it is currently located, and all intermediary steps that have occurred from acquisition through accession. This documentation begins with the collecting scientist, accompanies the sample throughout its research history, and is incorporated into the repository's permanent records.

Collecting units are those projects and personnel authorized by the Director, or Director's representative, of the U.S. Geological Survey (hereafter referred to as the Director) to conduct field studies and collect physical samples in the course of their research.

A **collection** is a set of samples that have been brought together on the basis of some common characteristic. These samples are grouped by project topic, geographic area, sample type, or another unifying theme. Collections are maintained in an orderly manner, governed by defined policies and procedures, and managed in the public trust for present and future research purposes.

Collections management is the ongoing process of acquiring and maintaining a collection. It involves defining the policies and procedures that govern sample handling, labeling, storage, cataloging, conservation, and access to the samples.

A **collections management plan** is a procedural manual with specific practices and protocols related to sample handling, management, and preservation within the repository. These procedures reflect the guiding principles specified in the collections management policy.

A **collections management policy** guides the content of the collections to be compatible with the USGS mission of earth sciences research and guides collection decisions to be prudent, responsible, and informed. By providing the basis for procedural actions, the policy presents a consistent context for decisions regarding the handling, retention, and disposition of samples and ensures that collections are managed according to specific standards and strategies.

The **GCMS Governing Board** is the national committee that advises the National Geological and Geophysical Data Preservation Program (NGGDPP) Coordinator in establishing policies and protocols for the handling of USGS geologic materials collections.

The **Local Advisory Committee** guides the implementation of GCMS protocols at the science center level.

The **Registrar of Collections** is responsible for the accuracy and completeness of the data and records in the GCMS data catalogs. The Registrar will be the focal point for information exchange and interoperability of all collections management plans and database quality and usability control.

Background

The USGS collects geologic materials in support of its mission to investigate earth systems and the processes that shape the physical world. This collection process is guided by scientific questions proposed by research projects. The USGS has also acquired collections from other agencies and private sources that further the bureau's mission. These collections form the intellectual basis for scholarship, discovery, and education. Because these materials may prove impossible or prohibitively expensive to re-collect, it is critical to maintain and preserve the collections for present and future research purposes.

The sundry civil expenses bill, the USGS Organic Act of March 3, 1879 (20 Stat. 394; 43 USC 31), established the U.S. Geological Survey. Also, as amended, it directed that

All collections of rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology, made by the National Ocean Survey, the United States Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress, shall be deposited in the National Museum [Smithsonian Institution's National Museum of Natural History]. (20 USC 59)

Because many USGS collections are used and referenced on a regular and continued basis, it has not been practical to turn over major collections of geologic materials to the National Museum of Natural History (NMNH). It is the mission of the GCMS, however, that USGS collections be maintained and preserved in a manner consistent with NMNH policies and procedures so as to streamline the ultimate transfer of any scientifically or historically significant collections to the NMNH or other appropriate museum.

Applicability

This policy applies to all USGS personnel who collect geologic materials for research purposes or manage those collections for preservation and access purposes. All staff and volunteers are required to adhere to the collections management policies and procedures established in this document.

Authority and Responsibility

The USGS collections management authorities and responsibilities are delegated as follows.

USGS Director (or Director's Representative)

- Establishes performance measures for monitoring and reporting progress towards the implementation of collections management standards.

The direct line of authority from Director (or Director's representative) to NNGDPP Coordinator should be followed in all information and decision exchanges both up and down the line of authority.

NNGDPP Coordinator

- Recommends and approves GCMS collections management policies and procedures.
- Appoints USGS personnel to the GCMS Governing Board.
- Solicits outside participation in the GCMS Governing Board.
- Oversees the activities of the GCMS Governing Board.

GCMS Governing Board

- Advises the Director (or Director's representative) and NNGDPP Coordinator in establishing policies and protocols for the handling of USGS geologic materials collections.
- Oversees the administration, implementation, and operation of the GCMS.
- Reviews and approves local collections management plans developed by individual science centers.
- Reviews and revises the national collections strategy as needed.

GCMS Registrar of Collections

- Advises and assists the GCMS Governing Board in the establishment, implementation, review, and revision of the GCMS collections management policy.
- Advises and assists the Local Advisory Committees to develop, implement, and revise the science center collection management policies and procedures.
- Monitors and documents compliance of the local repository plans with the national strategy.
- Verifies the accuracy and completeness of the data and records in the GCMS data catalog.
- Ensures conformity of indexing and database format with the standards established by ScienceBase.

Local Advisory Committee

- Guides the implementation of GCMS protocols at the science center level.
- Reviews and approves the local repository's collections management plan.
- Advises the local collections manager on issues of sample access, loans, and disposition.

Science Center Director (or Equivalent)

- Provides policy guidance and budget support needed to carry out the collections management responsibilities of their local repository in accordance with established protocols.
- Ensures compliance of project staff to policies and procedures of the local repository's collection management plan.

Collections Manager

- Develops the local collections management plan that provides for the long-term care and preservation of the Science Center's collections.
- Ensures that the local plan is consistent with the policies and procedures of the national strategy.
- Works in conjunction with project scientists to ensure that collected materials are adequately documented.
- Implements procedures to manage and preserve collections.
- Works with the GCMS Registrar to ensure conformity with metadata and indexing protocols outlined by the National Digital Catalog and established by the GCMS.

Project Leader

- As part of the project proposal process in BASIS+, develops a collection management plan that is consistent with the local repository's plan.
- Ensures that project personnel adhere to the policies and procedures of the collection management plan.

Project Scientist

- Follows the policies and procedures of the project's collection management plan.
- Deposits individual collections in the local repository at the end of the research process but no later than publication of the first research paper associated with those collections.

Policy Elements

The following policy elements are intended to establish protocols at all levels of collections management. They are designed to standardize operations among the physical repositories where collections are currently housed.

Overall Authority

- The Director (or Director's representative) has ultimate authority for approving the policies, procedures, and decisions enacted by the GCMS Governing Board.

Administration

- The GCMS Governing Board will oversee the administration, implementation, and operation of the GCMS. Policies and procedures established by this board are binding, yet are flexible enough to give local repositories the necessary leeway to adapt the methodologies to their particular collections.

Local Advisory Committee

- Each science center that maintains collections of geologic materials would be deemed an active repository and should establish a Local Advisory Committee to oversee implementation of GCMS standards at that location. Committee members could include the center director or operations manager, the collections manager, and individual research scientists. Committees should be kept small (3-5 members), and the research scientists would serve limited terms of appointment.

Collections Management Policy

- Each active repository will develop a written collections management policy to ensure the proper documentation, physical care, preservation, and accessibility of its collections. The policy should be specific to the nature, scope, and character of those collections. Components of the policy should include (1) a statement of purpose, (2) a primary statement of authority, (3) a definition of the collection, and (4) a statement of collection's scope. Upon completion, the repository's policy manual will be submitted to the GCMS Governing Board for review and approval. It will be periodically reviewed and revised, as needed.

Collections Management Plan

- Each active repository should have a collections management plan for the organized handling, storage, preservation, and tracking of samples; the plan must conform to the basic standards of the GCMS. Appendix 4 contains a procedural manual that may be modified to fit the needs of the individual repositories.

Repository Responsibility

- **Collection evaluation**—Each active repository should be responsible for evaluating its own collections for retention or disposal according to the procedures laid out in appendix 4. All materials will be assessed on the basis of their long-term research value and the existence of ancillary geologic records. Collections that do not meet the minimum criteria will not be retained, as collections, by the USGS. Options for disposal are spelled out.
- **Collections catalog**—Each repository should be responsible for data acquisition and sample registration. The repository might have information that is critical for a specific collection but might not be necessary for the GCMS database. Therefore, samples will be cataloged using a format that captures the data necessary to their collections. The database attributes include, but are not restricted to, those provided online through the GCMS Web site.
- **Sample data**—Researchers will obtain and record required data when a sample is collected. These data will be compiled and entered into a local database or GCMS database template when the researchers return from their field seasons.
- **Sample usage**—The scientists will have exclusive use of the samples for the tenure of the project for which they were originally collected.
- **Accession**—When projects are completed, or within a predetermined period from the time of collection, the samples will be physically accessioned into the local repository and sample metadata digitally uploaded into the GCMS master catalog, allowing public access to both samples and ancillary data. Any exceptions to this disclosure will require approval by the Director (or Director's representative).

- **Registration**—The GCMS will assign a unique identification number to each sample when it is formally registered in the system. Although numbers may be assigned at different times for different sample types, it should occur prior to publication of the first research paper associated with those samples.
- **Stewardship**—All collections should be deposited into their designated repository when the samples are no longer in active use, either at the end of the research project for which they were collected or on the occasion of the principal investigator's departure from the USGS. At no time should the samples leave USGS custody without evaluation by the repository and documentation of their transfer.
- **Access**—Each repository should establish procedures for the secondary sampling of its collections. Access to samples after they have been deposited in a repository should be determined on a case-by-case basis and will be based on the policies of that specific repository.
- **Loans and secondary sampling**—Samples may be loaned to appropriate parties for research, exhibit, or education. If samples are loaned for analytical purposes, resultant data will be reported back to the repository within one year's time.

All samples remain USGS property unless properly transferred to another entity.

Health and Safety

Repositories will work with their local safety officers to ensure compliance with the Federal standards and regulations designed to protect the health and safety of employees and visitors. Occupational hazards will be identified and eliminated or mitigated. Training will be provided for the recognition and avoidance of unsafe conditions and behaviors.

Hazardous Materials

Any repository containing materials of a hazardous nature (asbestos, heavy metals, radioactive substances, and so forth) will work with its local safety office to ensure that those samples are handled and stored under appropriate conditions. If required, permits will be obtained to comply with Federal and State regulations. Employees will receive the necessary training to ensure their safety when working with these materials.

Ethics

The USGS recognizes and accepts its responsibility to provide proper management, preservation, and use of its collections and ancillary documents for the benefit of the scientific community and general public.

Federal employees and contractors for the USGS are legally, ethically, and professionally obligated to maintain the highest standards of honesty, integrity, and loyalty to the agency while so employed. Unauthorized use of USGS resources is prohibited and may subject the party to penalties under USGS policies or applicable laws. Samples collected by USGS personnel remain property of the U.S. Government and should not be sold, bartered, or otherwise used for personal gain.

Accounting for Collections

Collections maintained by the USGS are held for research and education in the furtherance of public service. They are not treated as assets for the purposes of reporting in the agency's financial statements.

Exceptions

Prudent exceptions to the GCMS collection management policy may be permitted in appropriate cases when in the best interest of the USGS. Exceptions must be approved by either the GCMS Governing Board, the NCGDPP Coordinator, or the Director (or Director's representative), depending upon the exception. Requests for exceptions should be made to the GCMS Registrar, who will facilitate the required review.

Compliance

All USGS staff with responsibility for collecting or managing geologic materials should have an element in their performance plan that affirms compliance with national GCMS strategy and the policies and procedures of the local repository. Collections managers will develop a compliance checklist for sample handling and data input and will be responsible to the GCMS Registrar for documenting compliance by maintaining local databases that make up the national system.

References

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