STATEMENTS

Earth Sciences
(Class QE, GC, GB, QC, TN, and Z as appropriate)

Contents

I. Scope

Earth Sciences focuses on the physical components of the Earth - its water, land, and air - and the processes that influence them. The major scientific components of Earth Sciences include geology, oceanography, meteorology, and astronomy. This Collections Policy Statement on Earth Sciences includes Library of Congress Classification QE (general geology, mineralogy, petrology, structural geology, stratigraphy, seismology, and paleontology) and GC (oceanography, underwater exploration, submarine topography, estuaries, ocean dynamics, marine sediments, and marine resources). Also included are related publications in portions of other subclasses including geomorphology and hydrology in subclass GB, geophysics and meteorology in subclass QC, and mining, metallurgy, and petroleum geology in subclass TN. This statement also covers related bibliographies, abstracts, indexes, and catalogs in Class Z.

The advanced and interdisciplinary nature of the research connects astronomy, the study of celestial and planetary bodies, with earth science. Especially with the advent in the past decades of new remote sensing, satellite, and data gathering systems, earth sciences has far expanded in this area. However, for the purpose of this statement Astronomy is addressed in the Collections Policy Statement on Physical Sciences. Subclass TN is also addressed more broadly in the Collections Policy Statement on Chemical Sciences. Also not included in this statement are works that address biological, physical, and chemical impacts on the Earth or the effect of man and technology on the environment; they are addressed by the Collections Policy Statement on Environmental Sciences.

II. Research Strengths

A. General

The Library's print holdings in earth science fields are substantial and significant. They display the same breadth and depth of coverage that is characterized by the Library's scientific collection in general, and are diverse in language and format. These include resources, surveys and records from geological institutes, and from government agencies or ministries responsible for water resources, geological exploration, mining and metallurgy, petroleum exploration, paleontological expeditions, oceanography, volcanology, coast and geodetic surveys, and submarine geology throughout the world. Complementing these collections are the earth science materials in electronic formats. These include subscription databases, publicly available resources, web sites, and physical electronic data in CD-ROM, DVD, or other formats.

Abstracting and indexing services have historically provided a means to identify and locate writing, research and other scholarly material in fields of science and technology, and the Library has extensive collections of these publications in print and in electronic formats. Particularly useful electronic databases for earth sciences research include the subscription databases: *Engineering Village*, *Geological Society of America* (e-books), *GeoRef*, *JSTOR*, *Knovel*, *Scopus*, *Springer-Link*, and *Web of Science*.

B. Areas of distinction

The Library's collections chronicling the paleontological record in both vertebrates and invertebrates are comprehensive. They hold virtually all the bibliographic indexes, tracts, published descriptions of species, and accounts of paleontological expeditions throughout the world. The Library's collection of biographical materials includes all the major geologists and a large percentage of the other contributors to our knowledge of all areas of geology. The Library's distinctive collection in earth sciences is described by Leonard C. Bruno, in the chapter "Geology: the Secret in Stone" (p. 195-222) in the book, *The Tradition of Science: Landmarks of Western Science in the Collections of the Library of Congress* (Washington, Library of Congress, 1987) which shows how "a cut in the earth is a slice of time, a map to the past, a story told with gravels and fossils." The Library's earth science collection is a unique compilation of millions of these insights.

Many significant and unique earth science materials are found in the Library's special collections. The Manuscript Division holds the papers of such eminent figures as President, scientist and amateur meteorologist Thomas Jefferson (1743-1826), meteorologist Cleveland Abee (1838-1916), paleontologist John C. Merriam (1869-1945), co-founder of modern oceanography, Matthew Fontaine Maury (1806-1873), and of organizations such as the American Institute of Aeronautics and Astronautics (AIAA), and of the U. S. Naval Observatory. Many of these collections are listed in *Guide to Historical Resources in the Atmospheric Sciences: Archives, Manuscripts, and Special Collections in the Washington, D.C. Area* (NCAR/TN-327-IA, 1989, rev. online 1997) by James R. Fleming.

The Rare Book and Special Collections Division has early editions of many works on geology, mineralogy, and related fields. These include a 1491 edition of Albertus Magnus's *De mineralibus,* a 1556 edition of Agricola's *De re metallica*, and a 1669 edition of Steno's *Dissertation on a Solid Body.*

The Geography and Map Division holds an outstanding worldwide collection of geological maps, particularly for the United States, as well as a comprehensive collection on the regional geology of the Arctic and Antarctic. It holds many charts and maps relating to the geological exploration of North America, from those of Lewis and Clark to date. Other types of maps held by the Division provide an invaluable picture of the earth's change over time going back as far as the 14th century.

III. Acquisition sources: current and future

The Library currently receives the bulk of its earth sciences collection via copyright deposit and the Cataloging in Publication program, with other material received through gift, purchase, and exchange. The Library's six overseas field offices acquire materials from their respective areas. As new technologies for creating science material proliferate and the Copyright law includes these materials as depository items, they will be acquired. The real challenge is keeping up with the volume of publications in science, keeping current, capturing those publications that are born digital before they disappear, keeping track of print titles that suddenly turn digital, and acquiring e-journals that are not purchased through an aggregated database.

IV. Collecting Policy

The Library is committed to collecting subject areas in earth sciences primarily at the research level regardless of formats in order to serve the needs of the Congress, scholars, and the general public, and to carry out the Library's archival responsibility to collect and preserve historical materials for tomorrow's researchers. Materials include monographs, periodicals, conference proceedings, reference works, bibliographies, and abstracting and indexing services in all formats without regard to language, place of publication, date of publication, or chronological period. Dictionaries, directories, journals and electronic resources that are particularly important to the Congressional Research Service are collected at the comprehensive level.

The Library endeavors to acquire current reference works comprehensively. The Library acquires substantial bibliographies and other general works of collections at least at the research level. As earth sciences is a global phenomenon, selection and ingest of materials is also on the global level. The Library aggressively acquires materials domestically and internationally that contain local statistical information, government policy, and physical data of specific regions, such as natural events, mineral and water resources, and geographical features. College and university level textbooks in earth sciences are acquired at an instructional support level. Laboratory manuals and study guides are

acquired at the basic level; those published to accompany textbooks are not acquired. Juvenile texts are acquired on a selective basis as needed to support the Library's educational outreach programs. The Library holds a significant collection of dissertations and collects United States dissertations comprehensively from ProQuest. Foreign dissertations are acquired selectively.

The Recommending Officers for earth sciences materials are responsible for selecting electronic sources as well as materials in traditional formats. An electronic resource is selected based on the availability of funding, the usefulness and uniqueness of the information in serving the current or future informational needs of the Congress and researchers, the reputation of the provider, frequency of updating, and ease of access. In addition, the resource's service requirements, cataloging, storage and preservation should be considered. For specific guidelines in recommending electronic resources, consult the Electronic Resources Supplementary Guidelines.

Other relevant Collections Policy Statements include:

- Dissertations and Theses
- Government Publications - United States
- Science - General
- Technology
- Web Archiving Supplementary Guidelines.

V. Best editions and preferred formats

For guidance regarding best editions for material acquired via the Copyright Office, see: http://copyright.gov/circs/circ07b.pdf.

For guidance regarding recommended formats for material acquired via all other means; e.g., purchase, exchange, gift and transfer, see: http://www.loc.gov/preservation/resources/rfs.

For information regarding electronic resources and web archiving, see the following Supplementary Guidelines: http://www.loc.gov/acq/devpol/electronicresources.pdf and http://www.loc.gov/acq/devpol/webarchive.pdf.

VI. Collecting levels

Geology

LC Classification	Subject	Collecting Level Domestic	Collecting Level Foreign
QE4	Voyages and expeditions	4	4
QE5	Dictionaries and encyclopedias	5	4
QE11-QE22	History and biography	4	4
QE36	Geological maps	5	4
QE37	Agricultural geology	0	0
QE39	Submarine geology	3	3
QE65-QE350	Geological surveys	4 (Arctic and Antarctic regions 5)	4
QE351-QE499	Mineralogy, Petrology	4	4
QE500-QE639.5	Dynamic and structural geology	4	4
QE640-QE996.5	Stratigraphy, Paleontology, Paleozoology, Paleobotany	4	4

Oceanography

LC Classification	Subject	Collecting Level Domestic	Collecting Level Foreign
GC57-GC63	Research and expeditions	4	4
GC65-GC78	Underwater exploration	3	3
GC83-GC87.6	Submarine topography	3	3
GC96-GC97	Estuarine oceanography	3 (Estuarine ecology, biology, and pollution in QH, level 4)	3
GC109-GC177	Chemical oceanography, Physical oceanography, Temperatures	3	3
GC200-GC376	Dynamics of the ocean tides	4	4
GC377-GC399	Marine sediments	4	4
GC1000-GC1023	Marine resources	4	4

Hydrology

LC Classification	Subject	Collecting Level Domestic	Collecting Level Foreign
GB655.5	Dictionaries, encyclopedias	5	4
GB659.6-GB841	History and general works	4	4
GB860-GB2998	Ground and surface waters	4	4
GB5000-5030	Natural disasters	4	4

Geophysics and Meteorology

LC Classification	Subject	Collecting Level Domestic	Collecting Level Foreign
QC801-QC809	Cosmic physics	4	4
QC811-QC849	Geomagnetism	4	4
QC851-QC879.59	Climatology	4	4

Mining

LC Classification	Subject	Collecting Level Domestic	Collecting Level Foreign
TN263-TN265	Mineral Deposits; Metallic Ore Deposits; Mineral Ores (General)	4	4
TN269-TN269-TN269.88	Geophysical Surveying	4	4
TN270-TN271	Prospecting	4	4
TN400-TN580	Ore Deposits and Mining of Particular Metals	4	4

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