Collections Policy Statement Index

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

Contents

I. Scope

Earth sciences focus on the physical components of earth-its water, land, and air-and the processes that influence them. This Collections Policy Statement on Earth Sciences includes Library of Congress Classification subclasse QE which covers general geology, mineralogy, petrology, structural geology, stratigraphy, seismology, and paleontology; subclass GC which covers oceanography, underwater exploration, submarine topography, estuaries, ocean dynamics, marine sediments, marine resources; and 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. It does not include 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. The collections number well over 250,000 titles 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

or DVD formats. The Library's electronic reference materials, abstracts, and indexes are especially strong. A few of the frequently consulted electronic databases in the area of earth sciences include *GeoRef* which covers the geology of the world from 1785 to present and indexes more than 3,500 journals in 40 languages; *GEOBASE* which contains over 1.4 million records from 1980 to present, with more than 100,000 citations and abstracts added annually; *Encyclopedia of Earth*; and *U.S. Geological Survey Publications Warehouse.*

The Library's own National Digital Library Program is a valuable electronic resource which is publicly available worldwide to researchers through the Internet. Global Gateway offers collections of maps and cartographic images from five national libraries and geographical information of different countries of the world. American Memory offers eleven collections of maps under different themes and dates from 1861 to 1945 combed from various institutions.

Another valuable electronic resource to our patrons is the Library of Congress' Science Reference Section website which serves as portal to the Library's science and technology resources, provides shortcuts to earth science materials that are pertinent to their research, and links to Internet resources that provide additional materials for their study. *Tracer Bullets,* first issued by the Science and Technology Division in 1971, are available on the website in full text. They are compiled and regularly updated by reference librarians in the Science Reference Section provide bibliographic guides to the Library's collection on topics such as continental drift, earthquake engineering, earthquake prediction, manned undersea research stations, and ocean-atmosphere interaction.

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 the chapter "Geology: the Secret in Stone" of 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.

The Library's collections in the area of polar research and cold regions science and technology, continental drift, plate tectonics, and other natural phenomena such as earthquakes, volcanoes, and tsunamis are unparalleled. These collections have led to a number of bibliographies, such as *Arctic Bibliography*, the *Bibliography on Cold Regions Science and Technology,* and the *Antarctic Bibliography.*

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 and scientist Thomas Jefferson (1743-1826), paleontologist John C. Merriam (1869-1945), and co-founder of modern oceanography, Matthew Fontaine Maury (1806-1873).

The Rare Book and Special Collections Division has early editions of many works on geology 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 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

A. Publications in Traditional Print Format

The Library acquires earth science materials in print format from a variety of sources. The largest pool of such publications is received through the U.S. Copyright Office. They are monographs and serials issued by U.S. publishers, or by foreign publishers with distribution offices in the United States. The other large source of print publications are received through the Library's Cataloging In Publication (CIP) and Preassigned Control Number (PCN) programs. These are monographs published by U.S. publishers. The Library acquires its foreign publications mainly by purchase through the Acquisitions and Bibliographic Access Directorate. The Library also acquires a small number of earth science publications through gifts, and by exchange with other institutions.

B. Electronic Publications

The mandatory deposit law (U.S.C. section 407) does not require the copyright holder of electronic publications to provide the Library with free access to such publications, hence the electronically published works without open access are acquired by subscription with fee. The electronic publications in earth sciences are added to the Library's collection as they are recommended by the Recommending Officers of the Science Reference Section. However, those that require purchase are limited because they must fit within the Library of Congress acquisition budget for electronic resources.

IV. Collecting Policy

The Library is committed to collecting all 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. Dictionaries, directories, and journals 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 all substantial bibliographies and other general works of collections at least at the research level. The Library acquires U.S.-published textbooks on earth science fields written at the college level; foreign textbooks in these fields and at this level are acquired selectively. Textbooks below college level are rarely acquired. Juvenile works, vocational guidance materials, and materials on the study and teaching of earth sciences are generally collected at the instructional support level while materials on museums and exhibitions are collected at the basic information 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. When necessary, this may include dissertations from academic institutions at the Ph.D. level and items that are ephemeral in nature.

The Recommending Officers for earth sciences materials are responsible for selecting electronic sources as well as materials in traditional format. 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 Collections Policy Statement on Electronic Resources.

V. Collection Weakness

The emergence of electronic resources has presented the Library with a challenge, especially the born digital serials that are growing at an accelerating rate. Some of these are born-digital; some of them are replacing print editions, and others are issued in mixed formats. As of the time of this writing, the mandatory copyright deposit of "Best Editions" is limited to the best print editions. Since deposits provide the largest segment of the Library's acquisitions, the Library's service to its clients is still concentrated in print materials.

The Library does have access to many e-journals through its subscriptions to aggregated databases. However, these databases tend to have an embargo period imposed by the vendors which delay the availability of the text. Therefore access to e-journals from subscription databases may not be available as quickly as their print counterparts. Furthermore, the Library cannot guarantee the continued availability of e-journals it does not hold directly, because there is no guarantee that a vendor of electronic materials will stay in business or that a successor company will preserve the database. An electronic resource may also cease to exist because vendors have the right to prune their collections. Therefore, a rethinking of the meaning of "Copyright Best Edition" in a digital age that gives the Library the right to claim its own copy of e-materials is important and will become much more important as we move further into the digital age.

VI. Collecting Levels

Geology

Class	Subject	Collection Levels
QE4	Voyages and expeditions	4
QE5	Dictionaries and encyclopedias	5
QE11-QE22	History and biography	4
QE36	Geological maps	5
QE37	Agricultural geology	0 (Out of scope)

QE39	Submarine geology	3
QE65-QE350	Geological surveys	4 (Arctic and Antarctic regions 5)
QE351-QE499	Mineralogy, Petrology	4
QE500-QE639.5	Dynamic and structural geology	4
QE640-QE996.5	Stratigraphy, Paleontology, Paleozoology, Paleobotany	4

Oceanography

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

Hydrology

Class	Subject	Collection Levels
GB655.5	Dictionaries, encyclopedias	5
GB659.6-GB841	History and general works	4
GB860-GB2998	Ground and surface waters	4
GB5000-5030	Natural disasters	4

Geophysics and Meteorology

Class	**Subject**	**Collecting Levels**
QC801-QC809	Cosmic physics	4
QC811-QC849	Geomagnetism	4
QC851-QC879.59	Climatology	4

Mining

Class	Subject	Collection Levels
TN263-TN271.Z5	Mineral deposits, Surveying, Prospecting	4
TN400-TN580.T73	Ore deposits and mining of metals	4

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