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BOOK REVIEWS IN THE EARTH AND ATMOSPHERIC SCIENCES JOURNAL LITERATURE

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Abstract:

As library budgets continue to lag behind increases in the cost of scholarly information in the geosciences, it becomes increasingly important for librarians to make good choices in collection development. One way to get more information about books to make an informed acquisition decision is through reading reviews, and especially timely reviews. Whereas the major book review indexes only cover geoscience titles sporadically, the authors decided to undertake a full study of the literature in earth and atmospheric sciences to find out which journals contain book reviews, and how old the books are that are reviewed. This study is modeled after the article, "Locating Book Reviews in Agriculture and the Life Sciences," by Kathleen Clark and Brent Mai, and incorporates Lura Joseph's, "Sources of Book Reviews in the Geosciences" (http://door.library.uiuc.edu/gex/bookreviews.html). This study examines 263 earth and atmospheric sciences journal titles which include book reviews. Of these, 247 are primarily in earth sciences, with the remaining 16 in atmospheric sciences. For this study, journal issues published in 2002 are examined. Of the journals listed in this study, 42 % review books that are equal to or less than one year old. The reviews average over one page in length and all are signed by the reviewers.

Introduction:

Library budgets seem to be continually shrinking, while costs of materials inexorably increase. Selectors, then, need to make the most of the resources they have, to acquire new materials. One way to gain insight into the quality of materials, is by consulting book reviews from respected journals.

Clark and Mai (1998) conducted an intensive analysis of book reviews in the life sciences, following up on some previous studies in that subject area. They analyzed the number of reviews and the timeliness of the reviews. However, no such analysis has been done in the earth and atmospheric sciences.

Midway through investigating this project, Lura Joseph, independently, created a book review index, based on holding in the University of Illinois library (URL). Prior to the creation of this index, the coverage of book reviews in the earth and atmospheric sciences was almost nonexistent. The Book Review Index only covers a few earth science journals, while GeoRef, the major index in the earth sciences, only covered two journals' book reviews for 2002 (as of Aug 2003), The AAPG Bulletin, and Tectonophysics, which covered 24 total reviews. Meteorological and Geoastrophysical

Abstracts (MGA) appears not to index any book reviews. General indexes, such as Current Contents, tend not to index book reviews either.

So, prior to Joseph's web index, there was no place for a librarian to go to see which journals index earth science books, how many they index, and if the reviews are timely enough to be relevant to librarians in making collection development decisions (i.e., if the review comes out years after the book is published, it is often too late to make an acquisitions decision based on that review).

This study provides that kind of information. It provides a guide to the journals that are most likely to be helpful to earth science librarians.

Methodology:

In order to analyze book reviews, we needed to determine which journals contain reviews. We used a few methods to assemble our universe of journals with reviews. First, we looked at all the journals that the Purdue University Earth and Atmospheric Sciences library receives, since they were close at hand. Next, we consulted Ulrich's International Periodicals Directory (Ed. #?), which indicates whether a journal contains book reviews (however, many journals that Ulrich's states have reviews, in fact do not). Finally, a few months into this study, Lura Joseph's index was announced, and we consulted her index as well.

Once the pool of potential journals was assembled, we needed to examine the individual titles to see how many and what kind of reviews were actually published. We located all the journals available on the Purdue campus, and then set out to determine how to find the rest of the titles. We searched WorldCat to see how many libraries hold each of the titles, and whether any nearby institutions hold the title.

We made a cut on our journal list. If it was not held at Purdue, and it had less than X holding libraries, we removed it from our list. The feeling was that, if the journal was not widely held, than it wouldn't be very useful to librarians to know its book review status anyway. We noticed that the University of Illinois at Urbana Champaign (UIUC), only two hours away from Purdue, held almost all of the titles on our list that Purdue didn't hold. We then determined that we would analyze journals from Purdue and UIUC's collections, and make that the basis of our study.

For each journal, we looked at each issue published in 2002, and recorded the number of reviews, the number of issues that contained reviews, the year of the book reviewed, whether the reviews were signed, and the general length of the review.

Discussion:

Out of about 260 journals that putatively contained book reviews according to Ulrich's and our local collection, 99 actually contained reviews. Of those, 54 averaged at least one book review per issue. Only 14 journals reviewed 25 or more books during the entire year. This is markedly less than that in the life sciences as compiled by Clark and Mai (1998), where almost twice as often, 27%, journals had at least 25 reviews. This indicates less emphasis placed on reviews in the earth sciences (or perhaps, a smaller pool of books to review compared to the life sciences).

As to timeliness, 44 journals (44%) had books reviewed within an average of 1 year of publication, with 10% of journals having an average of .5 year or less. This indicates a fairly high percentage of timely journals, and is similar to the findings of Clark and Mai in the life sciences. Overall, the average book review is 1.0 years old (i.e., it was published the year prior to the year the journal issue was published in).

Another useful mechanism for finding out about new books is to look at Books Received sections of a journal. Table 3 indicates the journals with books received sections. Sometimes the Books Received contains short synopses of the books contents, while in other resources, only the citation is given.

One note about Nature as a source for book reviews. Although Nature reviewed on the order of 150 reviews, only 13 of them were in the earth and atmospheric sciences, mainly related to evolution.

The data collected are presented in Tables I-III.

Conclusion:

A list of journals with book reviews in the earth and atmospheric sciences was compiled, and the number and style of reviews analyzed. There are about 20 or 30 journals with a large number of reviews (10-20) per year, and which should probably be consulted regularly by librarians who use book reviews to make acquisition decisions.

TABLE I: Journals with book reviews, in order by total number of book reviews published in 2002.

Journal Title	issues	volumes w reviews	Reviews	Reviews/issue
Geochronique	4	4	82	20.50
Choice	13	12	71	5.45
Annals of the Association of American Geographers	4	4	70	17.50
Geography	4	4	69	17.25
Geological Magazine	6	6	55	9.17
Progress in Physical Geography	4	3	50	12.50
Geographical Journal	4	4	49	12.25
EOS, Transactions American Geophysical Union	52	27	44	0.85
Bulletin of the American Meteorological Society	12	12	39	3.25
Leading Edge	12	6	38	3.17
Holocene	6	5	35	5.83
Geology Today	6	5	32	5.33
Geotimes	12	10	28	2.33
Weather	12	11	27	2.25
Canadian Mineralogist	6	5	25	4.17
Contributions to Atmospheric Physics	6	5	23	3.83

Mineralogical Magazine	6	5	23	3.83
Geoscience Canada	4	3	20	5.00
Canadian Geographic	6	5	20	3.33
Gems and Gemology	4	4	19	4.75
Izvestiya Vysshikh Uchebnykh Zavedenii. Seriya Geologiya I Razvedka			18	#DIV/0!
Mountain Research and Development	4	2	18	4.50
AAPG Bulletin	12	12	17	1.42
Environmental & Engineering Geoscience	4	3	16	4.00
Episodes (Nottingham)	4	4	16	4.00
Earth Surface Processes Landforms	13	7	16	1.23
Meteoritics and Planetary Science	12	4	15	1.25
Economic Geology	8	8	14	1.75
Journal of Geodesy	8	7	14	1.75
Nature	52	13	13	0.25
die Erde	4	3	13	3.25
Hydrological Sciences Journal	6	13	13	2.17
Mineralogical Record	6	2	13	2.17
Palaios	6	6	13	2.17
Lapidary Journal	12	10	13	1.08
Boreas	4	4	12	3.00
Journal of Geoscience Education	5	3	12	2.40
Journal of Sedimentary Research	6	6	12	2.00
American Mineralogist	12	10	11	0.92
Pure and Applied Geophysics	12	1	11	0.92
Climatic Change	16	11	11	0.69
Geomorphology	28	6	11	0.39
Arctic, Antarctic, and Alpine Research	4	4	10	2.50
Quarterly Journal of the Royal Meteorological Society	6	3	10	1.67
Antarctic Science	4	3	9	2.25
Limnology and Oceanography	6	5	9	1.50
Weatherwise	6	5	9	1.50
Mathematical Geology	8	6	9	1.13
University of Wyoming. Contributions to Geology	12	5	9	0.75
Hydrological Processes	18	8	9	0.50
Quaternary Science Reviews	22	4	8	0.36
American Paleontologist	4	4	7	1.75
Environmental Geology (International Journal of Geosciences)	4	4	7	1.75
Geomatica	4	3	7	1.75
Northeastern Geology and Environmental Sciences	4	2	7	1.75
Journal of Paleontology	6	3	7	1.17
International Journal of Remote Sensing	24	5	7	0.29
Australian Meteorological Magazine	4	2	6	1.50
Paleobiology	4	2	6	1.50
Geological Journal	4	2	6	1.50

Journal of Geology	6	2	6	1.00
Preview. Australian Society of Exploration Geophysicists	6	5	6	1.00
Geophysical Journal International	12	3	6	0.50
International Journal of Coal Geology	18	4	6	0.33
Sedimentary Geology	34	6	6	0.18
Earth Science Reviews	12	3	5	0.42
Geochimica et Cosmochimica Acta	24	3	5	0.21
Gulf of Mexico Science	2	2	4	2.00
Journal of Glaciology	4	4	4	1.00
Oceanography	4	4	4	1.00
Engineering Geology	12	4	4	0.33
Rock Mechanics and Rock Engineering	4	3	3	0.75
Clays and Clay Minerals	6	3	3	0.50
Seismological Research Letters	6	2	3	0.50
Journal of Petrology	12	2	3	0.25
Catena	20	2	3	0.15
Bulletin of the Geological Society of Denmark	2	1	2	1.00
Polish Polar Research	4	1	2	0.50
Coral Reefs	4	1	2	0.50
Canadian Geographer	6	3	2	0.33
Ground Water	6	2	2	0.33
Sedimentology	6	1	2	0.33
Atmospheric and Oceanic Physics. Izvestiya	7	2	2	0.29
Eurasian Geography and Economics	8	2	2	0.25
Computers and Geosciences	10	2	2	0.20
Applied Clay Science	12	2	2	0.17
Atmospheric Research	18	2	2	0.11
Scottish Journal of Geology	2	1	1	0.50
Clay Minerals	4	1	1	0.25
Lethaia	4	1	1	0.25
Proceedings of the Geologists' Association (of London)	4	1	1	0.25
Quarterly Journal of Engineering geology and Hydrology	4	1	1	0.25
G F F	4	1	1	0.25
Journal of Petroleum Geology	4	1	1	0.25
Canadian Geotechnical Journal	6	1	1	0.17
Surveys in Geophysics	6	1	1	0.17
Journal of African Earth Sciences	8	1	1	0.13
Global and Planetary Change	10	1	1	0.10
Quaternary International	12	1	1	0.08
Journal of Volcanology and Geothermal Research	24	1	1	0.04
Tectonophysics	64	1	1	0.02

Table II: Journals with reviews in order by average age of book reviewed

Journal Title	Average Age (Years)	Number of Reviews
Contributions to Atmospheric Physics (cont.by Meteorologie Zietschrift)	0	23
Canadian Geographer	0	2
Eurasian Geography and Economics	0	2
Polish Polar Research	0	2
Coral Reefs	0	2
Canadian Geotechnical Journal ENGR LIB	0	1
Weatherwise	0.333333	9
Nature	0.402597	154
Gems and Gemology	0.473684	19
Australian Meteorological Magazine	0.5	6
Lapidary Journal	0.538462	13
University of Wyoming. Contributions to Geology	0.666667	9
International Journal of Coal Geology	0.666667	6
Preview. Australian Society of Exploration Geophysicists	0.666667	6
Catena	0.666667	3
Oceanography	0.75	4
American Mineralogist	0.818182	11
Boreas	0.833333	12
Sedimentary Geology	0.833333	6
Geotimes	0.857143	28
Environmental Geology (International Journal of Geosciences)	0.857143	7
Geomatica ENGR LIB	0.857143	7
Geography	0.942029	69
EOS, Transactions American Geophysical Union	0.977273	44
Hydrological Sciences Journal ENGR LIB	1	13
Arctic, Antarctic, and Alpine Research	1	10
Antarctic Science	1	9
Journal of Glaciology	1	4
Clays and Clay Minerals	1	3
Seismological Research Letters	1	3
Applied Clay Science	1	2
Atmospheric and Oceanic Physics. Izvestiya	1	2
Atmospheric Research	1	2
Computers and Geosciences	1	2
Sedimentology	1	2
Bulletin of the Geological Society of Denmark	1	2
Clay Minerals LIFE SCI LIB	1	1
Journal of African Earth Sciences	1	1
Lethaia	1	1
Scottish Journal of Geology	1	1
Surveys in Geophysics	1	1
Tectonophysics	1	1
Journal of Petroleum Geology (PU 1997//)	1	1

Canadian Mineralogist	1.04	25
Geochronique	1.073171	82
Geoscience Canada	1.1	20
Weather	1.111111	27
Bulletin of the American Meteorological Society	1.128205	39
Journal of Paleontology	1.142857	7
Journal of Sedimentary Research	1.166667	12
Leading Edge	1.184211	38
Episodes (Nottingham)	1.1875	16
Journal of Geodesy	1.214286	14
Limnology and Oceanography LIFE SCI (PU JSTOR up to 1999)	1.222222	9
Geological Magazine	1.236364	55
Gulf of Mexico Science	1.25	4
Izvestiya Vysshikh Uchebnykh Zavedenii. Seriya Geologiya I Razvedka	1.277778	18
Quarterly Journal of the Royal Meteorological Society	1.3	10
Meteoritics and Planetary Science	1.333333	15
Hydrological Processes	1.333333	9
Mineralogical Magazine	1.347826	23
AAPG Bulletin	1.411765	17
American Paleontologist	1.428571	7
International Journal of Remote Sensing	1.428571	7
Holocene	1.457143	35
Palaios	1.461538	13
Canadian Geographic	1.5	20
Economic Geology	1.5	14
Ground Water	1.5	2
die Erde (Die="the"; file under E)	1.538462	13
Earth Surface Processes Landforms	1.5625	16
Annals of the Association of American Geographers	1.6	70
Geochimica et Cosmochimica Acta	1.6	5
Journal of Geoscience Education	1.666667	12
Geophysical Journal International	1.666667	6
Journal of Petrology	1.666667	3
Rock Mechanics and Rock Engineering	1.666667	3
Quaternary Science Reviews	1.75	8
Earth Science Reviews	1.8	5
Geology Today	1.8125	32
Paleobiology LIFE SCI	1.833333	6
Environmental & Engineering Geoscience (2001)	1.9375	16
Geographical Journal	1.979592	49
Climatic Change (PU 1997//)	2	11
Northeastern Geology and Environmental Sciences	2	7
Journal of Geology	2	6
Engineering Geology	2	4
Journal of Volcanology and Geothermal Research	2	1
G F F	2	1

Quaternary International	2	1
Mountain Research and Development	2.055556	18
Mineralogical Record	2.076923	13
Geological Journal (PU 1997//)	2.166667	6
Geomorphology	2.272727	11
Mathematical Geology	2.333333	9
Progress in Physical Geography	2.34	50
Pure and Applied Geophysics	2.545455	11
Global and Planetary Change	3	1
Proceedings of the Geologists' Association (of London)	3	1
Quarterly Journal of Engineering geology and Hydrology	3	1

Table III: Number of Books Received published by journals:

Journal Title	**Books received**
Bulletin of the American Meteorological Society	262
Geological Magazine	112
Organic Geochemistry	104
Geochronique	88
Seismological Research Letters	79
New Mexico Geology	79
Meteoritics and Planetary Science	68
Economic Geology	67
Geotimes	58
AAPG Bulletin	50
Nature	49
Geography	37
International Journal of Remote Sensing	29
Canadian Geographic	19
Weatherwise	19
Hydrological Sciences Journal ENGR LIB	15
Arctic, Antarctic, and Alpine Research	15
Hydrological Processes	15
Quaternary Research	10
Weather	9
Ice	8
Gems and Gemology	3
Leading Edge	1