

Polar Science Information Resources

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ABSTRACT

An overview of polar bibliographies, databases and abstracting services is presented on only those polar sciences that are marine science disciplines as well. The degree of overlap between the databases COLD and ASFA is considered. The roles of the U.S. National Science Foundation and the Library of Congress are quite significant since both help produce the single most important Arctic and Antarctic bibliography available, which is also on-line via ORBIT as COLD. Polar libraries, organizations, and expedition reports are considered. The paper explores the polar sciences for resources which will be useful for the marine science librarian.

INTRODUCTION

Marine research is multi-disciplinary, which makes the search for bibliographic information at times difficult and certainly time consuming. Polar research is in this respect similar to marine research with an added set of geographic coordinates. This paper will only examine polar information sources as they apply to marine research; thus the topic could be called polar marine bibliographies and collections. It is the intent of this study to assist or provide the researcher and librarian with some guidance for accessing research information that extends into the three dimensions of water, extreme temperature, and time, especially time past. In no way is this paper a comprehensive bibliography of polar bibliographies; such publications do exist and they have been cited in the references. It is hoped that an impressionistic approach can be of help to beginners and to experienced scientists and librarians in search of polar marine literature.

The information to be accessed may be monographs, proceedings, reports, and papers. There are various bibliographies, abstracting services, and databases that cover these forms of research publications. Some services are unique to polar literature and monitor it exclusively. There are also libraries that collect polar literature as the *sine qua non* of their collection policy. The search for Arctic information proves more difficult than Antarctic largely because of the geographic difficulties inherent in the term Arctic. Arctic information does not necessarily identify itself with the term: Arctic, sometimes Alaska, Northwest Territory, Siberia will be used in its place. The Antarctic, however, is used as a single, exclusive term because it does refer to a continent, thus making it much simpler to search for information pertinent to that area. One has to be very conscious of geographic terminology when searching for Arctic literature.

EXPEDITIONS

There have been numerous expeditions devoted to both polar regions. The ones in the Arctic are by far more numerous. Tapping the information held in expedition reports can be quite onerous, especially in those expeditions conducted prior to 1950. This is not true, however, for Arctic expeditions. The *Arctic Bibliography* is a true treasure for information on the contents of expeditions of the far north, and the coverage of these expeditions extends back to the 18th century. Unfortunately it is more difficult to access Antarctic expedition

reports prior to 1951. The *Antarctic Bibliography* began its coverage with 1962, and a companion volume for the year 1951 to 1961 was issued in 1970 to extend the coverage retrospectively.

BIBLIOGRAPHIES

There are two major bibliographies respectively for the Arctic and the Antarctic. The *Arctic Bibliography* is the oldest, begun in 1947 with the first volume being published in 1953. It ceased publication in 1975 after producing sixteen volumes. The *Antarctic Bibliography* first appeared in 1965 and is still being published sixteen volumes later.

The *Arctic Bibliography* was originally a project of the U.S. Department of Defense, thus well funded, directed by the Arctic Institute of North America, with much assistance by the Library of Congress and the Canadian Government. Later volumes received more support from the National Science Foundation and the National Research Council of Canada, and there was less presence of the U.S. Department of Defense. The project was initiated not only as a current awareness tool, but was intended to be a comprehensive bibliography on all aspects of Arctic information with a well defined set of geographic coordinates. The first volume in 1953 reviewed over 20,000 publications, particularly 19th and 20th century. Later volumes of the *Arctic Bibliography* contain even older, classic Arctic literature. Access is alphabetic by author and a subject-geographic index. The latter has over 100,000 entries with 18,000 subject-geographies headings. In 1974 the Arctic Bibliography Project was discontinued. During the 27 years of its existence, sixteen volumes had been produced, comprising 108,000 titles of books and papers. Each entry is annotated or contains a short abstract. The physical location for each item is also noted, with the Library of Congress listed as the most frequent holder.

The Antarctic Bibliography Project was established in 1963 and is funded by the National Science Foundation, Division of Polar Programs. The *Antarctic Bibliography* is prepared by the Library of Congress. This bibliography was intended to provide current awareness, with the exception of the supplementary volume to cover the years 1951-1961 retrospectively. The material is arranged into thirteen subject categories with some cross-references for overlapping topics. Of particular interest to the marine researcher are the subject categories with B for biological sciences and J for oceanography. As a rule, author abstracts are used; however, these may be abridged. There are four indexes: author, subject, geographic, and a grantee index for institutions which received funding from the National Science Foundation and have publications appearing in the volume in question. The majority of items cited are located in the Library of Congress. Many of the items cited have been sent on exchange or received as reprints or review copies from authors and publishers. The Library of Congress does offer document delivery for all items cited in the *Antarctic Bibliography*.

There have been many monographic bibliographies produced for the Arctic and the Antarctic. Two recent contributions are *The Arctic*, compiled by H.G.R. King, and *Antarctic Miscellany*, compiled by Sydney A. Spence. The former work limits itself to titles appearing or translated in the English language and of recent origin, while the latter contains many foreign language items, as well as titles from the 18th century. The quality of monographic bibliographies varies as some contain no annotation and have limited subject access. Their value is more for historians and collection development rather than for current awareness or the practicing researcher.

Abstracting and indexing services of the Arctic and Antarctic which appear more frequently than the yearly *Antarctic Bibliography* are limited to five titles. *Current Antarctic Literature* is issued monthly by the Library of Congress and is cumulated every eighteen months for inclusion in the *Antarctic Bibliography*. The scope, format, and coverage is the same as the annual volume. *Current Antarctic Literature* is issued free-of-charge to "qualified individuals or institutions" by the National Science Foundation. *Recent Polar and Glaciological Literature* is compiled by the Scott Polar Research Institute and reflects its library collection. The entries are arranged according to twenty-four broad subject categories with numerous subdivisions for glaciology and zoology, and each issue has an author index. The categories C:Hydrography and Oceanography, F:Biological Sciences, and H4:Zoology:Fishes are of especial interest for the marine scientist. *Recent Polar and Glaciological Literature* covers both the North and the South Pole. The indexing of ice, sea ice, and glaciology is unique.

This service appears quarterly in January, April, July and October. The annual subscription price is quite modest.

Another current awareness Arctic bibliography is the Boreal Institute for Northern Studies (BINS) *Library Bulletin*. It is actually an accession list with abstracts or annotations. The citations are grouped together according to nine geographic headings and are then arranged alphabetically by author. There is no author index. Although it contains mainly Arctic material, some Antarctic items are cited. The *Library Bulletin* is issued monthly, reflects items catalogued for the Boreal Institute's library collection, and contains monographs and serial analytics received from the Scott Polar Research Institute. Retrospective cataloging is reflected in this bibliography as older material from the library collection is entered into the Boreal database from which the *Library Bulletin* is generated. An annual subscription to the *Library Bulletin* is \$30.00, but it can also be obtained on exchange basis to libraries and other institutions. Most of the items listed in the bulletin can be obtained from BINS or the University of Alberta Library on interlibrary loan.

The *ASTIS Current Awareness Bulletin* is issued bi-monthly by the Arctic Institute of North America of the University of Calgary. It is a product of its Arctic Science and Technology Information System (ASTIS) Project. Each issue contains approximately 400 citations which are arranged by subject, with geographic and author indexes. The annual subscription is \$75.00. The information indexed is largely Canadian Arctic, but other Arctic and non-Arctic regions are included.

DATABASES

The selection of databases covering Arctic and Antarctic literature is even greater than the print medium dedicated to these two polar regions. All of the aforementioned serial bibliographies, with the exception of the *Antarctic Bibliography*, are the by-products of databases; the latter title, which is one of the oldest, has a database as its by-product. The remainder of this survey will demonstrate that no one database is all comprehensive for polar information. There is a good degree of overlapping in coverage, but not so much that any single database can be ignored.

COLD REGIONS is available exclusively on ORBIT, but may also be accessed via a gateway on the OMNET electronic mail system. This database is a combination of the *Antarctic Bibliography* and the *Bibliography on Cold Regions Science and Technology* sponsored by the Cold Regions Research and Engineering Laboratory (CRREL) of the U.S. Army Corps of Engineers. The COLD REGIONS database is supplied by CRREL and is prepared by the Science and Technology Division of the Library of Congress. The period of coverage is 1951 to present; however, that period does not include Antarctic items, which are only covered from 1962 to present. There are over 138,000 records in the database. Recently a CD-ROM, the ARCTIC AND ANTARCTIC REGIONS CD-ROM, was released based on this database. This author received the new CD-ROM too late to include it into the present study. It must be pointed out that Arctic coverage in COLD REGIONS is very limited. Either Arctic items concern only snow, ice, frozen ground, and civil engineering in ice, or they must be in some relationship to the Antarctic.

The ASTIS database is available on-line from QL Systems Ltd. and from the Arctic Institute of North America of the University of Calgary via an OMNET gateway. At present there are over 28,000 records in the ASTIS database, mainly related to the Canadian Arctic. Plans are underway to merge the ASTIS database with the BOREAL database of the BINS Library, thus forming the core of the Canadian Polar Information System.

The BOREAL database, which produces the BINS *Library Bulletin*, can be searched on-line via an OMNET gateway, by anyone having an account with the University of Alberta, or through CAN/OLE. It is also available on the QL Systems Limited. The database contains over 43,000 records, largely of an Arctic scope.

For research literature from both polar regions, the Scott Polar Research Institute (SPRI) at the University of Cambridge in Cambridge, England produces its SPRI database, which is available from QL Systems Ltd. At present this database contains 12,000 documents. There are plans to add 5,000 documents yearly from the over 90,000 cards catalogued at the institute library, in addition to the new literature being acquired at the rate of 6,000 documents yearly.

Together with these regional dedicated databases, there are a number of discipline-oriented databases of note for accessing polar marine information. ASFAs and OCEANIC are two obvious choices followed by BIOSIS for life sciences. GEOREF, GEOBASE, and GEOARCHIVE complete the coverage for polar marine geology and oceanography. The Appendices demonstrate the number of documents found in each database respectively for the term Antarctic? in either the title or abstract field, and the number of hits for the year 1988. The Arctic was not chosen for this study of overlapping because of the complications intrinsic with this geographic term.

POLAR INFORMATION CENTERS

It becomes apparent from the discussion above that there are four major resource centers for polar marine information: The Library of Congress, Scott Polar Research Institute, Arctic Institute of North America, and the Boreal Institute for Northern Studies. Each of the institutions above can supply documents which have been indexed by them in their bibliographies or databases. The Scott Polar Research Institute is a very rich source of polar material, especially glaciology and items appearing prior to 1960. The Alfred Wegener Institute has had success obtaining hard-to-find Russian items that no databases have listed by simple requests to the Scott Polar Research Institute Library.

POLAR LIBRARY ASSOCIATIONS

The Northern Libraries Colloquy first met at the Boreal Institute of Northern Studies, University of Alberta, in 1971. The meetings are held biennially on a rotating basis between Europe and North America. The Colloquy has no formal structure and no membership. Published proceedings of each meeting have been available since its inception, with the exception of the Sixth Colloquy. At the Twelfth Northern Libraries Colloquy, held in Boulder, Colorado in 1988, a motion was passed to change the name to Polar Libraries Colloquy. A vote on formalizing the Polar Libraries Colloquy with passage of bylaws and formal membership was defeated by the attendants at the meeting. The next Polar Libraries Colloquy is to be held at Rovaniemi, Finland, in June 1990.

CONCLUSIONS

Polar information contains a great deal of material for the marine scientist working in extreme cold environments. The various geographical or regional bibliographies and databases might be all too easily overlooked in favor of the discipline-oriented abstracting and indexing services when searching for polar marine information. Important and useful literature may not be obtained by too much dependence on the discipline databases. True, there is a great deal of overlapping, but the gaps give pause for concern. There are significant research collections of Arctic and Antarctic literature, some with quite unique holdings. Marine science information specialists should make themselves familiar with these special library collections for obtaining hard to find items. The professional meetings of the polar and marine science librarians have much in common so that a sharing of experience and expertise would be profitable to both groups. Work should be done toward establishing regular cooperation with both groups to promote greater understanding and development of polar marine science information collection and dissemination.

APPENDIX I

On-Line Search Comparison of Databases

File 17:OCEANIC: 1964-89,04 File Size: c. 195,000 records

SET	ITEMS	DESCRIPTION
1	1680	ANTARCTIC? in Title
2	1515	ANTARCTIC? in Abstract
5	102	ANTARCTIC? in Title for 1988
6	135	ANTARCTIC? in Abstract for 1988
7	2452	ANTARCTIC? in Title and Abstract
8	162	ANTARCTIC? in Title and Abstract for 1988

File 52:ASFA: 1982-1989,07 File Size: c. 260,000 records

SET	ITEMS	DESCRIPTION
1	1827	ANTARCTIC? in Title
2	2318	ANTARCTIC? in Abstract
3	90	ANTARCTIC? in Title for 1988
4	98	ANTARCTIC? in Abstract for 1988
5	2815	ANTARCTIC? in Title and Abstract
6	122	ANTARCTIC? in Title and Abstract for 1988

File 7:BIOSIS: 1973-1989 File Size: c. 6 million records

SET	ITEMS	DESCRIPTION
1	3321	ANTARCTIC? in Title
2	0	ANTARCTIC? in Abstract (Not an access point)
3	1453	ANTARCTIC? in Descriptors
4	236	ANTARCTIC? in Title for 1988
5	108	ANTARCTIC? in Descriptors for 1988
6	4377	ANTARCTIC? in Title and in Descriptors
7	300	ANTARCTIC? in Title and in Descriptors for 1988

File :GEOREF: 1959-1989 for regions other than North America. File Size: c.1.2 million records

SET	ITEMS	DESCRIPTION
SS 1:	6521	ANTARCTIC? in Title
SS 2:	1045	ANTARCTIC? in Abstract
SS 3:	308	ANTARCTIC? in Title for 1988
SS 4:	0	ANTARCTIC? in Abstract for 1988
SS 9:	12929	MARINE GEOLOGY in Index Terms
SS 10:	186	ANTARCTIC? in Title and MARINE GEOLOGY in Index
SS 11:	33054	OCEANOGRAPHY in Index Terms
SS 12:	539	ANTARCTIC? in Title and OCEANOGRAPHY in Index
SS 13:	38436	MARINE GEOLOGY or OCEANOGRAPHY in Index
SS 14:	51	ANTARCTIC? in Title for 1988 AND MARINE GEOLOGY or OCEANOGRAPHY in Index

File 292:GEOBASE 1980-1989, Aug. File Size: c. 250,000 records

SET	ITEMS	DESCRIPTION
S1	3355	ANTARCTIC? in Title
S2	4392	ANTARCTIC? in Abstract
S3	220	ANTARCTIC? in Title for 1988
S4	275	ANTARCTIC? in Abstract for 1988
S5	5224	ANTARCTIC? in Title and Abstract
S6	333	ANTARCTIC? in Title and Abstract for 1988

File 58:GEOARCHIVE 1974-1989, Aug. File Size: c. 250,000 records

SET	ITEMS	DESCRIPTION
S1	2370	ANTARCTIC? in Title
S2	0	ANTARCTIC? in Descriptors Index
S3	2395	ANTARCTIC? in Auxiliary Descriptor
S4	169	ANTARCTIC? in Title for 1988
S5	182	ANTARCTIC? in Auxiliary Descriptor for 1988
S6	3042	ANTARCTIC? in Title and Auxiliary Descriptor
S7	217	ANTARCTIC? in Title and Auxiliary Descriptor for 1988

File :COLD 1951-1989, 02 File Size: c. 138,000 records

SET	ITEMS	DESCRIPTION
SS 1:	18202	ANTARCTIC? in Title
SS 2:	15859	ANTARCTIC? in Abstract
SS 3:	588	ANTARCTIC? in Title for 1988
SS 4:	597	ANTARCTIC? in Abstract for 1988
SS 5:	1572	ANTARCTIC? in Title and OCEANOGRAPHY in Category Code
SS 6:	2347	ANTARCTIC? in Abstract and OCEANOGRAPHY in Category Code
SS 7:	5072	ANTARCTIC? in Title and BIOLOGICAL SCIENCES in Category Code
SS 8:	4898	ANTARCTIC? in Abstract and BIOLOGICAL SCIENCES in Category Code
SS 10:	41	ANTARCTIC? in Title for 1988 and OCEANOGRAPHY in Category Code
SS 11:	54	ANTARCTIC? in Abstract for 1988 and OCEANOGRAPHY in Category Code
SS 12:	207	ANTARCTIC? in Title for 1988 and BIOLOGICAL SCIENCES in Category Code
SS 13:	208	ANTARCTIC? in Abstract for 1988 and BIOLOGICAL SCIENCES in Category Code
SS 14:	25435	ANTARCTIC? in Title and Abstract
SS 15:	808	ANTARCTIC? in Title and Abstract for 1988
SS 16:	3010	ANTARCTIC? in Title and Abstract OCEANOGRAPHY in Category Code
SS 17:	7174	ANTARCTIC? in Title and Abstract and BIOLOGICAL SCIENCES in Category Code
SS 18:	9117	ANTARCTIC? in Title and Abstract and OCEANOGRAPHY or BIOLOGICAL SCIENCES) in Category Code
SS 19:	76	ANTARCTIC? in Title and Abstract for 1988 and OCEANOGRAPHY in Category Code
SS 20:	274	ANTARCTIC? in Title and Abstract for 1988 and BIOLOGICAL SCIENCES in Category Code
SS 21:	324	ANTARCTIC? in Title and Abstract for 1988 and (OCEANOGRAPHY or BIOLOGICAL SCIENCES) in Category Code

APPENDIX II
Text Analysis Results
ASFA

Antarctic? in Title and Abstract: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
5	POLAR BIOL
2	AUST J MAR FRESHWAT RES
2	BULL BR ANTARCT SURV

Frq	Words/Phrases
2	MEERESFORSCHUNG REP MAR RES
2	MEM NATL INST POLAR RES JAPAN SPEC ISS
1	AM J ECON SOCIOL
1	ANARE RES NOTES
1	ANTARCT REC TOKYO NANKYOKU SHIRYO
1	ANTARCTIC
1	ANTARKTIKA DOKLADY KOMISSII
1	AUST VET J
1	BIOL RESUR GIDROSF IKH ISPOL Z
1	BIOMASS HANDB
1	BIOSCIENCE
1	BULL JAP SOC SCI FISH
1	CAN J ZOOL
1	EARTH PLANET SCI LETT
1	GAYANA ZOOL

ASFA

Antarctic? In Title and Abstract for 1988: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
4	PALAEOGEOGR PALAEOCLIMATOL PALAEOECOL
4	VOPR IKHTIOL J ICHTHYOL
2	ANTARKTIKA
2	MAR BIOL
2	MITT HAMB ZOOL MUS INST
2	NATURE
1	ACTA SCI CIRCUMSTANT HUANJING KEXUE XUEBAO
1	AM J VET RES
1	AQUAT BOT
1	BEHAV ECOL SOCIOBIOIL
1	BIOL CONSERV
1	BIOL MORYA MAR BIOL VLADIVOST
1	BOT MAR
1	COMP BIOCHEM PHYSIOL B
1	DEEP SEA RES
1	EMU
1	GEOLOGY
1	IBIS

APPENDIX III
Text Analysis Results
OCEANIC

Antarctic? in Title and Abstract: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
4	POL POLAR RES POL BADANIA POLARNE
2	ANTARCT J U S
1	ANN S AFR MUS
1	ANTARCTIC
1	ANTARCTIC NUTRIENT CYCLES AND FOOD WEBS
1	BULL MAR SCI
1	CONTRIB CIENT INST ANTART ARGENT
1	COPEIA
1	CRUSTACEAN BIOGEOGRAPHY
1	CUMANA VENEZUELA UNIVERSIDAD DE ORIENTE INSTITUTO OCEANOGRAFICO BOLETIN
Frq	Words/Phrases
1	FIFTH NATIONAL OCEANOGRAPHIC SYMPOSIUM 24 28 JANUARY 1983 RHODES UNIVER-SITY G
1	J GEOPHYS RES C OCEANS ATMOS
1	J PHYS OCEANOGR
1	J. SEDIMENT PET
1	JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY
1	JOURNAL OF GEOPHYSICAL RESEARCH

OCEANIC

Antarctic? in Title and Abstract for 1988: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
3	REP INT WHALING COMM
2	J ICHTHYOL
2	MAR ECOL PROG SER
2	MAR MAMM SCI
2	OCEANOL ACAD SCI USSR
2	POL POLAR RES POL BADANIA POLARNE
2	POLAR BIOL
2	POLAR GEOGR GEOL
2	S AFR J SCI S AFR TYDSKR WET
2	SCI REP WHALES RES INST TOKYO
2	VOPR IKHTIOL
2	ZOOL ZH
1	A SPECIAL COLLECTION OF PAPERS TO FELICITATE DR S Z QASIM ON HIS SIXTIETH BIR
1	ANARKTIKA DOKL KOMM
1	ANTARCT REC TOKYO NANKYOKU SHIRYO
1	ANTARCTIC
1	AQUAT BOT

APPENDIX IV

Text Analysis Results
BIOSIS

Antarctic? in Title and Descriptors: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
3	POL POLAR RES
2	ANTARCTIC JOURNAL OF THE UNITED STATES USA
2	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
2	POLAR BIOL
1	ABSTRACTS OF THE ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY USA
1	ACTA ZOOLOGICA CRACOVIENSIA POLAND
1	AMERICAN ZOOLOGIST US
1	ANGEWANDTE PARASITOLOGIE EAST GERMANY
1	ANTARCTIC RESEARCH SERIES USA
1	ARCHIV FUER PROTISTENKUNDE EAST GERMANY
1	AUSTRALIAN JOURNAL OF BOTANY AUSTRALIA
1	AUSTRALIAN WILDLIFE RESEARCH AUSTRALIA
1	BARRAT A S BOUGAEFF P DERENNE J X LUFBERY J L MOUGIN AND B TOLLU CNFRA COMITE
1	BRITISH PHYCOLOGICAL JOURNAL ENGLAND
1	CRUSTACEANA LEIDEN NETHERLANDS
1	CYBIUM

BIOSIS

Antarctic? in Title and Descriptors for 1988: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
7	POLAR BIOL
4	SOUTH AFRICAN JOURNAL OF ANTARCTIC RESEARCH SOUTH AFRICA
3	ANTARCTIC RECORD JAPAN
3	MARINE BIOLOGY BERLIN WEST GERMANY
2	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
2	HYDROBIOLOGIA NETHERLANDS
2	PALAEONTOLOGIA POLONICA POLAND
1	ACTA ZOOTAXONOMICA SIN
1	AMERICAN JOURNAL OF PHYSIOLOGY US
1	AMERICAN JOURNAL OF VETERINARY RESEARCH US
1	AUSTRALIAN JOURNAL OF ZOOLOGY AUSTRALIA
1	AUSTRALIAN WILDLIFE RESEARCH AUSTRALIA
1	CANADIAN JOURNAL OF CHEMISTRY CANADA
1	COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY A COMPARATIVE PHYSIOLOGY ENGLAND
1	DEEP SEA RES PART A OCEANOGR RES PAP
1	GEOCHIMICA ET COSMOCHIMICA ACTA ENGLAND
1	HELGOL MEERESUNTERS

BIOSIS

Antarctic? in Title: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
3	ANTARCTIC RECORD JAPAN
3	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
2	ABSTRACTS OF THE ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY USA

2	DEEP SEA RES PART A OCEANOGR RES PAP
2	MARINE BIOLOGY BERLIN WEST GERMANY
2	MEERESFORSCHUNG WEST GERMANY
2	POLAR BIOL
1	AMERICAN JOURNAL OF BOTANY US
1	ANIMAL BLOOD GROUPS AND BIOCHEMICAL GENETICS NETHERLANDS
1	ANTARCTIC JOURNAL OF THE UNITED STATES USA
1	ARCTIC AND ALPINE RESEARCH USA
1	AVIATION SPACE AND ENVIRONMENTAL MEDICINE US
1	BULLETIN OF MARINE SCIENCE US
1	CONDOR USA
1	CRUSTACEANA LEIDEN NETHERLANDS
1	CRYO LETTERS ENGLAND
1	CURRENT SCIENCE BANGALORE INDIA

BIOSIS

Antarctic? in Descriptors: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
3	OKEANOLOGIYA USSR
2	ANTARCTIC RECORD JAPAN
2	POLAR BIOL
2	ZOOLOGICHESKII ZHURNAL USSR
1	ABSTRACTS OF THE ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY USA
1	ALAUDA FRANCE
1	AMBIO SWEDEN
1	AMEGHINIANA ARGENTINA
1	AMERICAN JOURNAL OF CLINICAL NUTRITION USA
1	ANARE AUST NATL ANTARCT RES EXPED RES NOTES
1	ANNALES HISTORICO NATURELES MUSEI NATIONALIS HUNGARICI HUNGARY
1	BOLETIN DE LA SOCIEDAD ARGENTINA DE BOTANICA ARGENTINA
1	BOTANICHESKII ZHURNAL LENINGRAD USSR
1	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
1	BULLETIN OF MARINE SCIENCE USA
1	CANADIAN JOURNAL OF ZOOLOGY CANADA

BIOSIS

Antarctic? in Title for 1988: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
8	POLAR BIOL
5	HYDROBIOLOGIA NETHERLANDS
3	ANTARCTIC RECORD JAPAN
3	PALAEONTOLOGIA POLONICA POLAND
3	POL POLAR RES
2	ATMOSPHERIC ENVIRONMENT ENGLAND
2	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
2	DEEP SEA RES PART A OCEANOGR RES PAP
2	MARINE BIOLOGY BERLIN WEST GERMANY
2	MICROBIAL ECOLOGY US
2	SOUTH AFRICAN JOURNAL OF ANTARCTIC RESEARCH SOUTH AFRICA
1	BEHAV ECOL SOCIOBIOL
1	BRYOLOGIST US
1	BULLETIN OF PLANKTON SOCIETY OF JAPAN JAPAN
1	JOURNAL OF APPLIED BACTERIOLOGY ENGLAND
1	JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY NETHERLANDS
1	JOURNAL OF MORPHOLOGY US

BIOSIS

Antarctic? in Descriptors for 1988: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
5	HYDROBIOLOGIA NETHERLANDS
5	POLAR BIOL
3	PROCEEDINGS OF THE BIOLOGICAL SOCIETY OF WASHINGTON US
3	SOUTH AFRICAN JOURNAL OF ANTARCTIC RESEARCH SOUTH AFRICA
2	MARINE BIOLOGY BERLIN WEST GERMANY
2	NEW ZEALAND DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH BULLETIN NEW ZEA
2	NEW ZEALAND JOURNAL OF MARINE AND FRESHWATER RESEARCH NEW ZEALAND
2	PALAEONTOLOGIA POLONICA POLAND
1	ACTA PARASITOLOGICA POLONICA POLAND
1	ANARE AUST NATL ANTARCT RES EXPED RES NOTES
1	BLUMEA NETHERLANDS
1	BRITISH ANTARCTIC SURVEY BULLETIN ENGLAND
1	BULLETIN OF THE NATIONAL SCIENCE MUSEUM SERIES A ZOOLOGY JAPAN
1	CRYOBIOLOGY US
1	DEEP SEA RES PART A OCEANOGR RES PAP

APPENDIX V

Text Analysis Results
GEOF

Antarctic? in Title for 1988 and MARINE GEOLOGY or OCEANOGRAPHY in Index: Statistical analysis of journals indexed for this search set.

Frq	Words/Phrases
13	PROCEEDINGS OF THE OCEAN DRILLING PROGRAM
7	ABSTRACTS WITH PROGRAMS - GEOLOGICAL SOCIETY OF AMERICA
6	PALAEOGEOGRAPHY
2	ACAD. SCI. USSR
2	CLIMATE DYNAMICS
2	JOURNAL OF GEOPHYSICAL RESEARCH
2	PROGRAM WITH ABSTRACTS - GEOLOGICAL ASSOCIATION OF CANADA MINERALOGICAL ASSOCIATION OF CANADA CAN
1	ANNALS OF GLACIOLOGY
1	CHEMICAL GEOLOGY
1	DEEP-SEA RESEARCH. PART A: OCEANOGRAPHIC RESEARCH PAPERS
1	GEOCHIMICA ET COSMOCHIMICA ACTA
1	GEOLOGY (BOULDER)
1	INTERNATIONAL GEOLOGY REVIEW
1	JOURNAL AND PROCEEDINGS OF THE ROYAL SOCIETY OF NEW SOUTH WALES
1	KEXUE TONGBAO (FOREIGN LANGUAGE EDITION)
1	MARINE GEOLOGY
1	MASTER'S
1	MINERALOGICHESKIY ZHURNAL
1	NATURE (LONDON)
1	NEW ZEALAND ANTARCTIC RECORD
1	PALEOCEANOGRAPHY
1	PENN. STATE UNIV.
1	SEDIMENTOLOGY RESEARCH LABORATORY CONTRIBUTION
1	THE GEOPHYSICAL JOURNAL OF THE ROYAL ASTRONOMICAL SOCIETY

REFERENCES

Andrews, Martha. 1988. "The Organisation of Polar Information Before the Advent of On-line Databases: A Review of the Literature." *Geography and Map Division Bulletin* (154) Dec: 5-22.

Reviews of the literature regarding the organisation, storage, and retrieval of polar information. The 89 references discussed are divided into three time periods covering the years from 1945 through 1978. The evolution of bibliographic services from the library shelf and printed index to the on-line data base is followed, with emphasis on the cooperation among polar information providers and users which has made these services successful.

Cooke, Nita. 1987. "BINS Gives Northern Exposure." *Canadian Library Journal* 44(2) Apr: 105-107.

Describes the Boreal Institute for Northern Studies (BINS) Library at the University of Alberta which maintains a unique multidisciplinary collection on all subjects relating to the Arctic, Antarctic and cold regions of the world. There are now some 110,000 items in the collection in a wide range of formats. Because of the geographical focus of the collection, the staff have developed specialised research tools and international contacts in order to fulfill the needs of a varied clientele.

King, H.G.R. 1989. *The Arctic*. Oxford, Clio Press.

Minion, R. and Goodwin, R. 1988. "The Merger of the BOREAL and ASTIS Databases: Genesis of a Canadian Polar Information System." In *Twelfth Northern Libraries Colloquy*, Boulder, Colorado, 5-9 June 1988, Brennan, Ann M. and Andrews, Martha (eds.), Boulder: World Data Center for Glaciology, (Glaciological data series: GD-22), 153-161.

Porter, Martin and Galpin, Valerie. 1988. "Relevance Feedback in a Public Access Catalogue for a Research Library: Muscat at the Scott Polar Research Institute." *Program*, vol. 22(1) Jan: 1-20.

Reports on the successful introduction of a sophisticated on-line catalogue system at the library of the Scott Polar Research Institute, Cambridge University, using the Muscat program package. The system provides to both end-users and library staff a choice between Boolean searching on keywords and access using relevance feedback based on free text in English, mixed with UDC classification numbers. The system is implemented on an IBM 3084 computer. Significant benefits from the application of relevance feedback are reported with 10,000 records on file.

Spence, Sydney A. 1980. *Antarctic Miscellany: Books, Periodicals and Maps Relating to the Discovery and Exploration of Antarctica*, Simper, J.I.H. and J.I. (eds.). London, Simper.

Thuronyi, Geza T. 1975. Bibliography: "Regional or Discipline-oriented?" In: *Information Revolution: Proceedings of the 38th ASIS Annual Meeting*, volume 12. Boston, Massachusetts, October 26-30, 1975. Husbands, Charles W. (ed.), Washington (DC): American Society for Information Science, 118-119.

Compares the coverage of Antarctic literature by nine major abstracting and indexing services-e.g., *Biological Abstracts & Bioresearch Index*, *Index Medicus*, *Engineering Index*-with that of the *Antarctic Bibliography* (AB). In geology and geophysics AB cites 18% more documents than the abstracting and indexing services, in oceanography 29% more, and in all other disciplines 100% more. AB's completeness is partly due to its inclusion of much fugitive literature. The results help to explain the findings of a previous survey, in which Antarctic researchers indicated a preference for bibliographic services with regional, rather than discipline-based, coverage.

Thuronyi, G. 1975. "Cold Regions Bibliography Project — CRREL and Antarctic Bibliographies." *Proceedings of the Fourth Northern Libraries Colloquy*, Montreal, AINA, 21-25.

Tillotson, Joy. 1988. "Databases for Arctic Marine Technology." In *Twelfth Northern Libraries Colloquy*, Boulder, Colorado, 5-9 June 1988. Brennan, Ann M. and Andrews, Martha (eds.). Boulder: World Data Center for Glaciology, (Glaciological data series: GD-22), 101-108.

This paper compares databases commonly used in searches dealing with Arctic marine technology. Strengths and weaknesses of each database are listed as well as the degree to which the database covers the core publications in the field. Sample searches illustrate the overlapping coverage of the databases and the unique contributions of each database. None of the databases is perfect, but the COLD database is a good place to start a search. Other databases can usefully supplement the results from COLD depending on the exact nature of the search.

Young, Margo and Minion, Robin. 1988. "A Study of Overlap Between Geographically Oriented Databases and Subject Oriented Databases." In *Twelfth Northern Libraries Colloquy*, Boulder, Colorado, 5-9 June 1988, Brennan, Ann M. and Andrews, Martha (eds.). Boulder: World Data Center for Glaciology, (Glaciological data series: GD-22), 227-234.

This study is aimed at determining how well northern databases cover northern literature and how well subject-oriented databases cover the same literature. Specifically, it is a study of the overlap between northern databases and subject-oriented databases when searching for specific topics. One search topic was the biology of freshwater fish.