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World Data Center-A for Glaciology antarctic-related activities, 1983–1984

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The World Data Center-A for Glaciology (Snow and Ice) (WDC-A) has been involved in 1983 with several antarctic data management, analysis, and archiving projects.

Because of the climatic significance of antarctic snow- and ice-phenomena, WDC-A organized and convened a specialist workshop to address the problems of antarctic climate-related data. The workshop, sponsored by the Scientific Committee on Antarctic Research (SCAR), was held in conjunction with the XVIII General Assembly of the International Union of Geodesy and Geophysics at Hamburg, Federal Republic of Germany on 14–15 August 1983. Twelve participants and six observers (from eight countries) representing the major disciplinary fields of antarctic climate research and specialists on data management took part. A summary of the workshop discussions and recommendations is published in *Glaciological Data Report, GD-15*, June 1984 (Barry 1984-b).

The workshop participants recommended: implementation of a data management strategy for antarctic climate data; preparation of a detailed catalog of existing data; release of antarctic data promptly via existing archiving channels; preparation of standardized readily accessible digital sets of meteorological data for the antarctic region; and publication of a standardized annual synopsis of antarctic climate data. The recommendations are specifically directed to SCAR, but they are also being forwarded to the World Meteorological Organization (WMO) Executive Committee on Working Group on Antarctic Meteorology, the WMO World Climate Data Programme, and the relevant World Data Centers.

The workshop report also presents a preliminary survey of antarctic data sets, based on materials submitted by the workshop participants. A summary of data categories, observational sources, networks, and disposition for the broad subject areas of synoptic meteorology, climatology, oceanography, and glaciology is included as an appendix. A preliminary inventory of data held by various archives (in Australia, England, Japan, New Zealand, Norway, Poland, and the United States) is also provided. Future updates are planned to make this compilation more comprehensive.

The report contains a comparison of recent studies of antarctic sea ice area prepared by A.P. Sturman, Visiting Fellow, and Mark Anderson, Graduate Research Assistant, at the University of Colorado's Cooperative Institute for Research in Environmental Sciences (CIRES). Seven sea-ice data sets are inter-compared. All data sets were derived from the Navy/National

Oceanic and Atmospheric Administration (NOAA) Joint Ice Center charts but using different methods of analysis and criteria for data selection. Significant differences in mean annual and monthly ice areas were identified suggesting that caution is needed in applying or extending these data sets.

WDC-A has contributed a "Snow and Ice" chapter to the CODATA *Directory of Data Sources for Science and Technology* (Barry 1984-a). This chapter provides an overview of the principal agencies and institutions involved in glaciological data collection. Its scope is worldwide, but information is presented about numerous U.S. and foreign scientists doing research on the Antarctic.

The forthcoming update of the NOAA/National Environmental Satellite Data, and Information Service (NESDIS) *Environmental Inventories, Antarctic Area* will include plots of coverage of WDC-A's holdings of Defense Meteorological Satellite Program data, ice thickness profiles, and geomagnetics generated during National Science Foundation funded remote-sensing flights in 1977-1978 and 1978-1979. Also included is a plot indicating the sites of ice-core drilling activity. This plot resulted from an inventory, which WDC-A has compiled, of ice cores reported in the literature between 1949 and 1980.

Two new data sets of particular interest to antarctic researchers have been added to the WDC-A holdings. (1) The Scanning Multichannel Microwave Radiometer (SMMR) data set consists of individual cryospheric parameters for regions north of 23°N and south of 50°S latitudes. The data are available on magnetic tapes in orbital and mapped format. The temporal

coverage for each format varies: daily orbital data; 3-day integrated mapped data (2 data-days per 3-4 calendar days); and monthly averages of sea-ice concentration only. Currently only the first year of data, October 1978 through November 1979, is available. Updates to the WDC products will be created when the original data are released by the National Aeronautics and Space Administration. (2) The Navy/NOAA Joint Ice Center (JIC) Digital Data have been digitized and gridded by the JIC from the weekly sea-ice charts (copies of these are also archived in WDC-A). The gridded data are spaced at less than or equal to 15-nautical-mile intervals on an evenly divisible, latitude-longitude geographic grid. Sea-ice concentrations, ice type, surface features, and other related information are coded using the proposed WMO Standard Gridded Sea Ice Information (SIGRID) system. Copies of a report describing this digital format are available from WDC-A.

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Bibliographic control of the growing antarctic literature

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In 1963 the National Science Foundation issued a grant to the Library of Congress for the bibliographic control of antarctic world literature. The grant, originally awarded for 1 year, was renewed for successive periods, and continues to be in effect. The service, provided under the agreement by the Cold Regions Bibliography Project, has been designed primarily as a support activity, to help the Foundation's Division of Polar Programs (DPP) fulfill its functions effectively. The project addresses itself, essentially, to three needs of the Foundation.

- Current awareness. To meet this need, the Library of Congress publishes the monthly bulletin *Current Antarctic Literature* (CAL), containing citations and abstracts of antarctic world literature.
- Retrospective searching. To facilitate this, citations and abstracts are cumulated every 18 months into hard-bound, indexed volumes under the title *Antarctic Bibliography* (AB). Furthermore, the full bibliographic records are available for on-

line retrieval through the System Development Corporation's ORBIT system.

- Documentation. Each document cited in CAL/AB is reduced to microfiche.

In addition, the project serves the scientific community at large by contributing to world-wide dissemination of results of antarctic research, as encouraged by the Antarctic Treaty.

The base product of the project's activity is the machine-readable bibliographic citation with abstract and index terms, which lends itself to automated manipulation and re-packaging. The document cited may be a journal article, technical or administrative report, conference paper, monograph, map, etc. Because of the considerable diversity of antarctic source documents we cannot rely on a fixed list of subscriptions, but other—often more time-consuming—methods must be used to locate pertinent items.

The project's bibliographic citations (printed and computer-stored) now number over 30,000, with an accession rate of 1,600 per year, based on the last 9 years. During the 12-month period from June 1983 to May 1984 the increase was 1,870, 17 percent above average. This can be attributed in part to the recent publication of several conference proceedings, e.g., the *Seventh symposium on antarctic meteorites*, (see CAL E-28034), *Fourth symposium on polar meteorology and glaciology* (I-28154), *Fifth symposium on coordinated observations of the ionosphere and the magnetosphere in the polar regions* (K-28266), *Biomass colloquium in 1982* (B-28941), *Third symposium on antarctic geosciences* (E-29111), *Fifth symposium on polar meteorology and glaciology* (I-29260), all spon-