International Polar Year Historical Data and Literature, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Coburn, E., R. Duerr, E. Schlagel, and A. Wallace. 2011. *International Polar Year Historical Data and Literature*, Version 1. [Indicate subset used]. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center.https://doi.org/10.7265/N5FT8HZS. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT https://nsidc.org/data/G02201

National Snow and Ice Data Center

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1 DETAILED DATA DESCRIPTION

The International Polar Year (IPY) Historical Data and Literature collection (formerly known as the Discovery and Access of Historic Literature from the IPYs (DAHLI) project) is an online data collection consisting primarily of photographs, publications, and observational data records from, and relating to, the first two IPYs 1882-83 and 1932-33 and the International Geophysical Year (IGY)1957-58. Examples of data contained in observational records include, but are not limited to: air magnetic vertical intensity, air conductivity, atmospheric-electric observations, auroral log data, potential-gradient electrographic data, dust counts, and meteorological observations. Photographs within the collection include those from the Wilkes Station in Antarctica, the USGS survey of Fletcher's Ice Island, and the Department of Terrestrial Magnetism (DTM) Geophysical Laboratory Library (now part of the Carnegie Science Earth & Planets Laboratory Library Archives and Special Collections, to search their records, visit the DTM General Files Database). Publications within this collection primarily consist of government (national and international) bulletins and reports on activities during the International Polar and International Geophysical years. Other data include audio files of interviews recorded during NCAR's Oral Histories Project, and a video on Drifting Station Alpha during the IGY, published by NSIDC.

Note: This is a collection of material provided by several organizations and assembled between 2007 and 2011 under the project name DAHLI. DAHLI was conceived of and led by Ruth Duerr, who was then with NSIDC. The project received some support but was never fully funded. However, a significant amount of material was identified, collected, and digitized (scanned) at NSIDC, the Carnegie Institute, and other organizations and by the NOAA Climate Database Modernization Program. Access to the nascent collection of digital files was through the Archon library catalog system used by NSIDC's library. The DAHLI project work was disrupted when NSIDC lost all funding for its library and analog archive. NOAA@NSIDC then took DAHLI material into its collection as a distinct data set in order to preserve access to it, but without the search capabilities the Archon system provided. The analog material that was held at NSIDC is now in the CU Libraries Roger G. Barry glaciology collection. The digital data are stored at NSIDC through the data set described in this document, but NOAA@NSIDC is unable to provide these digital data at a comprehensive level of service. However, we have compiled a file called DAHLI_Data_Catalog in both Excel and CSV formats to aid in searching the contents. We hope to partner with an institutional library so that the full vision of DAHLI data stewardship can be realized. – Florence Fetterer, NOAA@NSIDC, June 2022

1.1 Background Information

The material in this section was provided by Ruth Duerr around 2011. It has been lightly edited.

The original intent of the Discovery and Access of Historic Literature from the IPYs (DAHLI) project was to provide a searchable online bibliography of records and publications from IPY and IGY events: 1882-1883, 1932-1933, and 1957-1958. When the project was conceived, these materials were (and still are) scattered about the globe, largely uncatalogued and unpreserved. At best, they

are difficult to discover and access, and at worst, in danger of total deterioration or destruction. These materials were the legacy of past IPYs and stood as milestones of scientific progress. They continue to be of scientific, historical, and sociological value; but their value cannot be exploited if inaccessible. As older generations of researchers leave the workforce, even the memory of these materials is lost. The need was and currently still is imminent to identify and catalogue these materials while researchers who participated in or have a memory of IPY/IGY in 1957-1958 are still available to advise. DAHLI hoped to, and partially succeeded in, correcting this situation. The history of the DAHLI project follows.

In January of 2005, NSIDC submitted an Expression of Intent (EOI) to the International Polar Year Joint Committee to provide on-line access to gray literature from the first three International Polar Years. The proposed approach was to create a searchable portal to materials from prior IPYs. Seventeen organizations holding historical IPY literature expressed interest in collaborating on the project. The EOI was approved by the International Council for Science (ICSU), World Meteorological Organization (WMO) Joint Committee for IPY.

As a follow on to the EOI, NSIDC submitted a full proposal to the IPY Joint Committee in December of 2005 detailing the activities that would be conducted under the DAHLI project as well as a proposal for funding to the National Science Foundation (NSF) in the spring of 2006. Both proposals specified that NSIDC/WDC would host a comprehensive, web-accessible, searchable bibliographic database of materials from the three prior IPYs. The comprehensive bibliography would be compiled from materials supplied by consortium members as well as other collaborating institutions and groups. The project researchers were to eliminate duplications and resolve conflicting entries. The team would also create records for those materials without a readily available bibliographic source. In addition, several participating organizations, including NSIDC, would digitize unique materials held locally, as well as materials provided by collaborating institutions. Links to all digitized materials would be included in the bibliography to allow ready access to anyone with access to the Internet. Where available and appropriate, links to not just the original materials, but also to translations, would be provided.

Rather than accepting the full proposal as is, the IPY Joint Committee suggested that the DAHLI project join the existing International Polar Year Publications Database project (IPYPD) which hoped to provide similar support for the publications of the then upcoming 4th International Polar Year. Consequently, the DAHLI project agreed to join The Arctic Science and Technology Information System (ASTIS), the Cold Regions Bibliography Project (CRBP), the Scott Polar Research Institute (SPRI) Library, and the NISC Export Services (NES) in populating the IPYPD.

In May of 2006 eleven polar libraries participated in a discussion of DAHLI at the Polar Libraries Colloquy in Rome. Pending NSF funding, the group decided at the very least to create a directory of institutions and their IPY historical holdings. Each institution, as it was able, would digitize what

they could, and agreed to collaborate informally by linking together what each created individually. Around this time, NSIDC began conducting its pilot test for digitization of IPY-related materials. This pilot was conducted under the sponsorship of the National Oceanic and Atmospheric Administration (NOAA) Climate Data Modernization Program (CDMP), using their contractor, Lason. The pilot began with materials held locally by NSIDC and continued with materials held by the libraries of NOAA's Boulder Labs and other local collections. The pilot allowed the participating parties to test and streamline procedures, as well as to work out issues that could potentially have arisen in such a venture. The pilot helped develop a model for collaboration with outside entities; specifications for bibliographic entries, imaging, keying, and product output; and procedures for materials and stewardship. The first set of materials, IGY General Reports and IGY Glaciological Reports, were sent to Lason for digitization 2 May 2006 and as of October 2007, 28 reports had been digitized and made available. In addition, some 700 images taken during the IGY were digitized and added to NSIDC's Glacier Photograph Collection.

In March of 2007, the IPYPD became available online. It attempted to identify and describe all publications that resulted from, or that describe, the IPY 2007-2008 and the three previous IPYs. The IPYPD is part of the IPY Data and Information Service (IPYDIS).

By October 2008, funding from the proposal submitted by NSIDC to the NSF IPY had still not materialized. However, funding for scanning continued to be made available to the project through the NOAA CDMP. The implications of this funding situation were that several of the activities originally planned did not happen, including organization of an advisory board, quality control of digitized materials and web interface development, and data rescue. Despite the funding situation and its implications, DAHLI digitization efforts through the auspices of the NOAA CDMP continued. In 2008, digitization of the holdings of the Carnegie Institute in Washington, D.C. began. In 2009 over 9,000 pages (45 documents) were digitized. In addition, John Hollin, Fellow of INSTAAR and Research Scientist Emeritus of the University of Colorado donated 30 slides taken during his time at Wilkes Station, Antarctica during the IGY. Materials held by the University of Colorado Libraries were also digitized.

With the cancellation of the CDMP in 2011 and with no resolution to the grant proposal submitted to NSF several years earlier, the DAHLI project ended in August of 2011. Over the course of the summer of 2011 all of the collected digitized materials (bibliographic items, images, and video and audio files) were organized, documented, and published in Archon, an open-source system developed at the University of Illinois at Urbana-Champaign, where it is intended, they will remain accessible to the public for the long-term.

Data were contributed by several institutions: The University of Colorado Libraries, the Carnegie Institution of Washington, the Institute of Arctic and Alpine Research at the University of Colorado-Boulder (INSTAAR), the National Snow and Ice Data Center (NSIDC) library, and The National

Center for Atmospheric Research (NCAR). The data collection contains approximately 800 digital objects, formats of these objects include: PDF, TIFF, JPEG, MP3, and MPEG. Most objects are freely accessible and downloadable, except where prohibited by copyright. Temporal coverage of this data collection is between the years 1882 and 1958. Geographical coverage is global, with data originating from Europe, Asia, North America, and South America and relating primarily to specific glaciers and other locations in North America (Alaska and Canada) and Antarctica.

1.2 Format

Table 1. Data File Formats

File Type	File Format
Publications and literature	Portable Document Format (PDF)
Photograph and diagram reference images	Joint Photographic Experts Group (JPEG)
Full-resolution photograph and diagram images	Tagged Image File Format (TIFF)
Audio files	Moving Picture Experts Group (MPEG)-1, or Moving Picture Experts Group (MPEG)-2, Audio Layer III (MP3)
Video file	Moving Picture Experts Group (MPEG)

1.3 File Naming Convention

Files in this data set were named with a unique convention. First, there is a string of text identifying the collection (DAHLI). Second, there is a string identifying either the collection or its original disc or directory for tracking or provenance purposes; and third, they each were assigned a four-digit identifier unique to this data set.

In addition, a file called DAHLI_Data_Catalog in both Excel and CSV formats is provided to aid in searching the contents of the data set. Metadata files in Excel and CSV formats are also provided that provide further descriptions of each data file.

The data files are named according to the following convention and as described in Table 2:

```
DAHLI_IPYxxx_zzzz.ext
DAHLI_IGY_zzzz.ext
DAHLI_IGYxxx_zzzz.ext
DAHLI_CI_zzzz.ext
DAHLI_WILKES_zzzz.ext
DAHLI_OH_zzzz.ext
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Table 2. File Naming Convention

Variable	Description
DAHLI	Discovery and Access of Historical Literature from the IPYs
IPYxxx	International Polar Year and a three-digit number corresponding to the directory of the original data
IGY	International Geophysical Year
IGYxxx	International Geophysical Year and a three-digit number corresponding to the directory of the original data
CI	Identifies this collection as coming from the Carnegie Institution of Washington
WILKES	Photographs from and other material concerning Wilkes Station, Antarctica coming from INSTAAR at the University of Colorado, Boulder
OH	Oral Histories (audio files of interviews in the NCAR collection)
zzzz	A unique four-digit identifier
.ext	File extension: .jpg, .tif, .mpg, .pdf, or .mp3

1.4 Spatial and Temporal Coverage

Data were produced during, and surrounding, each of the first two International Polar Years (1882-1883 and 1932-1933) and the International Geophysical Year (1957-1958). Also provided are oral histories relating to the IGY from 2007. The spatial coverage is global and includes locations in North America, Europe, Asia, Antarctica, and South American, as well as certain glaciers.

1.5 Parameters or Variables

Ablation Zones/Accumulation Zones	Elevation/Ice Sheet Elevation	Permafrost
Air Temperature	Frozen Ground	Salinity
Atmospheric Conductivity	Glacial Landforms/Processes	Sea Ice Elevation
Atmospheric Electricity	Glaciation	Seismic Profile
Atmospheric Pressure	Glacier Elevation/Ice Sheet Elevation	Seismology
Aurorae	Glaciers	Snow Depth
Cryosphere	Ice Core Records	Solar Flares
Cosmic Rays	Ice Depth/Thickness	Solar Radio Wave Emissions
Currents	Ice Growth/Melt	Terrestrial Hydrosphere
Dust/Ash/Smoke	Ice Sheets	Water Temperature
Electric Field	Particulate Matter	
Electric Fields/Electric Currents	Periglacial Processes	

1.5.1 Sample Data Record

Below are two sample records as they would have been presented by the ARC Archives Catalog system, Archon. The Archon system is no longer in use. The file DAHLI_data_catalog in both Excel and CSV formats has information to help users find data.

Figure 1 shows a record that was found by searching Archon for "Adelie" in the search box on the catalog interface, and then clicking on Digital Images and Records and then Search image thumbnails.

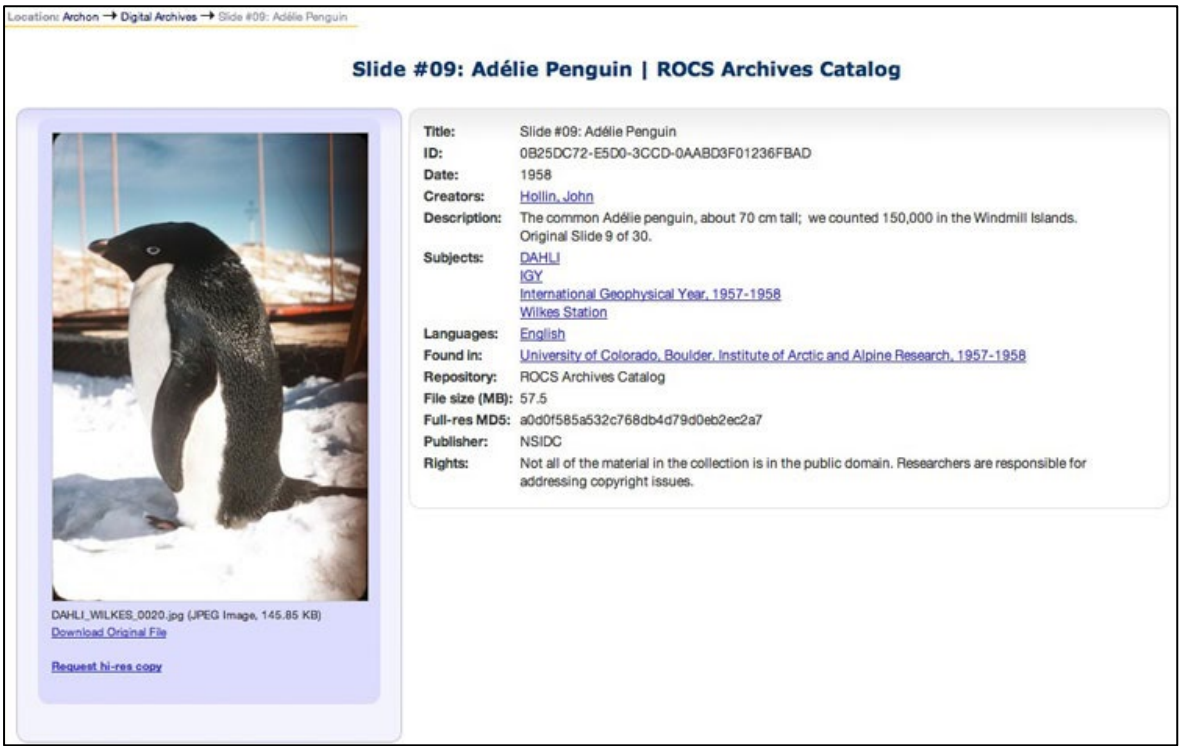

Figure 1. Sample Image Record from the ARC Archives Catalog

Figure 2 shows a sample page from a record found by searching Archon for "Meteorological Observations: Hygrothermograph Weekly Recorder Cahier" in the search box on the catalog interface, and clicking on the title link that appears under Digital Images and Records.

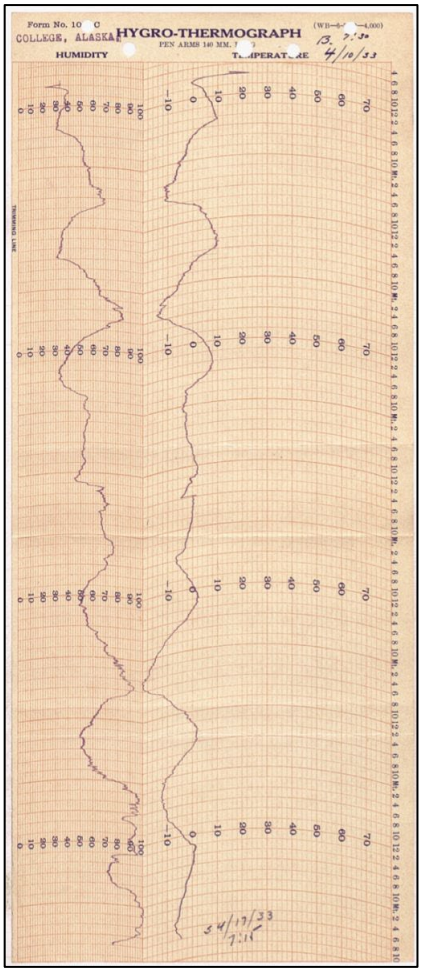

Figure 2. Sample Publication Record from the ARC Archives Catalog

2 DATA ACQUISITION AND PROCESSING

Materials were digitized at various institutions and by NOAA CDMP contractor Lason and then sent to NSIDC. Data files were renamed according to the convention specified in Section 1.3.

2.1 Sensor or Instrument Description

The following sensors or instruments were used to acquire the data:

- Balance
- Camera
- Compasses
- Hygrothermographs

- Magvar Magnetic Variometer
- Multilens Cameras
- Thermometers
- Visual observations

3 REFERENCES AND RELATED PUBLICATIONS

The Princeton University Library has an International Polar Year publications database where the Proceedings listed below may be found.

Duerr, R., Parsons, M., Weaver, R. 2004. *The International Polar Year: Making Data and Information Available for the Long Term*. Presented at the AGU, San Francisco, CA, USA.

Duerr, R., Howard, A. 2007. *The International Polar Years: Creating Access to 125 Years of Polar Research*. Presented at the Annual Conference of the Special Libraries Association. Denver, CO, USA.

Goodwin, R. et al. 2008. *The International Polar Year Publications Database: A Progress Report*. Presented at the 22nd Polar Libraries Colloquy, Edmonton, Canada. Proceedings available here.

Goodwin, R., Tahirkheli, S., Lane, H., Duerr, R., Wallace, A., Dheerendra, P. T. 2010. *The International Polar Year Publications Database: The First 4000*. Presented at the 23rd Polar Libraries Colloquy, Bremerhaven, Germany. Proceedings available here.

Hicks, G. 2010. *Polar Libraries Using E-Science Communication During the 4th International Polar Year 2007-2008.* Presented at the 23rd Polar Libraries Colloquy, Bremerhaven, Germany. Proceedings available here.

Hicks, G., Sommer, S. 2006. I*nternational Polar Year Information Resources: Science Librarians Behind the Scenes and in the Field*. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.

Howard, A. 2007. The Reason for DAHLI: *Making the Holdings of Historic IPY Information Accessible to All*. Presented at the GSA Annual Meeting, Denver, CO, USA.

Howard, A. M., Duerr, R. 2006. *Discovery and Access of Historic Literature of the IPY's (DAHLI): rescuing records and publications of early IPY ventures*. Presented at the 21st Polar Libraries Colloquy, Rome, Italy. Proceedings available here.

Howard, A., Duerr, R. 2006. *NOAA's Climate Database Modernization Program at the National Snow and Ice Data Center*. Presented at the 21st Polar Libraries Colloquy, Rome, Italy. Proceedings available here.

3.1 Related Data Collections

- Glacier Photograph Collection
- International Geophysical Year, 1957-1958: Drifting Station Alpha Documentary Film
- Roger G. Barry glaciology collection at the University of Colorado Libraries (Identifier: COU:5025

4 CONTACTS AND ACKNOWLEDGMENTS

Principle Investigators: Elizabeth Coburn, Ruth Duerr, Elizabeth Schlagel, and Allaina Wallace

Acknowledgments:

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5 DOCUMENT INFORMATION

5.1 Authors

A. Wallace and A. Windnagel

5.2 Publication Date

August 2011

5.3 Revision History

December 2022: A. Windnagel updated the document to indicate that Archon is no longer available for searching these data.