

COLDEX Data Management and Sample Allocation Policies

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Data Management Policies

General Principles

COLDEX will produce a variety of data, metadata and other products, including, but not limited to, geo-located radar echograms and underlying digital data, ice surface and bed elevation, ice thickness, horizontal and vertical ice velocities, gravity and magnetic survey data, ice core sample locations and core logs, borehole video, ice core samples, imagery and electrical conductivity data from core processing, geochemical data from ice measurements, ice ages, inferred accumulation histories, inferred and measured basal thermal information (temperature and temperature gradient), optical dust logs (Ice Diver), hardware specifications, program evaluation and participation data, curricular materials for School of Ice and Project Ice, curricular materials for leadership training, DEI training and specialty workshops, model code and other software.

COLDEX data policies are intended to:

- Preserve all products derived from STC funding.
- Make all products available to all participants as soon as possible after data generation.
- Make all products publicly available.
- Ensure creators and providers of data receive appropriate credit (for example through coauthorship and acknowledgements).
- Adhere to FAIR data principles (Findability, Accessibility, Interoperability, and Reusability).
- Conform to all NSF and OPP Data Policies.

All participants will agree to COLDEX data policies as a condition of participation. The COLDEX Executive Committee will review any instances of nonconformance and make recommendations about possible actions, which may include suspending or denying future support for groups or individuals involved.

Internal Data Policies

1. COLDEX will maintain an internal database available to all participants that will house all COLDEX data with the exception of most radar data, which is to be housed at University of Kansas, Center for Remote Sensing of Ice Sheets using their Open Polar Server. Radar data not suitable for storage there (for example, ApRES data from individual sites) will be housed internally in the COLDEX database. COLDEX will maintain a list of all data saved in either location. Access to the COLDEX shared database by COLDEX participants will require affirmative agreement to all COLDEX data policies.
2. Airborne and ground based radar profile data generated by COLDEX will be made available publicly via the Open Polar Server. "Quick Look" data (see external data policies) made publicly available after field seasons will be deposited in the Open Polar Server as soon as practical after each field season, with a target date of delivery by June 1 following the field season. 2D synthetic aperture radar echograms, basal digital elevation models, and englacial vertical velocity field data products will be made available to all participants upon completion of processing.
3. Data in the internal database may not be used in journal articles, meeting presentations or abstracts, seminars, or other venues without the permission of the original person or group who generated the data. When permission is granted, users will acknowledge the individual or group that generated the data in a manner that is mutually agreed upon prior to such use and users will also inform the COLDEX Director for Field Research and Data about the agreement. Extensive analysis or incorporation of data generated by others should not be undertaken without early discussions and agreement of the individuals or groups that generated the data.
4. COLDEX members generating data will provide data and metadata for the internal database on at least a quarterly basis. Data sets that are generated over long time periods (for example, greenhouse gas concentration or dust isotopic data) should be updated quarterly rather than archived when finished.
5. The COLDEX Director for Field Research and Data will manage access to the database, receive data submissions and post them on the database, and send quarterly reminders to the COLDEX community requesting data.
6. Data files critical to the research of COLDEX early career researchers (ECR) will be labeled as such to inform participants that they may be critical for the success of individual ECR participants.
7. The COLDEX Director for Field Research and Data and Executive Committee will monitor data production, remind participants and institutions of their responsibilities, and promote and encourage required internal data sharing.
8. Model and other code will also be shared through a Github site which allows effective documentation and version control.

External Data Policies

1. Existing NSF and NSF OPP data policies (NSF 22-106) will set the minimum standard for public availability of COLDEX data. These guidelines currently require that data will be deposited in long-lived, publicly accessible archives within two years of collection or by the end of the award, whichever is first. The choice of archive (e.g., National Snow and Ice Data Center, NOAA Paleoclimatology, USAP Data Center) will be dictated by data type. COLDEX will work with the USAP Data Center to ensure that all COLDEX data are discoverable via the USAP Data Center and clearly identified as products of COLDEX and NSF-STC support. Data published in the scientific or popular literature prior to the two-year or award-end limit will also be placed in long-lived publicly accessible archives.
2. For radar data, “Quick Look” or equivalent products will be generated and made available publicly via the CReSIS Open Polar Server. Data will be deposited in the Open Polar Server as soon as practical after each field season, with a target date of delivery by June 1 following the field season. 2D synthetic aperture radar echograms, basal digital elevation models, and englacial vertical velocity field data products will be sent to the U.S. Antarctic Program Data Center per NSF data policies (within 2 years of collection or the end of the award). The format of the data products is defined at the existing CReSIS data portal and is based on open file formats (HDF5 for radar images, geotiff for digital elevation models, and CSV files for layer information).
3. The Director for Field Research and Data will remind investigators of external data policies and submission deadlines, assist with submission when needed, track data generation and timely submission to publicly accessible databases, and remind participants of their data responsibilities. Participants wishing to seek exceptions to NSF data policies (see NSF 22-106) will discuss the issue with the COLDEX Director, who will manage any relevant communications with NSF.
4. The Director for Field Research and Data will maintain records of all archived data derived from COLDEX research and ensure that all data produced by the project are made publicly available at the end of Center activities. The External Advisory Committee and Executive Committee will review data practices and progress on an annual basis.
5. For data sets or products where the appropriate long-lived archive is not obvious (for example, curricular material or evaluation results) COLDEX leadership will work with NSF to identify an acceptable long-lived archive solution.
6. A list and links to publicly available data produced by COLDEX will be maintained on the COLDEX web site.
7. Model and other code will also be shared through a Github site which allows effective documentation and version control.
8. External requests for data prior to placement in a long-lived archive will be referred to and managed by the Director for Field Research and Data who will coordinate responses. External data sharing will be agreed upon by both COLDEX and the individual participant(s) that generated the data.

9. Users should acknowledge the Center for Oldest Ice Exploration (COLDEX) and the original generator of the data set(s) in publications or presentations.

Resolving Compliance and Concerns about Misuse of Data

Participants concerned about compliance with data policies or possible misuse of COLDEX data can bring those concerns to the Director for Field Research and Data, the COLDEX Director, or another member of the Executive Committee. The COLDEX Integrity and Professional Ethics Policy also provides a variety of alternate ways for participants to register concerns, including those about use of data. The Center Director will have ultimate responsibility for resolving non-compliance issues, and will seek NSF assistance and guidance on actions required where resolution is not possible in a timely manner.

Ice Core Sample Allocation Policy

Ice core samples collected by COLDEX will be housed at the NSF Ice Core Facility (ICF) in Denver, CO and ultimately become part of the permanent ICF collection. Documentation of core locations and core logs will be produced in digital form and available to ICF for incorporation in the ICF database. During the lifetime of the Center, samples will be made available to internal and external investigators through a sample request system managed by the Director for Field Research and Data with sample approval authority residing with the Executive Committee or a sample allocation committee created by the Executive Committee. The Center will also manage access to Allan Hills ice cores at ICF collected prior to the STC funding, per agreement with ICF staff and the Science Management Office. After Center activities cease, sample control and all core sampling records will be permanently transferred to the ICF science coordination office.