NDACC Data Protocol for Instrument Principal Investigators

It is the spirit and purpose of the NDACC to foster the broadest possible collaboration among interested scientists via quick access to NDACC data. However, with any good measurements, the investigators themselves bear the ultimate responsibility for data quality in accordance with guidelines defined by their Instrument Working Group. The NDACC Data Protocol for Instrument Principal Investigators recognizes that, in order to produce a verified data product, an NDACC Instrument Principal Investigator (NDACC PI) requires sufficient time to collect, process, verify and analyze the data products, while at the same time endeavors to provide timely data to the global community.

General

NDACC PIs responsible for the instrumentation, measurements, and processing of NDACC data products submitted to the Data Host Facility (DHF) agree to adhere to the following principles:

Data Submission requirements

1. NDACC PIs are encouraged to establish the scientific collaborations needed for the optimum verification of their measurements.
2. It is required that the verified product(s) referred to as “NDACC Data” which includes all Instrument Working Group (IWG) approved versions, be archived at the DHF for free public access no later than one-year after acquisition to the traditional ‘affiliated’ directories (not RD directories). Data must be in the appropriate data format as agreed in the IWG and documented on the NDACC webpages at www.ndacc.org in the DATA tab.
3. NDACC PIs are encouraged to archive and approve the public release of the data on a time scale shorter than one year. But PIs have the option to designate their data to only NDACC affiliates and members in this one-year period.

Data Documentation requirements

1. PIs should follow guidelines of the IWG as to creation of a DOI and choice of a Data License.
2. Metadata are an integral part of the data quality. Therefore, NDACC PIs must provide and update a metadata text file sufficiently informative to enable the continuing assessment of data quality. This documentation and a suggested template are publicly available at the DHF (https://www-air.larc.nasa.gov/pub/NDACC/PUBLIC/meta/). The file must include (but is not limited to):
    - current contact information so that data users can interact with data providers and communicate about publications using the data,
    - a brief description and history of the instrument and any changes to it,
    - a report of validation exercises and instrument or data inter-comparisons,

- a description of the data processing methodology,
- an explanation of all data versions existing in the database, including a description of the data processing versions and procedures,
- a statement of all DOIs that are applicable to the dataset,
- a statement about the Data License(s) specifying the scope of each license if there are more than one (ie license differs for different version keywords),
- a statement on the location of the raw (L0/L1) data.

3. Data providers must provide all metadata in their data files as mandated by the associated IWG best practices.
4. NDACC PIs must submit annual reports containing their contact information, a summary of their instrument's operational and funding status, information about the data analysis and archiving schedules, and a list of relevant publications. In addition, they are requested to highlight any issues that they wish to call to the attention of the NDACC Steering Committee. The current template for this annual report is sent out by the IWG Representatives, typically a few months before the SC Meeting.
5. NDACC PIs are expected to annually review and update, as needed, a brief descriptive paragraph of the instrument and dataset for inclusion in the Measurements & Analyses Directory appearing on the NDACC webpages.

Rapid Delivery (RD) Data

There are occasions when centralized open access to preliminary data provided shortly after acquisition would be of operational benefit to the public even though final verification is not yet complete. Occasions may include:

1. campaigns in the vicinity of an NDACC station or involving an NDACC instrument for which centralized access to the preliminary NDACC data analyses would help in achieving the goals of the campaign,
2. geophysical episodes for which preliminary NDACC data analyses might be useful in planning a research response or providing information to stakeholders, (e.g., at the occasion of a volcanic eruption or big fire episode),
3. satellite and model intercomparison and validation activities,
4. use in near real time operational analyses,
5. data from non-NDACC affiliated instruments that are valuable to the public.

A dedicated service directory on the public archives of the DHF is available for such RD. RD data are not the final verified NDACC data and do not satisfy the requirement to submit the final product within one year. It is mandatory that NDACC affiliated instruments continue to archive the final verified data products within one year of

acquisition. At such time PI can request to remove the obsolete RD from the DHF. Data from non-NDACC affiliated instruments will remain indefinitely.

Data Versioning and Reprocessing

For traceability and enabling reprocessing, all submitted datafiles are archived at the DHF. It is highly recommended to also archive the L0/L1 data at a designated location, whether at the home institution or the NDACC DHF

Beginning in 2020 multiple versions are publicly available for HDF formatted files as new versions are ingested. Versions are defined at the IWG level, and details are found in the Data Versioning Document in the Data Format section of the NDACC website www.ndacc.org. The NDACC PI must update the metadata text file and the datafile metadata accordingly.

If an NDACC PI finds an issue with a submitted dataset, the entire affected archived dataset should be reprocessed as soon as possible to maintain compatibility. It is highly recommended that PIs retain old versions of the data at their home facility.

Current online version: ***September 15, 2025***

Revision: ***September 15, 2025***

Some wording updates, clarifications, and updates to documentation requirements. Added some clarifying statements in Rapid Delivery, and Data Versioning and Reprocessing sections.

Revision: ***August 31, 2020***

The original Data Protocol is separated into 3 documents, one for Data Providers, and one for Data Users. The description of the metadata file is expanded. The information on rapid delivery data is expanded. A section on Data Versioning is added.

Revision: ***March 7, 2017***

Statement of priorities (Goals/Objectives) removed. Data is now designated as public at one year, instead of two. Adds explicit mention of documentation, and annual reporting. Adds guidance on reprocessing of data. Information for users of NDACC data is expanded giving guidance on gaining access to restricted data.

Revision: ***March 27, 2014***

Adds suggestion to offer co-authorship on publications with substantial use of data.

Revision: ***February 17, 2009***

Changes name of network to NDACC. Adds statement of expanded NDACC priorities (often called goals or objectives). Removes Primary/Complementary Station distinction. Adds explicit encouragement for early release of data to the public.

Revision: ***August 1, 2000***

Adds a statement requesting citation in publications using NDSC data.

Original Version: ***September 26, 1996***