



Data Protocol
for the
Transregional Collaborative Research Center (TR172) on

“*ArctiC* Amplification: *C*limate Relevant *A*tmospheric and Surfa*Ce*
Processes, and Feedback Mechanisms – *(AC)³*”

Preamble

(AC)³ is a Transregional Collaborative Research Center (TR 172, see www.ac3-tr.de) funded by the German Research Foundation (DFG, Deutsche Forschungsgemeinschaft). It is constituted by a German research consortium (Universities of Leipzig, Bremen and Cologne, Alfred-Wegener-Institute for Polar and Marine Research, Leibniz Institute for Tropospheric Research) and investigates why the Arctic region has been warming more rapidly than the rest of the world over the past three decades.

This data protocol aims to:

1. Ensure the fair use of the data,
2. Encourage the rapid dissemination of the scientific results,
3. Uphold the rights of the individual scientists,
4. Ensure the visibility and the integrity of the project,
5. Have all involved researchers treated equitably,
6. Encourage an orderly and timely analysis and publication of the data, and
7. Define a central, open access repository of the data to be published.

The participants of the observational campaigns and modeling exercises performed in the framework of *(AC)³* agree on this data protocol.

§1 Definitions

The data are categorized into primary and processed data. Primary, data include raw data that have been measured directly or, in case of model simulations, the data that drive the

model run. The processed data include filtered and/or validated measurement time series, higher level retrievals of the primary data, or results from model runs.

The data provider is the person in charge of the instrument (*instrument PI*) used to measure the data, or the person responsible for the retrieval or model run (*model PI*).

The term *participant* refers to a person that signed this document and/or was granted participation by approval of the *instrument PI* or *model PI* after signing the document in Appendix A.

The term *quicklook* refers to a visualization of preliminary data that is produced shortly after the respective data set was created.

§2 Data Management

1) Data ownership: The data shall be the property of the owner of the instrument (*instrument PI*) or model (*model PI*) with which the data was created.

(2) Data access: The data shall be made publicly available without access restrictions. The central repository for the publication of the data is the *Pangaea*-database operated by the *Alfred-Wegener-Institute for Polar and Marine Research (AWI)*. The data can be published as a stand-alone data set or as a supplement to a publication.

(3) Citation of data: A persistent unique identifier such as a Digital Object Identifier (DOI) will be assigned to the data published in *Pangaea* to ensure correct attribution and reference to the data by potential users.

(4) Data format: The data must be provided in a form that ensures accessibility without proprietary tools/software and follows standards of the scientific community (e.g. ASCII, NASA-Ames, or NetCDF format, etc.). Metadata, sufficient to independently understand the data must accompany the submission. The usage of international standards for the metadata delivery (e.g. CF conventions) is encouraged.

(5) Data quality: The analysis of the scientific data has to be made following the *rules of good scientific practice* defined by the Deutsche Forschungsgemeinschaft (DFG). This includes in particular that the analysis procedures have to be transparently documented and the scientific data and the documentation necessary to understand the data has to be stored for at least 10 years.

§3 Provision of data/data licensing and sharing

(1) Provision of data during airborne campaigns: Each group will provide *quicklooks* of their data to the participants shortly after each flight, unless technical reasons prohibit the creation of timely data sets. The data of the individual scientific instruments along with the corresponding documentation to understand the data shall be made available to all participants as soon as possible. **Six month** after the observations were made the data and the documentation must be made available to all *participants*. The data should contain qualifiers of the status of the analysis (preliminary, final, etc.). Corrections and amendments to preliminary data must be made available to all participants as soon as possible.

(2) Data licensing and sharing: Until the end of the **first one year** (period of time) after the end of the mission, measurement of the data or concluded model run, the data is only available to the participants of the project.

An individual scientist wishing to collaborate (*Associated Scientist*) can apply to get access to the data of interest. The *Associated Scientist* must provide a short written description of her/his aims to the corresponding *instrument PI* or *model PI*. Access to the data will be granted after approval of the proposal by the respective *instrument PI* or *model PI*.

When data are shared, it should be ensured that research which is related to a measured or modelled data set should not duplicate already ongoing work by the *instrument PI* or *model PI*. This holds especially when the topic is central for an ongoing PhD thesis. Further §7 applies.

During the period of time as set forth in this paragraph any publication or forwarding of data to public, non-participants of the project, or non-*Associated Scientists* is prohibited. After the expiration of the period of time set forth in this paragraph § 3 (3) shall apply.

(3) After the period of time set forth in § 3 (2) the *instrument PI* or *model PI* must decide if the data created with the instrument he/she is responsible for, shall be released to individual persons or to the public by one of the following options:

- Closed: A potential data user can request the data of the instrument or model by contacting the respective *instrument PI* or *model PI*. The data can be made available to that person under the conditions defined in the agreement in Appendix A at the end of this data protocol. This agreement has to be signed by this person and returned to the respective *instrument PI* or *model PI*. The final decision to share or not to share the data with that person remains by the respective *instrument PI* or *model PI*.

Or

- Open: The data is made publicly available under a suitable open license such as one of the Creative Commons licenses as recommended by the *Allianz der deutschen Wissenschaftsorganisationen*.

In either case the receiver(s) of the data are obliged to accept the provisions as stipulated in § 4 et seq.

(4) As stated in §2 (2) the data finally has to be made publicly available by the end of the project at the latest.

§4 Publications/conference contributions/public meetings

(1) Co-authorship: If data of the project is used for publications (scientific articles), conference contributions and/or in public meetings the lead author has to invite the data provider to contribute to the publication. Co-authorship has to follow the rules of good scientific practice defined by DFG.

(2) Right to refuse: The data provider(s) has/have the right to refuse the usage of the data in publications, conference contributions and/or in public meetings prior to her/his publication of that work.

(3) Co-authors: The manuscript for any journal publication must be sent to the co-authors at least three weeks before submission with a copy to the instrument or model PIs involved.

Abstracts to contributions to conferences and/or public meetings must be sent to the co-authors at least one week before submission with a copy to the instrument or model PIs involved.

The lead author has to take into account substantial comments from the co-authors before the submission of the manuscript or abstract. The co-authors and the instrument or model PIs involved shall be kept informed of the progress of the review and publication.

(4) Usage of data: The lead author must have the explicit agreement of the data providers to use the data in publications, conference contributions and/or public meetings.

(5) Recent version of data: The instrument or model PI must ensure that the data used in publications, conference contributions and/or public meetings is the best available at that time.

(6) Acknowledgement: The project must be acknowledged in a suitable way. $(AC)^3$ needs to be acknowledged by the following phrase:

“We gratefully acknowledge the support from the Transregional Collaborative Research Center (TR 172) “ArctiC Amplification: Climate Relevant Atmospheric and SurfaCe Processes, and Feedback Mechanisms $(AC)^3$ ”, which is funded by the German Research Foundation (DFG, Deutsche Forschungsgemeinschaft).”

§5 Press releases

(1) Publications and/or press releases where the project itself is the main subject—so called overview articles—must be approved by all PIs before submission.

(2) Press releases related to data, created within $(AC)^3$, must be approved by the data provider(s).

§6 Collaborations

Effective and productive collaborations between the participants of the $(AC)^3$ and other projects are encouraged.

§7 Avoidance of disputes

(1) Any disputes about the use of the data in particular with respect to publications will be resolved by a committee of scientists suggested by the instrument or model PIs involved and approved by the Scientific Steering Team (SST).

(2) During the periods defined in § 3, when the data is still not public, it is encouraged to hold scientific meetings on a regular basis where all participants of the mission can present their ongoing work and their plans for future work with the data of the mission. This shall be made to avoid redundant work and parallel efforts which are both sources of potential disputes.

§8 Constraints

National and international laws or regulations, as well as commitments to other projects or networks, might constrain the agreements of this data protocol. In that case the principal investigator as well as commitments to other projects and networks has to inform other involved PIs about those constraints. The involved PIs shall find a mutual solution on a case-by-case basis.

The signatory agrees to the conditions of the data protocol.

Name :

Address :

E-mail :

Date, place :

Signature of participant:

Appendix A

Agreement to receive the data of an instrument or model that was licensed according to §§ 2 and 3

(closed version)

I will receive a copy of a data set of the project FULL NAME OF THE PROJECT.

I agree to the provisions stipulated in the Data protocol of the project „NAMEOFTHEPROJECT“ and the following common principle:

“If data of the project is used for a publication, conference contribution and/or public meeting, co-authorship has to be offered to the data provider(s).”

I will not distribute this data set or parts of it.

Signature of the receiver of the data set:

Date, place :

Name :

Affiliation and address:

E-mail :