
Section F - Data reporting / Data Policy

*The following text comprises part of the **AMAP Trends and Effects Programme** documentation. As such, it should be read in conjunction with other sections of the documentation, in particular Section A (Introduction) which includes an explanation of some basic terms and concepts that are used in describing the AMAP programme. Other sections include: Section B (AMAP Trend Monitoring Programme); Section C (AMAP Effects Monitoring Programme); Section D (Supporting Studies); Section E (Quality Assurance and Quality Control); and Section G (Appendices - references, methodologies, etc.).*

AMAP Data Policy

General principles and definition of terms used

AMAP's assessments are based to a large extent on information and results from recent (largely unpublished) monitoring and research work. The main purpose of the AMAP Data Policy is to ensure that all relevant data and information are made available for inclusion in the AMAP assessments, whilst at the same time securing the rights of the owner of the data to decide who may have access to their data and for what purposes.

- The **AMAP Data Policy** covers both data and information provided to and generated by AMAP.
- Data and information are provided to AMAP from a number of **data sources**. Data sources may be the originators of the data/information, for example, the persons responsible for the scientific work that produce the data/information, or some intermediary, such as the institute(s) to which the scientist(s) belong, the agency that commissioned or funded the work, or even an information technology group that is responsible for preparing the data for its submission to AMAP.
- A key issue in the AMAP Data Policy concerns identification of the **data owner**. The data owner is that person or agency that holds the rights to a particular set of data, and is responsible for decisions concerning who may have access to these data and for what purposes. The data owner is also generally responsible for issues and questions relating to the overall quality of the data. The ownership of any particular data set may change over time; for example, it may initially reside with the scientist responsible for the research work, allowing this person time to write up the scientific results for publication. It may subsequently pass to the agency (e.g., government agency) responsible for commissioning or funding the work.
- By submitting data to AMAP for use in its assessments, the data owner implicitly grants AMAP permission to use the data in its assessments, and for this purpose only.
- It is important to note that the **data source and the data owner are not always the same**.
- Furthermore, agencies or individuals may eventually be required, under regulations concerning public access to information, to place data in the **public domain** (i.e. make it publicly accessible).
- The AMAP Data Policy is not considered to apply to data and information obtained from, e.g., open scientific literature or published reports that are already in the public domain.
- Three types of data are distinguished. To the greatest extent possible, AMAP desires access to **detail data**; these are the results of individual sample measurements or observations and related attribute data. Access to detail data permits valid comparisons to be made between data from different sources. In addition to the measurement values themselves, a range of attribute data need to be obtained. These are data that allow the measurement values to be interpreted in a meaningful way, e.g. information that defines the sample (where and when it was collected, what it is, etc.),

data on important cofactors (age, sex, grain size, etc.), and information on methodologies employed, etc., that allow issues relating to data quality to be addressed. Unfortunately, measurement data are often only available in summarised form as **aggregate data** (e.g. statistically summarised data). This is typically the case with data obtained from the scientific literature and published reports. The disadvantage with such data is that crucial information concerning the procedures used to aggregate the data, etc. is often lacking; this can result in a substantial loss of information and reduced possibilities to utilise the data in combination with other data. In the context of the AMAP Data Policy, the term **catalog data** is employed to refer to metadata that 'provide information about data', that is, describe data or datasets without including actual results. An example of catalog data might be an inventory of data holdings at an **AMAP thematic data centre** (TDC), or the content of AMAP Project Directory (see below), which provides an overview of activities, the types of data and information they will produce, contact information, etc., and references to, but again no actual results from the projects.

- A basic principle of the AMAP data policy is respect for the right of the data owner to place any restrictions that he/they see fit on third party access to data that are made available to AMAP.
- Certain data will be held confidential over and above any restrictions that may apply by default or at the request of the data owner. This will be the case with, for example, any information that pertains to individuals who agree to participate in AMAP human health related studies. Data will be maintained in a form that, to the greatest extent possible, ensures anonymity of the subjects involved. Where this may be insufficient, for example due to the small populations in some of the communities involved, appropriate additional mechanisms will be established to ensure that the individuals right to privacy and confidentiality of personal information are not compromised.
- It is not the objective of the AMAP Data Policy to place unnecessary restrictions on access to data; however, third party access to data provided to AMAP can only take place with consent of the data owner.
- An **AMAP Data Restriction Agreement (ADRA)** will therefore be established for every individual dataset reported to AMAP for use in its assessment. ADRAs will be established both for electronic data submissions to AMAP thematic data centres (TDCs), and to hard-copy or electronic materials provided directly to AMAP assessment experts, where this is done through the AMAP Secretariat. ADRAs will also be established for datasets previously reported to AMAP TDCs. The AMAP Data Restriction Agreement Form is included as Attachment 2 at the end of Section F.
- ADRAs will be established at the time of data submission and will clearly document the owner of the data (including the relevant contact person for any questions that need to be referred to the data owner), and define any restrictions that apply to the dataset concerned.
- Unless specifically requested by the data owner, access restrictions will generally not apply to aggregate data (i.e. data summaries) or catalog data.
- In the event that data or information are provided to AMAP without an accompanying ADRA form, the **default restrictions** will be applied, as follows:

Detail data: 2-year restriction from the date of submission for release to third parties; unrestricted use by AMAP for its assessments. Any requests within this 2-year period will be referred to the data owner and handled on a case-by-case basis.

Aggregate data: unrestricted.

Catalog data: unrestricted.

- AMAP thematic data centres will be responsible for establishing routines and procedures to ensure that requests for access to AMAP data are handled with due consideration of any restrictions documented in the ADRAs.

The AMAP Data Policy and provision of data/information to AMAP

Data provided to AMAP are communicated to AMAP assessment experts. Where relevant and possible, data are submitted electronically to AMAP data centres (see below) for archiving and work-up (quality control, preparation of data summaries and products, etc.). By submitting data to AMAP for use in its assessments, the data owner is granting AMAP permission to use the data in its assessments, and for this purpose only.

All AMAP assessment experts are informed about the AMAP Data Policy and are required to sign a form acknowledging their agreement to respect the terms and conditions under which data are made available to AMAP and not to pass on or use any data or information that they gain access to in connection with AMAP for any other purposes without the express consent of the data owner. This **AMAP Experts Data Agreement** is included as Attachment 1 at the end of Section F.

Similarly, all data provided to AMAP thematic data centres will be flagged as an AMAP data submission and will be subject to the conditions established by the data owner at the time of reporting (as documented on the accompanying **AMAP Data Restriction Agreement Form** form) (see above and Attachment 2 at the end of Section F).

Certain of the AMAP TDCs also serve as the data centre for other regional programmes (EMEP, OSPAR, etc.). In some cases, the same data are submitted both to AMAP and these other programmes, e.g. where station networks overlap. The different programmes may operate different data policies and apply different restrictions on access to their data. It is the responsibility of those reporting the same data to more than one programme to ensure that the data centre is informed about how to handle possible conflicts in data restriction requirements; logic would imply that, by default, the least restrictive policy should apply.

The AMAP Data Policy and delivery of data/information from AMAP

AMAP aims to ensure that all information, data summaries and data products that are included in its assessments are made available and communicated to end users in a manner that is both responsible and consistent with the **agreements between AMAP and data owners**.

AMAP assessments are generally intended for communication to target groups including the general public. By implication, therefore, AMAP will place data and information that it has received in the public domain. However, the data from an individual contributor will normally only appear in summarised form and as part of a value-added data set including data from other contributors. This form of presentation is designed **to ensure that the rights of data owner to first publication of their results in the scientific literature are not compromised**.

The AMAP assessments include **full acknowledgement of the contributors of both published and unpublished data**.

Any requests from third parties for access to detail data (i.e. individual measurement values) provided to AMAP, including data archived at AMAP thematic data centres, will be dealt with in accordance with the conditions established through the relevant **AMAP Data Restriction Agreement** (see above and Attachment 2 at the end of Section F).

AMAP is considered to be the owner of data products that are produced as part of the AMAP assessments.

Data Reporting and AMAP Thematic Data Centres

Data reporting is considered to be an integral component of the **AMAP Trends and Effects Programme**. In order to contribute to the assessments, data generated by **National Implementation Plans (NIPs)** for AMAP (see Section A), must be made available to assessment experts in an appropriate manner.

Inappropriate data reporting procedures lead to situations whereby:

- Assessment experts are unable to locate or retrieve vital datasets (data referenced in metadatabases does not exist or is available only in inaccessible formats (obsolete software, etc.))
- Considerable effort is required to integrate and combine data sets from diverse sources (scientific literature, institute reports, unpublished datasets, electronic files, hard-copy materials, etc.)
- Available data sets are incompatible (e.g. contain summarised data where different methods of aggregation, e.g. calculation of means, etc., have been applied)
- Available data sets lack necessary information on interpretational parameters (normalisation parameters, measures of variability, etc.)
- Available data sets lack necessary information on methodologies, QA/QC procedures, etc. to allow data quality to be evaluated.

Arctic countries have, therefore, been requested to ensure that the resources required to facilitate reporting data from NIPs are available. Where relevant, these data should be reported (in an appropriate manner, according to specified protocols) to the **AMAP Thematic Data Centres (TDCs)** that have been established specifically to address the types of problem listed above.

Where possible, the requirement (and financing) for reporting data to AMAP should be incorporated during the development of project/programme proposals, as a condition for project/programme approval, and not as an afterthought.

The costs associated with data reporting activities are not negligible, but are generally minor in comparison with the total budget for projects/programmes involving field work in the Arctic, and related sample handling and analysis, etc. This final activity is too often neglected, considerably reducing the value of work that is otherwise conducted at very high cost.

AMAP data reporting procedures aim to support the acquisition of '**detail data**' (see definition above) comprising:

- non-aggregated measurement data (observations or measurement values on individual environmental samples)
- information defining the samples concerned (what was sampled and how; where and when the sample was collected, etc.)
- detailed information to allow data quality to be evaluated (laboratories and methodologies employed in sampling, sample handling, analysis, etc., and information on QA/QC procedures); this information should be delivered together with the measurement values themselves to allow direct linkage of methods/QA/QC data and environmental measurements.

All data/information provided to AMAP for use in its assessments should/may be accompanied by an **AMAP Data Restriction Agreement (ADRA)** Form (see **AMAP Data Policy**, above).

Following reporting of data, and during the assessment process, data from different sources will be treated in a consistent manner, according to agreed procedures, to produce the required assessment products.

To facilitate this work, AMAP has established a number of Thematic Data Centres (TDCs). The objectives of the AMAP TDCs are:

- to provide AMAP assessment experts with access to data from recent monitoring and research activities conducted as part of the AMAP NIPs;
- to provide a means to ensure that data are treated in a consistent manner, undergo uniform statistical analysis, etc., including application of objective quality assurance procedures;
- to begin the process of establishing a long-term archive of Arctic-relevant monitoring (and research) data, for use in future assessments of, e.g. temporal trends, etc.; and
- to meet the terms of reference under Ministerial declarations, whereby AMAP is charged with establishing databases of sources, types, and levels of ... contamination of the atmospheric, aquatic and terrestrial environments of the Arctic and northern areas.

AMAP TDCs are located at established data centres with appropriate expertise (both scientific and computing) and facilities for conducting the types of international data handling work required by AMAP. Some of these centres also conduct data handling work for other international monitoring programs, facilitating harmonized reporting of data to meet the needs of different regional programmes (EMEP, OSPAR, etc.).

The following AMAP TDCs are currently operating:

- **Atmospheric TDC** - handling data on contaminants in atmospheric media (air/precipitation):

Norwegian Institute of Air Research (NILU)
Postboks 100
N-2007 Kjeller
Norway

Information on protocols and formats for reporting data to the AMAP atmospheric TDC can be found at <http://www.nilu.no/projects/ccc/submission.html>

For additional information about the AMAP atmospheric TDC contact:

Torunn Berg
Tel: +47 63 89 80 00
Fax: +47 63 89 80 50
e-mail: torunn.berg@nilu.no
URL: <http://www.nilu.no>

- **Marine TDC** - handling data on contaminants in marine media and biological effects in marine systems - ICES

International Council for the Exploration of the Sea (ICES)
Palægade 2-4
DK-1261 Copenhagen K
Denmark

Information on protocols and formats for reporting data to the AMAP marine TDC can be found at <http://www.ices.dk/env/repfor/>

For additional information about the AMAP marine TDC contact:

Jørgen Nørrevang Jensen / Marilyn Sørensen
Tel: +45 33 15 42 25
Fax: +45 33 93 42 15
e-mail: joergen@ices.dk / marilynn@ices.dk
URL: <http://www.ices.dk/env/>

- **Freshwater/Terrestrial TDC** - handling data on contaminants in freshwater and terrestrial media and biological effects in freshwater and terrestrial systems - UAF

University of Alaska Fairbanks (UAF)
210B Chapman - Department of Mathematical Sciences
P.O. Box 756660
Fairbanks, Alaska 99775-6660
USA

Information on protocols and formats for reporting data to the AMAP freshwater/terrestrial TDC can be found at <http://>

For additional information about the AMAP freshwater/terrestrial TDC contact:

Kara Nance / Brian Hay
Tel: +1 907 474 6104
Fax: +1 907 474 5110
e-mail: ffkln@uaf.edu / fsbh1@uaf.edu
URL: <http://>

- **Human health TDC** - handling data on contaminants in human media - NIPH

National Institute of Public Health (NIPH)
(Section for Research in Greenland)
Svanemøllevej 25
DK-2100 Copenhagen Ø
Denmark

Information on protocols and formats for reporting data to the AMAP human health TDC can be found at <http://>

For additional information about the AMAP human health TDC contact:

Peter Bjerregaard
Tel: +45 39 27 12 22
Fax: +45 39 27 30 95
e-mail: p.bjerregaard@dadlnet.dk
URL: <http://www.greenlandhealth.suite.dk>

- **Radioactivity TDC** - handling data on radioactivity (sources and levels in all environmental compartments, modelling exposure and risks, etc) - NRPA

Norwegian Radiation Protection Agency (NRPA)
P.O.Box 55
N-1345 Østerås
Norway

Information on protocols and formats for reporting data to the AMAP radioactivity TDC can be found at <http://amap.nrpa.no>

For additional information about the AMAP radioactivity TDC contact:

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URL: <http://amap.nrpa.no>

AMAP assessments utilise all relevant data and information. Arrangements concerning provision to AMAP assessment groups of data unsuited for submission to and handling within TDCs should be made in consultation with the AMAP data manager (Simon Wilson - tel./fax: +31 10 466 2989, e-mail: s.wilson@inter.nl.net) or with the assessment group concerned.

AMAP Project Directory

AMAP maintains a directory of Arctic monitoring and research projects and programmes, **the AMAP Project Directory (AMAP PD)**. The AMAP PD aims, in particular, to register projects/programmes that are of relevance to the goals of AMAP. All projects/programmes that constitute the **National Implementation Plans (NIPs)** for AMAP (see Section A) should therefore be registered in the AMAP PD.

The main purpose of the PD is to assist the AMAP Working Group in identifying gaps in programme implementation, and to provide a ready means for AMAP experts to locate relevant sources of data and information that can be used in the preparation of the AMAP assessments. The PD is, however, not restricted to these purpose, or to projects/programmes that are part of the AMAP NIPs. The directory also registers information on Arctic projects/programmes concerning, e.g. biological studies, modelling work, mapping and remote sensing projects, etc., including those being conducted by other countries and under other international bodies (e.g., AMAP observing countries and international organizations).

As a **metadata** resource (i.e. a database that essentially describes or references data, as opposed to containing the data itself), the content of the AMAP PD is considered public-domain information (i.e. freely accessible).

An earlier version of the AMAP PD that described some 500 projects/programmes that were relevant to AMAP's activities between 1991 and 1996 is retained as an information archive. Descriptions of those projects and programmes that are still ongoing and of continuing relevance will be updated and incorporated in the AMAP PD version 2000.

Descriptive fields in the PD record the following types of information (i.e. catalog data) about the projects/programmes:

- Title, aims and objectives
- Organizational context
- Status and duration of work
- Responsible persons and institutes, and contact points
- Work components and activities involved
- QA/QC aspects
- References to progress reports, results summaries and key publications
- Related data archiving, and contact points
- Related specimen/sample banking activities, and contact points
- Project implementation details
- Geographical extent - stations locations or areas studied
- Implementation details - Parameters and media studied, frequency of measurements, etc.

These information items are divided into two parts (a) **basic descriptions** and (b) **extended descriptions**. A system will be developed to allow project/programme responsible persons to register/update information concerning basic details for their PD entries on-line via the Internet.

Alternatively, if this is not practical, information can be submitted on an appropriate (electronic or printed) form to the AMAP Secretariat.

The AMAP Secretariat will identify those projects where additional more detailed information (extended descriptions) concerning station locations, parameters and media measured, etc., is desired. This information will be added by the AMAP Secretariat following contact to the relevant project/programme responsible persons to obtain the information.

The AMAP PD will be made available as an on-line database, including functions to allow the database to be searched or queried, during the summer of 2000. New registrations, and updates to existing registrations, can be made directly in the on-line database once this is available. In the meantime, registrations/updates can also be made using the on-line electronic form that can be found on the AMAP website (see below), or using non-electronic registration methods (for further information contact Simon Wilson).

The web address for the AMAP PD (and on-line registration form) is:
<http://www.amap.no/pd2000.htm>

The AMAP contact person responsible for any questions concerning the PD (and any other matters relating to AMAP data handling) is: Simon Wilson (e-mail: s.wilson@inter.nl.net, phone/fax: +31 10 466 2989)

Attachment 1 - AMAP Experts Data Agreement

AMAP Experts Data Agreement

To be signed by all experts engaged in AMAP assessment work, and all others who may gain access to privileged information submitted to AMAP for use in its assessments.

I (title)

Affiliation/address

.....

.....

confirm that any data/information that is submitted to AMAP under an accompanying AMAP data restriction agreement (ADAR) and which I gain access to in connection with my work on the AMAP assessment will only be used by me in the preparation of the AMAP assessment, and for no other purposes. Furthermore, I will not pass on such data/information to any person not engaged in the AMAP assessment work. I have read and understood the AMAP data policy and hereby agree to respect and abide by the spirit of that policy and be bound by the conditions associated with that policy.

If I am interested in using any of the data/information in my work, for publication or review, I will only do so having first obtained the consent of the owner of the data concerned.

Signed date

Countersigned date

Upon completion, return this form to the AMAP Secretariat, P.O. Box 8100 Dep, N-0032 Oslo, Norway : fax +47 22 67 67 06 : e-mail amap@amap.telemax.no

Attachment 2 - AMAP Data Restriction Agreement Form

| | | |
|---|---|---|
| AMAP Data Restriction Agreement | | ADRA # |
| Description of data submission covered by the form: | | |
| Form of data submission (paper/electronic/details, etc.) : | | |
| Date of submission of data/information: | | |
| Person/institute reporting the data: | | |
| This form concerns data/information submitted to: AMAP Atmospheric TDC (NILU) AMAP Marine TDC (ICES) AMAP Freshwater TDC (UAF) AMAP Human Health TDC (NIPH) AMAP Radioactivity TDC (NRPA) AMAP Terrestrial TDC (UAF) AMAP Secretariat Other (please describe) | | |
| Owner of data | for period from ... to ... | Contact person and contact numbers |
| | | |
| | | |
| | | |
| Restrictions to be applied Prior to the release dates entered below, any requests for the relevant category of data will be referred to the data owner, detailing the person/organization requesting the data, specifying which data are being requested, and the intended use of the data, etc. | | |
| Detail data (default is restricted for a period of 2 years from date of submission) | Can be released after (insert date) | |
| Aggregate data (default is unrestricted, i.e. data of submission) | Can be released after (insert date) | |
| Catalog data (default is unrestricted, i.e. data of submission) | Can be released after (insert date) | |
| Additional notes/comments: | | |
| Signed | | Dated |
| Information: Please complete one of these forms and submit it together with any submission (or re-submission) of data to AMAP (or one of the AMAP TDCs). Also send a copy of the form to the AMAP Secretariat, P.O. Box 8100 Dep, N-0032 Oslo, Norway : fax +47 22 67 67 06 : e-mail amap@amap.telemax.no If no ADRA form is provided, detail data will be restricted for a period of 2 years from the date of submission, aggregated data and metadata will not be considered restricted. | | |