Project 1234 data management plan

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Data collection

In the table below please record the datasets that will be collected during your research. Datasets should be described with enough detail so that a researcher working in your general area of research can understand what you will be collecting, including methods and equipment. Click the "View examples" button for guidance. Note that all data collected under the Australian Antarctic program (AAp) remain the property of the Commonwealth of Australia.

To edit, delete, or duplicate information in the table use the "Action" buttons to the right of the table.

Data set name	Description	Publicly visible?	Data volume	Collection duration	Delivery date	Person responsible	Delivered
Soil chemistry	Soil samples will be collected from approximately 50 field sites around Davis Station and analyzed using gas chromatography and other standard laboratory equipment for the concentrations of various chemical species and other physical properties. These will include conductivity, soil moisture content, ammonium, bromide, chloride, fluoride, nitrate, nitrite, and around 30 different hydrocarbon compounds.	Yes	20 MB	Dec 2014 – Dec 2014	Jul 2015	Belinda Brown	Overdue
Fur seal tracks	Trackers will be deployed on approximately 15 adult subantarctic and Antarctic fur seals on Macquarie Island. The exact deployment locations are not yet known and will depend on logistics. The tracking units used will be satellite transmitters (manufacturer/model xyz) and data will be retrieved from CLS-Argos, France. The data files provided to the AADC will include basic metadata about the animal (the identifier of the animal (individual ID), the species of the animal, the identifier of the tracking device deployed on the animal (PTT ID), sex, weight, and girth of the animal), the date and position (latitude and longitude) of the deployment of the tracker on that animal, and the location estimates (date, latitude, longitude, and location quality class) provided by Argos.	Yes	10 MB	Jan 2015 – Feb 2015	Aug 2015	Charles Craig	Delivered Jul 2015
Moss bed aerial photography	Aerial photography will be collected using a remote controlled helicopter at three locations: Anonymous Peak, Verycold Lake, and Icy Butte. Approximately 500 photographs per site will be collected. Each photograph will be accompanied by position information derived from differential GPS and other metadata automatically collected by the system (e.g. timestamp). Differential GPS positions will also be collected for spatial reference marks, including the outlines of moss beds, streamlines, the snowline, and the metal quadrat marker tags glued to rocks by AAS project 1234.	Yes	200 MB	Dec 2015 – Feb 2016	Jul 2016	Andrew Ash	Not due yet

Data formats

Some data formats are better suited to long-term preservation than others, or are easier for the AADC to manage. The following formats are preferred, although others will be accepted where necessary:

- Documents - HTML, TXT, XML, RTF, PDF, MS-Word
- General observational and measurement data - CSV, NetCDF, MS-Excel
- Spatial data - Esri shapefile or geodatabase, GeoTIFF
- Databases - SQLite, MS-Access
- Images - EPS, SVG (for vector images), PNG, TIFF (for images with sharp edges), JPEG (for photographs)
- Audio - WAV or formats with lossless compression where possible

Data products

In addition to data, research projects often produce 'data products', which are value-added products or services that have been derived from data. A data product represents a substantial modification of the data, typically through modelling, statistical analysis, and/or integration with other data sets. Calibration, quality-checking, translation to other formats, or other processing steps that could reasonably be expected to be applied to the data in order to make it suitable for practical use do not constitute the creation of a data product.

Examples of data products include: GIS layers depicting the spatial distribution of specific parameters; compiled climatologies using data from disparate sources; digital terrain models that map the three dimensional distribution of the topography or bathymetry; animations that show the behaviour of one or more objects or parameters through time and space; simulations that model a particular scenario given a set of input parameters.

These data products are considered to be data outputs from your project. Under the AAp data policy, the intellectual property of data products is retained by the creator (i.e. the project team, for products that you create) but you are required to license these products to the Commonwealth so that we can make them available through the Data Centre as we do with raw data.

Please list any data products that you expect to generate as part of this project. Do not include publications here. Publications are listed with project details.

Does your project envisage developing any derived data products? If so, please complete the table below.

Data product name	Description	Data volume	Delivery date	Person responsible	Delivered
Visualisation of ocean temperatures	Water temperature data from the Southern Ocean, south of 50S, will be extracted from the ocean models used in this project. This data will be used to develop an interactive, browser-based visualisation of ocean temperatures under various future climate scenarios. The data product will comprise the extracted data set and the associated visualisation application.	40 MB	Jan 2016	Barry Brown	Not due yet
Geological Map of the Vestfold Hills	The geological data collected within this project will be combined with existing data from the AADC and elsewhere and used to produce a geological map of the Vestfold Hills. The data product will comprise the map itself (as a PDF file) along with the ArcGIS project files used to produce it, and the underlying combined geological data set.	150 MB	Feb 2017	Rex Rockworth	Not due yet
Combined dataset of seal activity and environmental phenomena	The seal data collected by this project (positions and dive activity, as described in the data collection section) will be combined with a range of satellite- and model-derived environmental information such as water temperature, sea ice conditions, and wind direction and speed. Values of these environmental parameters will be extracted at each of the times and locations in the seal activity record. This data will be used to model the relationship between various seal behaviours and environmental conditions. The files submitted will include the combined dataset and R code used to fit the model.	100 MB	Mar 2017	George Good	Not due yet

Affiliated projects

In many cases an AAS project is affiliated with one or more external projects. These external projects are not subject to the AAp Data Policy and so there is potential for different protocols to apply regarding data sharing and re-use between participating parties. In such cases it is best to make any assumptions and arrangements about data sharing and re-use explicit from the outset. The AADC has produced a guide for negotiating such agreements (with an example) and a blank agreement template . The AADC Manager can facilitate these negotiations if desired.

If you anticipate sharing data with external projects, please identify these projects in the table below.

Title	Chief Investigator	Has Agreement	Contact details
Generalized Microbial Modelling	David Davis	Has Agreement	Director, Environment Research Centre Some University AUSTRALIA Phone +61 (0)1 2345 6789 d.davis@some.edu.au

Data management during the project

Have you considered how you will store/manage/share your data during the life of the project whilst you are still working up your data and products?

There are several things that you might like to consider:

- Who in the project team will be responsible for collecting and collating the team's data so that these data can be shared?
- Do you have collaborations with other AAS projects where data collected from your project will feed into products or analyses of these projects? If so, what are the required data flows and the timings of these data flows between projects?
- Where will these data reside (institution, specific server, single or virtual network)?
- How will these data be secured to prevent accidental loss or corruption?
- Who in the team will be given access to the collated data and will access controls be required?
- How will access be provided - particularly if team members are located at multiple physical sites (VPN, FTP, SFTP, SSH, Internet-based Application)
- How will datasets and data products be versioned if they are undergoing post collection processing and analyses?
- What protocols need to be developed/borrowed or adapted with respect to data sampling strategies; naming conventions for files and observed parameters, instruments, analytical processes, sampling locations, units of measure and taxonomic identification keys; and analysis techniques?
- What guidance will be provided to team members about the level of documentation required to support descriptions of the data/product and their quality for the purposes of re-use by colleagues?

Would you like a Science Liaison Officer from the AADC to facilitate team discussions concerning these types of issues and to present example approaches that may be relevant to your project?

Data management assistance required
Yes

Data archiving

General data archiving information

- All datasets listed in the data collection table above must have a metadata record in the Catalogue of Australian Antarctic and Subantarctic Metadata (CAASM).
- Each metadata record must ultimately point to publicly accessible copies of the datasets described by the metadata record.
- During embargo periods metadata records will not contain links to datasets, but should do so by the end of the project's term (see the AAp Data Policy).

Australian Antarctic Data Centre specific data archiving information

All AAS projects are encouraged to provide their data and products to the AADC for archiving and publication. However, it is permissible to use alternative, approved repositories. The AADC will perform a due diligence check on alternate repositories (view or download guidelines).

Will this project archive any data/products with the AADC?

Archive with AADC
Yes

Data can be submitted to the AADC via the Electronic Data Submission System (EDS) or by arrangement with your AADC Science Liaison Officer.

Hosting data outside the Australian Antarctic Data Centre

- Data may be hosted outside of the AADC, by arrangement, but all data captured by AAp projects must be described by a CAASM metadata record.
- Data hosted elsewhere must be made publicly accessible and linked to the CAASM metadata records (by the end of the project).

- If data are to be archived outside of the AADC please email MyScience@aad.gov.au when data URLs are available to be linked to CAASM records.
- All AAp data must be deposited within an approved and sustainable repository which will be vetted by the AADC Manager.

If you are intending to use an alternate repository for hosting any data/product please provide details for the repositories that will be used.

Institutional repository	Contact phone	Contact email	Notes
GenBank	+1 234 567 890	genbank@genbank.org	Data are available from the Genbank Nucleotide Database

Data publishing

Data sharing networks

The AADC publishes data to existing global networks where appropriate (e.g. GBIF, OBIS, SOOS, AODN).

Do you require the AADC to publish your data to any specific global or national data networks?

Network	Data description
data.gov.au	Soil chemistry dataset

Citing datasets

It is AAp Policy that every publication arising from AAp research appropriately cites data sources, including their digital object identifier (DOI) where available.

Data sources should be referred to in the methods section of a publication and cited in the same way as a paper (e.g., (Brown, 2012)), with details listed in the references section. If a particular publisher will not accept dataset citations in the references section, then an alternate solution is for the author to include a "casual" citation in the acknowledgments section of the publication. This form of citation would be the same as if written into the references section of the paper, but might begin with "We would like to thank Author X for his data: [insert citation]." Note that this method is not preferred, because it may not be detected by citation-tracking systems.

Is it anticipated that data generated in this project will be cited in publications arising from this project?

Cite data in publications
Yes

Physical samples

Does your project intend to store any physical samples in AAD facilities? If so please answer "yes" below and complete an estimate of the likely storage space requirements. Please also indicate if you intend to store samples outside of AAD facilities.

Store at an AAD facility
Yes

Volume stored at the AAD facility
1 m^3

Sample storage requirements

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-135°C Freezer:  0.02 m3
-20°C Freezer:  0.025 m3
4°C Fridge:  1 m3
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Store elsewhere
No

Mapping and GIS assistance

Does your project require any assistance with mapping or geographic information?

This may include assistance with:

- accessing data suitable for use in a Geographic Information System (GIS) e.g. topographic data, bathymetric data,
- guidance on 'best-practice' for creating GIS data layers (e.g. naming conventions that follow the AADC Feature Catalogue),
- accessing aerial photographs, satellite images and maps,
- accessing ArcGIS software licenses and instruction on the use of ArcGIS (for AAD investigators and assistants only)
- producing maps for publications (for AAD investigators only)

Will you be using GPS or other survey methods to locate and relocate your sample sites?

All surveyed locations, included in data submitted for archiving must include information on how coordinates were derived, the datum the coordinates are on and the survey mark from which the coordinates are derived.

Mapping or GIS assistance required
Yes

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Some mapping and GIS assistance required: for presentation purposes in publications. May require use of the AAD bathymetry datasets.
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Additional Notes

Please use this section to record any information relevant to your team's data management planning which wasn't able to be recorded in earlier sections.

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This is a 10 year project, but data collection can only be determined for the next year, as we don't get voyage details from other countries ahead of time.
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Attachments

File	Description	Uploaded
Data agreement D.Davis.docx (14 KB)	Agreement with David Davis (Some University).	Tue 26-Mar-2015 14:59:57

Australian Government
Department of the Environment
Australian Antarctic Division

Affiliations: