Open access datasets from the Antarctic Circumnavigation Expedition

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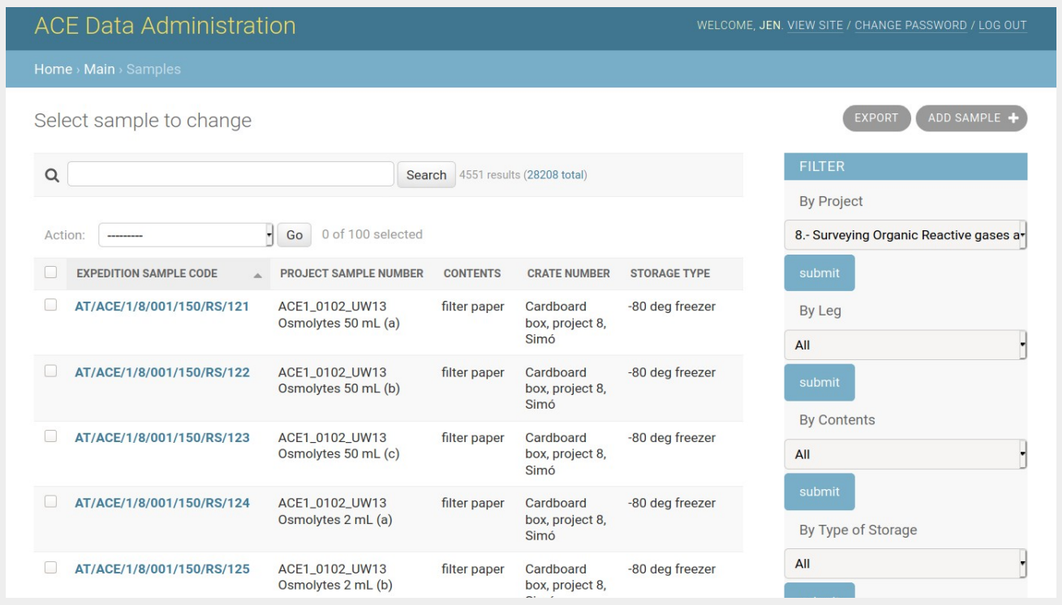
The Antarctic Circumnavigation Expedition (ACE)[1] brought together 22 distinct science projects, collecting around 30 TB of data and almost 30,000 samples. A custom-built tool was built to record all data and sample collection on board. Open access datasets from the expedition continue to be published.

ON-BOARD DATA MANAGEMENT TOOL

Data collection events, dataset metadata and samples were recorded in a MySQL database. An application built using Python and Django provided an interface for data entry, search of the database and additional tools available to the researchers on board.



GPS and Ferrybox data streams were imported into the database in near real-time. In addition to helping to spot errors with instrumentation or data collection, these data were combined with event metadata. This minimised copy-paste and other data-entry errors, as well as facilitating data entry.

https://github.com/Swiss-Polar-Institute/science-cruise-data-management

PUBLISHED DATA

- CLIMATOLOGY
- GLACIOLOGY
- OCEANOGRAPHY
- BIOLOGY
- BIOCHEMISTRY

Finalised data sets were described using machine-readable Frictionless Data schemas[2] and published in Zenodo[3] where they were assigned a Digital Object Identifier (DOI). High-level metadata descriptions of the data sets using the DataCite schema[4] make the data discoverable in other repositories such as Mendeley Data, OpenAire, Figshare, as well as DataCite themselves. Furthermore, data are searchable and discoverable in Google's dataset search, due to schema.org metadata.

Work is still ongoing to publish data sets from the expedition and to incorporate them into relevant geographical and domain-specific repositories where possible.

https://swisspolar.ch/expeditions/ace/ace-data/

Key figures

95 published datasets

78 % open access

Data contribute to 48 journal articles

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This poster is available at:
https://doi.org/10.5281/zenodo.4596543

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