

SOOS
SOUTHERN OCEAN
OBSERVING SYSTEM

Data Sharing Tools for the Southern Ocean Observing System

Pip Bricher¹, Steve Diggs², Jo Beja³, and Benjamin Pfeil⁴

¹Southern Ocean Observing System, University of Tasmania, Private Bag 110, Sandy Bay, Tasmania, 7001 Australia, email: data@soos.aq

²Scripps Institution of Oceanography, University of California San Diego, USA; ³British Oceanographic Data Centre, Liverpool, UK;

⁴Universitetet i Bergen, Bergen, Norway

SOOS is an international initiative with the mission to facilitate the collection and delivery of essential observations on dynamics and change of Southern Ocean systems to all international stakeholders (researchers, governments, industries), through design, advocacy and implementation of cost-effective observing and data delivery systems. As part of this, SOOS has a mandate to provide tools to make it easier to share and discover existing data from the Southern Ocean.

DUE SOUTH

DATABASE OF UPCOMING EXPEDITIONS TO THE SOUTHERN OCEAN



DueSouth, a Database of Upcoming Expeditions to the Southern Ocean, is a tool for sharing plans for upcoming fieldwork and for researchers to find potential collaborators. It is populated by members of the international research community.

At DueSouth, you can share details of upcoming expeditions and the research projects associated with them. Records in the database give details of where, when and who will be doing science in the Southern Ocean. This gives scientists the tools to establish collaborations with international colleagues before they've even begun collecting data.

DueSouth has been developed for SOOS by the Australian Antarctic Data Centre. In coming months we will establish live feeds with associated cruise planning databases and we hope to automate information uploads from National Antarctic Programs.

www.soos.aq/activities/duesouth

Expedition name	Vehicle type	Vehicle name	Start date	End date	Nation	Projects
SANAE / Good Hope Line	Ship	SA Agulhas II	2017-12-05	2018-02-19	South Africa	0
Chkwy Passage moorings 2018/19	Ship	RRS James Clark Ross	2018-01-01	2018-05-01	United Kingdom	0
The 81st Japanese Antarctic Research Expedition	Ship	Icebreaker SHIRASE	2018-11-07	2020-03-23	Japan	0
Tangaroa Antarctic Voyage 2019	Ship	Tangaroa	2019-01-01	2019-02-28	New Zealand	0
Indian Southern Ocean Expedition (IMO17-06 (2017))	Ship	RV Agulhas	2017-12-10	2018-02-09	India	0
Tangaroa Antarctic Voyage 2018	Ship	Lawrence M. Gould	2017-06-30	2017-07-24	United States	0
Chkwy Passage moorings 2020/21	Ship	RRS Sir David Attenborough	2021-01-01	2021-05-01	United Kingdom	0
A23 repeat hydrography section 2019/20	Ship	RRS James Clark Ross	2020-01-01	2020-05-01	United Kingdom	0
A23 repeat hydrography section 2020/21	Ship	RRS Sir David Attenborough	2021-01-01	2021-05-01	United Kingdom	0
SR19 repeat hydrography 2020/2021	Ship	RRS Sir David Attenborough	2020-11-01	2020-12-01	United Kingdom	0
SR19 repeat hydrography 2019/2019	Ship	RRS James Clark Ross	2018-11-01	2018-12-01	United Kingdom	0
A23 repeat hydrography section 2018/19	Ship	RRS James Clark Ross	2018-01-01	2018-05-01	United Kingdom	0
A23 repeat hydrography section	Ship	RRS James Clark Ross	2018-01-20	2018-02-11	United Kingdom	0
JR17001	Ship	RRS James Clark Ross	2017-11-21	2017-12-16	United Kingdom	0
SR19 repeat hydrography 2019/2020	Ship	RRS James Clark Ross	2019-11-01	2019-12-01	United Kingdom	0
HALOS Southern Ocean Time Series	Ship	Investigator	2019-03-12	2019-04-02	Australia	0

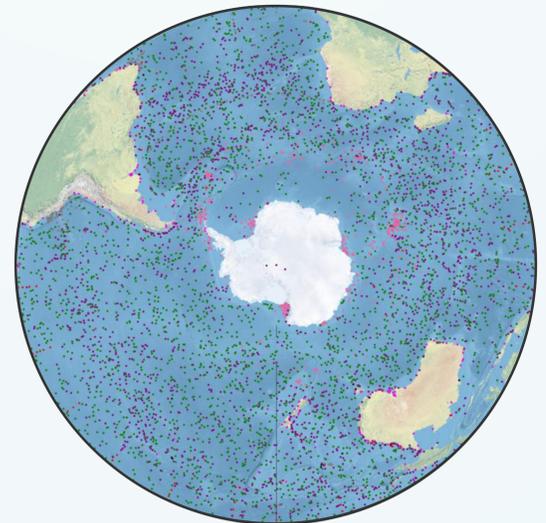
SOOSmap is a data discovery tool for finding and downloading data from well-curated circumpolar ocean datasets. The interactive map interface allows users to search by platform type, observation type, region, and date. It thus also provides a snapshot in time of the Southern Ocean Observing System - what platforms were in the water and where they were at any given point in time. These snapshots can be used to identify gaps in the observing system and plan future scientific observations.

Through SOOSmap, you can directly explore and download the data from many platform types. For others, you can follow links to download the data from the originating data centres.

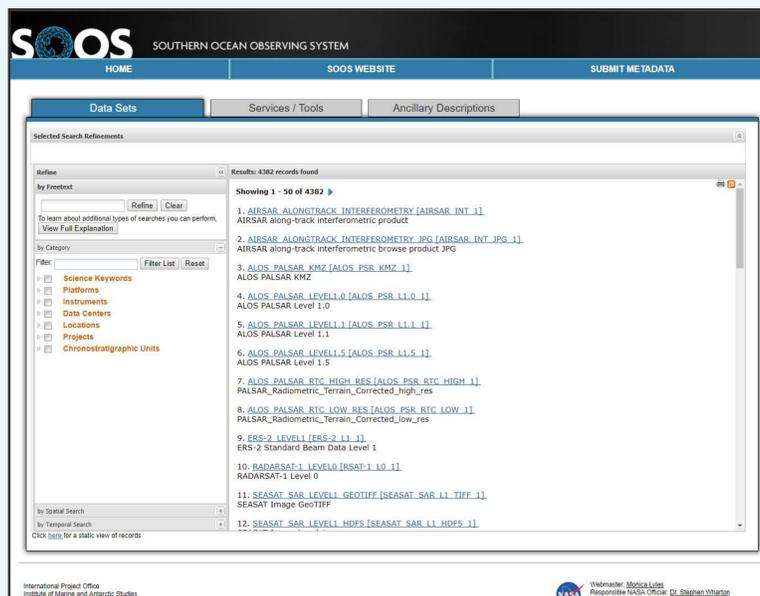
SOOSmap has been developed for SOOS by the EU-funded EMODnet Physics. In coming months and years we will continue to add new data layers to SOOSmap to make it a central data discovery tool for all Southern Ocean researchers.

www.soos.aq/data/soosmap

SOOSmap



Data Discovery



NASA's Global Change Master Directory (GCMD) has built a metadata discovery portal for SOOS, which provides excellent coverage of data acquired by National Antarctic Programs and global datasets. We are working to encourage oceanographic and other specialist data centres to translate their metadata records into a format that the GCMD can read. However, challenges in translating metadata records between different standards make it challenging to incorporate metadata from the oceanographic community, in particular, in the GCMD.

At present, more than 50 data repositories host data relevant to SOOS. Technical challenges in translating between their varied metadata standards mean it is not feasible to aggregate all of those records in a single catalogue. SOOS is working with the Arctic and Antarctic data management communities to develop a federated search tool that will allow simultaneous searching of the GCMD together with other metadata catalogues.

gcmd.nasa.gov/portals/soos/