ecological data, foster better collaboration and scientific understanding, and finally, contribute to informed decision-making in Antarctica and the Southern Ocean.

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A data system for the Southern Ocean

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Abstract

The Southern Ocean connects the world's ocean basins and acts as a sensitive indicator of oceans' health. Researchers and data professionals from more than 50 countries are part of the Southern Ocean Observing System (SOOS), which facilitates the collection and delivery of essential observations on dynamics of Southern Ocean systems. This collaborative community aims to develop an interoperable data ecosystem that serves a multitude of scientific disciplines and, with a minimum of centralised funding, depends on the generosity and cooperation of a broad community.

At the centre of the Southern Ocean data system is SOOSmap - a portal for well curated and standardised datasets of key circumpolar interest, which draws on the infrastructure of EMODnet Physics. It provides not just access to datasets but also a very visible way to identify gaps in observing and data sharing efforts in the Southern Ocean. In this presentation we will offer familiarisation with the portal, tips how to use its features, a guide how to discover data and how to share new data products with SOOSmap.

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Advancing oceanographic biogeochemical data management towards FAIR compliance with AI potential

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Abstract

While machine-generated data from marine sensors come with consistent pre-defined metadata, the logging of marine biological or biogeochemical sample data often involves human processing, leading to free-text descriptions provided as (raw) metadata. We propose here perspectives to optimise data management and better meet FAIR principles by leveraging AI and robust marine metadata norms, aiding from data originators to data managers in efficient annotation. We present a framework for interactive data validation prior to sharing through dedicated repositories, aligning with other data collections, and simplifying the archiving process. This will be facilitated primarily through the application of Natural Language Processing (NLP), aimed at identifying metadata, especially for the wide range of conventional and less common biogeochemical data (substances, matrices, etc.). While the marine biological community already uses tools like GBIF's Integrated Publishing Toolkit (IPT) and the Darwin Core (and its various extensions) respectively. The framework presented in this abstract complements these practices by assisting data providers in submission processes, maintaining FAIRness, and improving interoperability with minimal resource costs terms of human and computational resources.

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