



## **COOPEUS – connecting research infrastructures in environmental sciences**

Ketil Koop-Jakobsen, Christoph Waldmann, and Robert Huber  
MARUM - University of Bremen, Bremen, Germany

The COOPEUS project was initiated in 2012 bringing together 10 research infrastructures (RIs) in environmental sciences from the EU and US in order to improve the discovery, access, and use of environmental information and data across scientific disciplines and across geographical borders. The COOPEUS mission is to facilitate readily accessible research infrastructure data to advance our understanding of Earth systems through an international community-driven effort, by: Bringing together both user communities and top-down directives to address evolving societal and scientific needs; Removing technical, scientific, cultural and geopolitical barriers for data use; and Coordinating the flow, integrity and preservation of information.

A survey of data availability was conducted among the COOPEUS research infrastructures for the purpose of discovering impediments for open international and cross-disciplinary sharing of environmental data. The survey showed that the majority of data offered by the COOPEUS research infrastructures is available via the internet (>90%), but the accessibility to these data differ significantly among research infrastructures; only 45% offer open access on their data, whereas the remaining infrastructures offer restricted access e.g. do not release raw data or sensible data, demand user registration or require permission prior to release of data. These rules and regulations are often installed as a form of standard practice, whereas formal data policies are lacking in 40% of the infrastructures, primarily in the EU. In order to improve this situation COOPEUS has installed a common data-sharing policy, which is agreed upon by all the COOPEUS research infrastructures.

To investigate the existing opportunities for improving interoperability among environmental research infrastructures, COOPEUS explored the opportunities with the GEOSS common infrastructure (GCI) by holding a hands-on workshop. Through exercises directly registering resources, the first steps were taken to implement the GCI as a platform for documenting the capabilities of the COOPEUS research infrastructures. COOPEUS recognizes the potential for the GCI to become an important platform promoting cross-disciplinary approaches in the studies of multifaceted environmental challenges. Recommendations from the workshop participants also revealed that in order to attract research infrastructures to use the GCI, the registration process must be simplified and accelerated. However, also the data policies of the individual research infrastructure, or lack thereof, can prevent the use of the GCI or other portals, due to unclarities regarding data management authority and data ownership.

COOPEUS shall continue to promote cross-disciplinary data exchange in the environmental field and will in the future expand to also include other geographical areas.