

Introduction

Welcome to the wiki of HMC Hub Earth and Environment! This platform is a permanent work in progress and represents our perspectives as the HMC Hub Earth and Environment and our community. More formal results are derived from here and published on the [HMC website and our Hubs website respectively](#).

Metadata Management Recommendations and Best Practices

The [Helmholtz Metadata Collaboration \(HMC\)](#) promotes the qualitative enrichment of research data by means of metadata – and implements this approach across the whole organization.

HMC develops and implements concepts and technologies for a sustainable handling of research data through high-quality metadata. Its main goal is to make the depth and breadth of research data produced by Helmholtz Centers findable, accessible, interoperable and reusable (FAIR Principles¹⁾) for the whole science community. The intention to ensure FAIR data across Helmholtz is also contained in the “Recommendations for Policies of the Helmholtz Centers on Research Data Management”²⁾.

Many people and stakeholder groups produce data relevant for research data, information and knowledge systems. In order to create a harmonized interoperable and ultimately **FAIR data space**, practices and processes need to be aligned across our data systems and implemented by these people and stakeholders.

In this Wiki, the HMC Hub Earth and Environment and its partners will **formulate recommendations** for such aligned practices for the community. We are making concrete suggestions for the implementation and support with practical suggestions for such procedures.

To achieve FAIR data across the various Helmholtz Earth and Environment data infrastructures (DIS), we have developed the **Road-to-FAIR-Strategy**. This strategy describes a number of coordinated efforts. As a first step, the existing DIS and their interfaces are examined to identify best practices that can serve as models. Based on this, different committees work together to develop concrete implementation steps for specific goals. For each agreed-upon building block, concrete recommendations are formulated and documented. These recommendations are developed and presented in this Wiki as a living handbook and will evolve over time as work progresses.

The resulting recommendations are consistently documented using the same guiding questions and a harmonized structure. Two perspectives must therefore be considered: on the one hand, the discussion and agreement on content; on the other, the administrative and technical implementation. Each individual step required for implementation must be examined. The perspectives and roles of the various stakeholders are taken into account to ensure that all influencing factors are considered in detail. In addition, the decision-making processes that lead to established procedures are outlined—both from the bottom up and from the top down.

This provides a foundation for optimizing the procedures concerning the individuals involved, their responsibilities, and the necessary actions. In order for the FAIR approach to be successful, it is essential that identified stakeholders take on specific responsibilities.

For more information visit our [HMC Hub Earth and Environment](#) website.

For questions, comments and suggestions, please write to hmc-hub_ee@geomar.de.

Contributors

- Arbeitskreis Metadaten
- Arbeitskreis Semantik

Both working groups formed by the [HMC Hub Earth and Environment](#) and the [DataHub Earth and Environment](#)

1)

Wilkinson, M. D. et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci. Data* 3:160018 doi: 10.1038/sdata.2016.18 (2016).

2)

Empfehlungen für Richtlinien der Helmholtz-Zentren zum Umgang mit Forschungsdaten, 2019, Helmholtz Open Science, <https://os.helmholtz.de/open-research-data/forschungsdaten-policies/> doi: doi.org/10.2312/os.helmholtz.002

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