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Building FAIR from the Ground: Unifying Data Stewardship Across Meteorological and Climate Research Institutes

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The Institutes of Meteorology and Climate Research (IMKs) at KIT operate a diverse range of instruments and models to investigate atmospheric and environmental processes. Historically, each working group has developed independent data management strategies, resulting in fragmented practices across the institutes. To address this challenge and ensure research data sustainability and FAIRness of research data, the IMK Data Management working group is implementing a unified data stewardship framework that integrates modern curation practices.

Our approach is built on three pillars:

1. **Infrastructure development** that supports structured and secure
data storage with robust metadata;

2. **Active data curation** throughout the research lifecycle to ensure data quality, provenance, and documentation;

3. **Training programs** tailored to researchers at all career stages.

This initiative aligns with national efforts such as DataHub and NFDI4Earth while systematically addressing all FAIR principles—enhancing findability through consistent metadata schemas, accessibility through standardized repositories, interoperability through domain-specific standards, and reusability through clear licensing and contextual documentation.

This poster presents our curation-centred methodology, implementation challenges across diverse research contexts, and emerging best practices for establishing scalable data stewardship infrastructure that supports day-to-day research activities while ensuring long-term data value.

Abstract

Talk

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