The CREATIVE project – customizing a generic repository with domain-specific metadata

Sibylle K. Hassler, Carlos Zuleta Salmon, Peter Braesicke, Jörg Meyer, Erwin Zehe

KIT — Karlsruhe Institute of Technology

CREATIVE – the Goals

- **Customizing the repository RADAR4KIT** for the requirements of researchers at the KIT Climate and Environment Centre (CEC) with metadata templates
- **Integration** in NFDI4Earth (N4E) and V-FOR-WaTer (VFW)
- Establishing a **network of data stewards** in the institutes of CEC
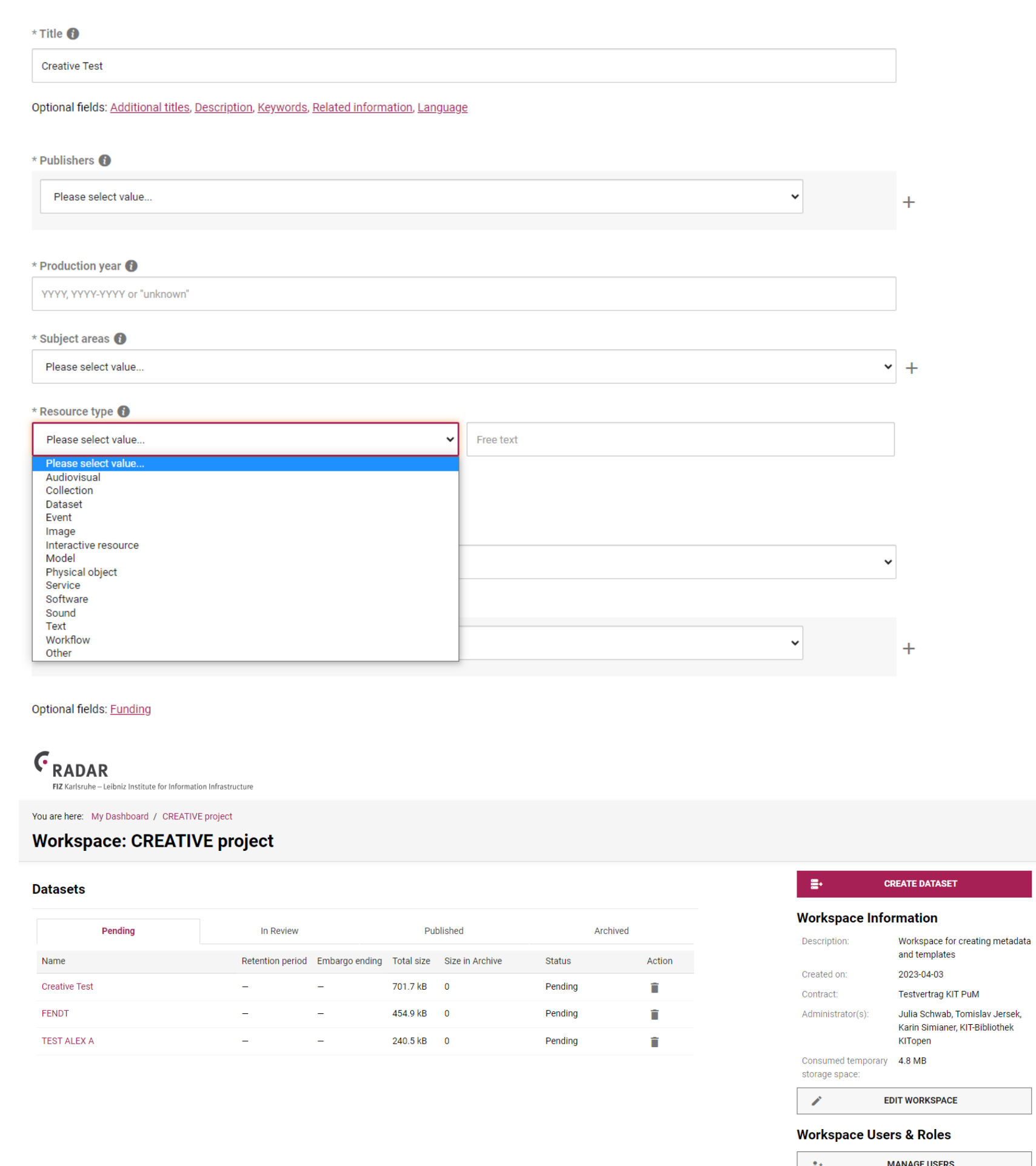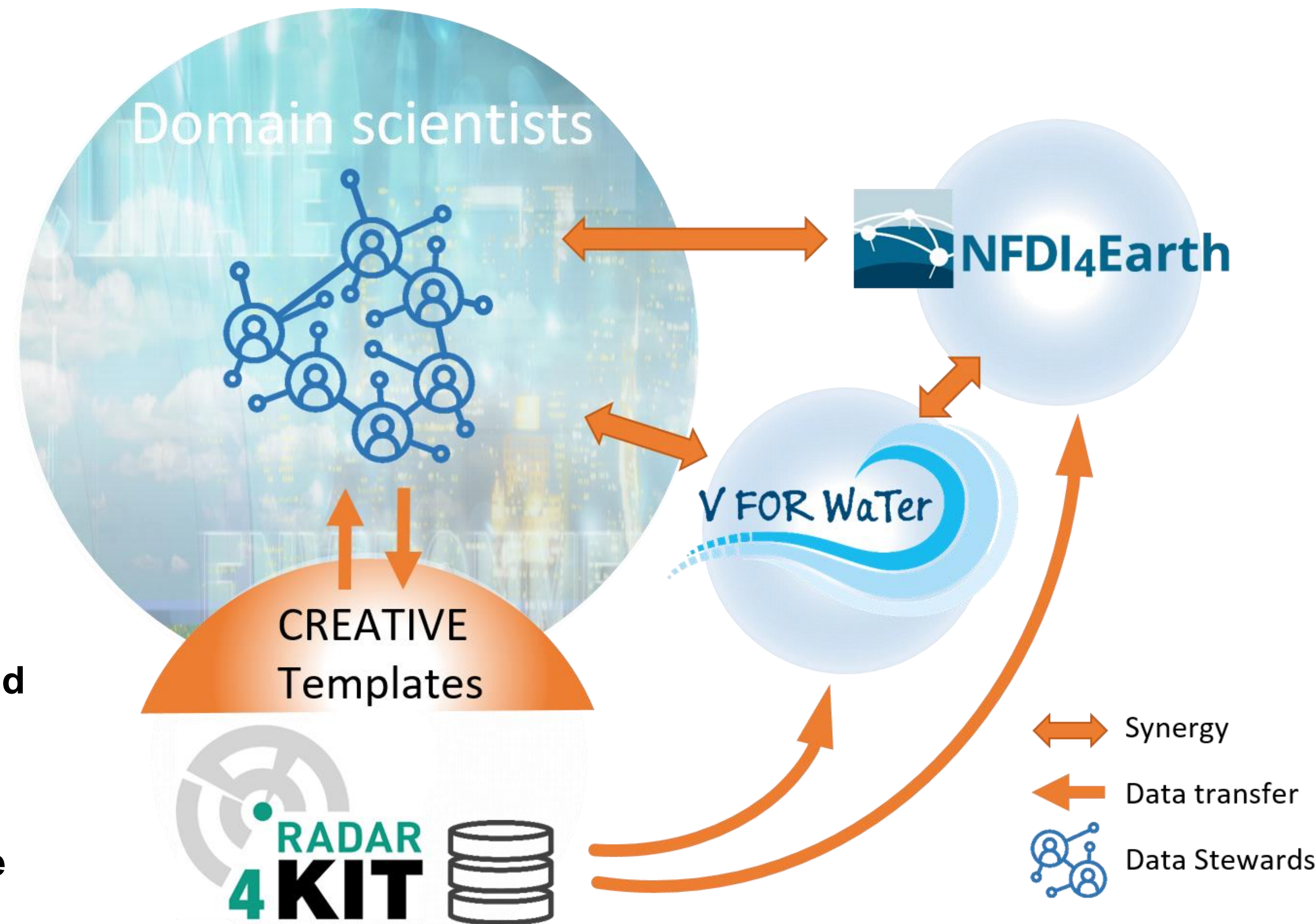
KIT CEC – domain scientists

The KIT Climate and Environment Center (CEC) develops basic and applied **knowledge on climate and environmental change**. On this basis, it develops concepts as well as nature-based and technological solutions for safeguarding the natural basis of life and shaping the living environment. It offers a **broad range of expertise** in the natural, technical, and social sciences with about **700 scientists from 30 institutes**.

RADAR4KIT

Generic research data **repository** at KIT:

- **Publication** and archiving of data packages
- **Web-based interface** to upload data and enter metadata
- Also possibility to **upload metadata** as .xml

Fig. 1: Metadata editor of RADAR4KIT, adaptations to accommodate specific metadata

Domain scientists

CREATIVE Templates

Synergy
Data transfer
Data Stewards

V-FOR-WaTer

Virtual research environment (VRE) for hydrologists & environmental scientists:

- Quick and simple **access** to hydrological data and tools
- Quick **pre-processing** of data from diverse data sources
- **Shared tools** and workspace for reproducible data <analysis
- Include **uncertainty** information of data
- Opportunity to easily publish data in established **data repositories**
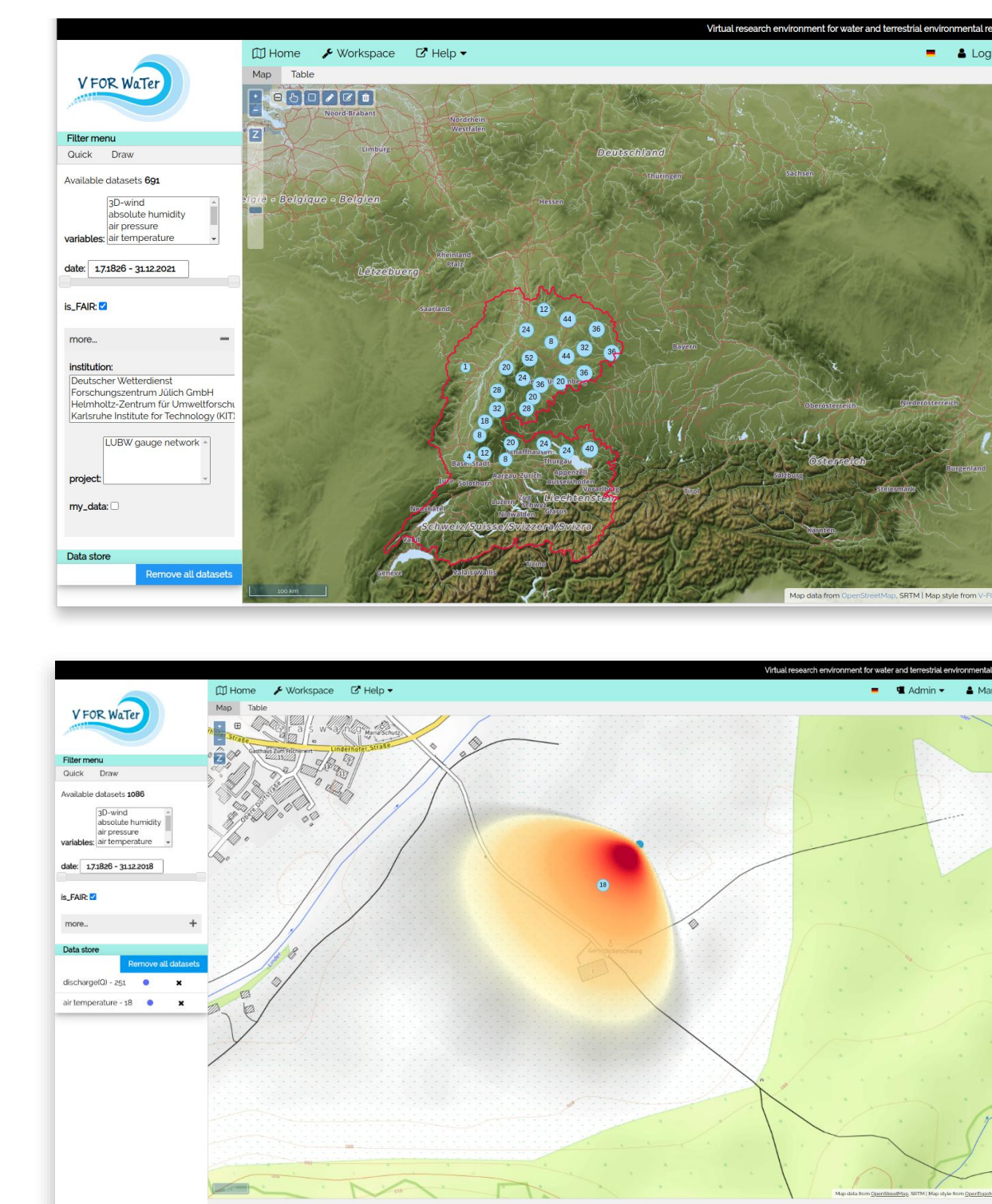
Fig. 2: Web portal with selection options and visualization of Eddy Covariance footprint

NFDI4Earth

NFDI4Earth is a community-driven process providing researchers with **FAIR, coherent, and open** access to all relevant Earth System Science data, to innovative research **data management and data science methods**.

- **OneStop4All:** the web-based key entry point for all NFDI4Earth contents and resources; developed to fit the needs of a wide range of users

CREATIVE – the Methods

Customising RADAR4KIT:

- Collaborate with RADAR to work on ontologies and interfaces
- Conduct interviews & workshops with institutes at KIT CEC: define metadata requirements, co-develop useful templates, test and feedback

Integration in VFW and N4E:

- Harmonise metadata standards and formats, compatible with the VFW metadata scheme
- Ideally interface with VFW for pre-processing of CEC data
- Make CEC data in RADAR4KIT available via the N4E OneStop4All

Data steward network at CEC:

- Foster cultural change towards more data publications and open data → support by CREATIVE team
- Encourage exchange between data stewards via workshops to create climate of mutual help and support