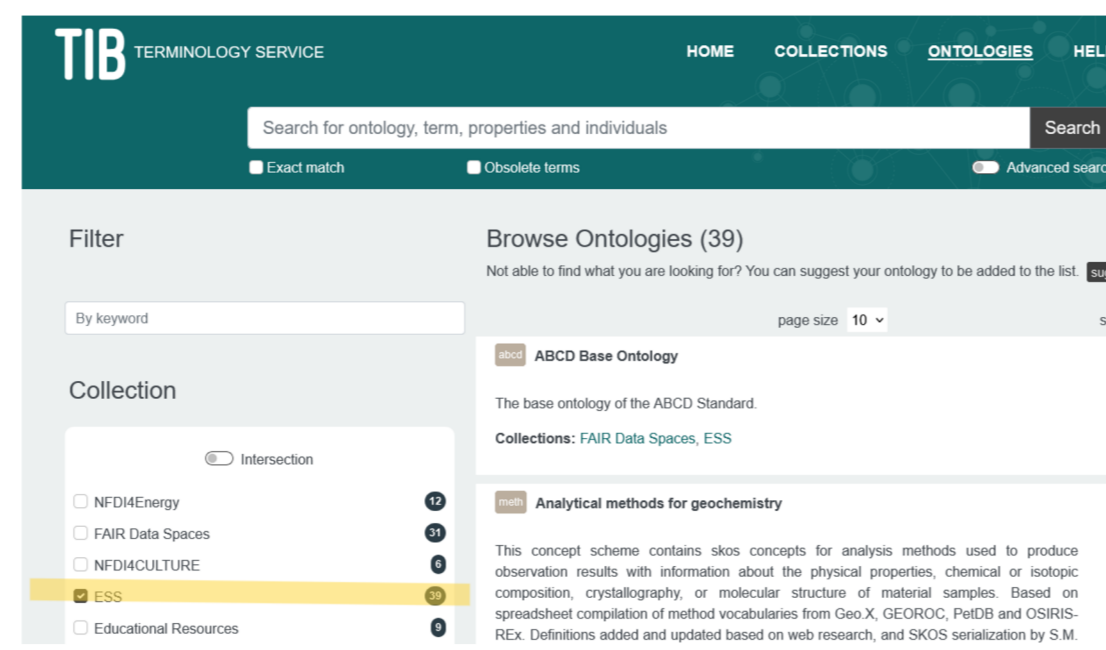# BITS – a Use Case for Terminologies in Earth System Sciences

BASIC SERVICE

Objectives

develop, test and implement a sustainable Terminology Service for Earth System Sciences

aims to address a major remaining obstacle to the application of FAIR principles in Earth System Science (ESS) by addressing the inadequate implementation of encoding semantics or, in other words, data interoperability of research data
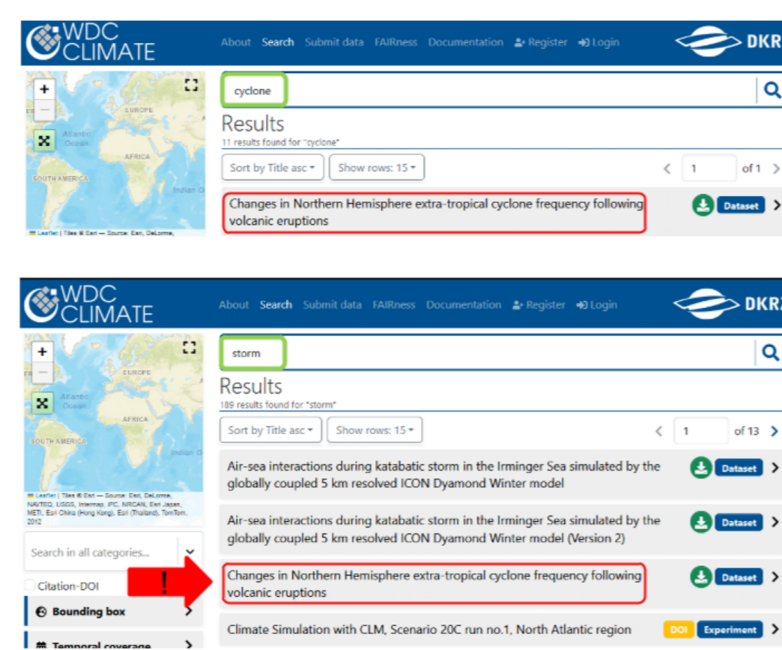

Status

39 Terminologies
14 Thesauri, 25 Ontologies
Newest
Climate and Forecast Standard Names
Analytical methods for geochemistry
(NFDI4Earth)

The use of terminologies may help to promote the FAIRness of digital data sets as information in research data and other academic results can be standardized in a machine-processable manner. The BITS Project is building a Terminology Service (TS) for Earth System Sciences (ESS) that uses the existing TS of the TIB. This ESS TS will be integrated into the WDCC data repositories of the German Climate Computing Center and the geodiversity collections of the Senckenberg Society for Nature Research. The knowledge gained here will serve to create blueprints for connecting further Earth system science repositories to the TS.
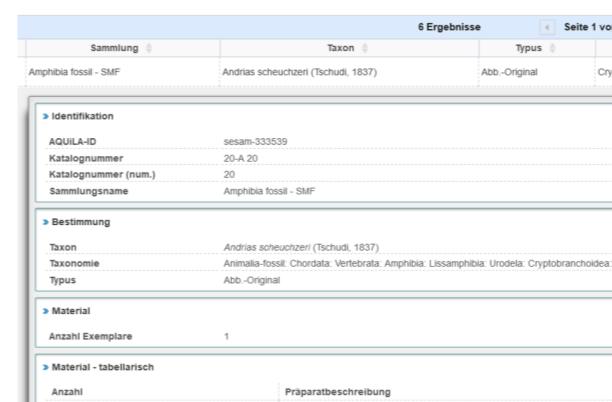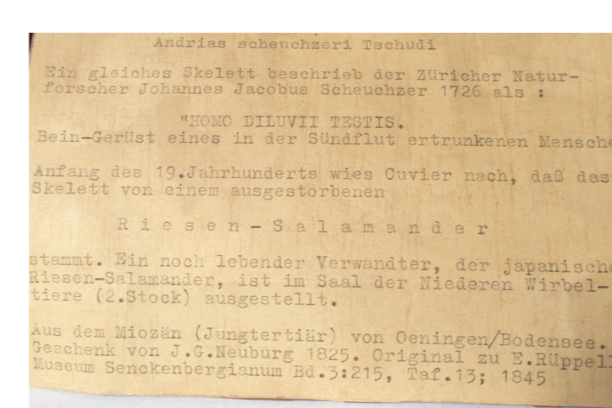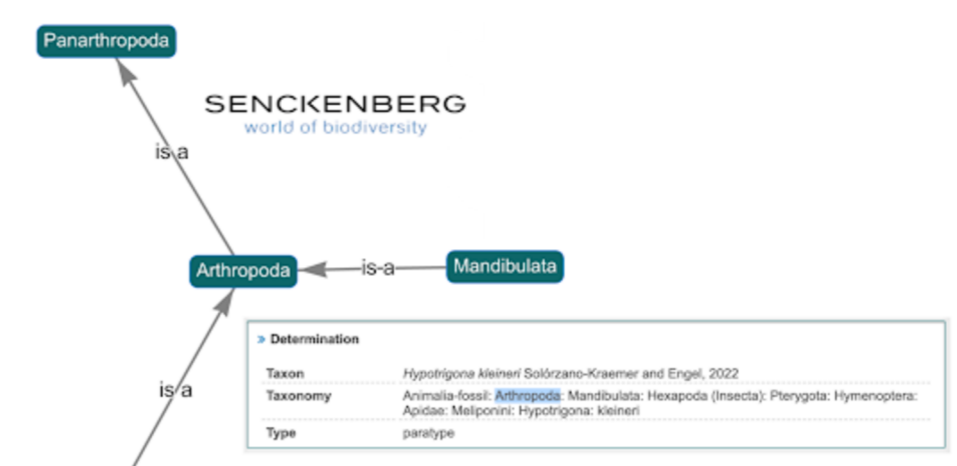
IMPLEMENTATION

DKRZ

Improving interdisciplinary search e.g. by enhancing search terms using the ESS Terminology Service

- WDCC = World Data Center for Climate, international data repository and archive for comprehensive climate data
- https://www.wdc-climate.de/ui/
- climate model output as well as observational data
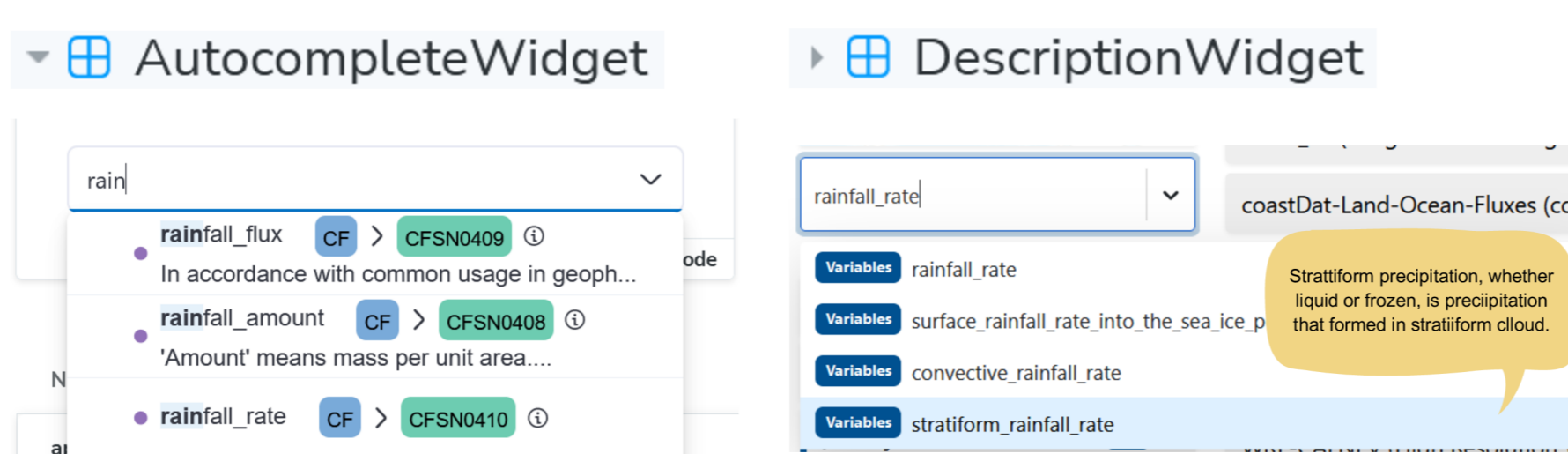- homogenous but large data

SGN

From plain text to FAIR metadata via automated annotation using the ESS Terminoloy Service

- Institution with 11 facilities and over 40 Million exhibition and research items
- very heterogeneous data and data infrastructures
- common database: https://search.senckenberg.de
- currently 1.521.698 objects in 124 collections

INTEGRATION

Reusing already existing Widgets offered by TS4NFDI for Search GUI

Supporting the ESS Community with adequat semantic artifacts
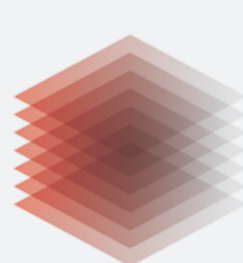
IG FAIRESST - FAIR ESS Terminologies

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