Contribution ID: **80** Contribution code: **1-22** Type: **Poster**

ALAMEDA –A scalable multi-domain metadata management platform

Modern Earth sciences produce a continuous increasing amount of data. These data consist of the measurements/observations and descriptive information (metadata) and include semantic classifications (semantics). Depending on the geoscientific parameter, metadata are stored in a variety of different databases, standards and semantics, which is obstructive for interoperability in terms of limited data access and exchange, searchability and comparability. Examples of common data types with very different structure and metadata needs are maps, geochemical data derived from field samples, or time series data measured with a sensor at a point, such as precipitation or soil moisture. So far, there is a large gap between the capabilities of databases to capture metadata and their practical use. ALAMEDA is designed as modular structured metadata management platform for curation, compilation, administration, visualization, storage and sharing of meta information of lab-, field- and modelling datasets. As a pilot application for stable isotope and soil moisture data ALAMEDA will enable to search, access and compare meta information across organization-, system- and domain boundaries. ALAMEDA covers 5 major categories: observation & measurements, sample & data history, sensor & devices, methods & processing, environmental characteristics (spatio & temporal). These categories are hierarchically structured, interlinkable and filled with specific metadata attributes (e.g. name, data, location, methods for sample preparation, measuring and data processing, etc.). For the pilot, all meta information will be provided by existing and wellestablished data management tools (e.g. mDIS, Medusa, etc.). In ALAMEDA, all information is brought together and will be available via web interfaces. Furthermore, the project focuses on features such as metadata curation with intuitive graphical user interfaces, the adoption of well-established standards, the use of domain-controlled vocabularies and the provision of interfaces for a standards-based dissemination of aggregated information. Finally, ALAMEDA should be integrated into the DataHub (Hub-Terra).

Please assign your poster to one of the following keywords.

Tools

In addition please add keywords.

Metadata, reusability, availability

Please assign yourself (presenting author) to one of the stakeholders.

Scientist/ Data Producer

Please specify ”other” (stakeholder)

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Session Classification: Postersession II

Track Classification: Postersession