Contribution ID: **145** Type: **INTERACTION**

4. Workshop - EOC EO Products Service - Accessing and utilising geodata with STAC-API: Efficient access, intelligent search and seamless processing

Wednesday 6 November 2024 10:00 (1 hour)

To make the data accessible to a broad public, we offer a STAC-based catalog service in addition to the established download and visualization services. It helps finding and accessing data more dynamically and efficiently. As a data and service provider, we are able to make our valuable data and products available to a wide audience without complex infrastructure or inefficient data transfer. Users can access data simultaneously without having to download entire data sets, thus avoiding longer computing times and saving storage capacity.
The STAC catalog contains into several specifications. The STAC API provides a RESTful endpoint that enables search of STAC Items, specified in OpenAPI, following OGC's WFS 3. The STAC Catalog is a simple, flexible JSON file of links that provides a structure to organize and browse STAC Items. The collection is an extension of the STAC Catalog including additional information such as the extents, license, keywords or providers, that describe STAC Items that fall within the Collection. The STAC Item, which represent a single spatio-temporal asset as a GeoJSON feature plus datetime and links as a central unit. In addition, further attributes can be defined in the properties for each item.
To fetch the available collections and items, the connection to the STAC API endpoint is required. This can be done via a STAC browser or by using a Jupyter notebook. Using various Python libraries (e.g. pystac), a query can be started and data can be loaded into a xarray-dataset (data cube). The data is made available to the users so that they can visualize the data or analyze it further with the right tool.
In the following interaction we present tutorials for our STAC catalog. We show how to efficiently access the catalog and its available content. In addition, examples of various geoscientific analyses are shown to demonstrate the various possibilities of accessing and processing geodata using the STAC catalog.

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Session Classification: Interactive session