

Discovery and Access of data in EOC Geoservice using STAC

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The management of spatial data is facing ever greater challenges. In addition to the high number of data and products, technical aspects such as data size and efficient workflows play an increasingly important role for data users and providers. In addition, open access using FAIR principles is also becoming increasingly important in the field of research data management. Data should be made easier to find, accessible, more interoperable, and reusable. To meet the needs of users, we provide various services at the EOC to share the diversity of satellite data and products. In addition, our goal is to provide a platform for scientists to present their data in a modern way.

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 dynamic and efficient. As a 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 is divided 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 user so that he can visualize the data or analyze it further with the right tool.

Please assign your contribution to one of the following topics

Technological solutions for findable and machine-readable metadata

Please specify "other" (stakeholder)

In addition please add keywords.

geospatial data, stac, fair, geoservice, eoc

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

Data professionals who provide and maintain data infrastructure

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