Geostreams Data Framework

The Geostreams Data Framework provides data management capabilities and web application interfaces for the management and visualization of geostreaming data.

To maximize flexibility in supporting heterogeneous data sources, the framework includes four components:

1. a geostreams web service API to store and serve the normalized data
2. a geodashboard web application providing web interfaces to visualize, interact and retrieve the data
3. data parsing software libraries written in Python to normalize the data from different data sources into one common schema
4. Clowder, a web based data management system to store, curate and analyze raw files and associated metadata.

The four components interact to provide pre-processing, cleaning, and visualization of geospatial earth science time series data such as water health data. The raw data from various sources are ingested into the geo-temporal web service API using a variety of data parsers. The parsers organize raw data into an information model composed of three main entities: sensors, streams, and datapoints. The geo-temporal API web service provides methods to query the ingested data by different software clients, including the geodashboard web application.

Projects currently using and developing the software:

- Great Lakes Monitoring
  - https://greatlakesmonitoring.org/
  - Wiki
- Great Lakes to Gulf Virtual Observatory
  - https://greatlakestogulf.org/
  - Wiki
- Intensively Managed Landscapes Critical Zone Observatory
  - http://data.imlczo.org/geodashboard/
  - Wiki
- TERRA-REF
  - http://terraref.org/

Source code:

- https://github.com/geostreams

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image-2023-11-15_17-26-29.png attached Nov 15, 2023



Luigi Marini
Geostreams Data Framework updated Apr 26, 2021 view change
Geostreams Data Framework updated Apr 26, 2021



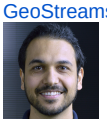
Marcus Slavenas
Python Parsers updated Feb 11, 2021 view change



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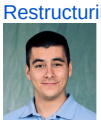
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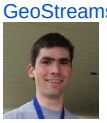
Luigi Marini
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Restructuring and splitting geodashboard created Dec 14, 2020



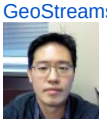
Diego Calderon
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Aaron Hoyle-Katz
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GeoStreams Tech Weekly Update updated Dec 03, 2020 view change



Jong Lee
Geostreams Data Framework updated Nov 30, 2020 view change



Aaraj Habib
Setting up a new project [WIP] updated Oct 29, 2020 view change
docker-compose.yml attached Oct 15, 2020