Geostreaming Data Framework

The Geostreaming 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 geo-temporal 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://opensource.ncsa.illinois.edu/bitbucket/projects/GEOD

Task management:

- https://opensource.ncsa.illinois.edu/jira/projects/GEOD/issues

Recently Updated

Marcus Slavenas
  GLTG System Structure updated Jun 12, 2020 • view change
  Endpoints with Issues updated Feb 10, 2020 • view change

Jong Lee
  Using the Geostreams API updated Feb 06, 2020 • view change
  Using Geostreams API with Python updated Feb 06, 2020 • view change

Marcus Slavenas
  Using the Geostreams API updated Feb 05, 2020 • view change
  Using the Geostreams API commented Feb 05, 2020

Jong Lee
  Using the Geostreams API commented Feb 05, 2020

Marcus Slavenas
  geostreams_jupyter.ipynb attached Feb 03, 2020

Jong Lee
  Resources for documenting v3 API created Jan 14, 2020

Luigi Marini
  Developers updated Dec 19, 2019 • view change

Kaveh Karimi Asli
  Geostreaming Data Framework updated Sep 30, 2019 • view change

Michelle Pitcel
  Release Protocol V3 updated Sep 19, 2019 • view change

Kaveh Karimi Asli
  Setting Up Geotemporal API V3 updated Sep 11, 2019 • view change

Marcus Slavenas
  Binning created Aug 21, 2019
  Deploy Geodashboard-V3 updated Mar 18, 2019 • view change