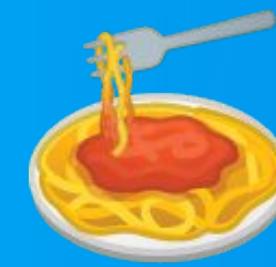


Serve vector Tiles

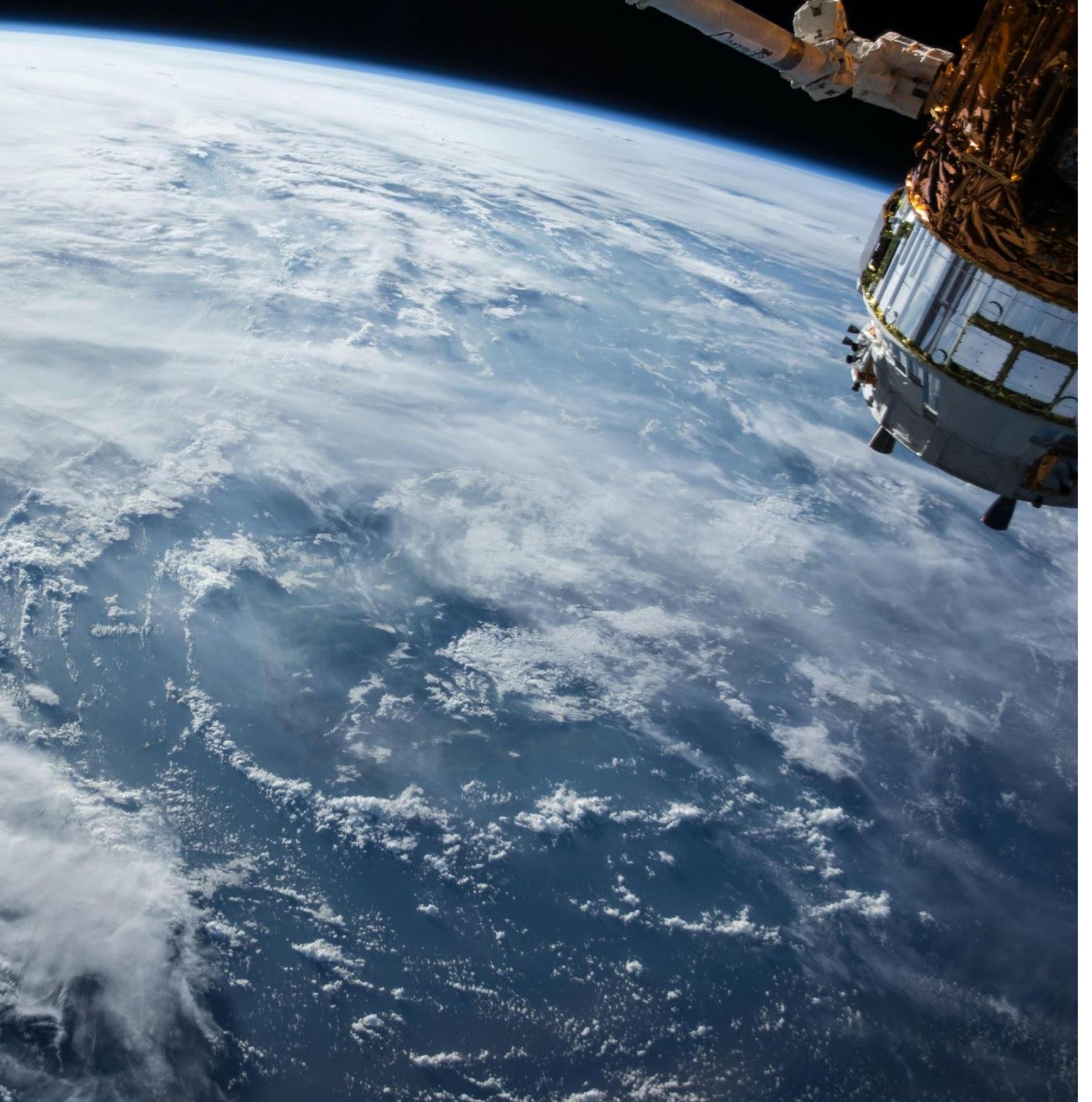
with OGC API Tiles



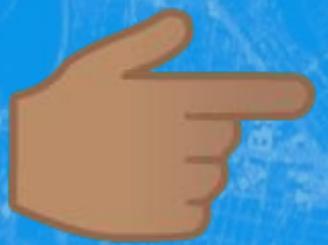
10th May, 2022

Agenda

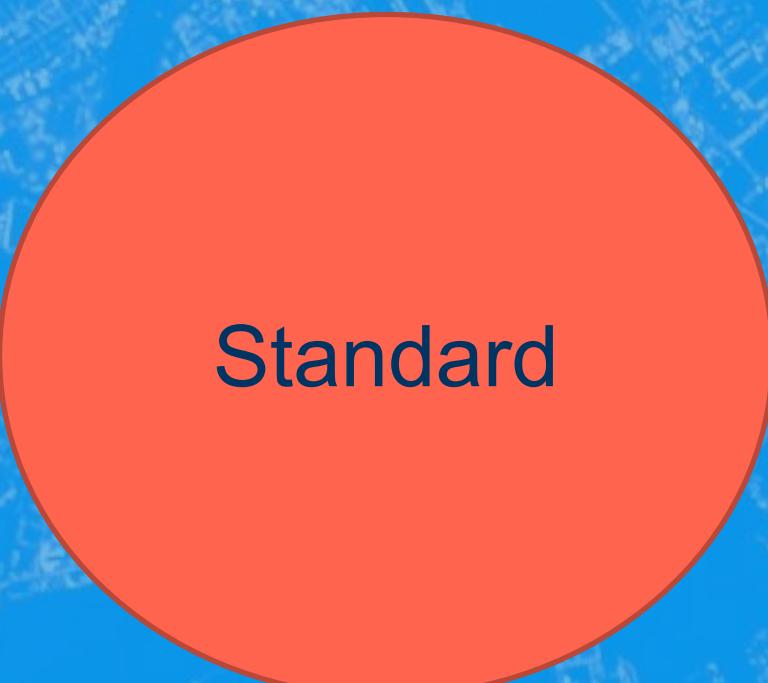
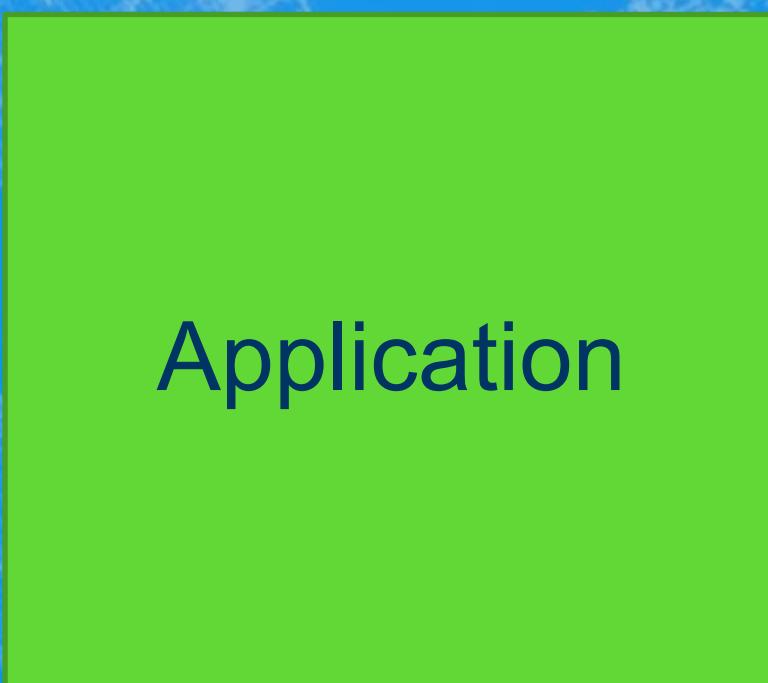
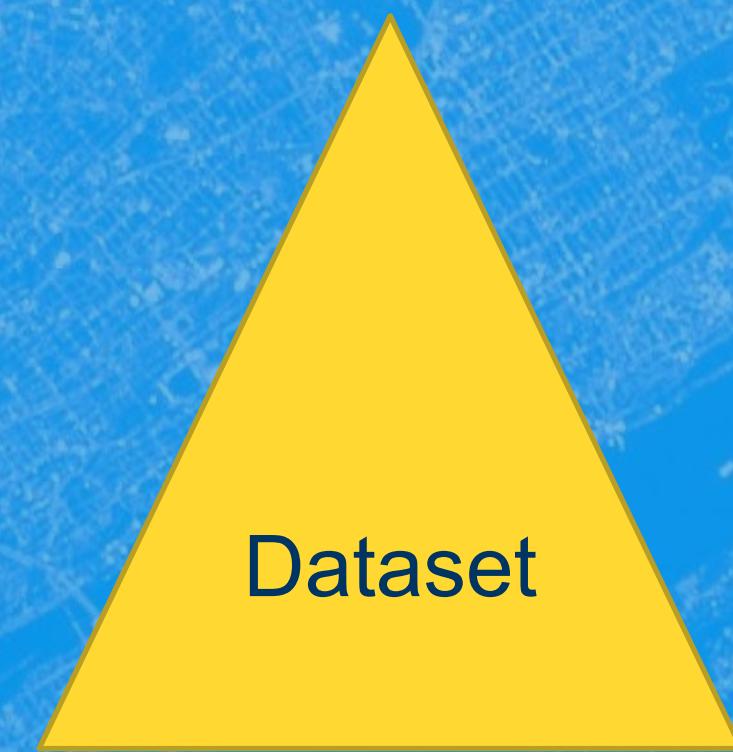
- Introduction
- OGC API Tiles
- Prepare dataset
- Launch System
- Test/explore API



Goal



Serve vector tiles, so that others (or ourselves) can access it through the web.



Dataset

Local shops and products in the city of
Barcelona.



<https://www.sawcer.com/>

Example

```
1  {
2      _id: ObjectId('618ba81086ba7ccd05b9e384'),
3      type: 'Feature',
4      properties: {
5          field_1: 8,
6          'Shop name': 'Amiette Gluten Free Bakery',
7          Products: 'Bread rolls multigrain,Gluten free bread,Gluten free croissant,Gluten free donut',
8          'Shop GPS': '41.3779474,2.157073500000024',
9          Address: 'Carrer de Calàbria, 65, 08015 Barcelona',
10         CP: 8015,
11         Country: 'Spain',
12         Telephone: '972 18 32 57',
13         Website: 'http://www.amiette.com/',
14         'Shop description': 'Amiette les ofrece sus panes y otros dulces libres de gluten elaborados con recetas sencillas y deliciosa',
15         'Shop description using hashtags #': 'Glutenfree,Bakery,Sweets,Bread,Cakes,CakeShop',
16         'Email address': 'info@amiette.com',
17         'Opening times': 'L-V 8.30-14.00, 16.00-20.00, S 8.30-14.00',
18         'Map block': 'eyJpIjoINDEuMzc3OTQ3NCwyLjE1NzA3MzUwMDAwMDAyNCIsIm8iOnsic3RhdHVzIjoiT0siLCJsYXQiOjQxLjM3Nzk0NywibG5nIjoyLj
19         Notes: null,
20         lat: 41.3779474,
21         lon: 2.1570735
22     },
23     geometry: {
24         type: 'Point',
25         coordinates: [
26             2.157073500000024,
27             41.3779474
28         ]
29     }
30 }
```

(candidate) Standard

OGC API Tiles

Provides tiles of geospatial information:

- Modular
- RESTfull
- Recommended encodings (e.g.: GeoJSON, HTML).
- Use of OpenAPI

IN WORK

<https://github.com/opengeospatial/ogcapi-tiles>

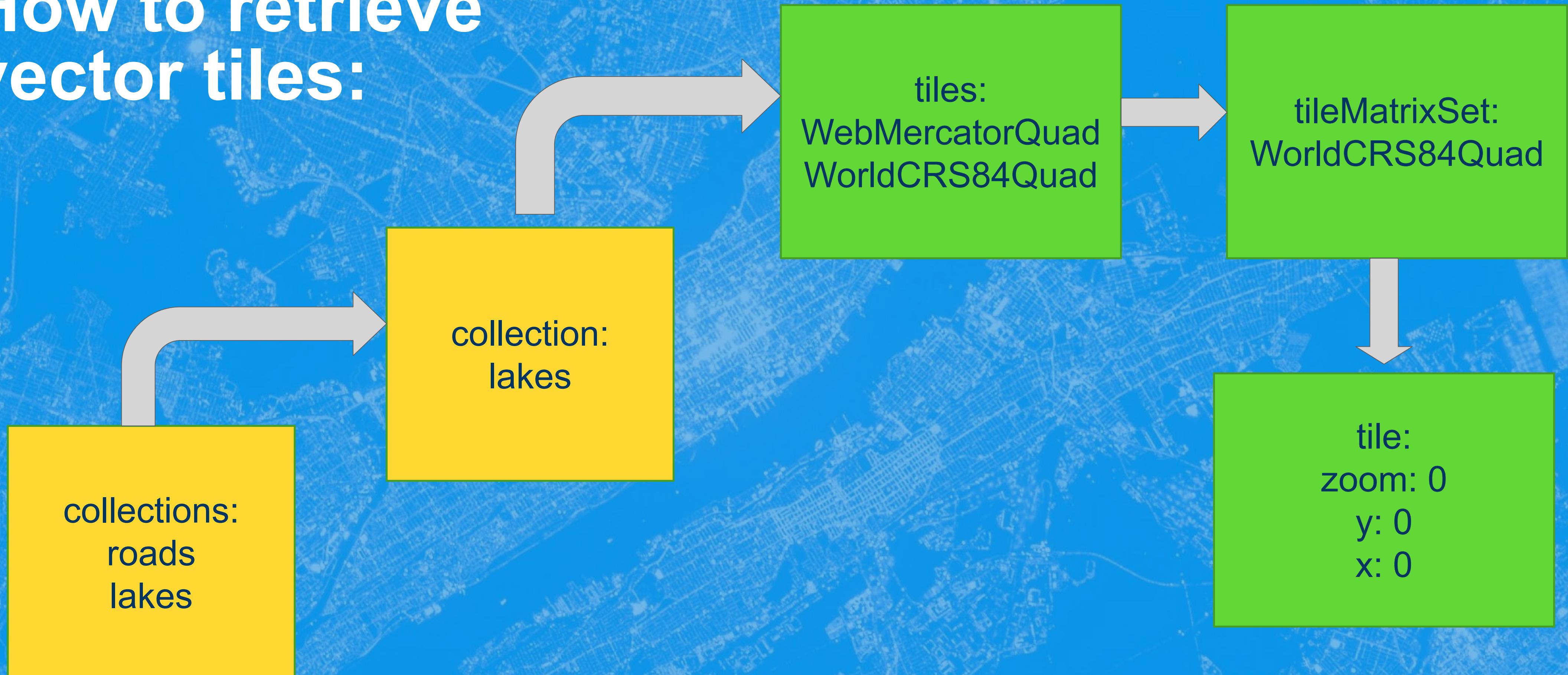
Tile

Different tiles of geospatial information are supported:

- Vector (e.g.: mvt)
- Map (e.g.: EO imagery)
- Coverage (e.g.: data cubes)

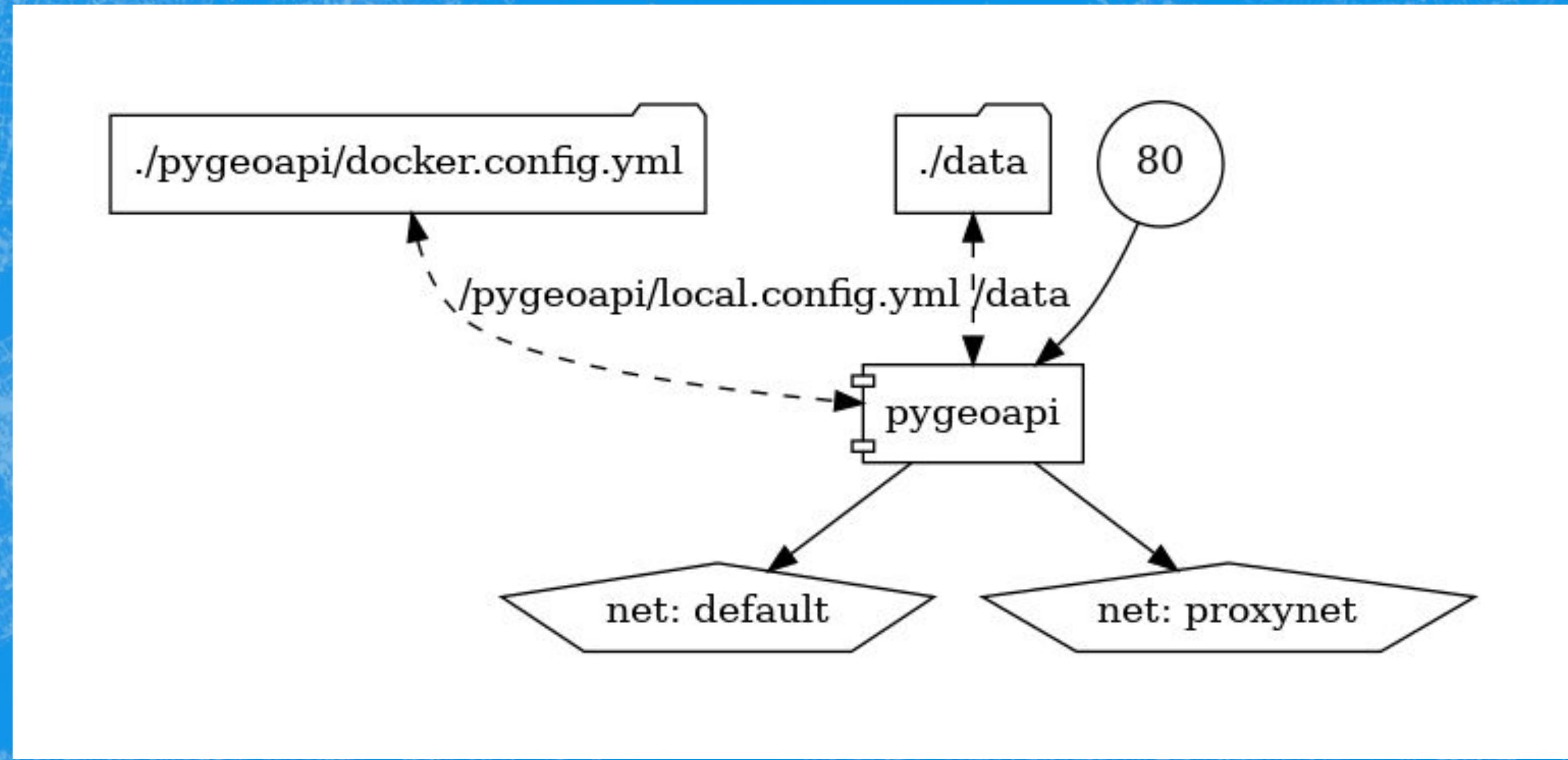
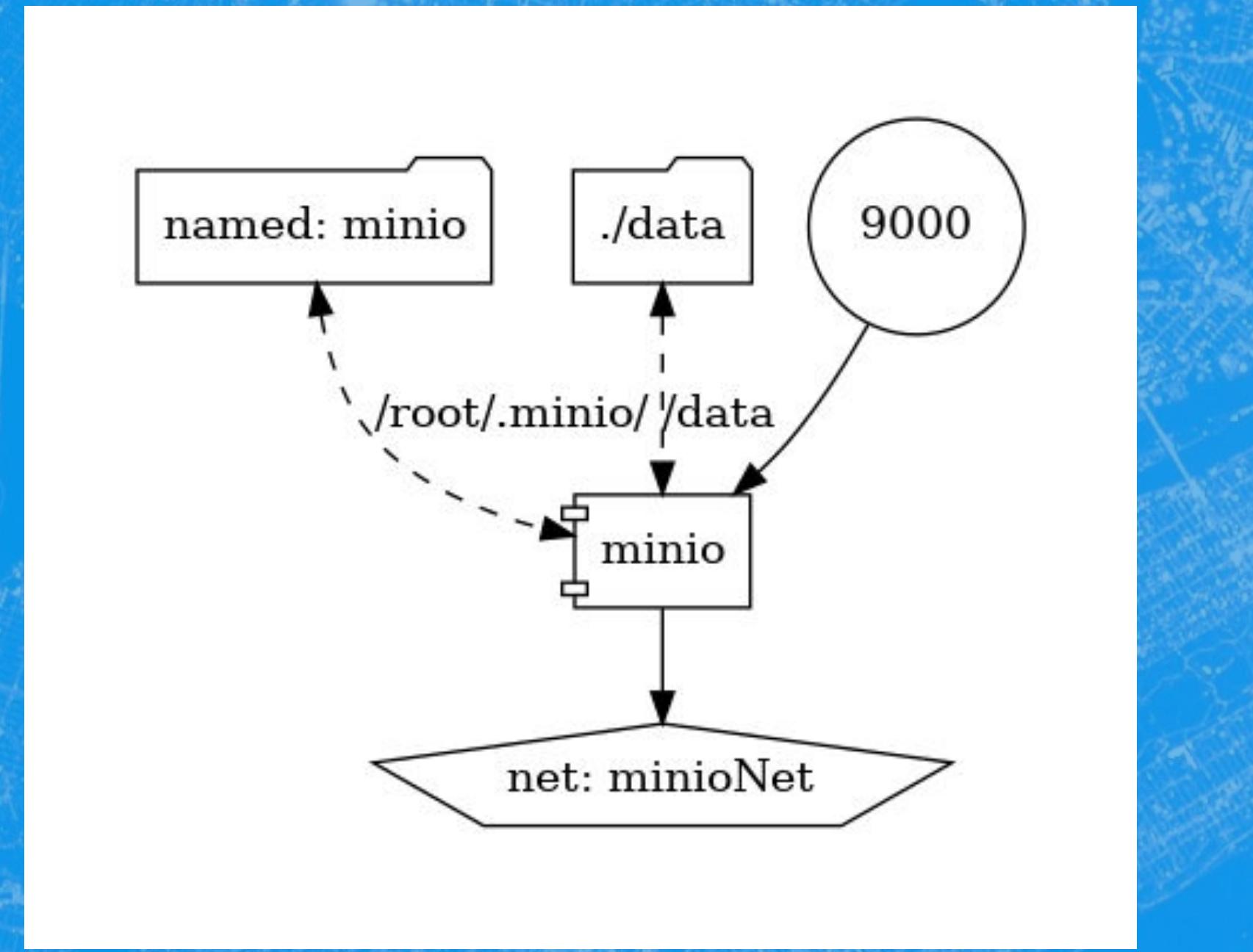


How to retrieve vector tiles:

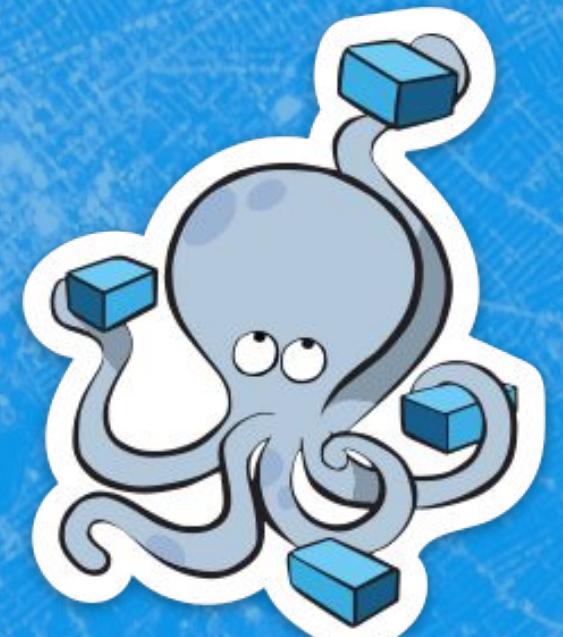


<http://localhost/collections/lakes/tiles/WorldCRS84Quad/0/0/0.pbf>

Application Stack

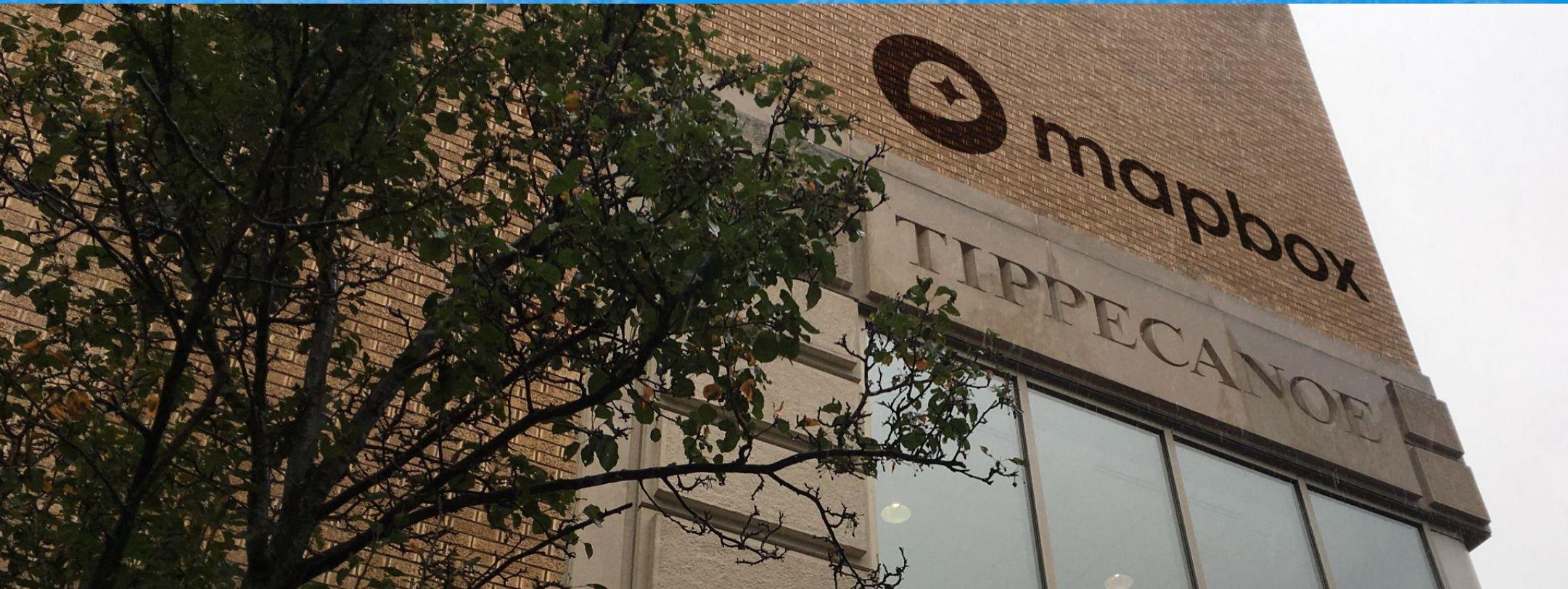


pygeoapi



tippecanoe

- Builds vector tilesets from large (or small) collections of GeoJSON, Geobuf, or CSV features.
- FOSS (BSD).



<https://github.com/mapbox/tippecanoe>



- High Performance Object Storage.
- FOSS (GNU Affero GPL v3).
- API compatible with AWS S3.

<https://min.io/>

<https://github.com/minio/minio>



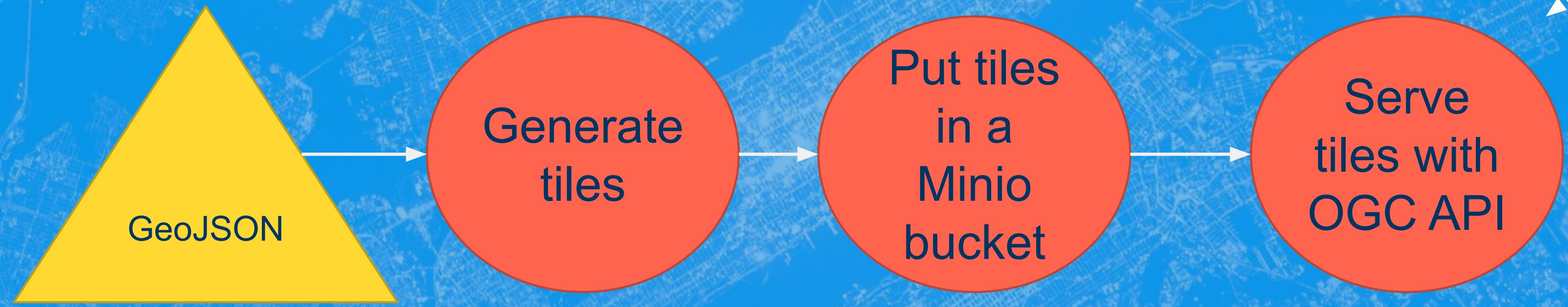
pygeoapi

- Python server implementation of the OGC API suite of standards.
- FOSS (MIT).
- Certified OGC compliant.

<https://pygeoapi.io/>

<https://github.com/geopython/pygeoapi>

Workflow ➤



Clients

References

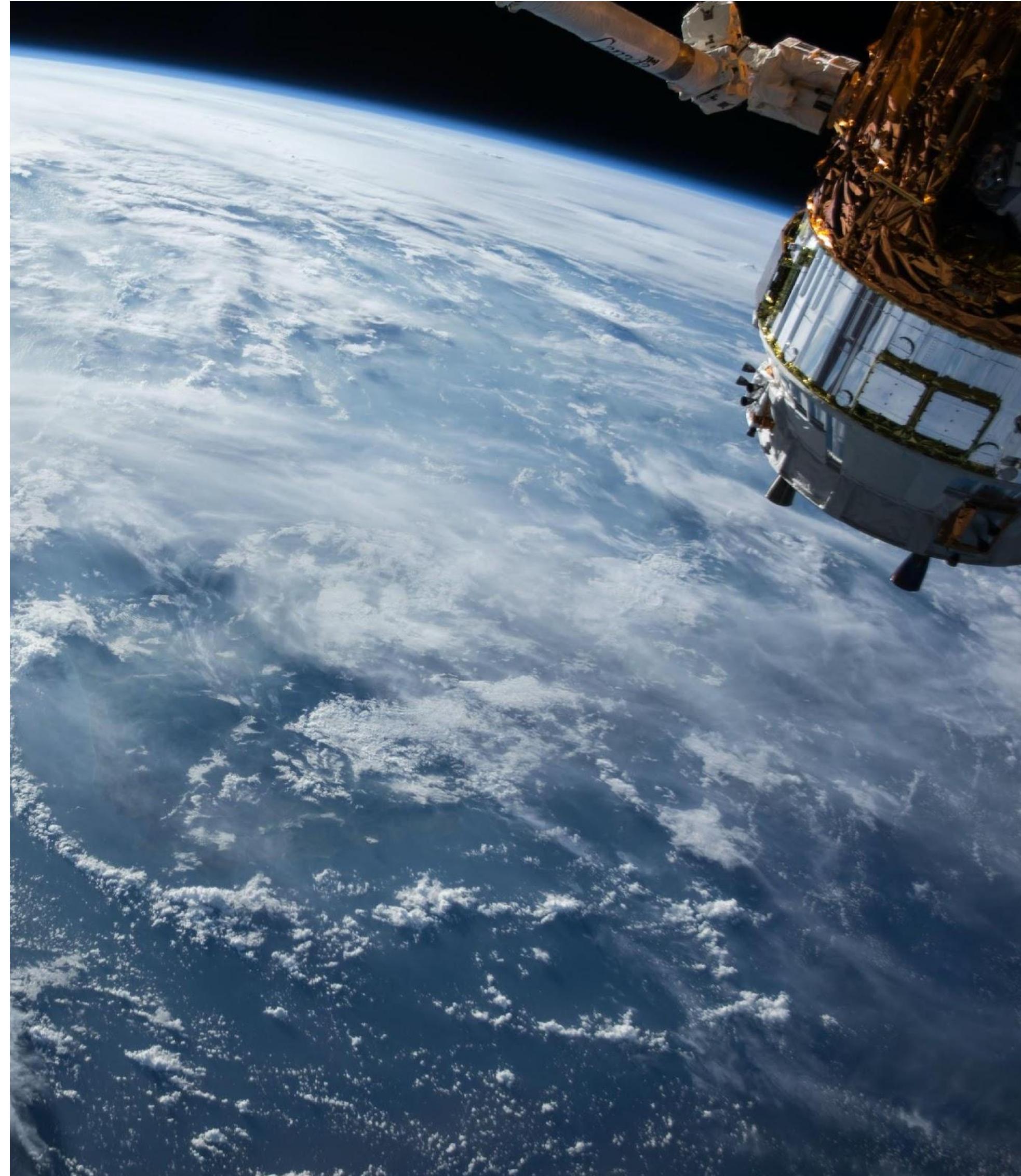
pygeoapi Practical Sessions OGC Developer Track March
2021: <https://tinyurl.com/vector-tiles>

PR which adds support for OGC API Tiles in OL:

<https://github.com/openlayers/openlayers/pull/10963>

Enhancement issue to update pygeoapi to the latest version
of OAT:

<https://github.com/geopython/pygeoapi/issues/699>



Thank You

Community

500+ International Members
110+ Member Meetings
60+ Alliance and Liaison partners
50+ Standards Working Groups
45+ Domain Working Groups
25+ Years of Not for Profit Work
10+ Regional and Country Forums

Innovation

120+ Innovation Initiatives
380+ Technical reports
Quarterly Tech Trends monitoring

Standards

65+ Adopted Standards
300+ products with 1000+ certified implementations
1,700,000+ Operational Data Sets
Using OGC Standards

