ACTRIS EARLINET: Data Portal and API

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IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
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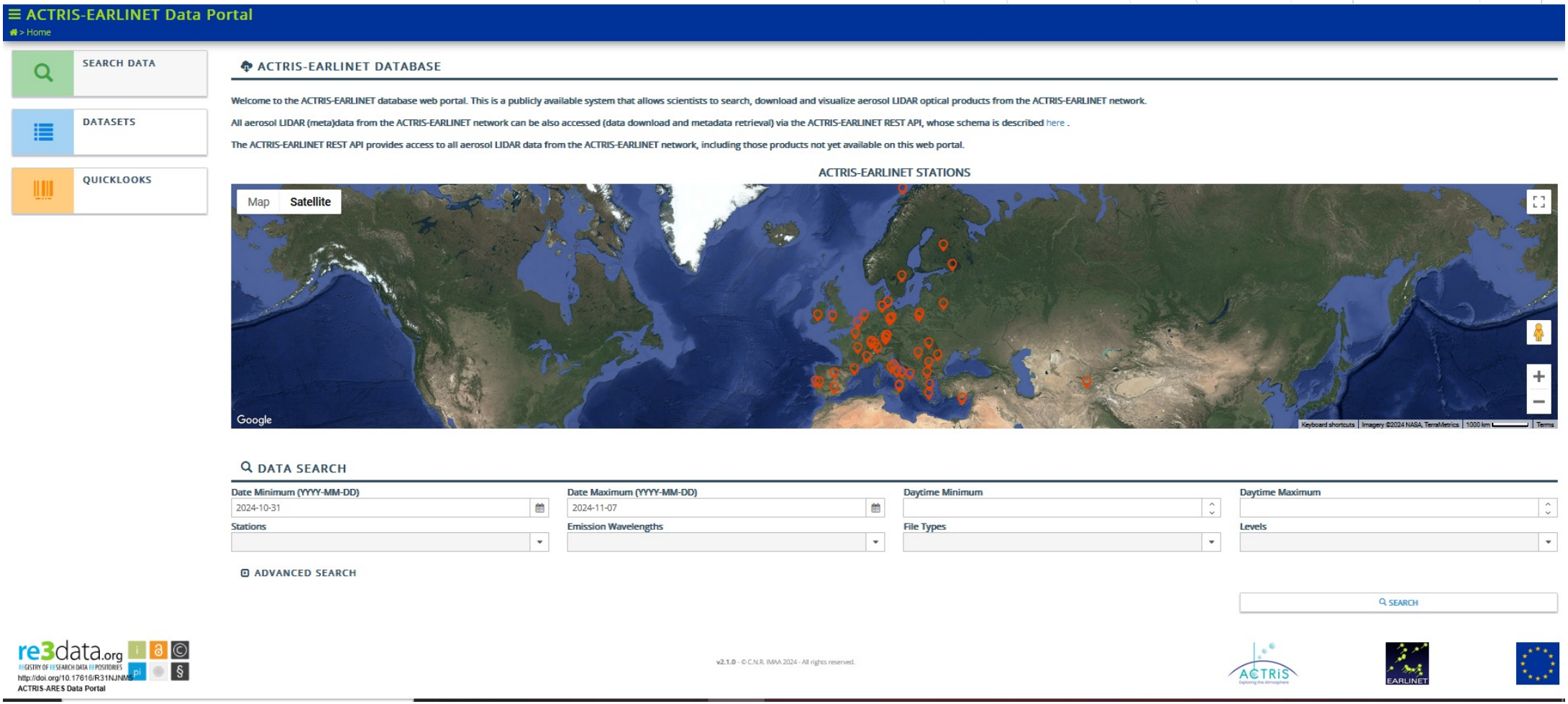
Agenda

- ACTRIS – EARLINET Data Portal
- ACTRIS – EARLINET API

ACTRIS – EARLINET Data Portal

https://data.earlinet.org/



ACTRIS – EARLINET Data Portal

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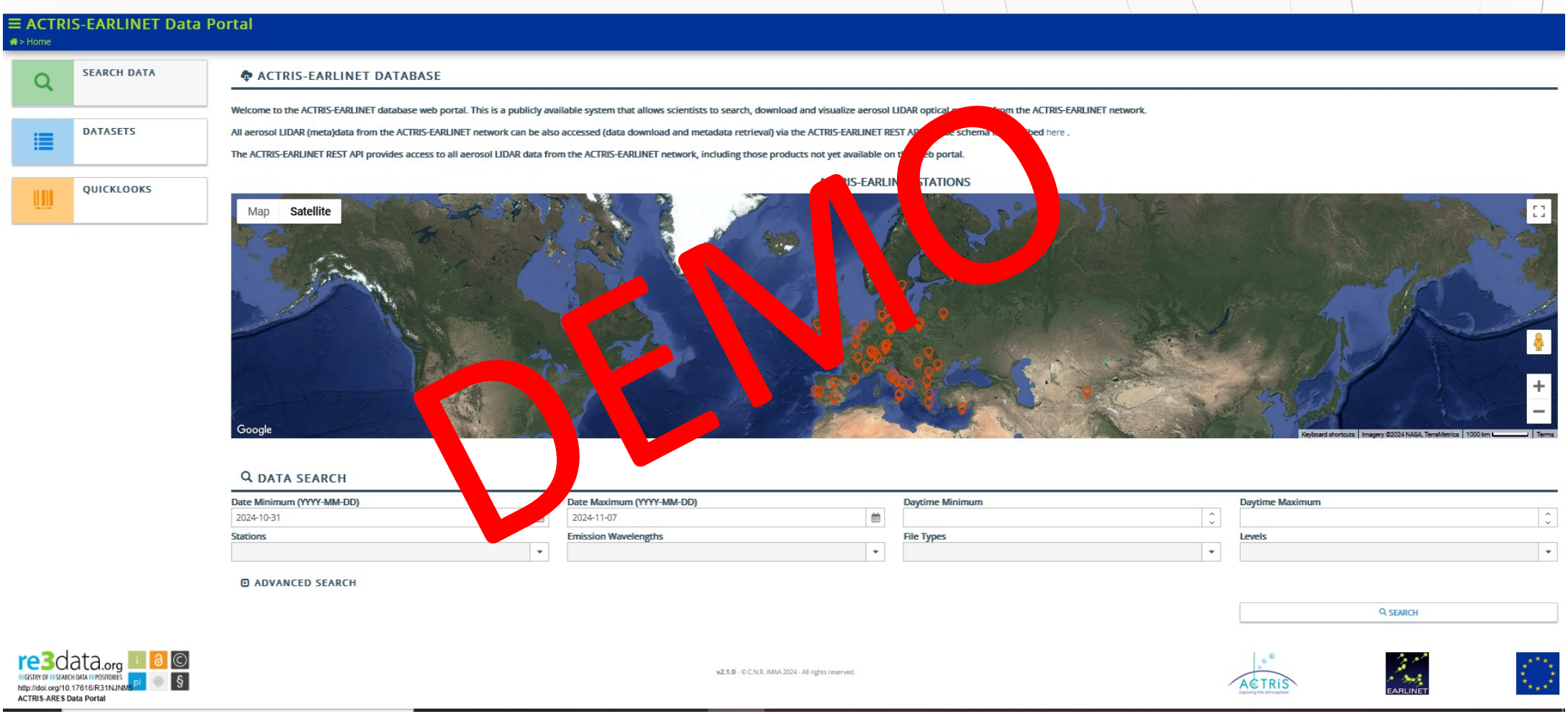


ACTRIS – EARLINET REST API

Schema: https://data.earlinet.org/api/services/restapi?_wadl

```
    </method>
  </resource>
- <resource path="products/downloads">
  - <method name="GET">
    - <request>
      - <param name="kind" style="query" repeating="true" type="xs:string">
          <option value="cloudmask"/>
          <option value="eldec"/>
          <option value="elic"/>
          <option value="elpp"/>
          <option value="hirelpp"/>
          <option value="optical"/>
          <option value="garrlic"/>
        </param>
        <param name="fromDate" style="query" type="xs:string"/>
        <param name="toDate" style="query" type="xs:string"/>
        <param name="stations" style="query" type="xs:string"/>
        <param name="measurementId" style="query" type="xs:string"/>
      </request>
    - <response>
        <representation mediaType="application/octet-stream"/>
      </response>
    </method>
  </resource>
+ <resource path="products/downloadsGarrlic"></resource>
```

ACTRIS – EARLINET REST API

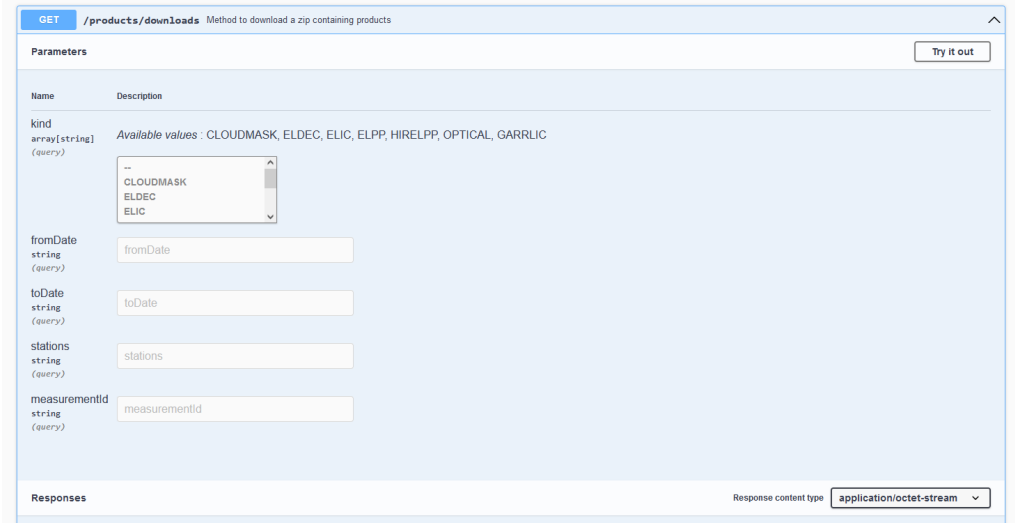
Some info (1/2)

- No authentication required

- Swagger UI: https://data.earlinet.org/api/swagger-ui/#/

Some info (2/2)

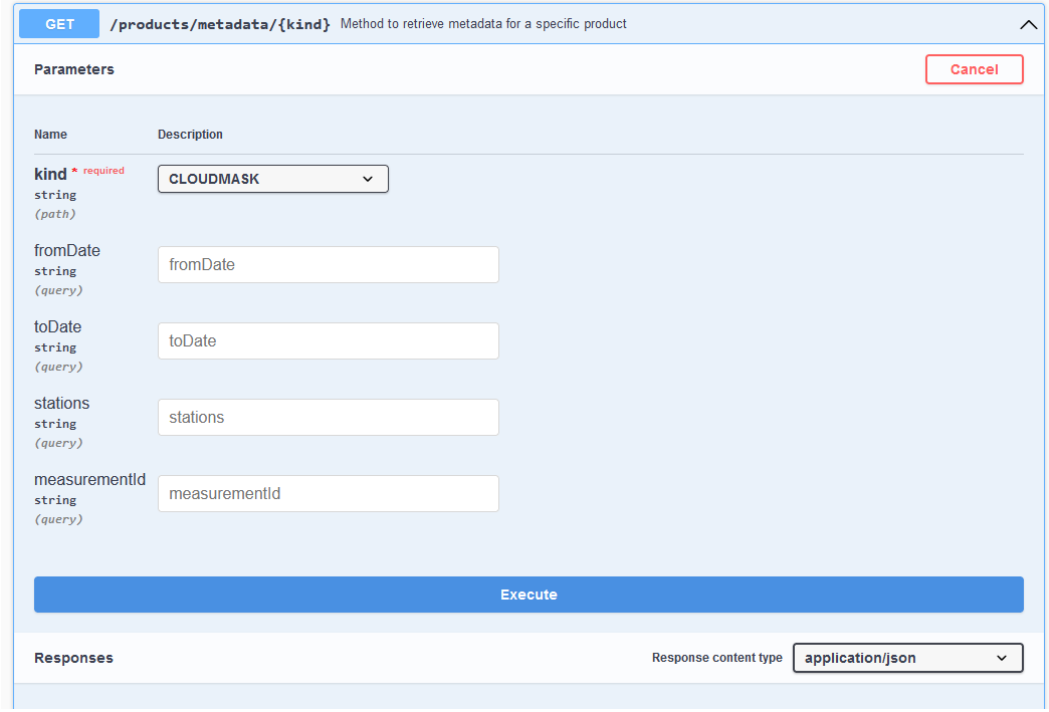
- Access to all aerosol LIDAR (meta)data, including those products not yet available on the ARES Data Portal and via the ACTRIS Metadata Catalogue
  - data download
  - metadata retrieval



ACTRIS – EARLINET REST API

Learn to use it! (1/2)

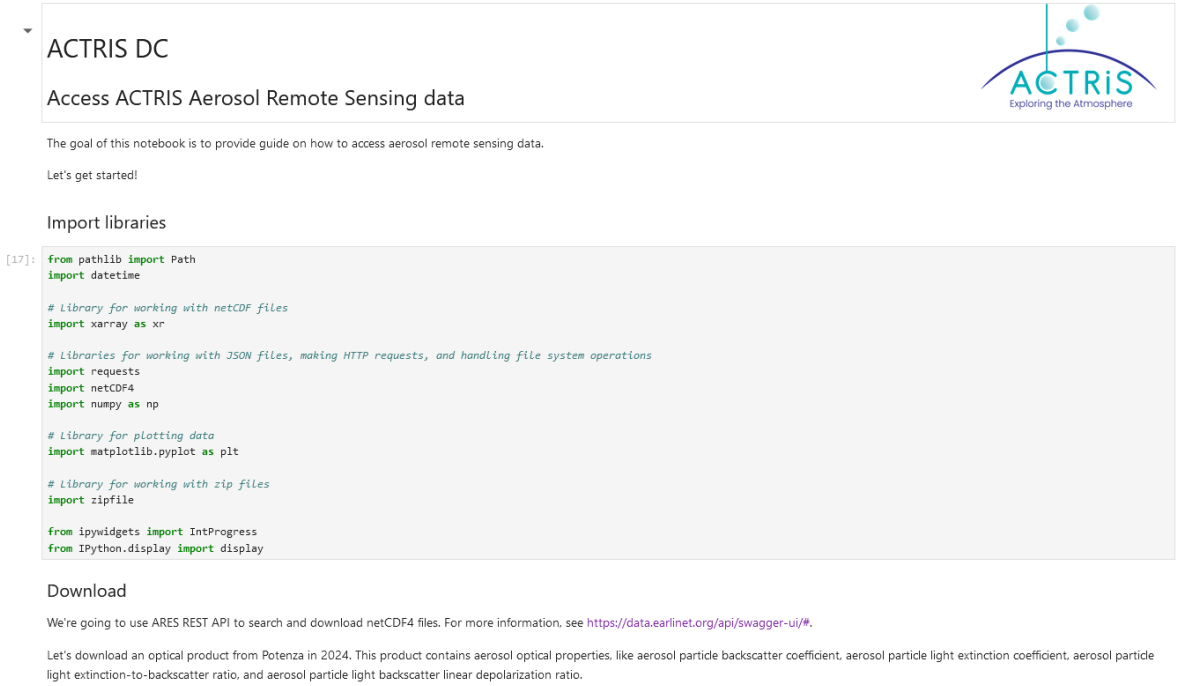
- Practice with the Swagger UI



ACTRIS – EARLINET REST API

Learn to use it! (2/2)

- Practice with the ACTRIS VRE



ACTRIS DC

Access ACTRIS Aerosol Remote Sensing data

The goal of this notebook is to provide guide on how to access aerosol remote sensing data.

Let's get started!

Import libraries

[17]:

```
from pathlib import Path
import datetime

# Library for working with netCDF files
import xarray as xr

# Libraries for working with JSON files, making HTTP requests, and handling file system operations
import requests
import netCDF4
import numpy as np

# Library for plotting data
import matplotlib.pyplot as plt

# Library for working with zip files
import zipfile

from ipywidgets import IntProgress
from IPython.display import display
```

Download

We're going to use ARES REST API to search and download netCDF4 files. For more information, see https://data.earlinet.org/api/swagger-ui/#.

Let's download an optical product from Potenza in 2024. This product contains aerosol optical properties, like aerosol particle backscatter coefficient, aerosol particle light extinction coefficient, aerosol particle light extinction-to-backscatter ratio, and aerosol particle light backscatter linear depolarization ratio.

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THANKS!

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