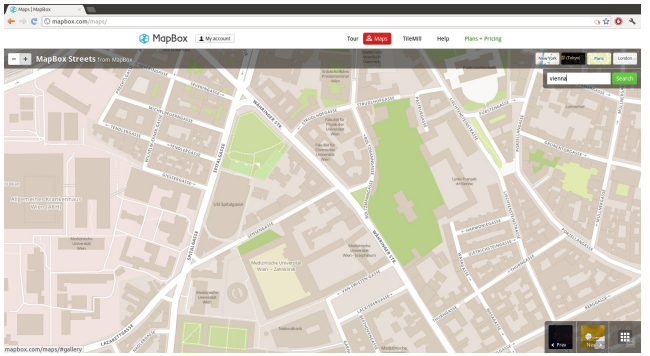
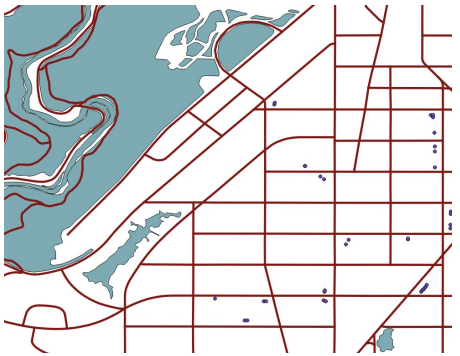
EOxServer
Accessing Large Archives of Earth Observation Data Online

- Earth Observation & Standards
- EOxServer
- Web Mapping

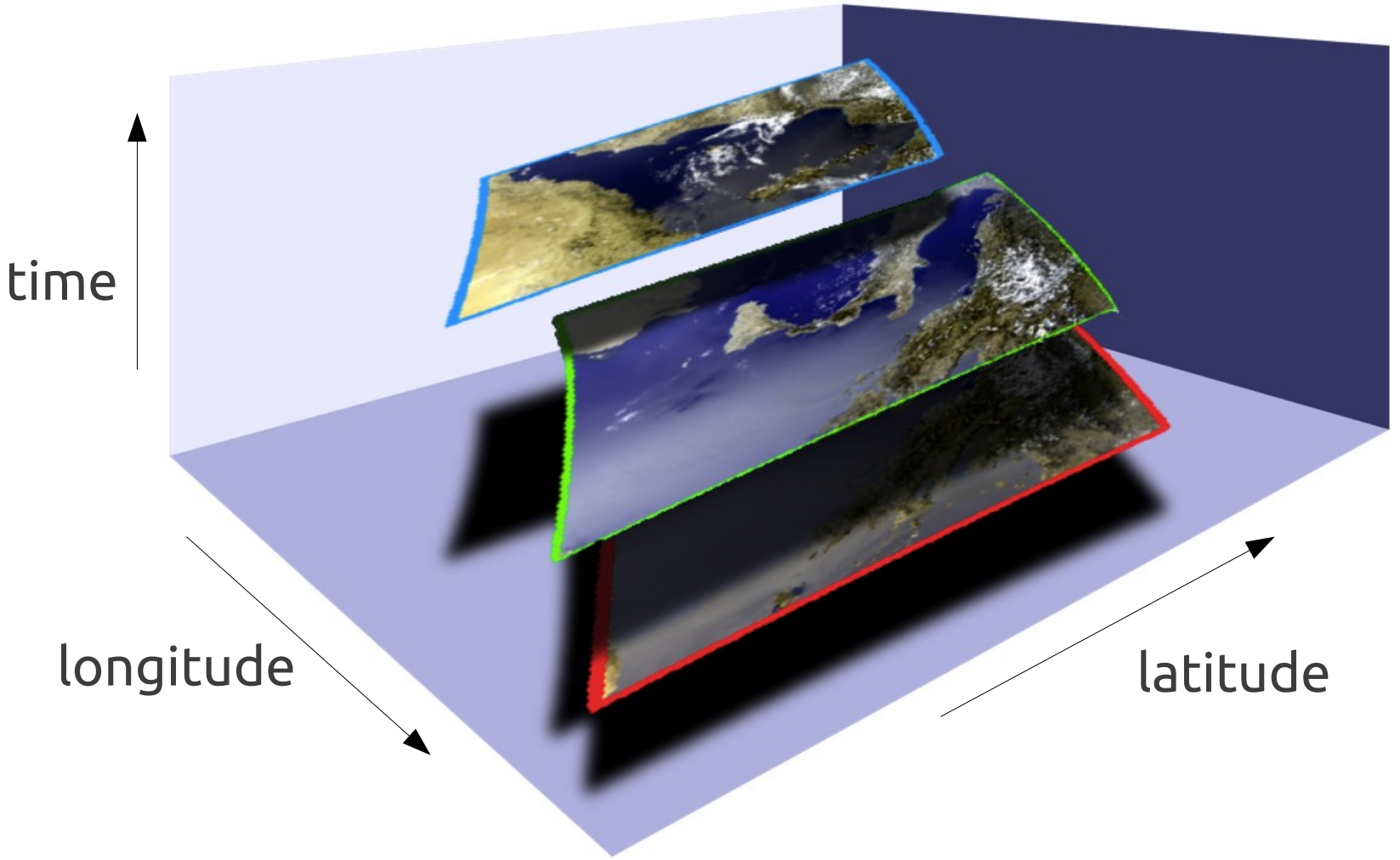
OGC Standards



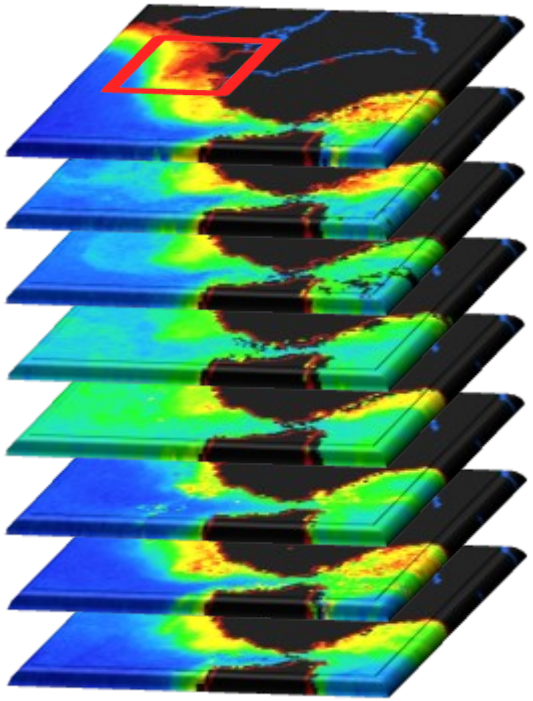
- WMS
- WFS
- WCS
- EO Application Profile



Identification of EO data

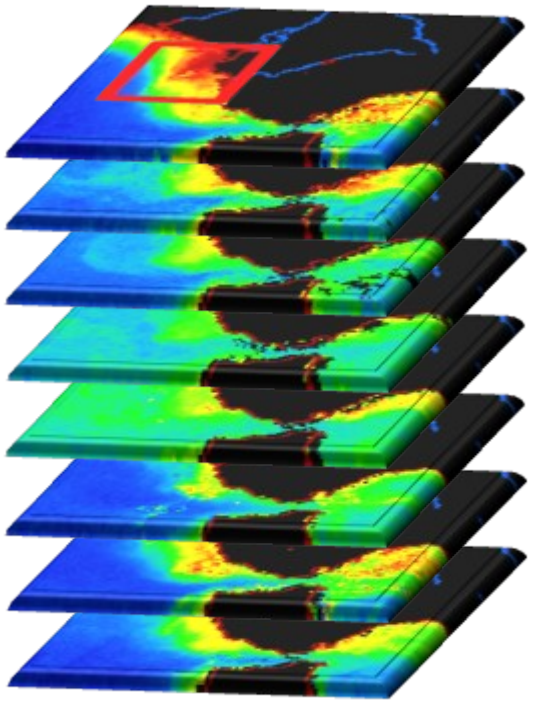


„Traditional“ approach



- Catalog Service:
  - Area of Interest/Time of Interest (AOI/TOI) → List of files
- Per image:
  - FTP download
  - Waiting …
  - Crop
  - „Throw away“ the rest

EO-WCS improvements



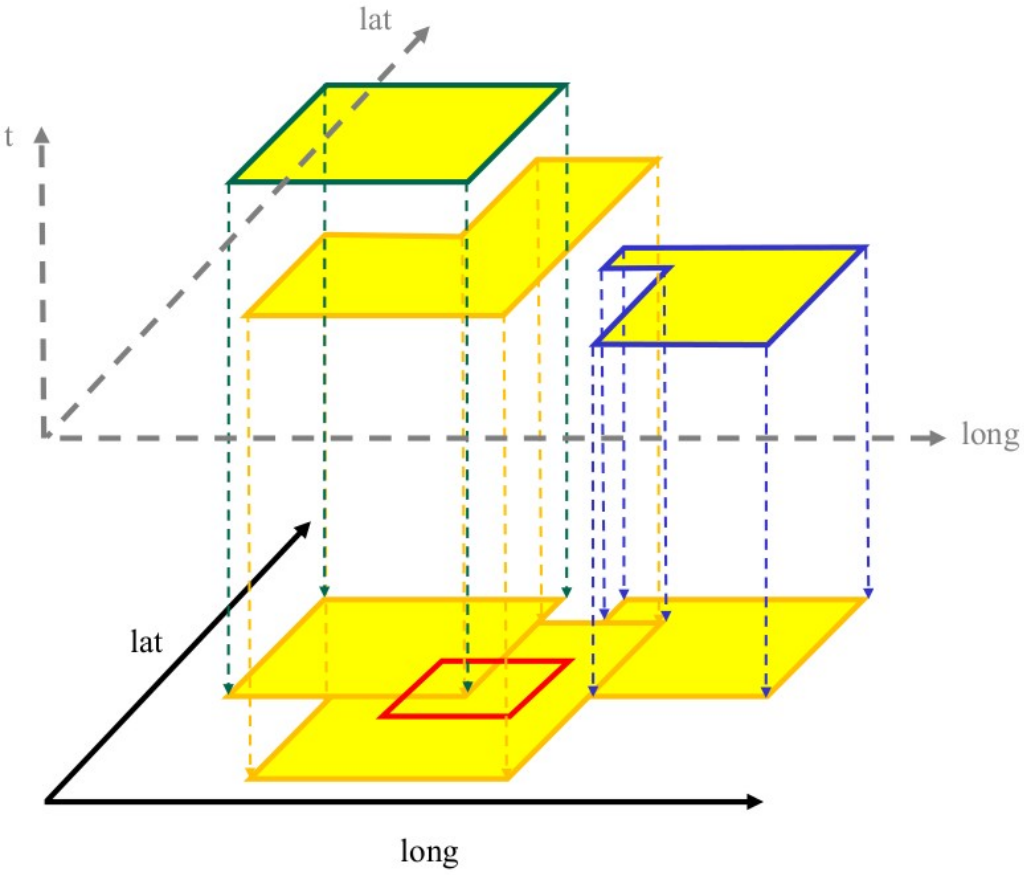
- GetCapabilities
  - List of available coverages
- DescribeEOCoverageSet
  - AOI/TOI → List of IDs
- per ID
  - GetCoverage with customized:
    - Area of interest
    - Time of interest
    - Format

EO-WCS

- RectifiedGridCoverage
- ReferenceableGridCoverage

- Stitched Mosaic
- Dataset Series

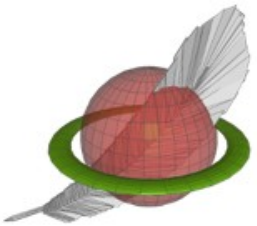
- DescribeEOCoverageSet



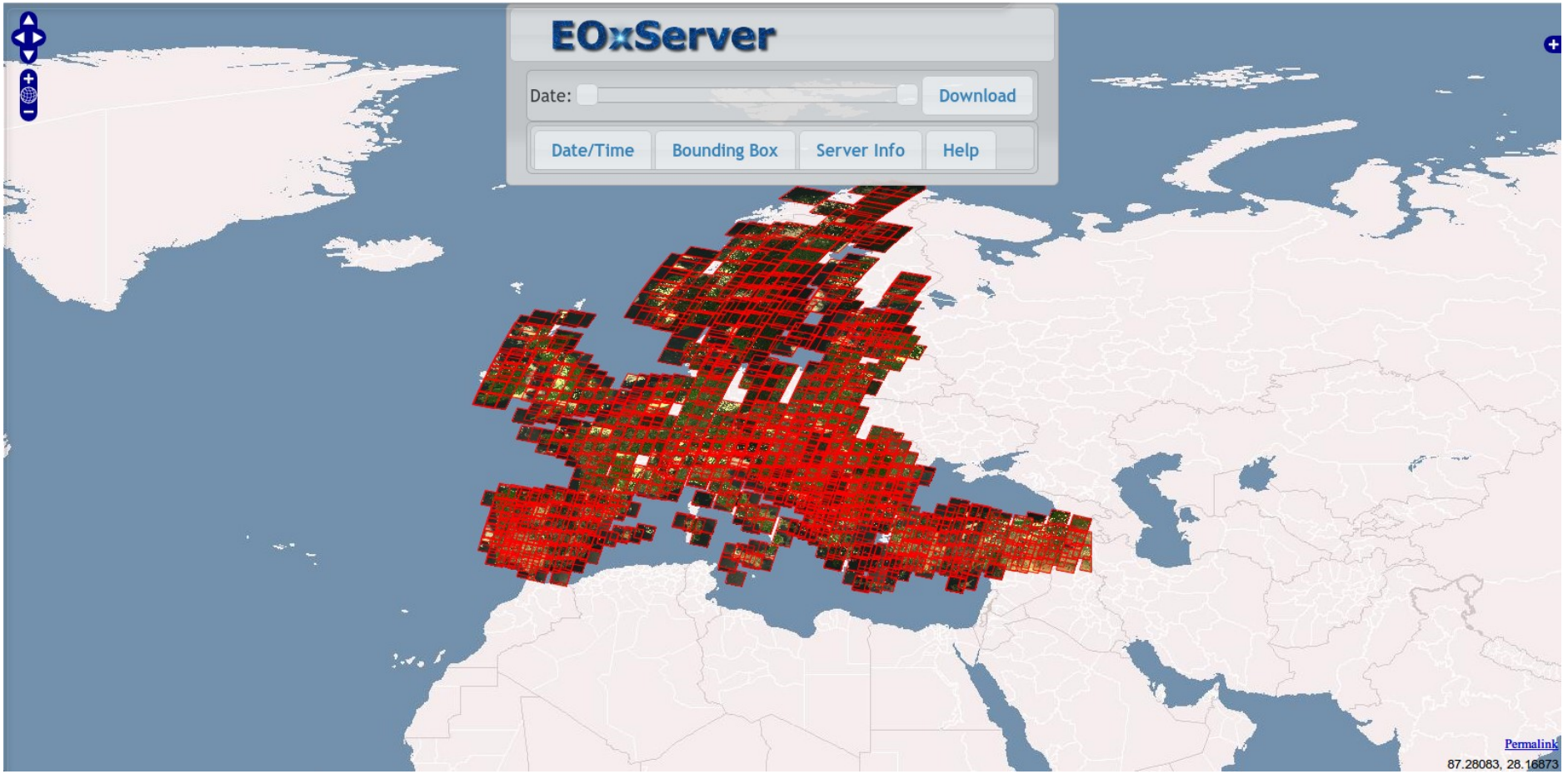
EOxServer

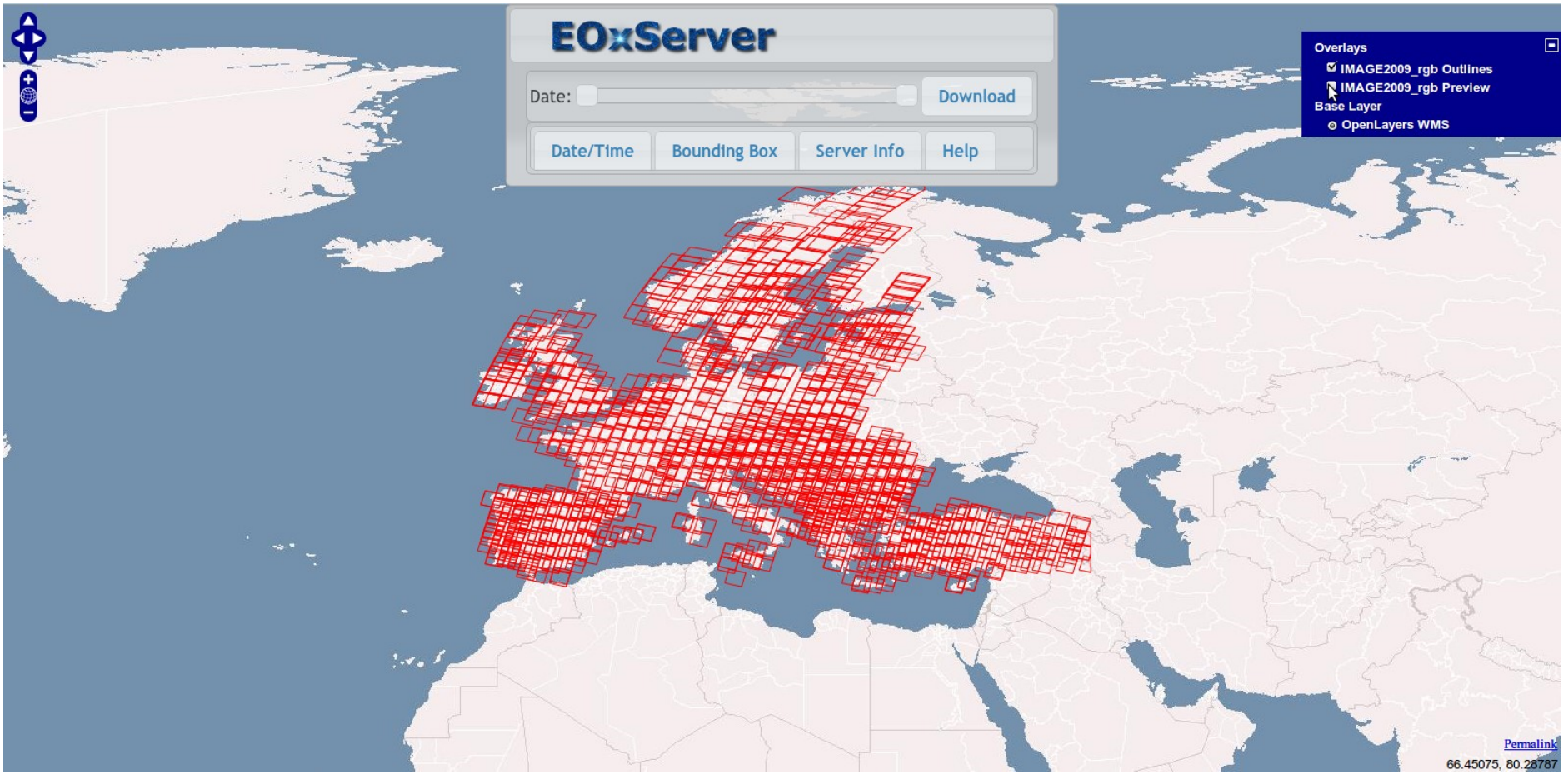
EOxServer Open Source Stack

http://eoxserver.org



Web Mapping?


EOxServer
Date:
Download
Date/Time
Bounding Box
Server Info
Help
Permalink
87.28083, 28.16873


EOxServer
Date:
Download
Date/Time
Bounding Box
Server Info
Help
Overlays
IMAGE2009_rgb Outlines
IMAGE2009_rgb Preview
Base Layer
OpenLayers WMS
Permalink
66.45075, 80.28787

EOxServer
Date:
Download
Date/Time
Bounding Box
Server Info
Help
Overlays
IMAGE2009_rgb Outlines
IMAGE2009_rgb Preview
Base Layer
OpenLayers WMS
Permalink
66.97809, 81.86990

EOxServer
Date:
2008-07-07
Download
Date/Time
Bounding Box
Server Info
Help
Overlays
IMAGE2009_rgb Outlines
IMAGE2009_rgb Preview
Base Layer
OpenLayers WMS
Permalink
https://earthserver.eox.at/restricted/client/IMAGE2009_rgb#
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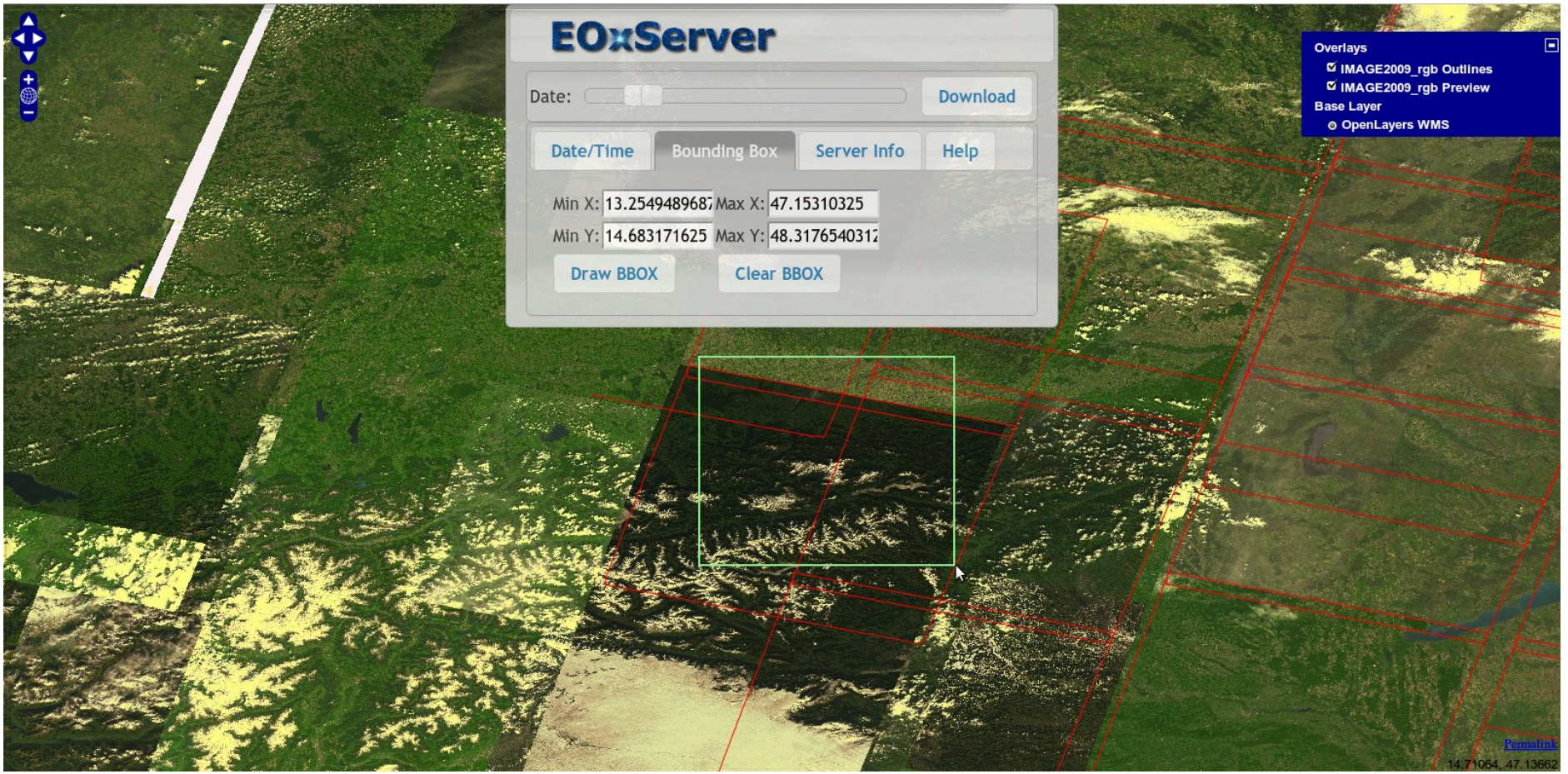
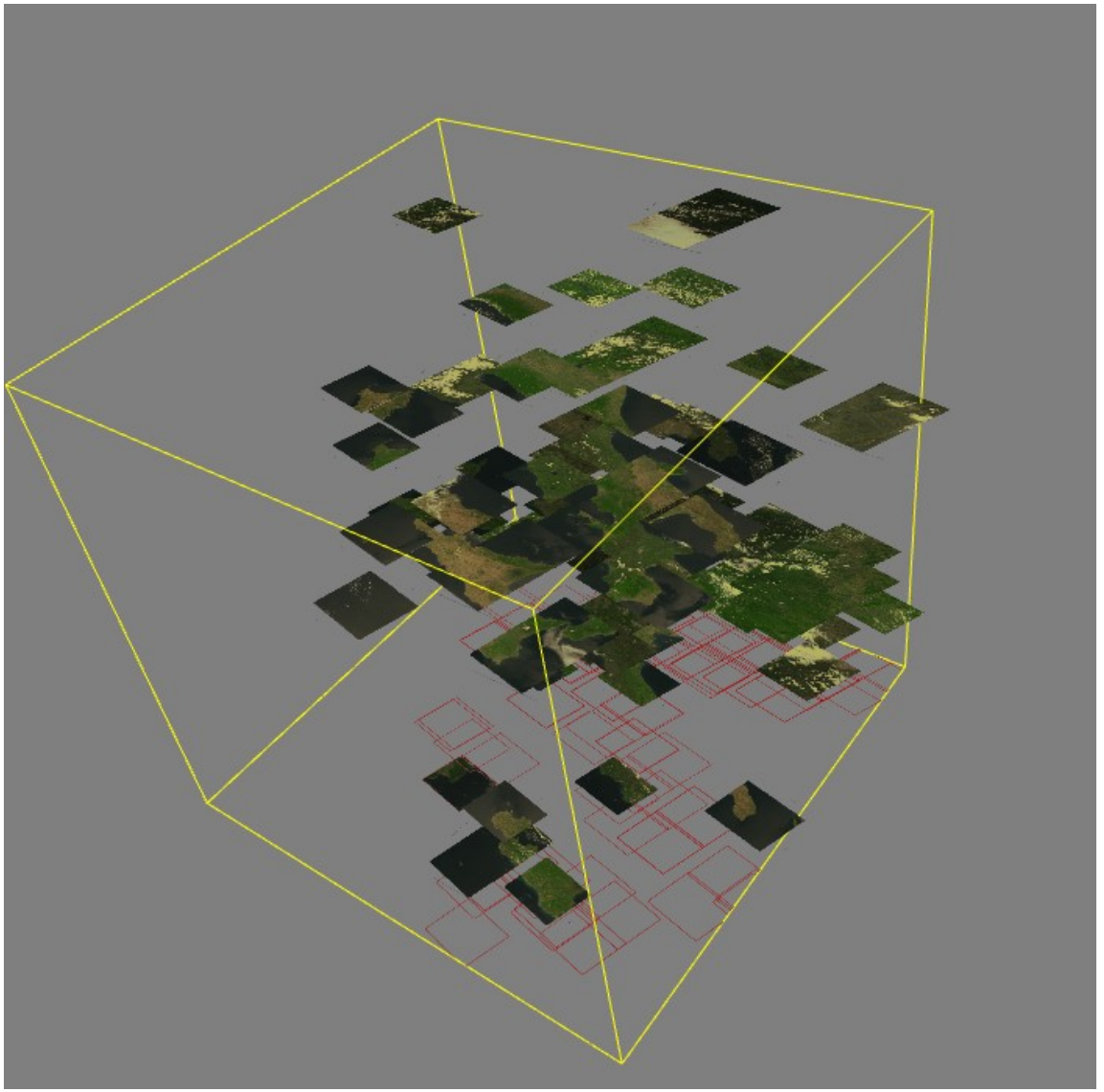

EOxServer
Date:
Download
Date/Time
Bounding Box
Server Info
Help
Min X: 13.2549489687
Max X: 47.15310325
Min Y: 14.683171625
Max Y: 48.3176540317
Draw BBOX
Clear BBOX
Overlays
IMAGE2009_rgb Outlines
IMAGE2009_rgb Preview
Base Layer
OpenLayers WMS
Permalink
14.71064, 47.13662

EOxServer
Date:
Download
Select Coverages for Download
urn-eop-NSG-080701P600300034L0000S4_RGB
Width: Height: CRS: EPSG:4326 Select Bands Show Info
urn-eop-NSG-080701P600300035L0000S4_RGB
Width: Height: CRS: EPSG:4326 Select Bands Show Info
urn-eop-NSG-080706P600310034L0000S4_RGB
Width: Height: CRS: EPSG:4326 Select Bands Show Info
urn-eop-NSG-080706P600310035L0000S4_RGB
Width: Height: CRS: EPSG:4326 Select Bands Show Info
Select All
Deselect All
Start Download
Overlays
IMAGE2009_rgb Outlines
IMAGE2009_rgb Preview
Base Layer
OpenLayers WMS

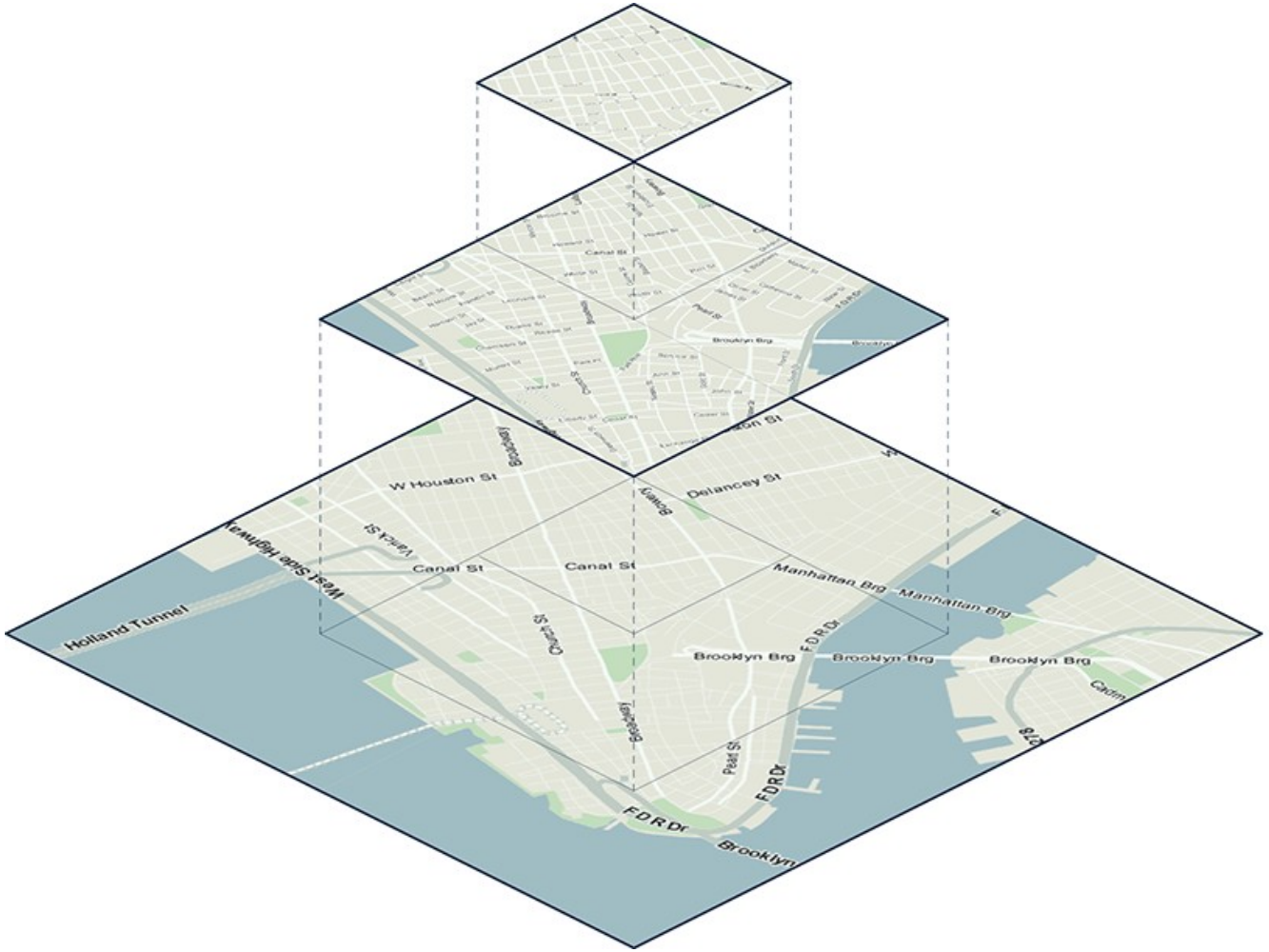
WebGL Cube



EarthServer

Fraunhofer IGD

Tile Cache / WMTS



Tile Cache / WMTS

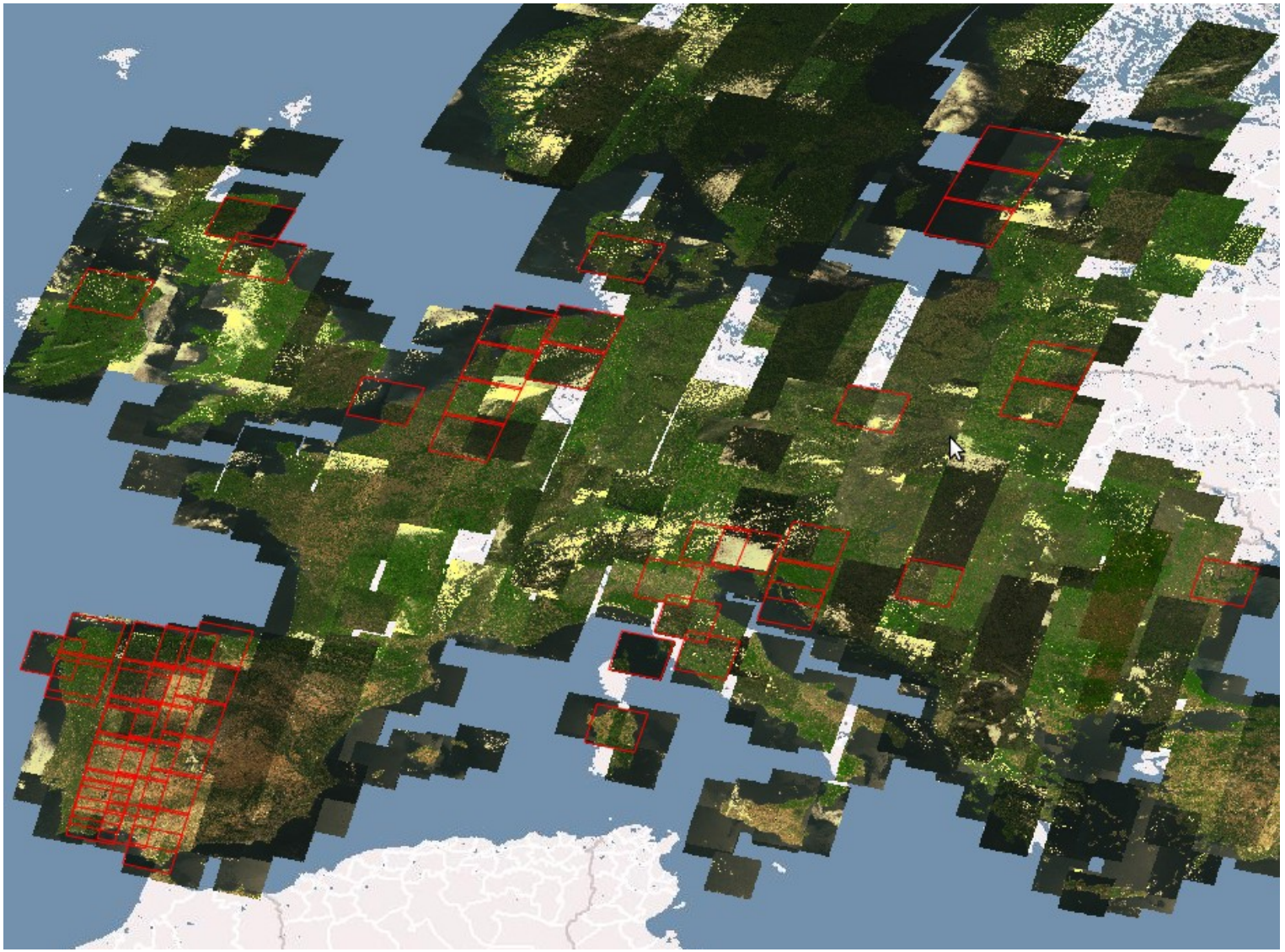
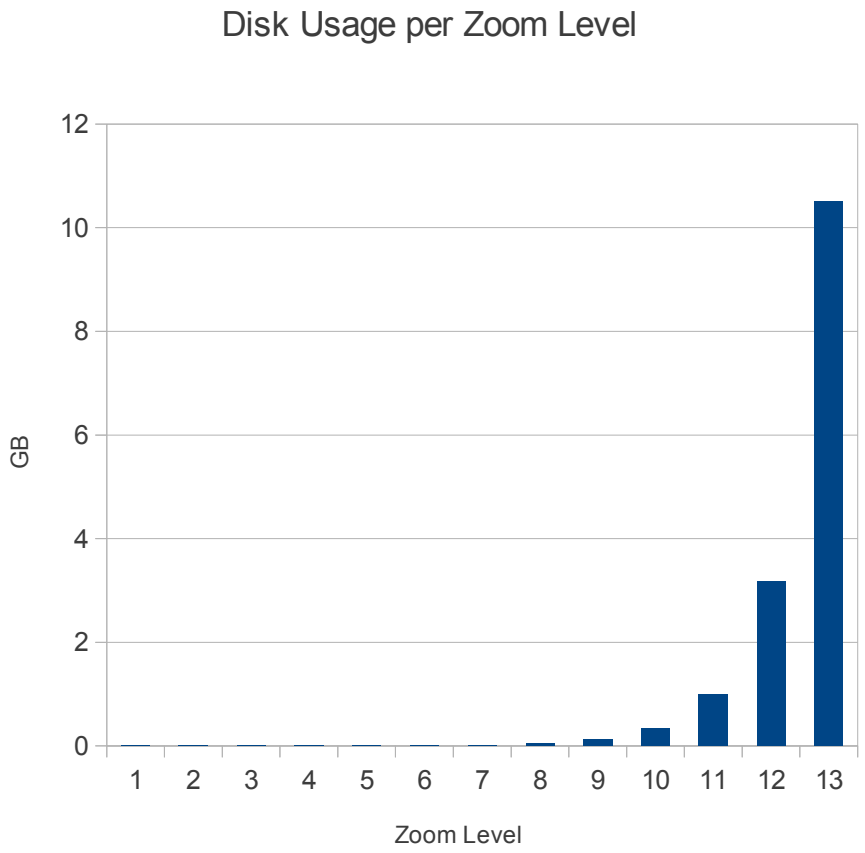


IMAGE2009 example



- 13 Zoom Levels: ~16 GB
- Original data: ~ 330 GB

EOxServer's mission is to provide an **open source** software framework to **ease** the **online provision** of big earth observation data archives via **open standard** services for efficient exploitation by users.