

EOxServer
**Accessing Large Archives of Earth
Observation Data Online**

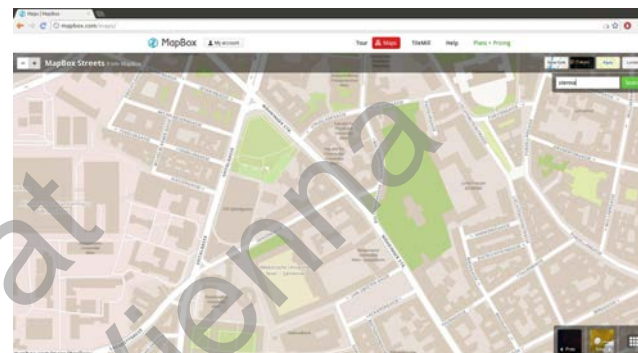
SOMAP 2012, Vienna
Presented at

- Earth Observation & Standards
- EOxServer
- Web Mapping

SOMAP 2019 - Presented at Vienna

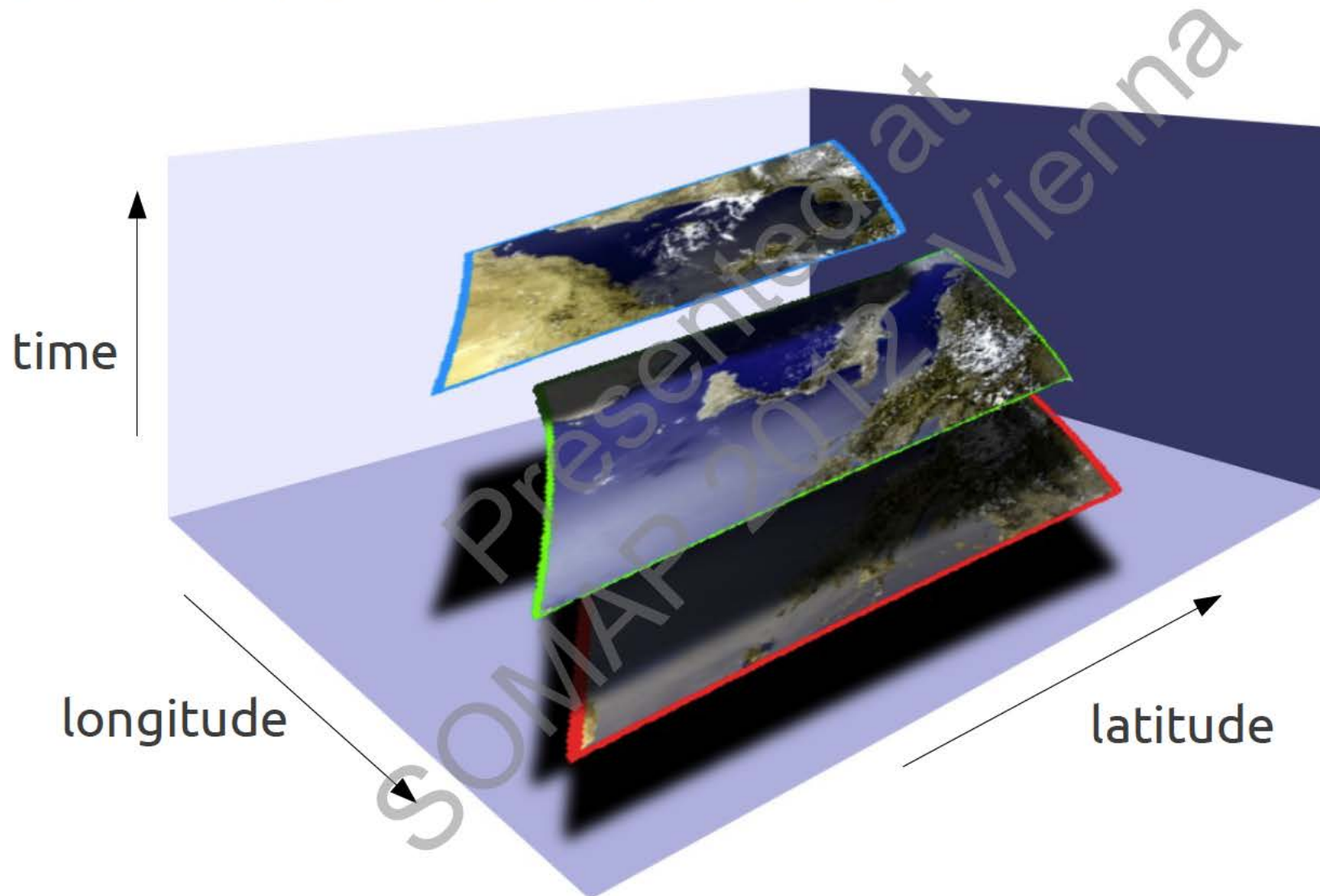
OGC Standards

- WMS
- WFS
- WCS
- EO Application Profile

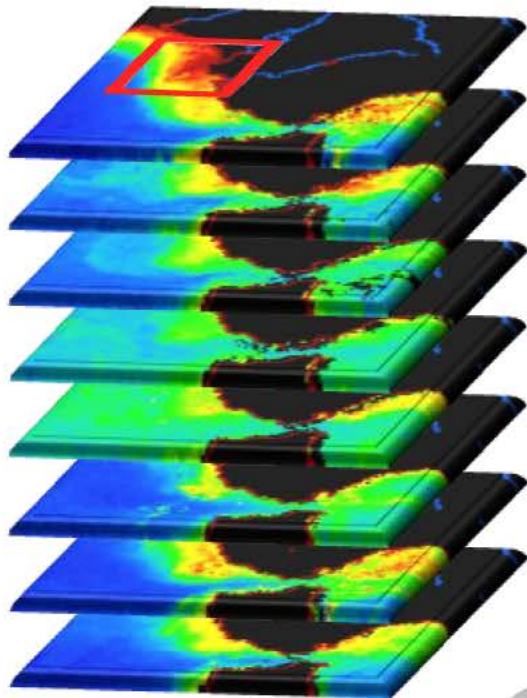


Presented at
SOMAP 2012, Vienna

Identification of EO data

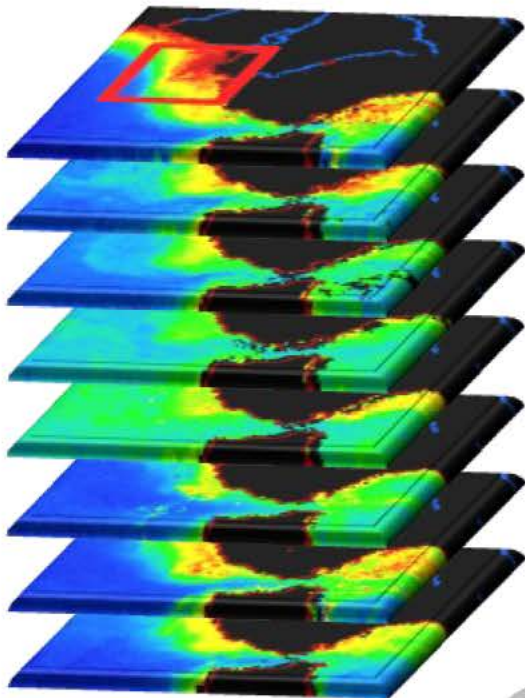


„Traditional“ approach



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

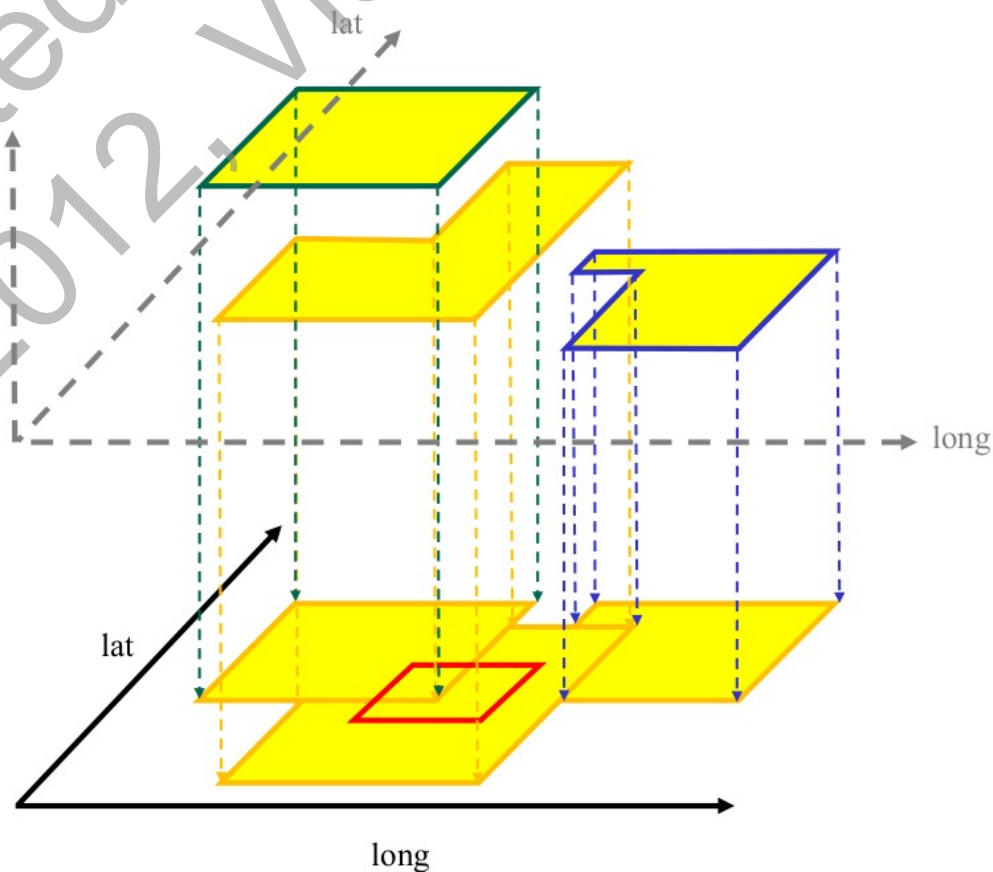
EO-WCS improvements



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

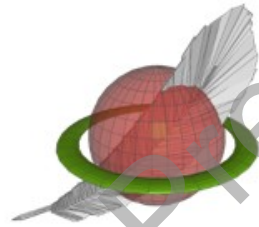
EO-WCS

- RectifiedGridCoverage
- ReferenceableGridCoverage
- Stitched Mosaic
- Dataset Series
- DescribeEOCoverageSet



EOxServer Open Source Stack

<http://eoxserver.org>



Web Mapping?

Presented at
SOMAP 2012, Vienna

EOxServer

Date:

SOMIT - geospatial.at, Vienna

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

The image displays the EOxServer web interface. The main map area shows a satellite image of Europe, with a large, semi-transparent watermark reading "SONIT - Present and at Vienna" overlaid diagonally. The interface includes a control panel at the top center with the title "EOxServer" and a "Date:" input field with a "Download" button. Below this are four buttons: "Date/Time", "Bounding Box", "Server Info", and "Help". On the right side, there is an "Overlays" panel with a list of layers: "IMAGE2009_rgb Outlines", "IMAGE2009_rgb Preview", "Base Layer", and "OpenLayers WMS". The bottom right corner of the map area contains a "Permalink" and the coordinates "66.97809, 81.86990".

EOxServer

Date: [Download](#)

[Date/Time](#) [Bounding Box](#) [Server Info](#) [Help](#)

Overlays

- IMAGE2009_rgb Outlines
- IMAGE2009_rgb Preview
- Base Layer
- OpenLayers WMS

https://earthserver.eox.at/restricted/client/IMAGE2009_rgb#

Permalink
41.84137, 62.44607

EOxServer

Date: [Download](#)

[Date/Time](#) [Bounding Box](#) [Server Info](#) [Help](#)

Min X: 13.254948968 Max X: 47.15310325
Min Y: 14.683171625 Max Y: 48.3176540312

[Draw BBOX](#) [Clear BBOX](#)

Overlays

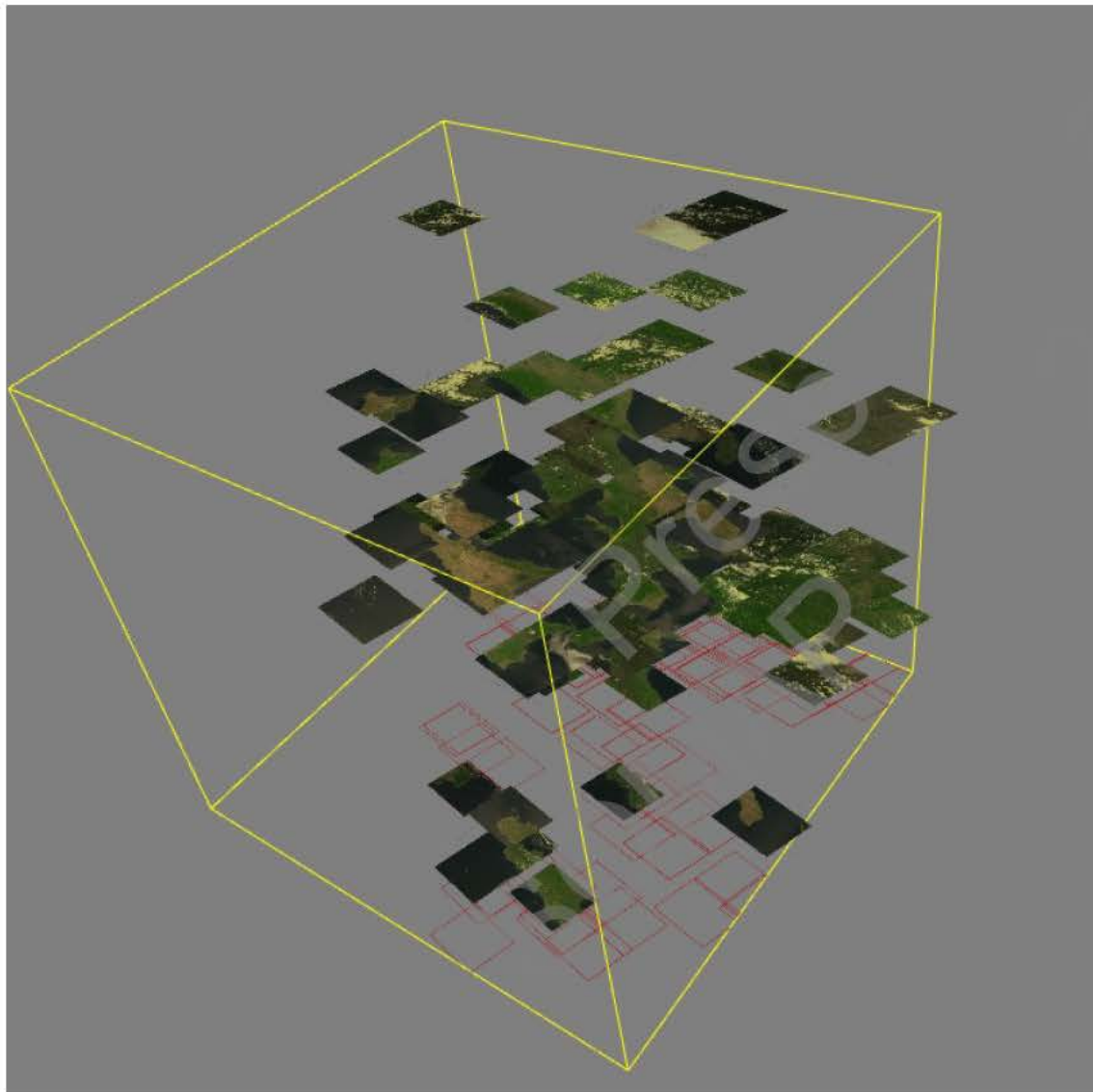
- IMAGE2009_rgb Outlines
- IMAGE2009_rgb Preview
- Base Layer
- OpenLayers WMS

Permalink
14.71064, 47.13662



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WebGL Cube



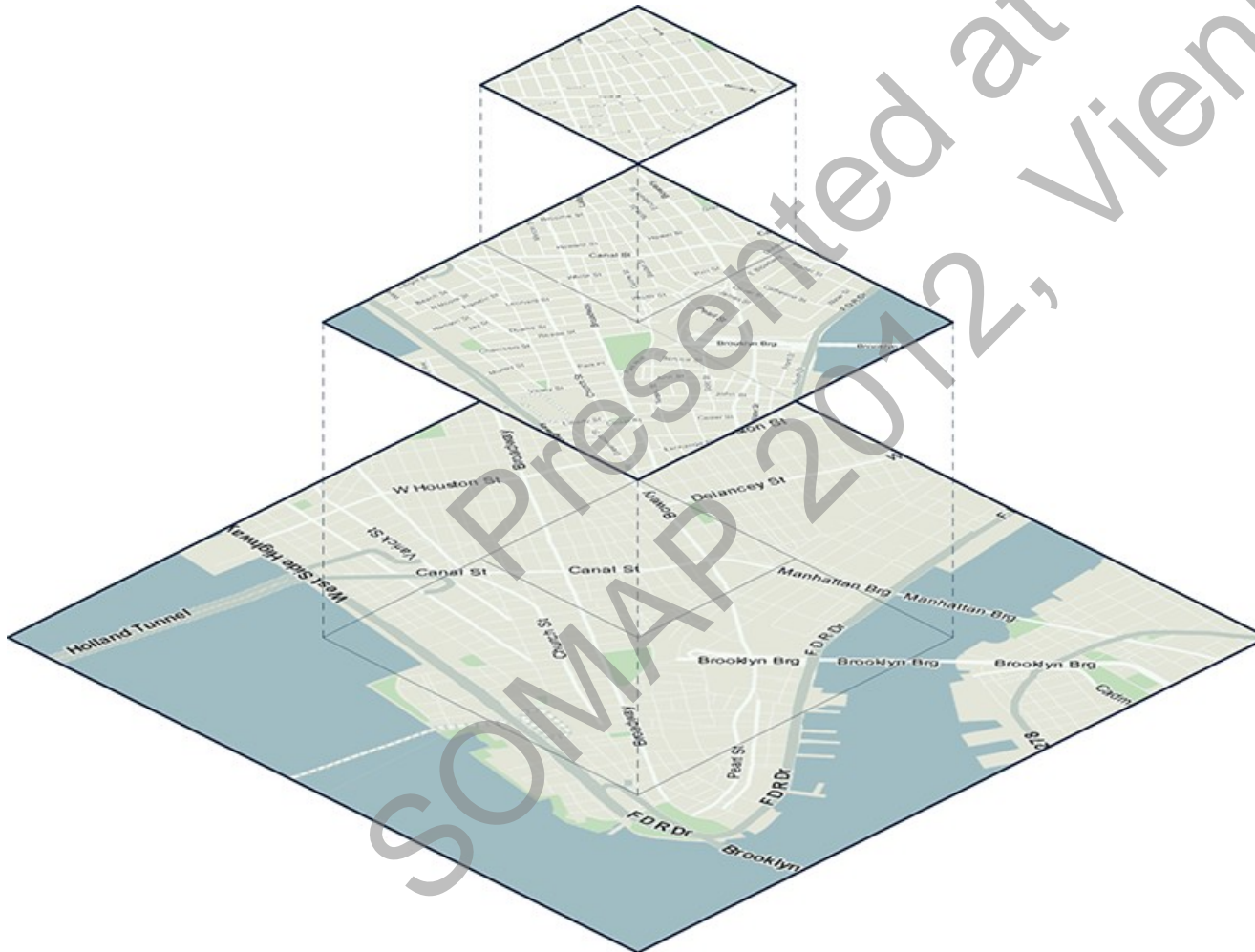
Earth Server



Fraunhofer

IGD

Tile Cache / WMTS



SOMAP 2012, Vienna

Tile Cache / WMTS

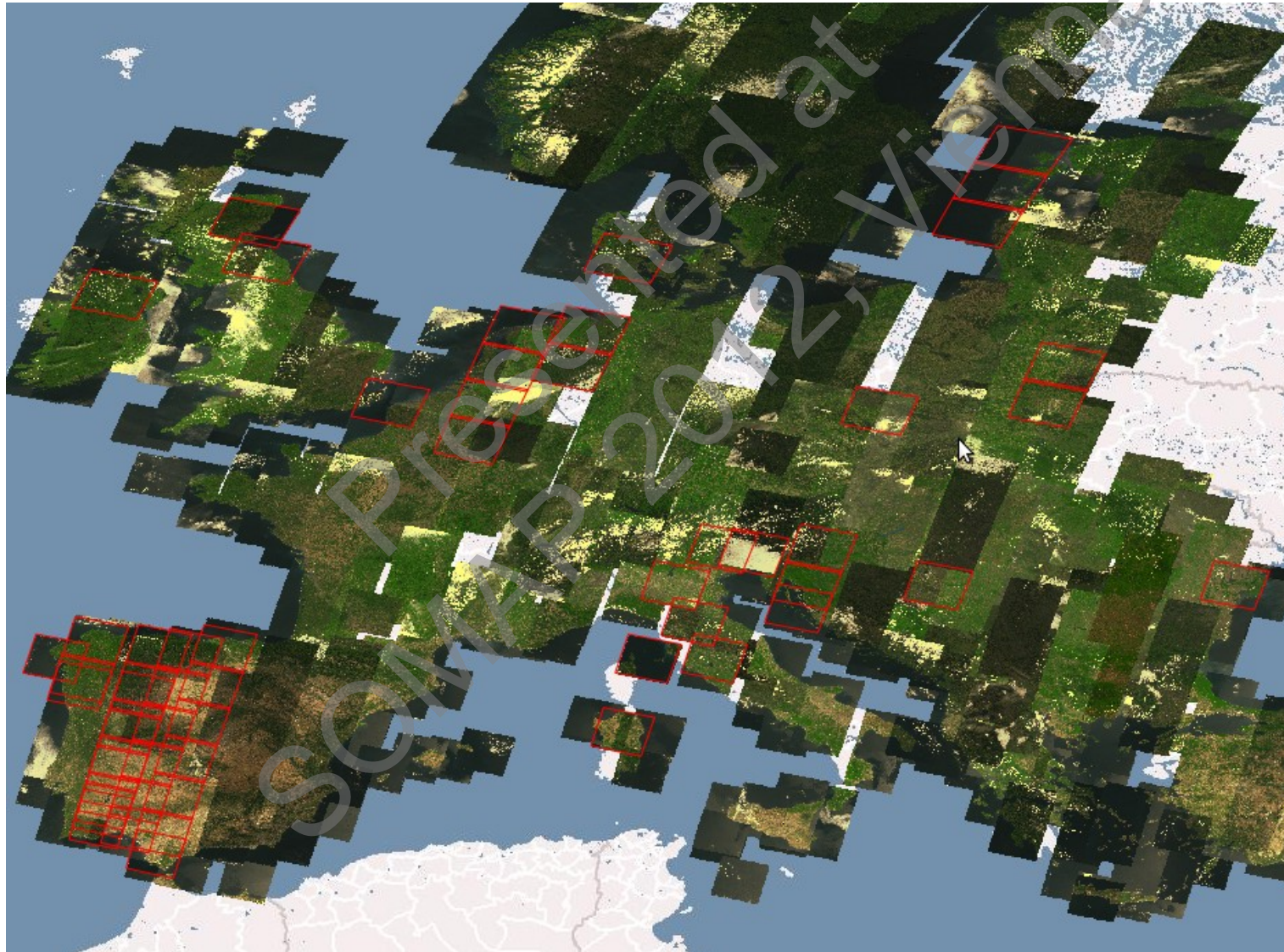
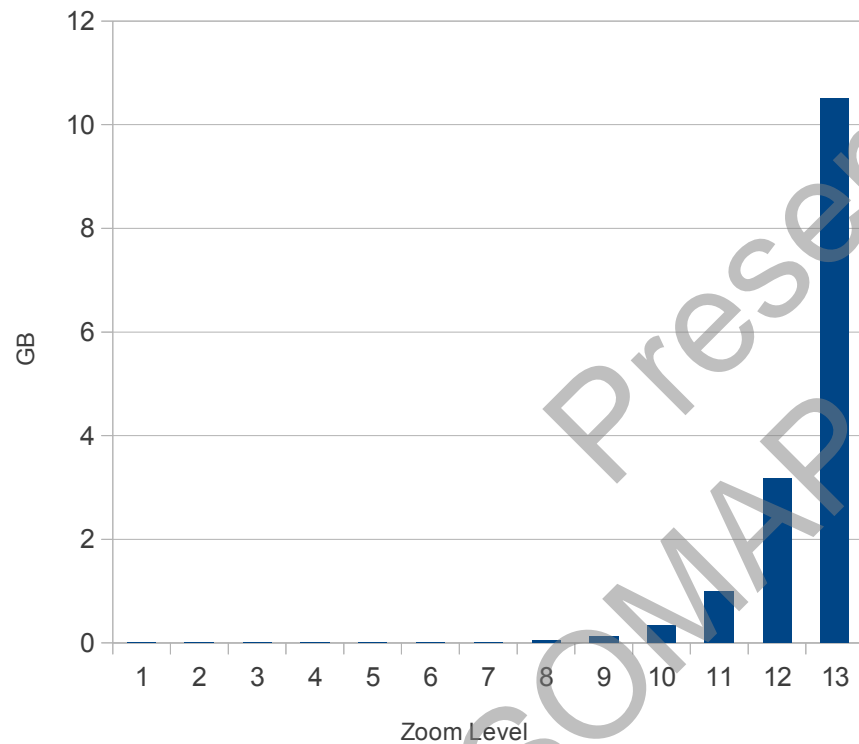


IMAGE2009 example

Disk Usage per Zoom Level



- 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.