EarthServer

Datacubes at your fingertips

EarthServer - 2

Improving access to big data through OGC standard interfaces - a hands on WC(P)S session

This project is receiving funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654367

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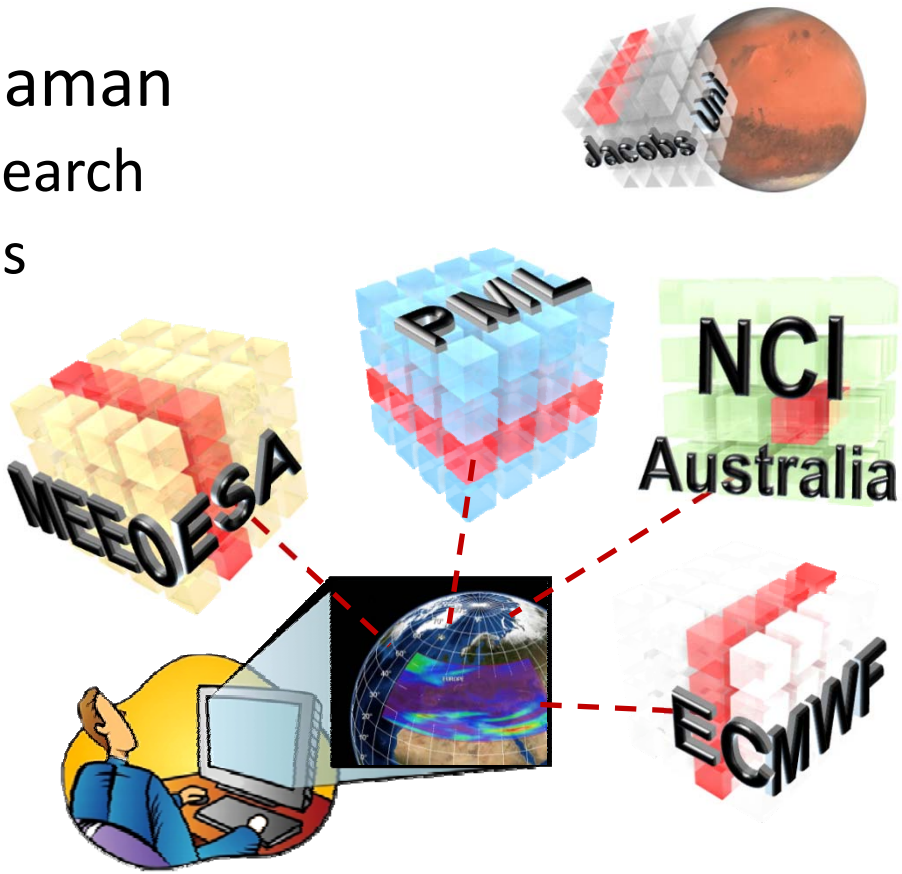
Overview

- Operational Agile Analytics on 1+ Petabyte space/time datacubes
  - Earth Science (3D sat image timeseries, 4D weather); Planetary Science
- Based on & extending rasdaman
  - integrated data/metadata search
  - performance enhancements
- Intercontinental initiative: EU+US+AUS
- www.earthserver.eu



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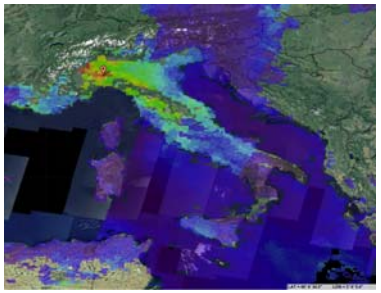
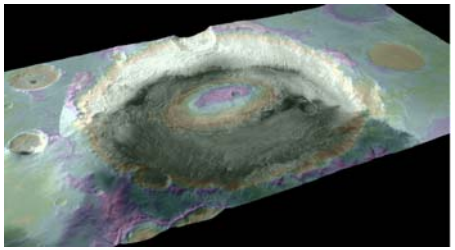
Services

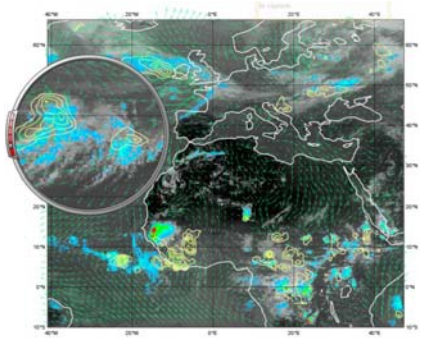
Earth Observation Data Service (MEEO – ESA) Starts from +100TB of Atmosphere, Land and Ocean EO products (ES-1) to will offer access to next generation EO data and products coming from the Sentinel family.





Planetary Science Data Service (Jacobs University) Provides access to tens of TB of data (topographic, multi- and hyperspectral) across multiple Solar System bodies: Mars, Mercury, the Moon etc.

Climate Science Data Service (ECMWF) Builds an advanced (web) front-end for accessing and processing 50PB operational and forecast data



Marine Science Data Service (PML) Offers advanced access to ~100TB ESA Ocean Colour – Climate Change Initiative data (multi-sensor 15 year time series of remote sensed ocean colour data) and extend into PB-range Sentinel data

Landsat Datacube Service (NCI) Delivers a "query-the-datacube" frontend to the landsat +110TB of data managed by NCI

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Workshop Aims and Materials

- The workshop will give attendees practical examples showing the use of Open Geospatial Consortium data services.
- The complete workshop will be presented using python Jupyter notebooks.
- These will be made available to the attendees so that they can experiment and test the technologies without needing to have their own installations.
- The notebooks and materials can be found on the project GitHub @ https://github.com/earthserver-eu/INSPIRE-notebooks

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Workshop structure

11:00 - 11:10	Workshop Introduction
11:10 - 11:25	Intro To WCS - Introduction to the WCS standard, what does the standard mean, what sort of groups can benefit from it, Software that implements it, access methods using URLs
11:25 - 11:35	Accessing WCS using Python - An interactive guide on accessing and working with data from WCS using Python, will show access, loading into libraries, visualising with matplotlib
11:35 - 11:45	Accessing WCS using QGIS - An interactive guide on accessing and working with data from WCS using QGIS, Adding a WCS layer, Changing styling properties, Combining with other data sources
11:45 - 12:05	Intro To WCPS - Introduction to the WCPS standard, what does the standard mean, what sort of problems does this standard aim to help, Software that implements it, access methods using URLs and text queries
12:05 - 12:15	Intro To xWCPS - Introduction to the WCPS standard, what does the standard mean, what sort of problems does this standard aim to help, Software that implements it, access methods using URLs and text queries
12:15 - 12:20	Services and data
12:20 - 12:30	Question and Answer session