Summary
The intercontinental EarthServer initiative is redefining access and analytics on Big Earth Data based on the datacube paradigm, unleashing Petascale 3-D satellite image timeseries and 4-D weather data for direct mix-and-match. The scalable rasdaman array engine provides the necessary functionality and performance.

The core federation partners offer: Sentinel and Landsat data (MEEO), ocean data (PML), weather data (ECMWF), Landsat8 data (NCI Australia), planetary data (Jacobs U). As of today, the largest offering exceeds 250 TB, and early in 2017 the Petabyte frontier will be crossed. In future, EarthServer is planned to be opened for further federation partners, ultimately establishing a global Earth data federation.


Central Goals of EarthServer
• any query, any time, on any-size spatio-temporal datacubes
• declarative retrieval, fusion, aggregation, and analytics on multi-Petabyte datacubes
• seamless integration of data and metadata retrieval
• independence from data formats: format-in → format-out
• strictly standards: OGC WMS, WCS, WCPS
• scalable processing: parallelization, federation, heterogeneous hardware
• allow users to stay in their comfort zone: Leaflet, QGIS, NASA WorldWind, python, and any other standards conformant client

Recogniation & Awards
"The RASDAMAN product is currently the world leading environment in this domain and the standard working horse for OGC standardisation on these innovative data access interfaces." - G. Landgraf, Head of Ground Segment Infrastructure Engineering Section, European Space Agency

Standardization Impact
rasdaman is blueprint for ISO SQL and the OGC „Big Earth Data“ standards:
• ISO 9075 SQL Part 15: Multi-Dimensional Arrays (MDA)
• OGC Coverage Implementation Schema (CIS), Web Coverage Service (WCS) standards suite, Web Coverage Processing Service (WCPS) language
• INSPIRE WCS standard