



NASA Contributions to CEOS WGISS Test Facility for CEOP (WTF-CEOP)

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Current Activities

- Network Monitoring
 - Set up by NASA representative to the WGISS Network Task Team (Andy Germain).
 - Andy working with CEOP data provider sites.
- Satellite Data Access Prototype
 - Open GIS Consortium (OGC) Web Coverage Server (WCS) implemented by George Mason University PI, Liping Di.
 - Member of the OpenDAP development team at the University of Rhode Island, Dan Holloway.
 - Member of the NASA WGISS support team, Yonsook Enloe.

ENSIGHT CEOP MAP PAGE

<http://ensight.eos.nasa.gov/Organizations/ceop/index.shtml>

The screenshot shows a Mozilla Firefox browser window displaying the ENSIGHT CEOP Map Page. The browser title is "CEOS Homepage - Mozilla Firefox". The address bar shows the URL <http://ensight.eos.nasa.gov/Organizations/ceop/index.shtml>. The page features a navigation menu with links to Home, Aqua, Aura, CEOP, CEOS, DAAC, EMSnet, ESTO-CT, GSFC, ICESat, Sage III, TERRA, and Other. The main heading is "ENSIGHT Active Testing CEOP Destinations". Below this, a text block explains that the sites listed are members of the CEOP and are tested under the ENSIGHT Active Testing Program. It states that the graphs for each site show the minimum, maximum, and median throughput for the past week. A sidebar on the left lists the CEOP sites: GSFC, Max Planck Institute, UCSD, and University of Tokyo. The main content area displays a world map with four small line graphs overlaid on the locations of UCSD, GSFC, Max Planck Institute (WBCC), and University of Tokyo. Each graph shows throughput in Mbps over time (Feb 16, 19, 22).

CEOP Sites:

- GSFC
- Max Planck Institute
- UCSD
- University of Tokyo

The sites below are members of the CEOP and are tested under the ENSIGHT Active Testing Program. The graph for each site shows the minimum, maximum, and median thruptut for the past week. Selecting any of the following graphs will direct you to a page with detailed testing results for that site.

UCSD

Time	Min (Mbps)	Max (Mbps)	Median (Mbps)
Feb 16	20	80	40
Feb 19	20	80	40
Feb 22	20	80	40

GSFC

Time	Min (Mbps)	Max (Mbps)	Median (Mbps)
Feb 16	3	15	9
Feb 19	3	15	9
Feb 22	3	15	9

Max Planck Institute (WBCC)

Time	Min (Mbps)	Max (Mbps)	Median (Mbps)
Feb 16	0	20	10
Feb 19	0	20	10
Feb 22	0	20	10

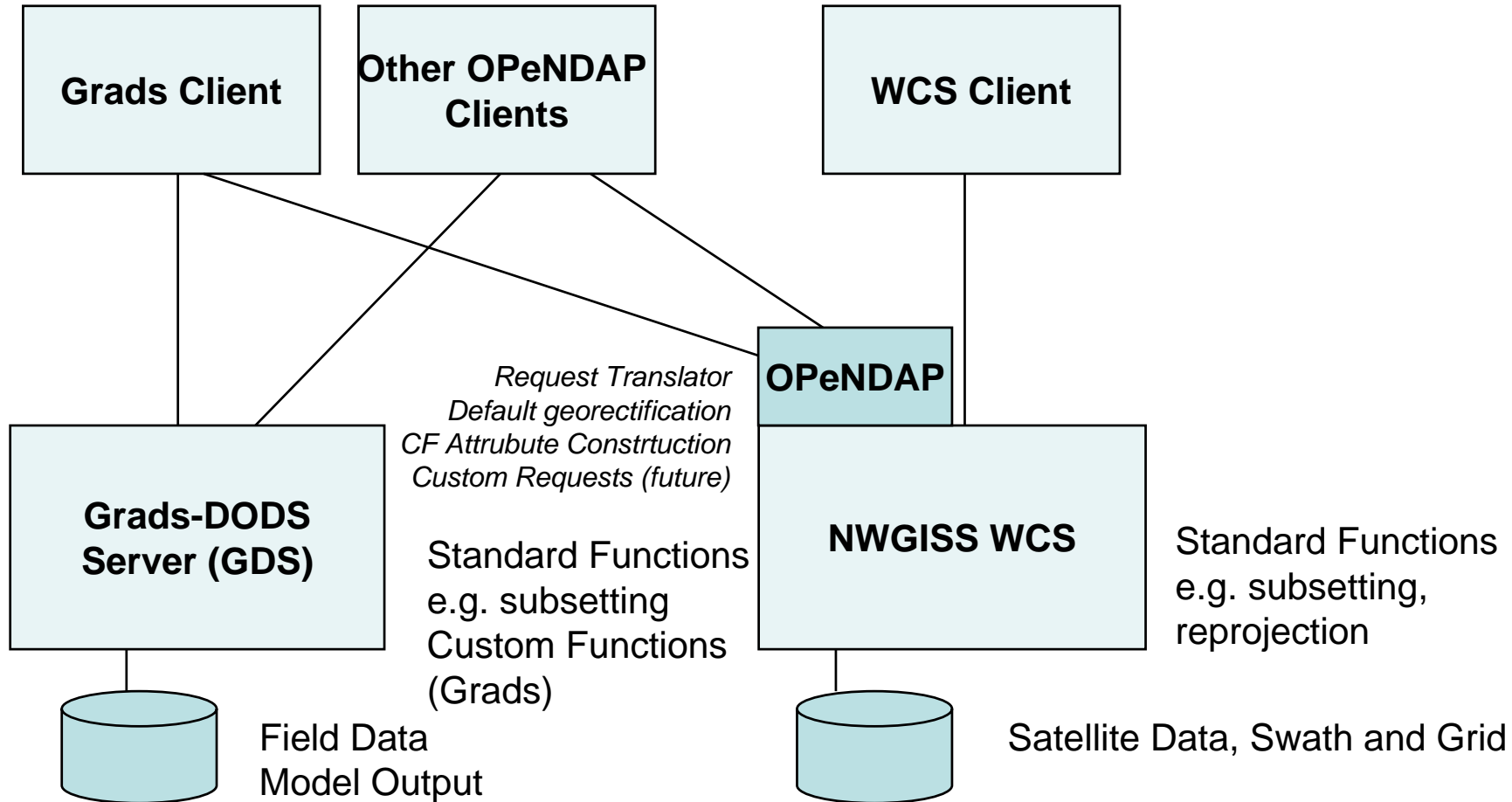
University of Tokyo

Time	Min (Mbps)	Max (Mbps)	Median (Mbps)
Feb 16	0	60	30
Feb 19	0	60	30
Feb 22	0	60	30

Purpose of the NASA CEOP Data Access Prototype

- Leverage capabilities of the OGC WCS implemented by GMU/LAITS to provide coordinate system reprojection and grid rectification for NASA EOS swath data.
- Couple the OGC WCS backend with a standard OPeNDAP server interface, exposing those swath products as CF-compliant grid so that analysis applications such as GrADS can readily access the data.

Design Diagram



Prototype Status: What Is Working

- Swath satellite products are geo-rectified and exposed as CF-compliant data sources through a standard OPeNDAP server interface.
- OPeNDAP-enabled clients (e.g. GrADS and other applications that use CF conventions) can readily open and interrogate the geospatial and temporal information relating to the satellite product, enabling them to intelligently subset the measured parameters contained in the satellite product.
- GrADS client can now be used to access Level-1B/2 satellite products without having to reformat and store those products separately.
- Complements the centralized data integration center.

Prototype Issues

- Limited data access:
 - Future : Install Server at multiple locations providing satellite data.
- Limited use of WCS capabilities.
 - Future : Add capability of users to specify map projection, spatial resolution, or bounding box while using OPeNDAP clients (e.g. protocol augmentation or middleware service or other...)
- Desire for extend capabilities on OPeNDAP side of the gateway.
 - Future : Add capability for users accessing OPeNDAP Servers (e.g. GrADS DODS Server) holding grid data to use some middle ware services to reproject, regrid, & change resolution of grid data and data reduction services

Next Steps

- In the near term, secure resources to:
 - Move system to more stable H/W environment.
 - Provide support for a user test/evaluation phase.
- Longer term:
 - Consult with CEOP science representatives and WGISS partners on plans and priorities.
 - Define an approach to enhance prototype to support true data integration.
- Submit a proposal or proposals to implement operational capability.