

CEOS WGISS Integrated Catalog: A Catalog for Earth Observation Satellite Data

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Presentation Topics

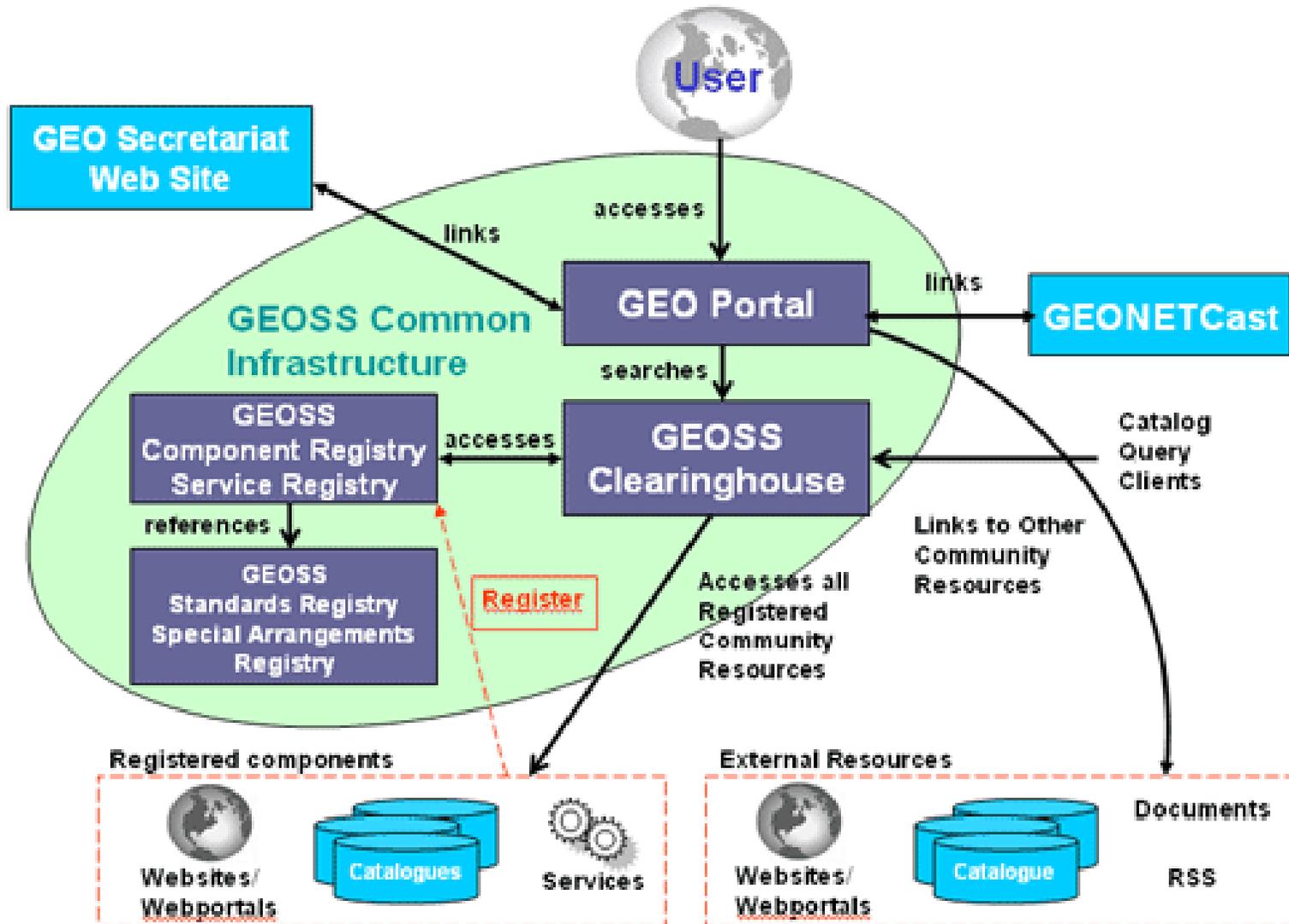
- GEO & CEOS Background
- What is CWIC?
- CWIC Partners, Data, Basics, Info page, etc.

Group on Earth Observations (GEO)

- EO Summit: Ministers of countries; established GEO as an organization, endorsed GEOSS 10 year plan
- GEO Plenary: Members (national bodies and the EC) and Participating Organizations
- GEO Secretariat: Director and staff
- GEO Committees: Capacity Building (CBC), Architecture and Data (ADC), Science and Technology (STC), User Interface (UIC), and the C4
- GEO Work Plan and Tasks

<http://earthobservations.org>

GEOSS Common Infrastructure



CEOS - Background

- Committee on Earth Observation Satellites (CEOS) established in 1984
- Recommendation From a Panel of Experts on R/S
 - Auspices of Economic Summit of Industrialized Nations
 - Working Group on Growth, Technology, & Employment
 - Need to Coordinate Civil EO Satellite Missions
 - Recognized Cross-Disciplinary Influence
- CEOS Objectives
 - Optimize the benefits of spaceborne Earth observations through cooperation...
...in mission planning and development of compatible data products, formats, services, applications & policies;
 - To serve as a focal point for international coordination...
...of space-related Earth observation activities;
 - To exchange policy and technical information
...to encourage complementarity and compatibility among spaceborne Earth observation systems and the data received from them.

Working Group on Information Systems and Services (WGISS) Objective Statement

Promote collaboration in development of systems and services...

...based on international standards...

...that manage and supply Earth observation data and information...

...from participating agencies' missions.

<http://wgiss.ceos.org>



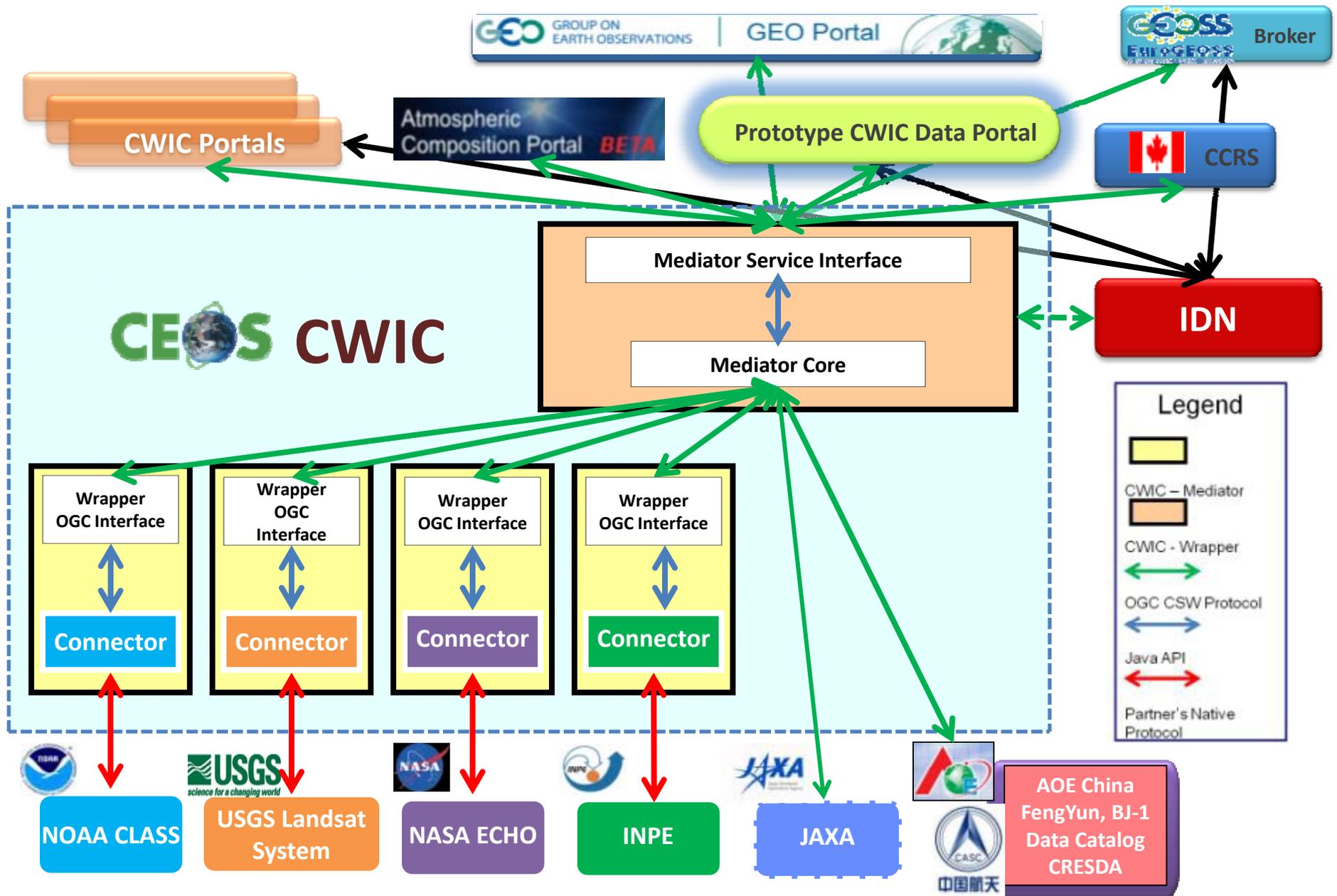
About WGISS

- WGISS agencies have a vast quantity of data, systems, and other resources that can support science or applications
- WGISS is working to make these resources accessible through a common set of discovery, search, access, and service interfaces.
- WGISS is working with GEO and GEOSS to ensure that the WGISS data and tools can interoperate with the different national and international spatial data infrastructures.
- The CEOS WGISS Integrated Catalog is a WGISS project that provides an access point to search, discover, and access data at the CEOS agencies.
- Scientists, application providers, and decision makers need to synthesize data from multiple sources in order to do their work.
- Finding and using relevant data and information from multiple sources is essential.
- International collaboration is key!

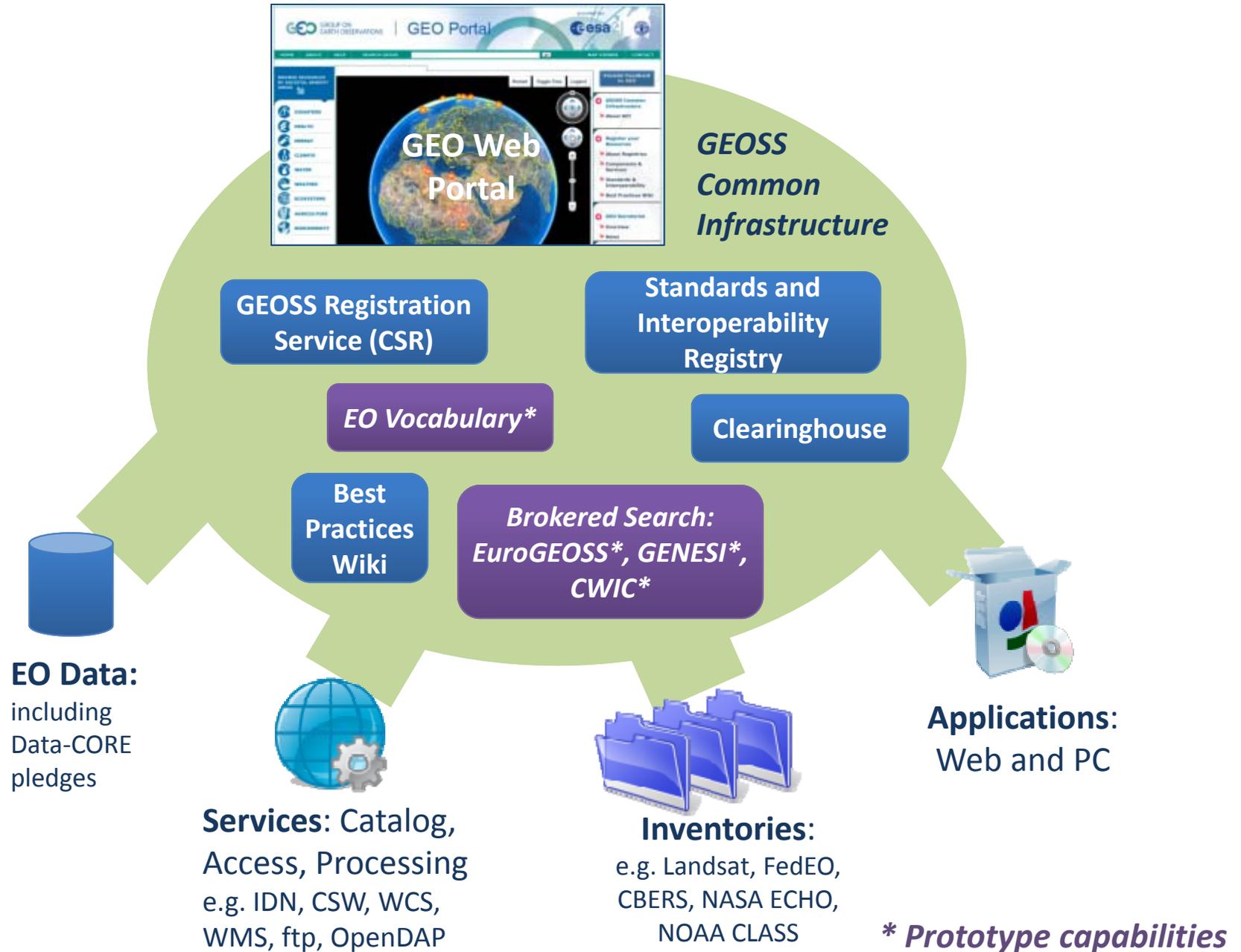
What is CWIC?

- CWIC provides an access point to search and access satellite data from the CEOS agencies
- CWIC uses “Connectors” to provide translation from the CSW to the agency system.
- CWIC does NOT contain any copies of data or metadata
- The CWIC partners are working together to solve common challenges:
 - Using the GEO catalog standard (OGC CSW 2.0.2) for inventory search
 - How to support directory/inventory search
 - Common metadata model for search and for results presentation
 - How to communicate status, errors, exceptions handling
 - User registration information for data access?
 -

CEOS WGISS Integrated Catalog – CWIC



GEOSS Infrastructure Enhancements



CWIC Partners

Data Partners: NOAA, NASA, USGS, INPE, AOE (Beijing-1, Fengyun, CRESDA), JAXA (just started work), CCRS (will start in the next 6-12 mo), ..

Client Partners: CCRS, Land Surface Imaging (LSI) Portal will start summer 2012, CWIC Data Portal prototype, AOE (China) started work

GEOSS Components: Geo Web Portal, EuroGEOSS Broker, GENESI-DEC

Additional data and client partners are expected...

What Data?

- NOAA: limited data available through the NEATT API to CLASS; New CLASS API will debut in summer 2013 and provide access to a broad range of data in CLASS
 - GHR SST (NODC is the archive) – working to make data accessible via CWIC
- NASA: 2757 publicly accessible data collections in ECHO -> goal to provide to CWIC (< 105 million granules)
 - NASA LANCE near real time data (< 2.5 hrs of acquisition; AIRS (Aqua) and MLS (Aura), MODIS (Aqua & Terra), OMI (Aura) and AMSR-E(Aqua) will be made accessible to CWIC in the next year.
- INPE: CBERS
- USGS : Landsat TM & MSS
- China: AOE is working with 3 data centers and will make data available
- JAXA: will make over 16 million granules from GOSAT, ALOS, Aqua, TRMM, JERS1, ADEOS2 and ADEOS accessible to CWIC.
- CCRS: will start work to make their publicly accessible satellite data accessible via CWIC

Directory/Inventory Search

- Directory/collection search: Supported by the GCMD.
- Each CWIC collection has a unique DIF with a unique DIF Entry ID.
- Easier to identify a collection by DIF Entry ID than by collection name, especially since there can be copies of the same data at multiple data centers. Collection names can be very long.
- User can select science keywords, platform and instrument keywords as well as a spatial area and time range to narrow down to a smaller list of collections of interest.
- Inventory/granule search: Supported by CWIC. Each CWIC search will identify a collection (name or DIF Entry ID) and data center name along with the search criteria.

CWIC Basics

- Provides an access point for an inventory (granule) search at multiple CEOS agencies.
- Support for OGC CSW 2.0.2 (ISO) – supported by GEOSS
- CWIC provides translation from GEO supported CSW (ISO) to the agency inventory system protocol – friendly approach to trying out a new standard!
- Currently, both the data center and the data collection name must be specified in the inventory search
- Each CWIC searchable collection must have a unique DIF in the GCMD -> DIF Entry ID uniquely identifies the inventory collection.
- CWIC Capabilities returns the list of all searchable collections.
- Search responses returned using ISO 19115 metadata
- CWIC clients expected to support directory/collection search at the Global Change Master Directory (GCMD) CSW Port.

CWIC Status

- CWIC Implementation in 3rd year of 3 year funding from NOAA
- NASA developing a Reverb client prototype to access CWIC
- Coordinating directory search via the International Directory Network (IDN) and the GCI
- Adding a more extensive inventory search criteria to allow detailed keyword searches
- How-To Guides for CWIC partners posted and available on WGISS webpage: [**http://www.ceos.org/wadc**](http://www.ceos.org/wadc)
- Exceptions handling document produced and under review
- Demonstrated CWIC at the CEOS Plenary meeting in November
- Started moving from prototype to pre-operational

CWIC Info Page

<http://wgiss.ceos.org/cwic>

- youtube video demonstration link -how the GCMD keywords can be used to narrow down the data collections of interest, and then how CWIC can be used to search and download specific data files
- CWIC DIF Guide
- CWIC Data Partner Guide
- CWIC Client Partner Guide
- Metadata mapping from each agency system metadata to ISO
- Client test environment
- Exceptions handling documentation

Backup

<http://wgiss.ceos.org/cwic>

CWIC Project

Details

Last Updated on Tues

Welcome to the WGISS Archite

Project lead name and conta

- Martin Yapur (NOAA)
- Yonsook Enloe (NASA)

CEOS WGISS Integrated Catalog (CWIC)

See how the Directory information in the IDN is used with data of interest:

[CWIC Data Portal Demonstration \(YouTube video\)](#)

How-To Guides for CWIC Partners

- [CWIC DIF Guide](#) - How to register data collections in the
- [CWIC Client Guide](#) - How to connect your Portal to CWIC
- [CWIC Data Partner Guide](#) - How to offer your agency sat

CWIC Technical Documents

[Initial Design](#)

[WGISS Search Criteria](#)

[Details of satellite data metadata at CWIC Data Partners](#)

[Mapping Dataset IDs to IDN/GCMD DIF Entry IDs](#)

The screenshot shows the top portion of the CWIC website. At the top are the CEOS and NASA logos. The main heading is "Global Change Master Directory (GCMD)/International Directory Network (IDN) DIFs for CEOS WGISS Integrated Catalog (CWIC) Data Provider Products". Below this is a section titled "1 Introduction" which explains the Directory Interchange Format (DIF) as a metadata standard for scientific data sets. To the right of the introduction is a large heading "CEOS CWIC Project" with a horizontal line underneath. Below that is another heading "CEOS CWIC Project" with a horizontal line underneath. Further down is the heading "CWIC Client Partner's Guide" with the date "Mar. 2012" and "Document version 20120326". At the bottom right is the heading "CWIC Data Partner's Guide" with the date "Feb. 2012" and "Document version 1.1". Red arrows originate from the text on the left side of the image and point to the "Introduction" section, the "CEOS CWIC Project" heading, the "CWIC Client Partner's Guide" heading, and the "CWIC Data Partner's Guide" heading.

CWIC Client

- GMU GeoBrain (USA) (operational)
 - GeOnAS
 - GeoDataDownload
- NASA Reverb (USA) (testing)
- ESSL-Lab (Italy) (developing)
 - GI-go GeoBrowser
- EuroGEOSS Broker (developing)
- Natural Resources Canada (Canada) (developing)
 - CCRS, Canada Centre For Remote Sensing

Potential CWIC Client

- NRSCC (China)
 - National Remote Sensing Center of China
 - Both CWIC data provider and CWIC client
- JeoBrowser (CNES) (France)
 - Centre National d'Etudes Spaciales
- GENESI (ESA)
 - Ground European Network for Earth Science Interoperations - Digital Repositories
- Heterogeneous Missions Accessibility (ESA)



CWIC Working with CEOS Partners

- NOAA USA (Already a partner)
- NASA USA (Already a partner)
- USGS USA (Already a partner)
- INPE Brasil (Already a partner)
- CCRS Canada (Already a partner)
- AOE China (Already a partner)
- JAXA Japan (Working)
- GISTDA (In Progress)
- NRSCC China (In Progress)
- ESA (Considering)
- ISRO India (Considering)
- NSAU Ukraine (Considering)

