Committee on Earth Observation Satellites

Registration of ECV Inventory CDRs in the CEOS International Directory Network (IDN)

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ESA - WGISS

WGClimate Meeting#10
Marrakech, Morocco
21 March 2019

WGISS Scope

Data Preservation and Stewardship

Interoperability and Use (including FDA)

WGISS promotes collaboration in the development of systems and services that manage and supply Earth Observation data

Data Discovery and Access

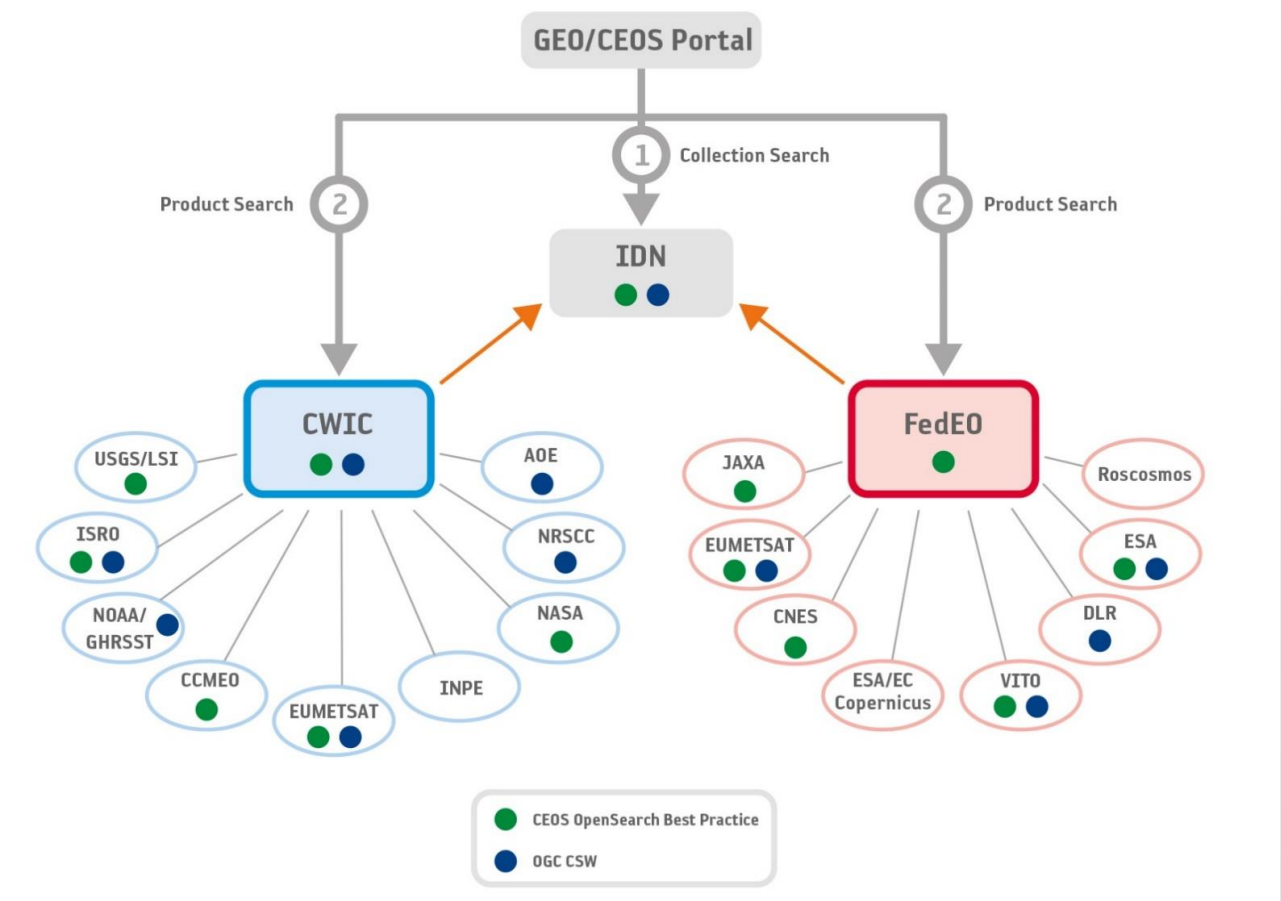
Technology Exploration

Discovery & Access

WGISS accomplishes its Data Discovery and Access efforts through the ***WGISS Connected Data Assets System Level Team (SLT)***

WGISS Connected Data Assets (CDA)

Relying on ***IDN/CWIC/FedEO*** components, provides a single entry point for external clients to discover and access CEOS agencies data



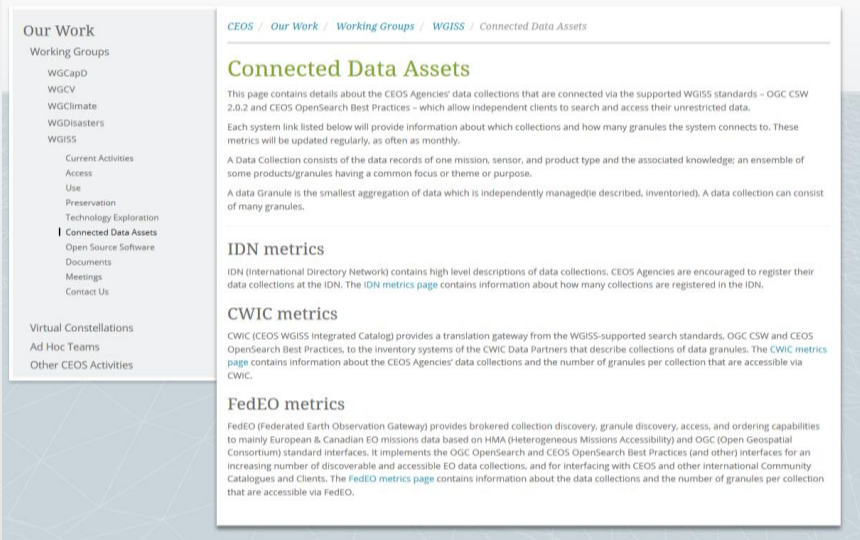
Search over 32,000 collections in the IDN (International Directory Network)

Access over 5500 collections with associated over 300+ million granules (granule search)

WGISS Connected Data Assets (CDA)

- System Level Team (SLT) coordinates maintenance and operations
- Client Portals: GEOSS Platform (GEO Portal), AMERIGEOSS Portal, ESA EOPortal, CEOS COVE Tool, CEOS Carbon Portal
- **Additional data partners can be added to FedEO and CWIC federations**
- Additional data collections/granules continuously being added from heritage and current EO missions

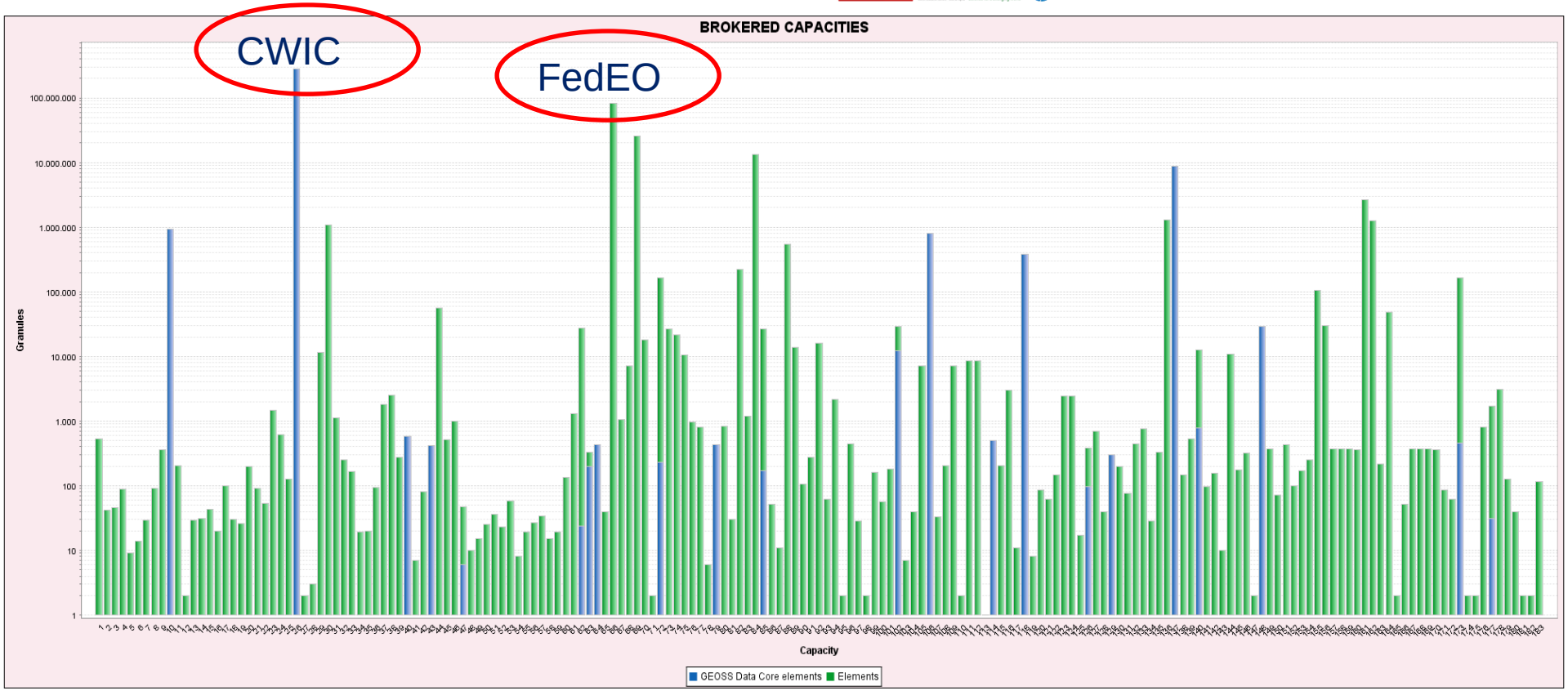
WGISS webpage provides list of the data collections accessible from IDN, FedEO, and CWIC



CEOS data in GEOSS

GEOSS PLATFORM DISCOVERABLE DATA PRODUCTS

Date 2018-10-02



ECVs/CDRs Discovery and Access through WGISS CDA Systems

- **Objective**: facilitate discoverability and accessibility of ECV Products and space-born CDRs relevant for the CEOS Carbon Action via WGISS Interoperability Systems & Standards (FedEO/CWIC/IDN, OpenSearch) → **ACTION DATA-9**
- **Approach**: start from WGClimate ECV Inventory V2.0, assess what data records are already discoverable/accessible through WGISS CDA, fill gaps.

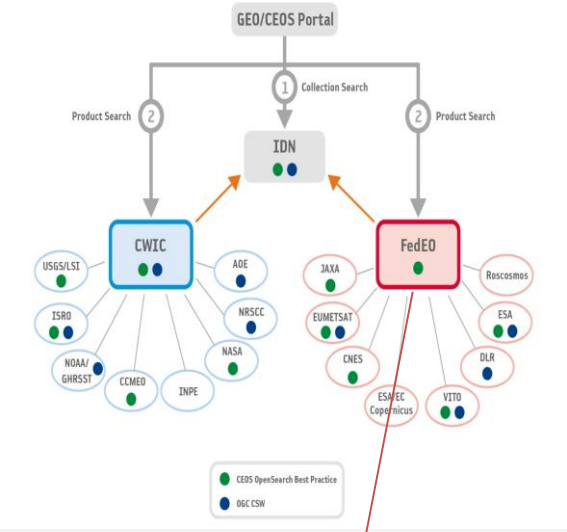
204 ECV/CDRs from ECV Inventory V2.0 to be made accessible through FedEO

CWIC Team (NASA) addressing remaining ones

- Some actions started at beg. 2018 to address the 204 datasets through FedEO: scattered replies, slow progress.

- **WGISS & WGClimate Chair agreed to comprehensively address registration of all ECV/CDRs into IDN together with ECV Inventory update to V3.0**

Registration of ECV/CDR Collections into IDN via FedEO



FedEO ECV Collection Template (FedEO ECV Collection Template.zip)

Option-1: Data Providers not having a remotely accessible catalogue

ECV collection owner shall:

a) Fill up an excel template requiring mandatory information to create valid FedEO/IDN entries

FedEO team shall:

a) Ingest excel files into the FedEO catalogue

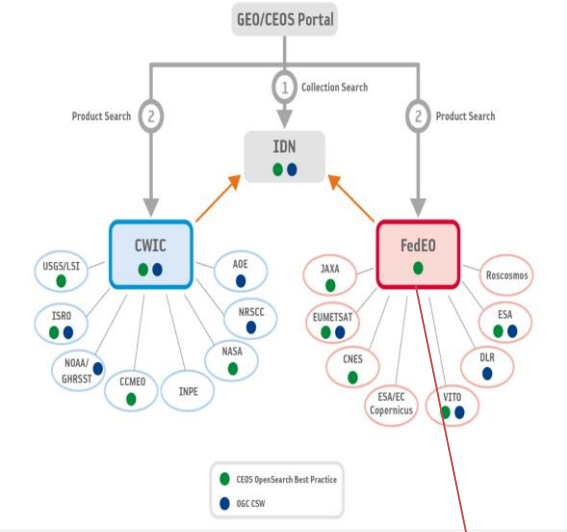
b) Check consistency wrt IDN requirements (e.g., metadata completeness)

c) Export into IDN repository, in agreement with DIF-10 encoding

Pro: Procedure can be set in place in case of catalogue unavailability

Cons: Slow, time consuming, manual procedure. High risk of inconsistency in time. Evolution of the ECV collections need to be reported in FedEO via a new Excel file.

Registration of ECV/CDR Collections into IDN via FedEO



Name	CEDA CCI Catalog
Collection Catalog Endpoint	https://csw.ceda.ac.uk/geonetwork/srv/eng/csw-CEDA-CCI
# records	125
# ECV records	8 out of
User interface	https://esgf-index1.ceda.ac.uk/search/esacci-ceda/
Contact point	victoria.bennett@stfc.ac.uk

Option-2: Data Providers having a remotely accessible catalogue

FedEO team shall:

a) Harvest remote ECV/CDR catalogue (e.g., CEDA CCI)

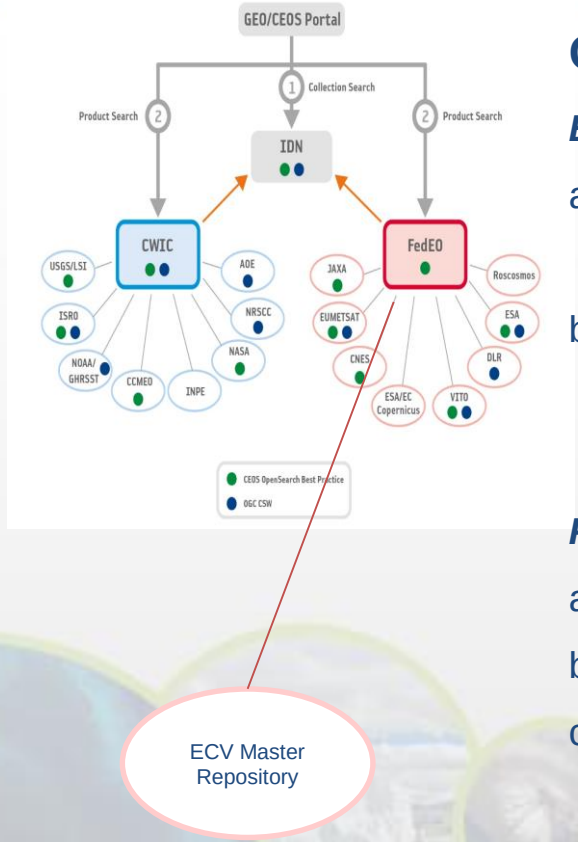
b) Check consistency wrt IDN best practice (e.g. metadata completeness)

c) Export only valid metadata into IDN, in agreement with DIF-10 metadata encoding

Pro: Automatic procedure

Cons: FedEO team not responsible about information content completeness wrt IDN requirements. To get valid IDN entries, a number of exchanges between FedEO and metadata owner teams, may be required (Time/Budget consuming)

Registration of ECV/CDR Collections into IDN via FedEO



Option-3: Optimal Solution

ECV collection owner shall:

a) Prepare ECV collection entry, in agreement with IDN guideline on information content (e.g., mandatory metadata fields)

b) http://climatemonitoring.info/ecvinventory/ shall make available the metadata collection via public API, for machine to machine interaction

FedEO team shall:

a) Harvest remote catalogue (e.g., http://climatemonitoring.info/ecvinventory/)

b) Check consistency wrt IDN best practice (e.g. metadata completeness)

c) Export only valid metadata into IDN, in agreement with DIF-10 encoding

Pro: Automatic procedure. Completeness of information content as ECV collections creator are also responsible of metadata completeness wrt ECV and IDN domains. FedEO responsible for metadata encoding, DIF-10 requested from IDN catalogue

Cons: Some effort for ECV metadata owner to follow IDN metadata guidelines

Proposed way forward

- Option 3 proposed as way forward to accomplish CEOS Work Plan Action DATA-09

- ECV/CDR data owners should provide ECV collection entries in alignment with IDN guideline on information content; entries should be provided together with the information requested for ECV Inventory update to V3.0

- http://climatemonitoring.info/ecvinventory/ shall make available the collection entries via public API, for machine to machine interaction

- FedEO team will harvest information and complete registration in IDN

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CEOS Committee on Earth Observation Satellites

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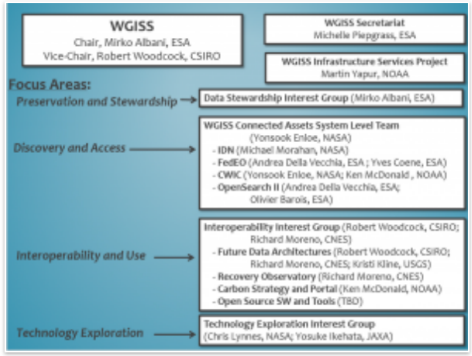
WGISS

Working Group on Information Systems and Services

WGISS (the Working Group on Information Systems and Services) is a subsidiary body supporting CEOS. WGISS promotes collaboration in the development of systems and services that manage and supply these

observatory data.

WGISS creates and demonstrates prototypes supporting CEOS and Group on Earth Observation (GEO) requirements. WGISS also addresses the internal management of EO data, the creation of information systems and the delivery of interoperable services. The activities and expertise of WGISS span the full range of the information life cycle from the requirements and metadata definition for the initial ingestion of satellite data into archives through to the incorporation of derived information into end-user applications.



DLR will host the 46th WGISS meeting during the week of October 22, 2018 in Oberpfaffenhofen (near Munich), Germany.

Meeting Website (Registration, Logistics, Documents)

http://ceos.org/ourwork/workinggroups/wgiss/

Upcoming WGISS Meeting

WGISS#47 hosted by NOAA - Silver Spring, USA (29 April- 2 May 2019)

- FDA & Interoperability Workshop
- Artificial Intelligence and Machine Learning sessions

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