



Committee on Earth Observation Satellites

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

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ESA - WGISS

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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

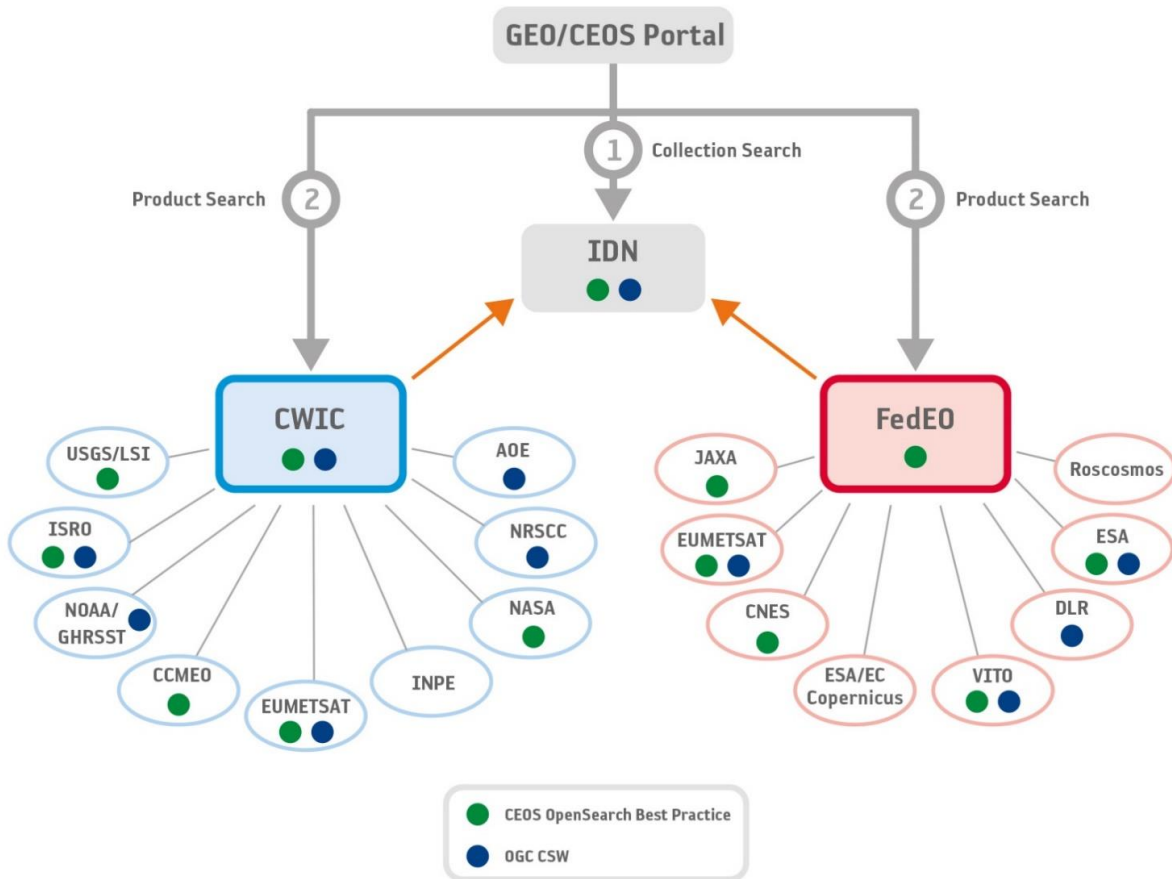
# Discovery & Access

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





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)



- System Level Team (SLT) coordinates maintenance and operations
- Client Portals: GEOSS Platform (GEO Portal), AMERIGEOSS Portal, ESA EO Portal, 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

#### Our Work

##### Working Groups

WGCapD  
WGCV  
WGClimate  
WGDIsasters  
WGISS

Current Activities  
Access  
Use  
Preservation  
Technology Exploration  
| **Connected Data Assets**  
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### Connected Data Assets

This page contains details about the CEOS Agencies' data collections that are connected via the supported WGISS standards – OGC CSW 2.0.2 and CEOS OpenSearch Best Practices – which allow independent clients to search and access their unrestricted data.

Each system link listed below will provide information about which collections and how many granules the system connects to. These metrics will be updated regularly, as often as monthly.

A Data Collection consists of the data records of one mission, sensor, and product type and the associated knowledge; an ensemble of some products/granules having a common focus or theme or purpose.

A data Granule is the smallest aggregation of data which is independently managed (ie described, inventoried). A data collection can consist of many granules.

#### IDN metrics

IDN (International Directory Network) contains high level descriptions of data collections. CEOS Agencies are encouraged to register their data collections at the IDN. The [IDN metrics page](#) contains information about how many collections are registered in the IDN.

#### CWIC metrics

CWIC (CEOS WGISS Integrated Catalog) provides a translation gateway from the WGISS-supported search standards, OGC CSW and CEOS OpenSearch Best Practices, to the inventory systems of the CWIC Data Partners that describe collections of data granules. The [CWIC metrics page](#) contains information about the CEOS Agencies' data collections and the number of granules per collection that are accessible via CWIC.

#### FedEO metrics

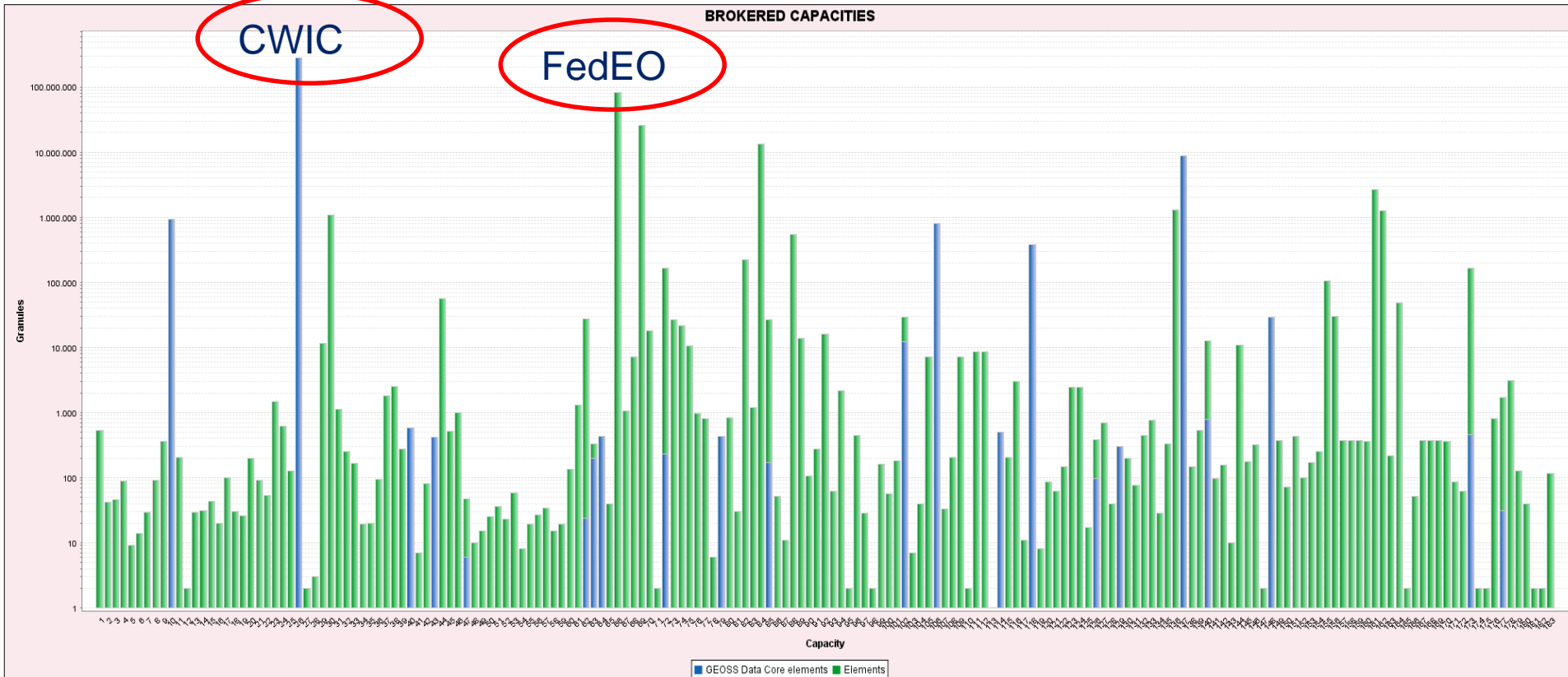
FedEO (Federated Earth Observation Gateway) provides brokered collection discovery, granule discovery, access, and ordering capabilities to mainly European & Canadian EO missions data based on HMA (Heterogeneous Missions Accessibility) and OGC (Open Geospatial Consortium) standard interfaces. It implements the OGC OpenSearch and CEOS OpenSearch Best Practices (and other) interfaces for an increasing number of discoverable and accessible EO data collections, and for interfacing with CEOS and other international Community Catalogues and Clients. The [FedEO metrics page](#) contains information about the data collections and the number of granules per collection that are accessible via FedEO.



## GEOSS PLATFORM DISCOVERABLE DATA PRODUCTS



Date 2018-10-02





- **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.

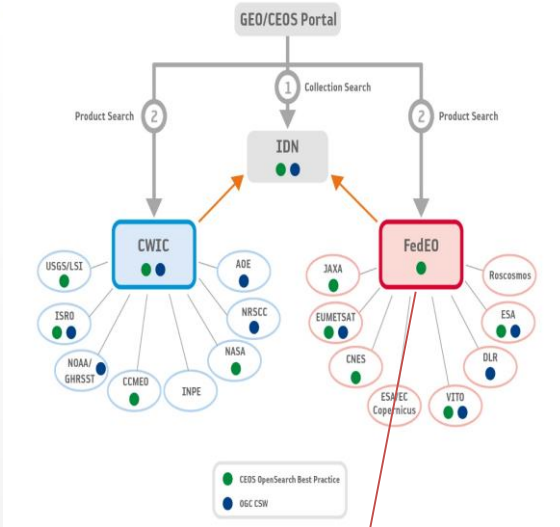
## 204 ECV/CDRs from ECV Inventory V2.0 to be made accessible through FedEO



Microsoft Excel  
Worksheet

## 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**



## 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

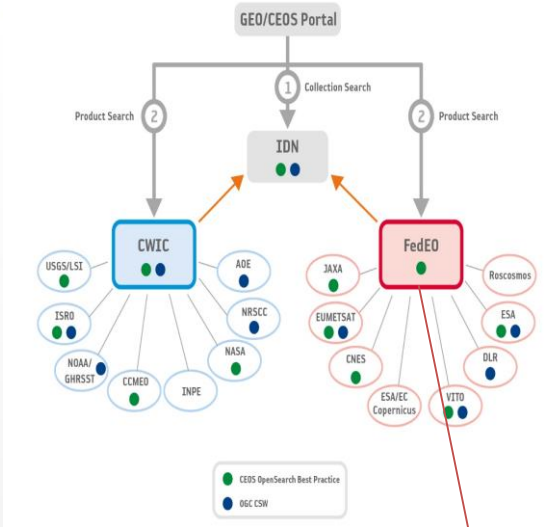


FedEO ECV Collection Template (FedEO ECV Collection Template.zip)

**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.





CEDA CCI Catalog

## Option-2: Data Providers having a remotely accessible catalogue

### *FedEO team shall:*

- Harvest remote ECV/CDR catalogue (e.g., CEDA CCI)
- Check consistency wrt IDN best practice (e.g. metadata completeness)
- 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)

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



## Option-3: Optimal Solution

### *ECV collection owner shall:*

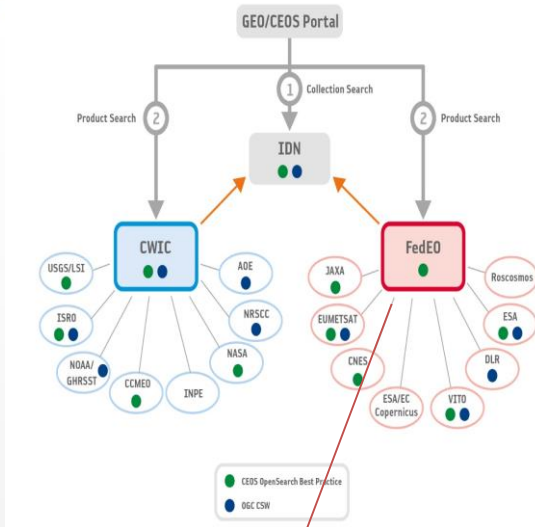
- Prepare ECV collection entry, in agreement with IDN guideline on information content (e.g., mandatory metadata fields)
- <http://climatemonitoring.info/ecvinventory/> shall make available the metadata collection via public API, for machine to machine interaction

### *FedEO team shall:*

- Harvest remote catalogue (e.g., <http://climatemonitoring.info/ecvinventory/>)
- Check consistency wrt IDN best practice (e.g. metadata completeness)
- 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



ECV Master Repository



- **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**

## Our Work

### Working Groups

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[WGDisasters](#)

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## WGISS

### Working Group on Information Systems and Services

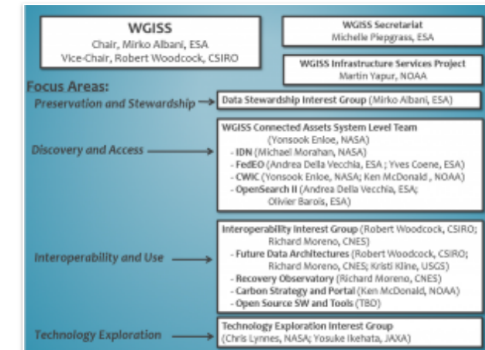
WGISS (the Working Group on Information Systems and Services) is a subsidiary body supporting CEOS. WGISS promotes collaboration in the development of systems and services that manage and supply these

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/>





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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