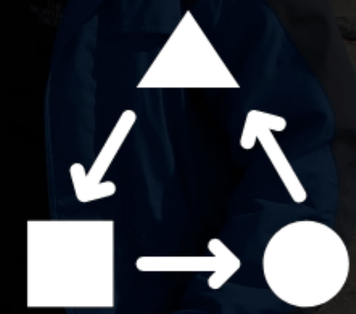
EBAS OAI-PMH

Richard Rud | Developer at NILU

Motivation

Develop services that add value

Let people know
what do we have to offer



Interoperability

Machine to machine interface

File Creation

EBAS submit guidelines

EBAS File Generation Tool

Data Submission

EBAS submission tool

NRT DATA

EBAS IO modules

User Support

Data Import

EBAS Core DB

Data Export

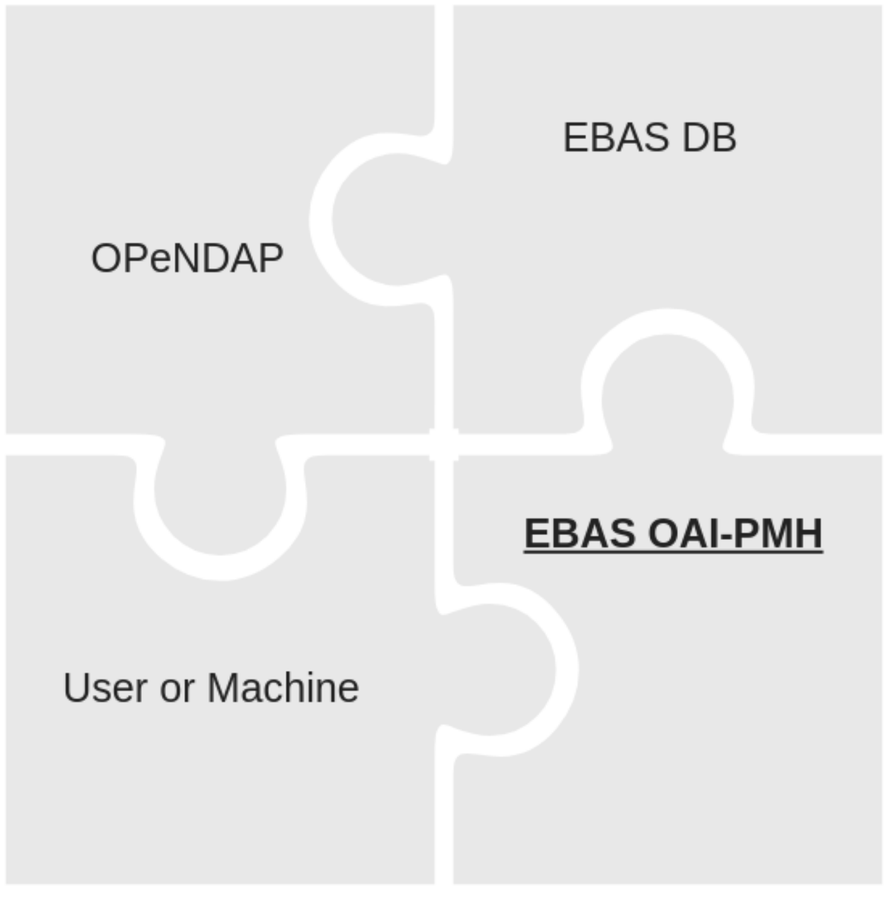
EBAS OAI-PMH

EBAS OPeNDAP

EBAS Web

Custom dataflow/export

A piece of the machine-to-machine interface puzzle



Long time series

1970 -> 2017

Started with acid rain

Now we cover a lot

EBAS

48

International frameworks and projects

71

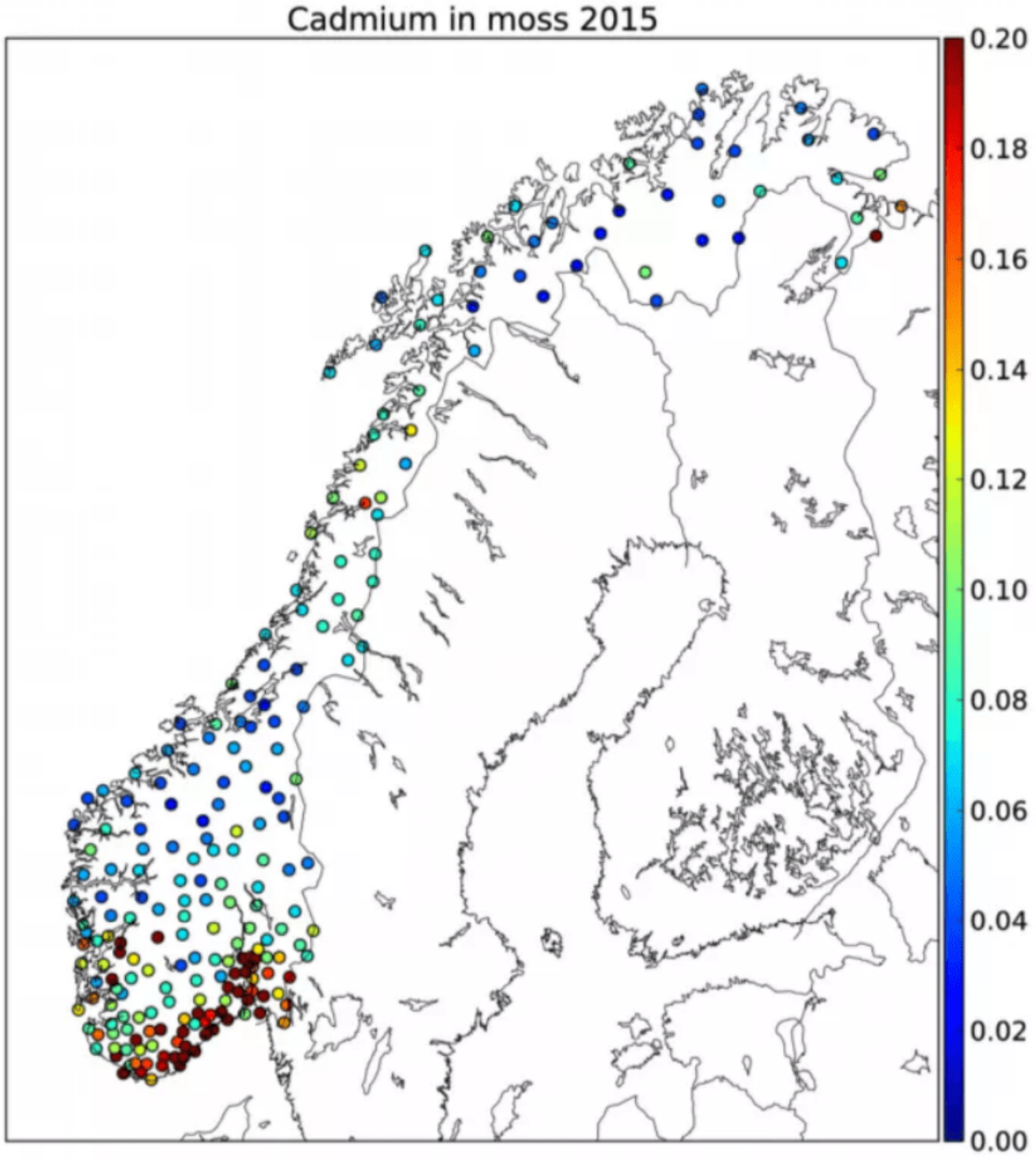
countries that deliver data to EBAS

1101

stations delivering data to EBAS

625

different components


Cadmium in moss 2015
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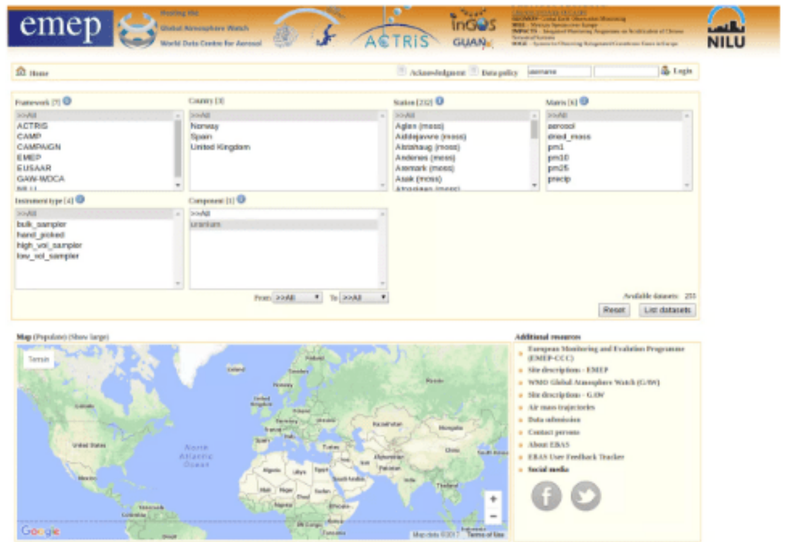
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00



VS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```

The metadata format is the WIS standard, consisting of the WMO Profile of ISO 19139: http://ebasoai.nilu.no/oai?verb=Identify

XML for EBAS.PL0002R.19850101070000.20160712120000.lwe_thickness_of_precipitation_amount.precip.1d.2

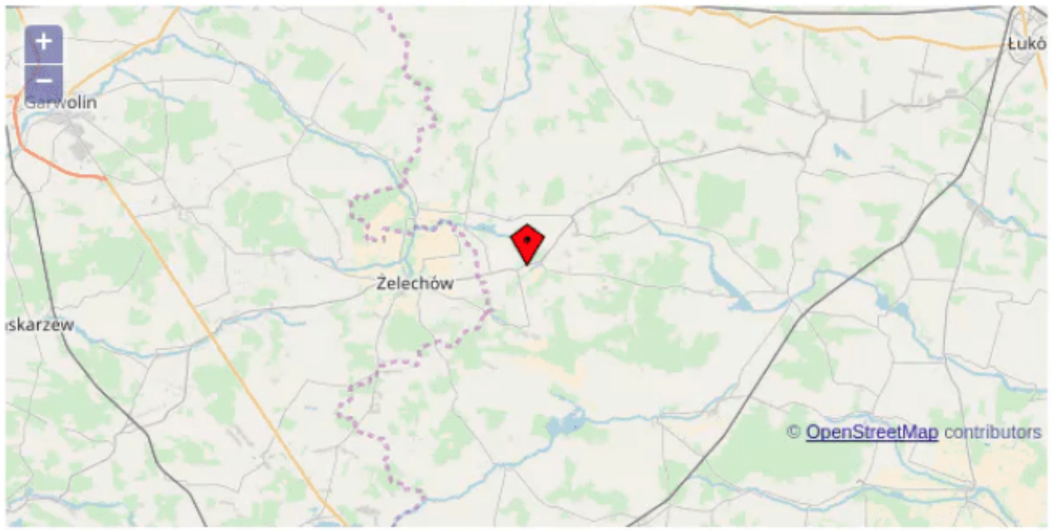
Close | Download | WMO Rubric

Measurements of lwe thickness of precipitation amount at Jarczew, Poland (19850101 - 20160101)

This service provides bulk sampler measurements of lwe thickness of precipitation amount observed at Jarczew, Poland (19850101 - 20160101). The observations contain level 2 data. The time resolution is 1d. The observations are stored in the EBAS database (http://ebas.nilu.no/).

Synopsis

PID	EBAS.PL0002R.19850101070000.20160712120000.lwe_thickness_of_precipitation_amount.precip.1d.2
Title	Measurements of lwe thickness of precipitation amount at Jarczew, Poland (19850101 - 20160101)
Originator	
Abstract	This service provides bulk sampler measurements of lwe thickness of precipitation amount observed at Jarczew, Poland (19850101 - 20160101). The observations contain level 2 data. The time resolution is 1d. The observations are stored in the EBAS database (http://ebas.nilu.no/).
Code form	NASA Ames 1001 (EBAS_1.1)
Web URL	http://ebas.nilu.no/DataSets.aspx?stations=PL0002R&InstrumentTypes=bulk_sampler&components=precipitation_amount&matrices=precip&fromDate=1985-01-01&toDate=2016-01-01
Generated	
Bounding box	North: 51.8167 West: 21.9833 East: 21.9833 South: 51.8167



MD Metadata

GEO GROUP ON EARTH OBSERVATIONS

GEOSS Portal

esa

EBAS

Search Results Number of results: 23

Filters

KEYWORD SOURCE

Resource preview not available

EBAS atmospheric composition data

(Organization: Federated EO Gateway (FedEO) - CEOS)

Title EBAS atmospheric composition data Description EBAS - EMEP Database Date 1970-01-01T00:00:00.000Z/9999-01-01T23:59:59.000Z Media Type ATOM | SRU Metadata ISO 19139 | ISO 19139-2

GEOSS DATA CORE

0 recent views

0.0 0

Collection start date: 1970-01-01

Resource preview not available

EBAS atmospheric composition data

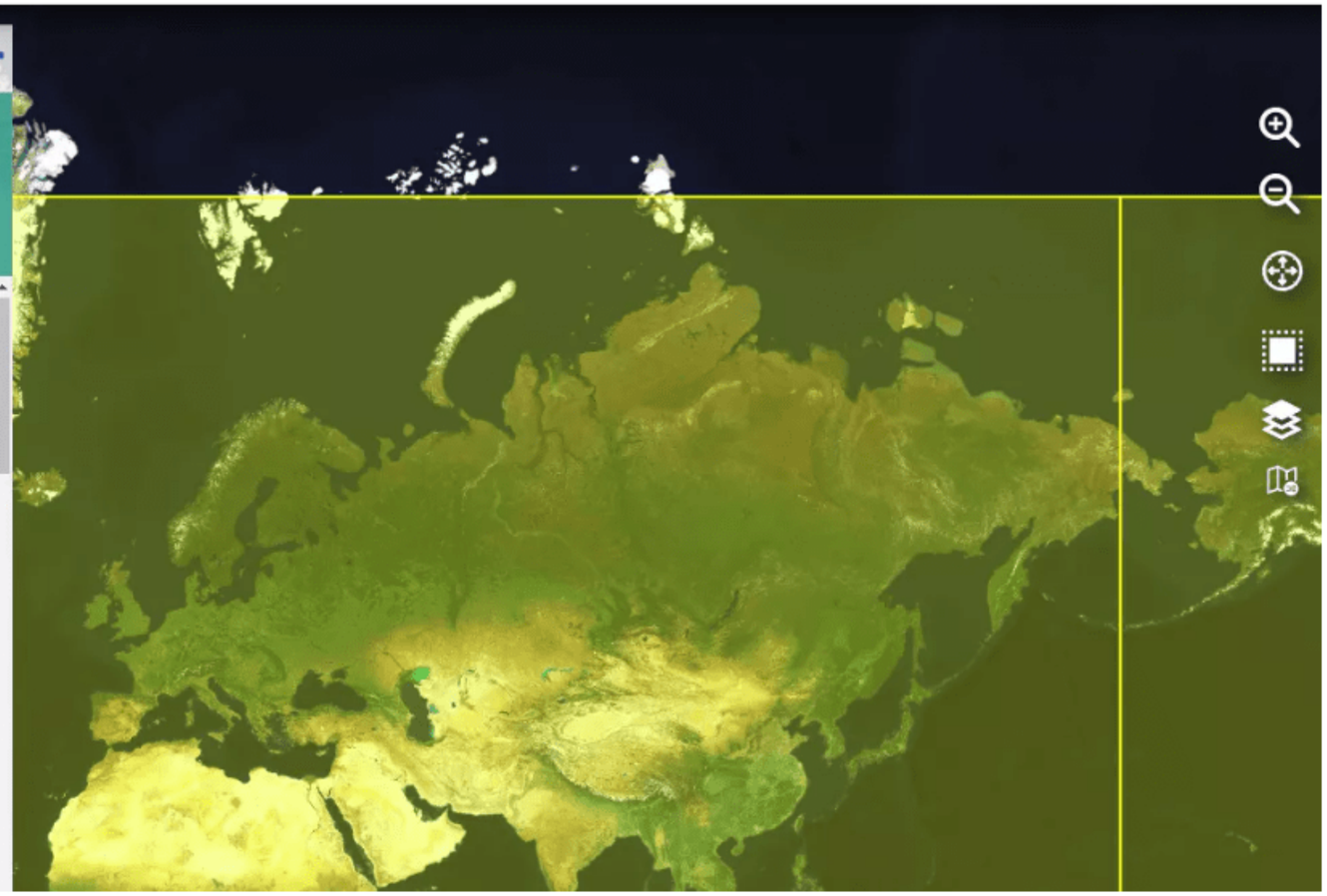
(Organization: NASA Global Change Master Directory)

GEOSS DATA CORE

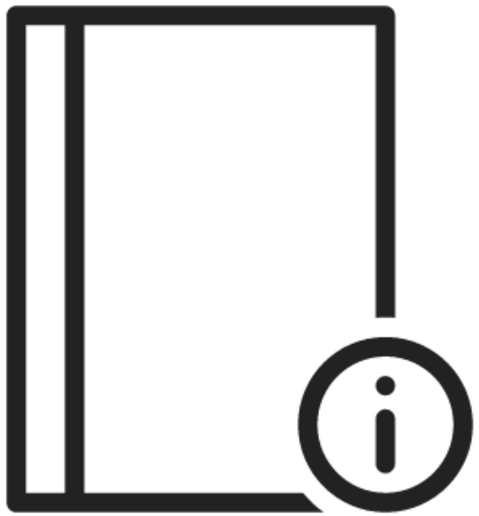
0 recent views

0.0 0

Collection start date: 1970-01-01



WIGOS Metadata



WORLD METEOROLOGICAL ORGANIZATION

Our Technology Stack

SQLite

python™

ubuntu®

infrae / pyoai

SYBASE® An SAP Company

Jenkins

git

Sickle

GitLab

XML

HTML

Flask
web development,
one drop at a time

Server

ubuntu

Front-End Layer

HTML

XML

Business Logic Layer

python

infrae / pyoai

Flask
web development,
one drop at a time

DB Layer

SQLite

Automation

GitLab

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EBAS DB

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infrae / pyoai

Flask
web development,
one drop at a time

DB Layer

SYBASE
An SAP Company

Automation

GitLab

git

Jenkins

Querying the core DB was a bottleneck

Replacing Sybase (Core EBAS DB) with dedicated SQLite DB

What works

The road ahead

Mapping

We are currently in a transition phase

Divide metadata in sets

Monitor web metrics

Implementation of the WIGOS metadata standard

DOIs

Start harvesting

EVDC – ESA atmospheric Validation Data Centre

EVDC – ESA atmospheric Validation Data Centre

- Serves as a central, long-term repository in Europe for archiving and exchange of correlative data for validation of atmospheric composition products from satellite platforms.
- Builds on the previous ENVISAT Cal/Val database system in operation at NILU since the early 2000s, and provides tools for extraction, conversion and archival of a large amount of data.
- Provides an online information system that supports users in managing and exploiting campaign datasets for Earth Observation missions and applications.
- The objective of the EVDC is to provide an online information system that supports users in managing and exploiting campaign datasets for Earth Observation missions and applications.

https://evdc.esa.int

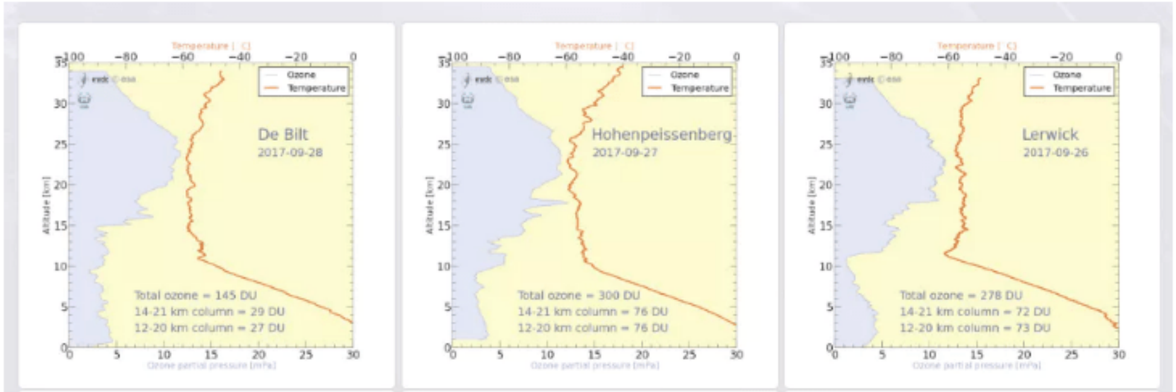
- Search Cal/Val
- Search Satellite
- Overpass Tool

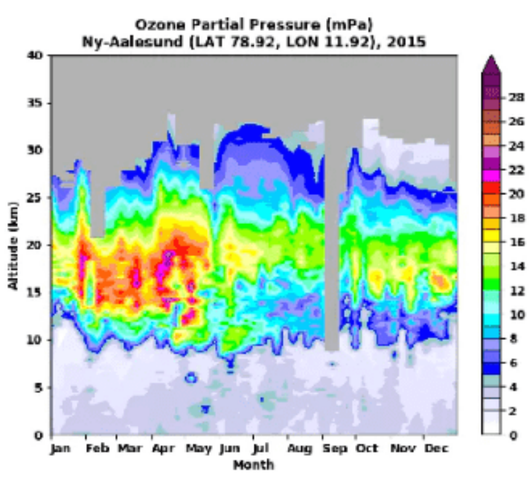
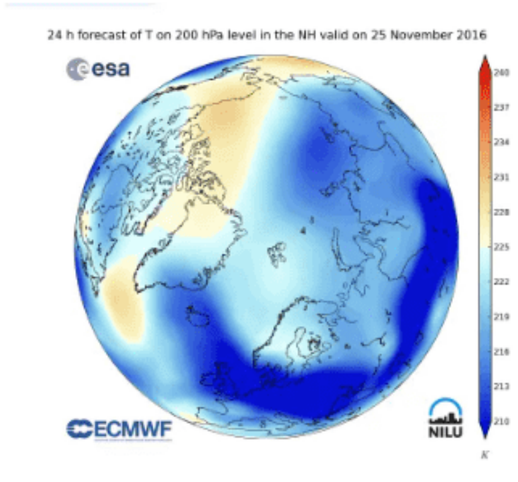
DCIO – Data Centre Inter Operability

- EVDC has set up harvesting methods for sharing metadata between data archives from a number of national and international projects and programmes, e.g. TCCON, TOLNet, AVDC and others, and for the ESA Sentinel-5P Mission Performance Centre. Increasing number of collaborators.
- Work based on The Data Center Inter Operability project that was an initiative started by the European Space Agency (ESA) in December 2008 and further continued in GECA project (Generic Environment for Calibration/Validation Analysis).
- Developed by data centers in close contact with data providers.
- DCIO chose the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) for interchanging catalogue metadata.

Ozone sonde data

- Data from a number of NDACC and SHADOZ stations are submitted to the EVDC and NADIR data archives on a daily basis and plotted at the data centre. Most of these stations are GAW stations.
- Data mirrored/shared with AVDC and WOUDC.
- EVDC receives o3sondes in Near-Real-Time.
- Service to plot latest o3sonde from selected stations.



Other plotting services available in EVDC:

E.g. ECMWF data (forecast and analysis), o3sondedata (annual plots)