Further developing the SeaDataNet
pan-European infrastructure for
marine and ocean data management

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SeaDataCloud 2nd User workshop, 17 September 2020

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What is SeaDataNet?

A pan-European infrastructure set up and operated for managing marine and ocean data in cooperation with the NODCs and data focal points of 34 countries bordering the European seas

90s	Metadata directories Medar/MedAtlas
2002-2005	Sea-Search (FP5)
2006-2011	SeaDataNet (FP6)
2011-2015	SeaDataNet II (FP7)
2016-2020	SeaDataCloud (H2020)

A legal entity : SeaDataNet AISBL for sustainability of the Consortium (same structure than EuroGoos)

SeaDataCloud - Cooperation with EUDAT
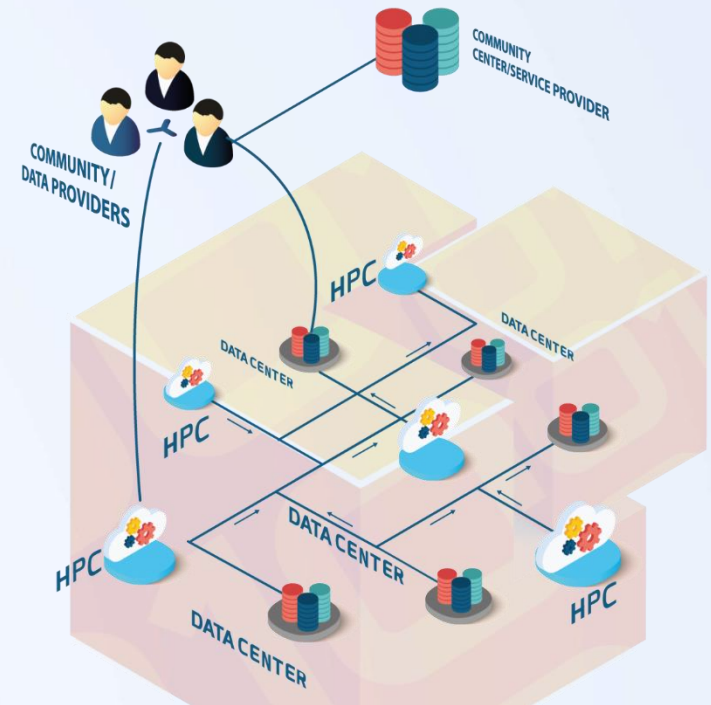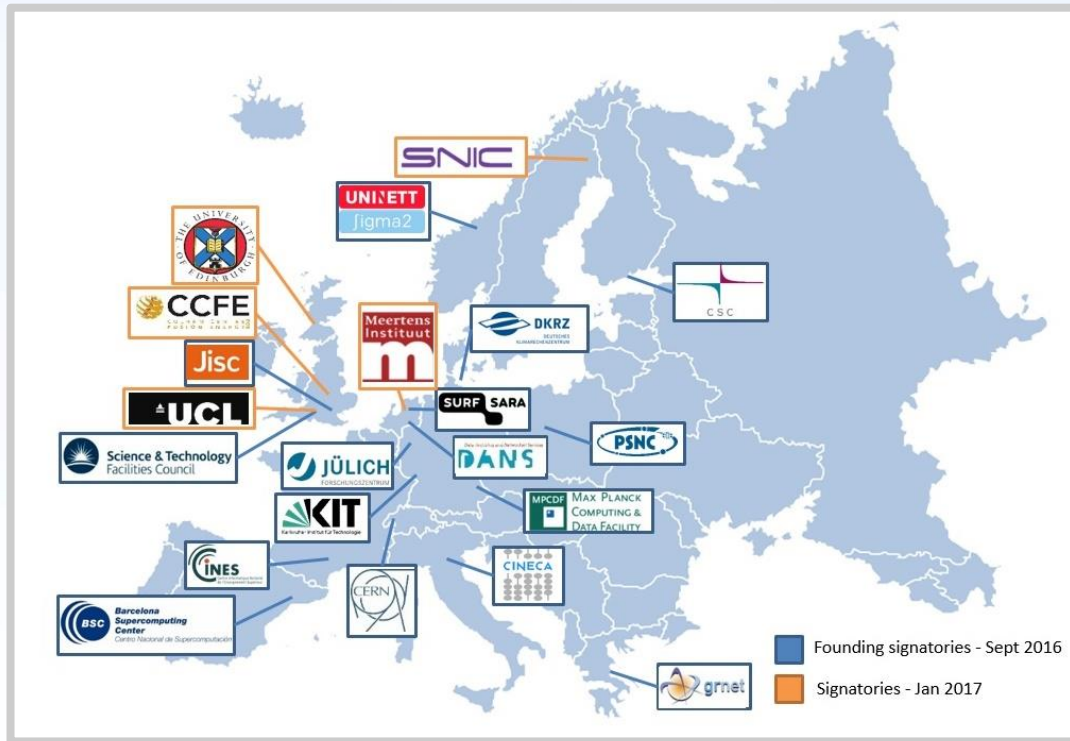
A consortium of 20 High Performance Computing (HPC) centres offering also storage resources

5 EUDAT members are partners of SeaDataCloud
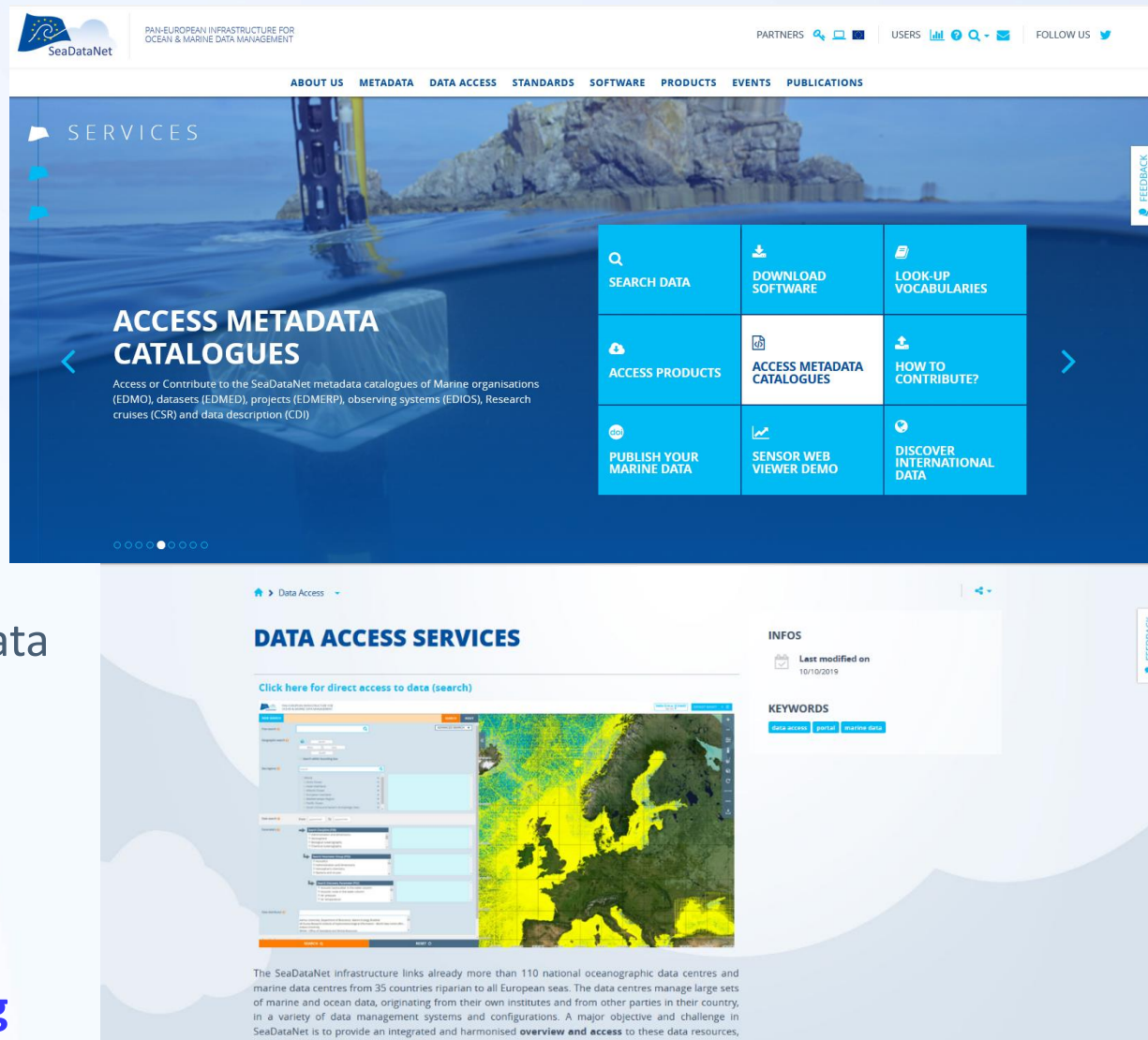
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SeaDataNet portal

With access to services

- Standards & common vocabularies

- Software tools both for data centres and users

- Data and metadata catalogues

- Data products

http://www.seadatanet.org

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SeaDataNet metadata directories

EDMO
Organisations

EDMERP
Projects

CSR
Cruises

EDIOS
Observatories

CDI
Data

EDMED
Data sets
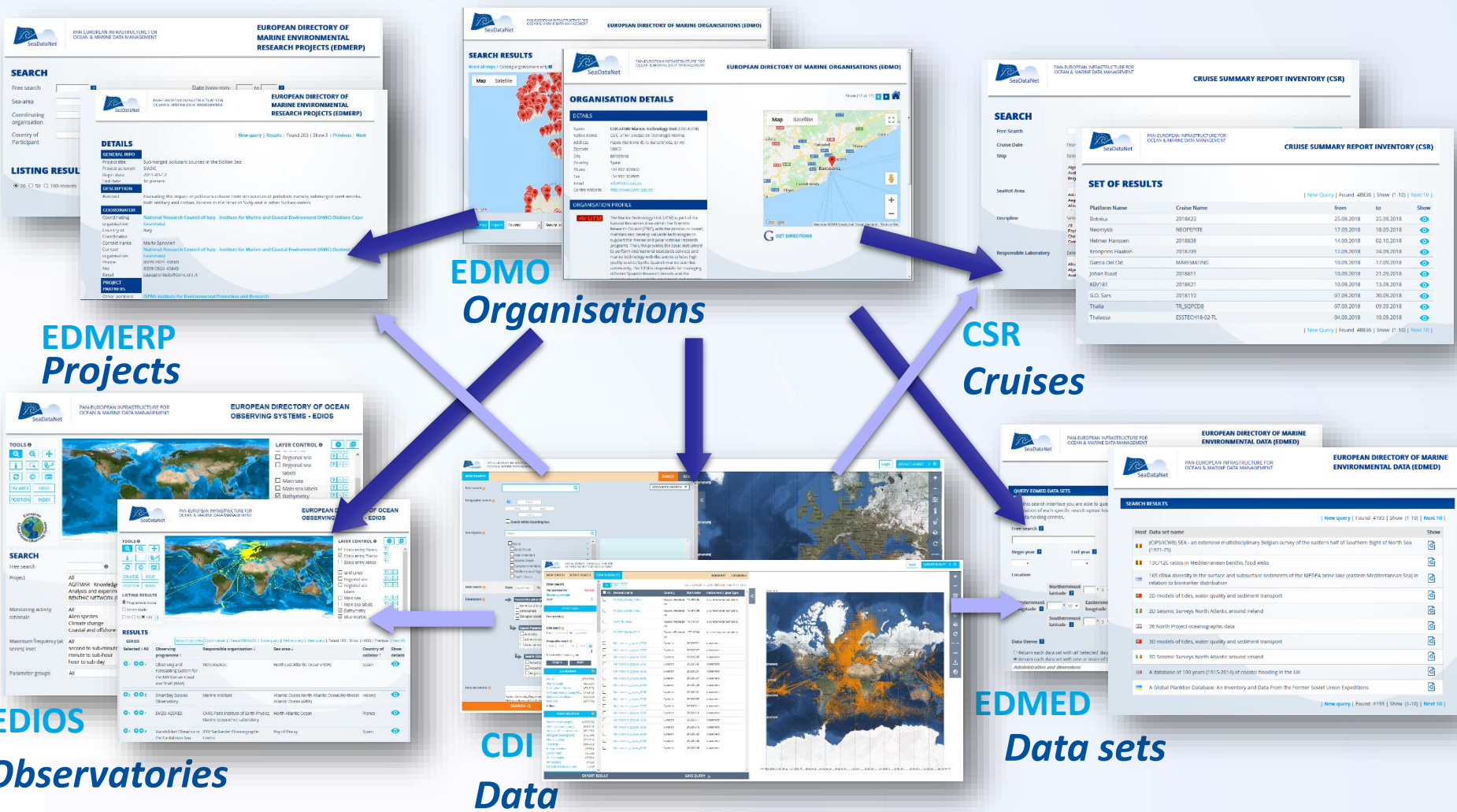
CDI catalogue: discovery and access to data

Search and selection

More than 110 data centres connected

EUDAT Cloud

MARINE iD

Data ... loud

European data sources

Data centres ◀ ≈ 730 source laboratories
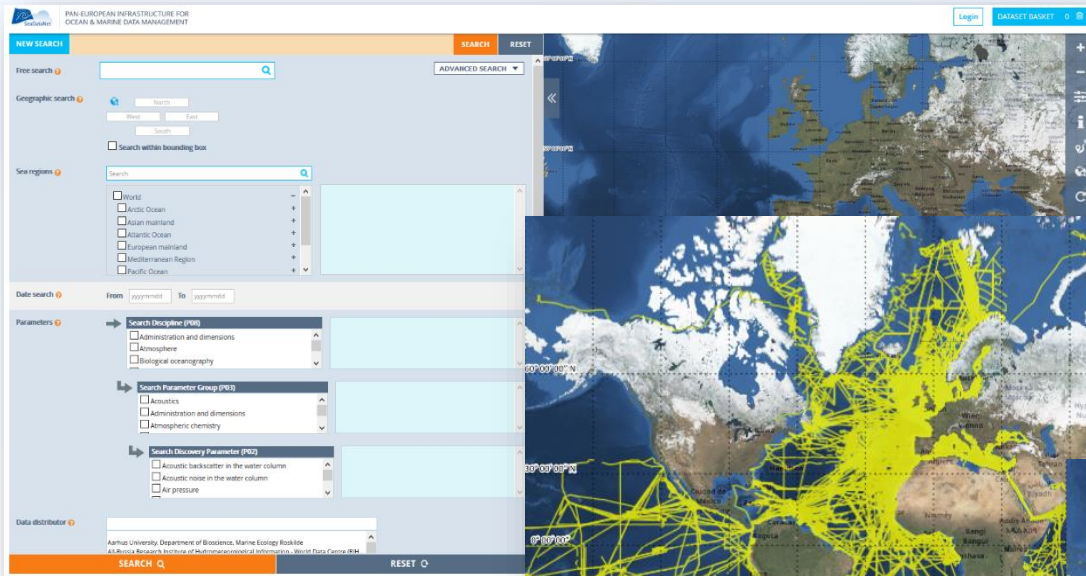
Data centres
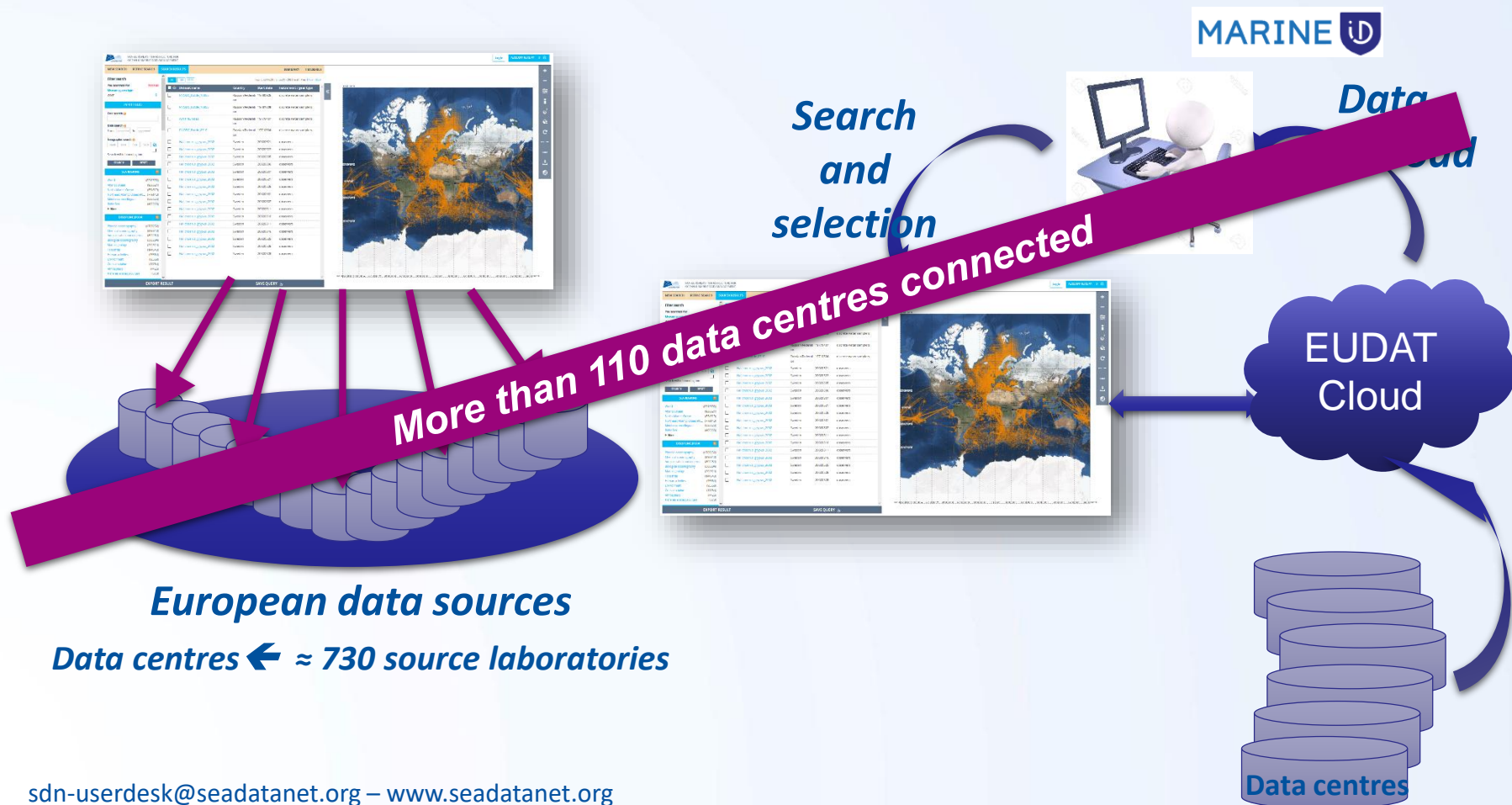
Service for discovery and unified data access

cdi.seadatanet.org/search

Trajectories

Vertical profiles or time series

- since 1800 ➔ 2020

- 2.5 M of CDIs for physical, chemical, biological, bathymetry, geosciences data

- 89 % of unrestricted or SDN license data

SeaDataNet products

CENTRAL CDI

Analysis of data anomalies

Data harvesting

SeaDataNet Quality Checks Strategy (QCS)

QC analysis

File and parameter aggregation

QC-Loop

Access to the SeaDataNet Products Catalogue
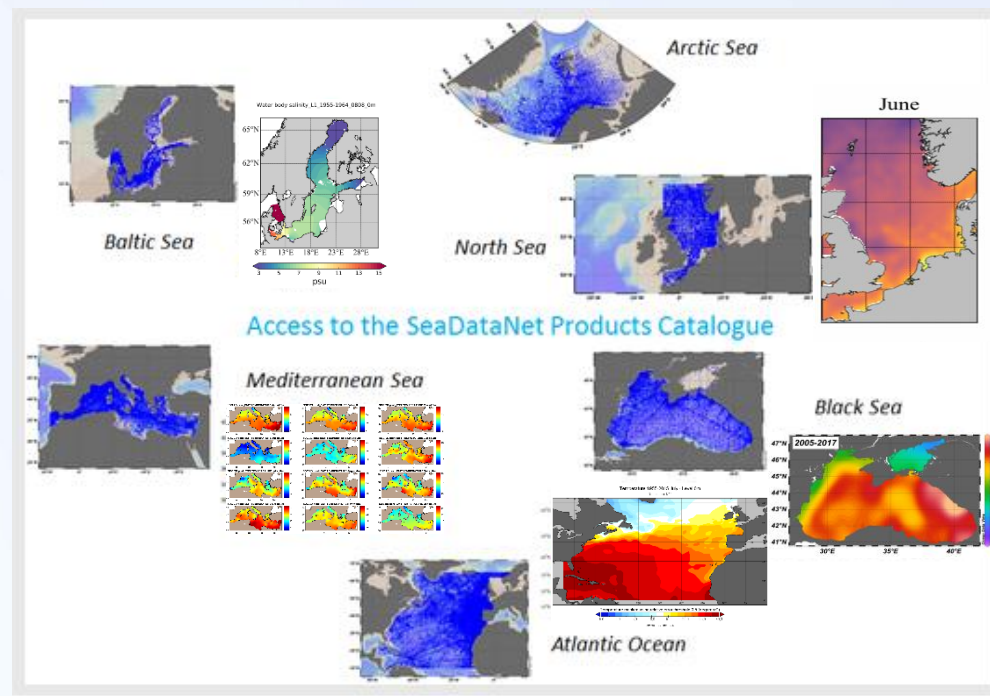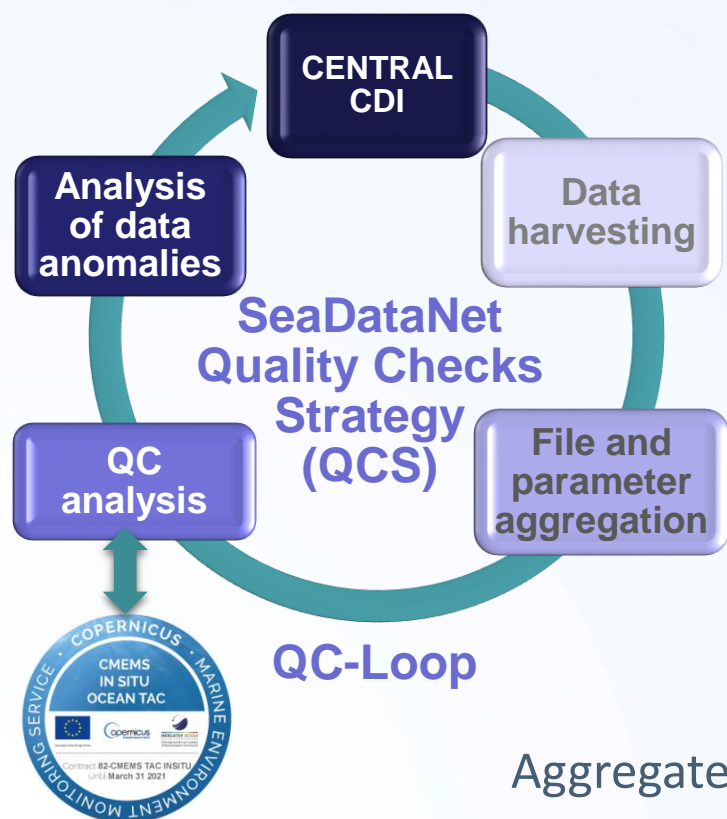
Aggregated datasets and climatologies

Improvement of the data quality

SeaDataNet standards

- Metadata formats for all catalogues
  - ISO19115 and ISO19139
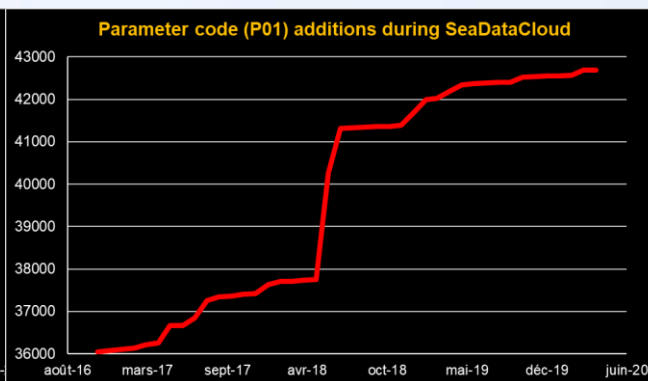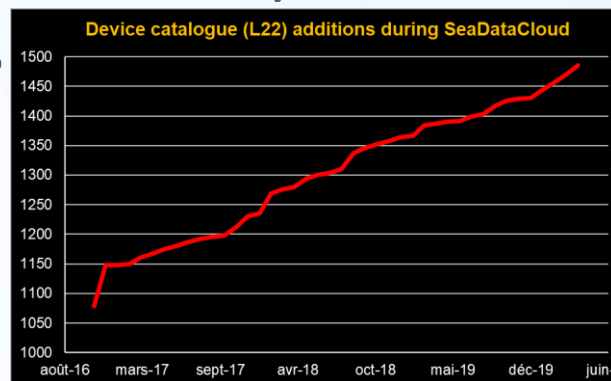- SeaDataNet data transport formats
  - ASCII (Ocean Data View, and MedAtlas)
  - NetCDF (CF compliant)

➔ Relying on controlled vocabularies governed by NOC-BODC (UK) and used in many other international or national initiatives
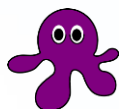
SeaDataNet software Tools (1)

- Tools for the data centres – data managers

  – To be connected to the infrastructure and to be able to duplicate data in the cloud (Replication manager)

  – To follow the data downloading by users : MySeaDataCloud

  To generate the metadata at the SDN standards : MIKADO

  To generate the data files at the SeaDataNet standards : NEMO

  To check the compliance of the data files : OCTOPUS

  To quality check the data: ODV

SeaDataNet software Tools (2)

- Tools for the users and data scientist
  - All catalogue search interfaces
  - To visualise data, plot, analyse : ODV
  - To interpolate data : DIVA
  - to publish your data using Sensor Web standards
  - To publish marine data (and get a DOI) : SEANOE
  - To work on datasets in the cloud environment : **SDN Virtual Research Environment (VRE)**
    - prototype available and used by the regional product leaders of the SDC project