EMODnet - *European Marine Observation and Data Network*

Physics

Past, present and future

Knowledge base for growth and innovation in ocean economy: assembly and dissemination of marine data for seabed mapping

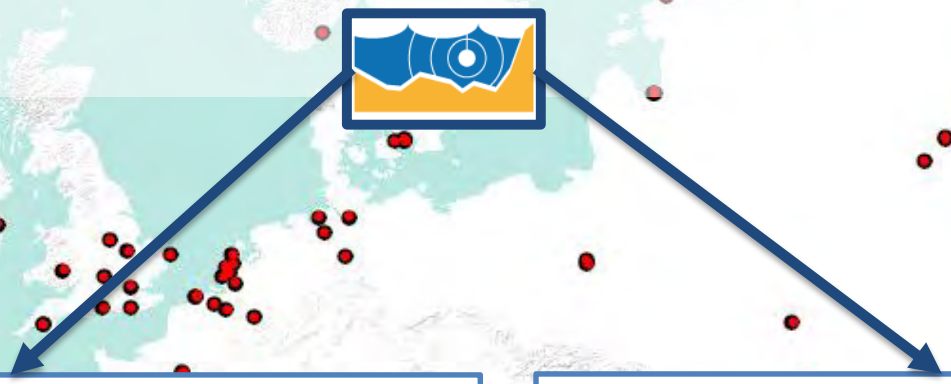
MARE/2012/10 - Lot 6 Physics [SI2.656795]

A Novellino G Manzella D Schaap S Pouliquen L Rickards P Gorringe

EMODnet
European Marine Observation and Data Network

What is EMODnet?

A network of people and technology that work together to compile and distribute data, metadata and products on European coastal and ocean waters



Provide access to data

(i) easily accessible,
(ii) free of restrictions on use and
(iii) Interoperable

→ **Collected stored & managed by MS and/or regional aggregators**

Create data products of common interest

→ **Developed, stored and made available by EMODnet**

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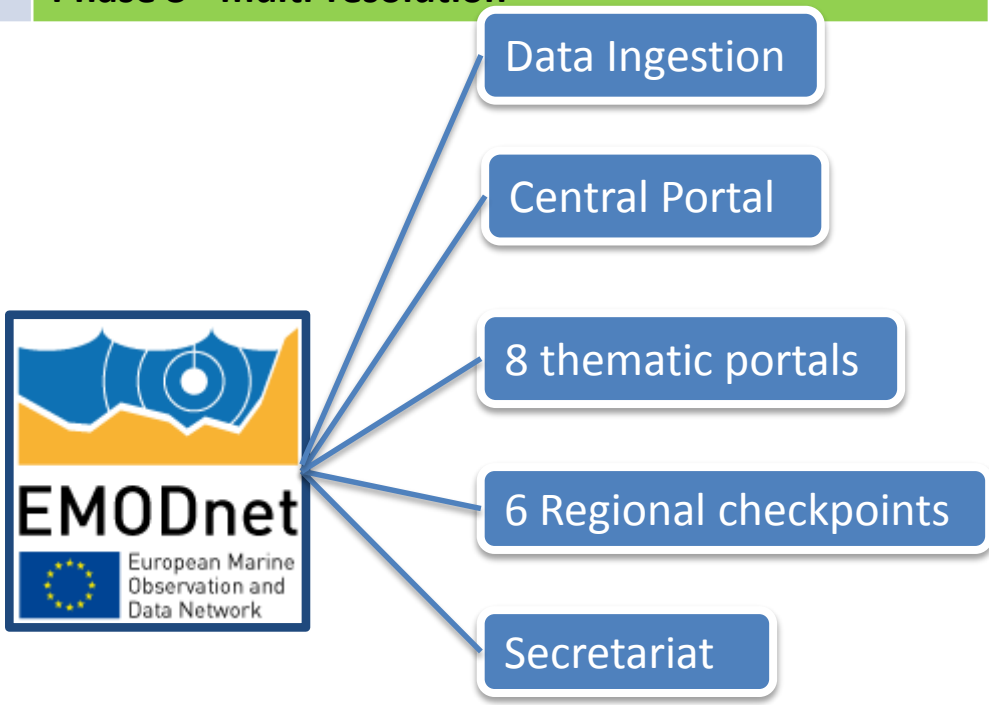
How?

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Phase 1 – limited sea basins											
				Phase 2 - low resolution all basins							
						Phase 3 - multi-resolution					

- **Long term marine data initiative from the European Commission Directorate-General for Maritime Affairs and Fisheries (DG MARE)**
- **Data infrastructure is developed through a stepwise approach in three major phases**
- **More than 100 organisations assembling marine data, products and metadata**



European Commission

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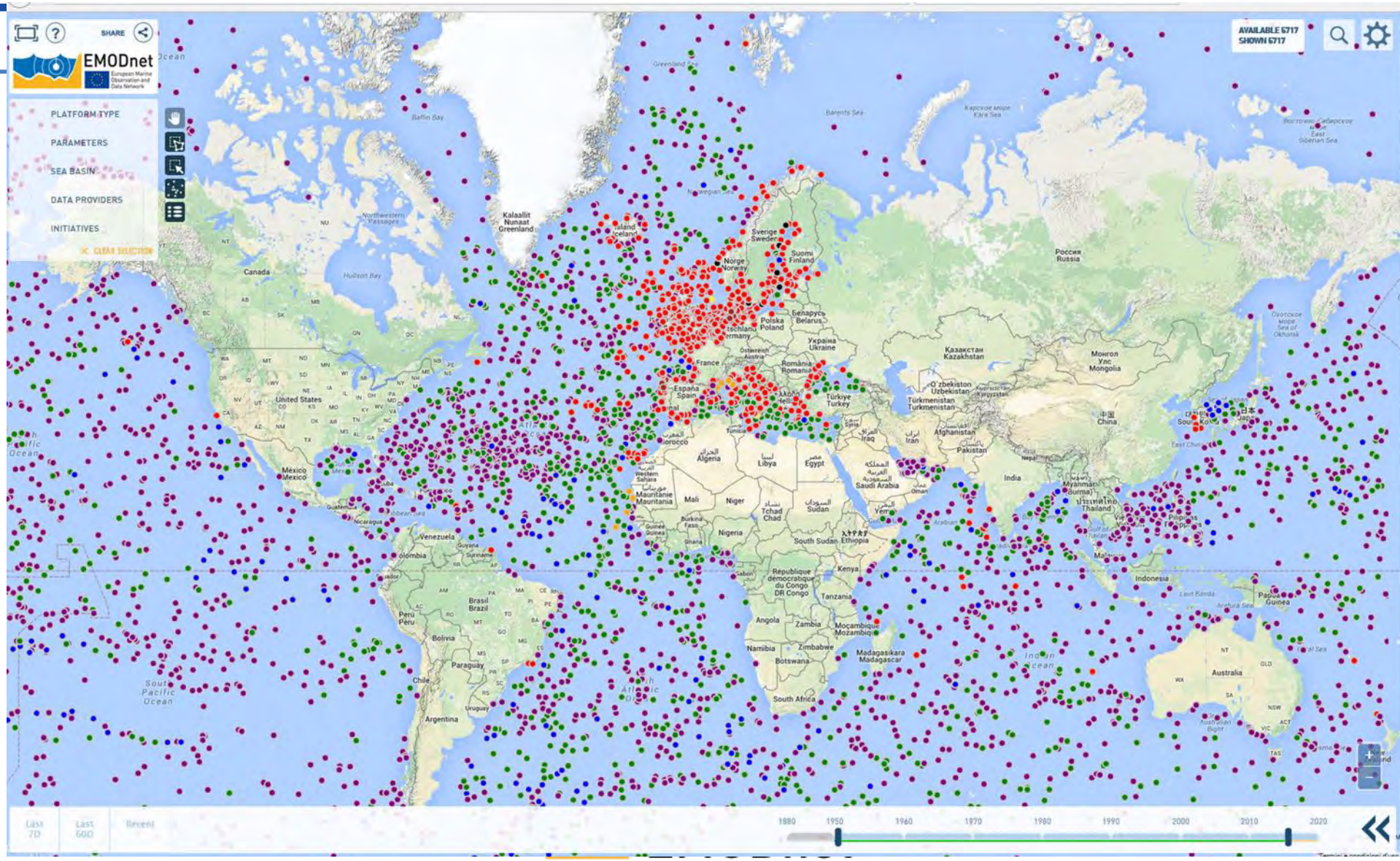

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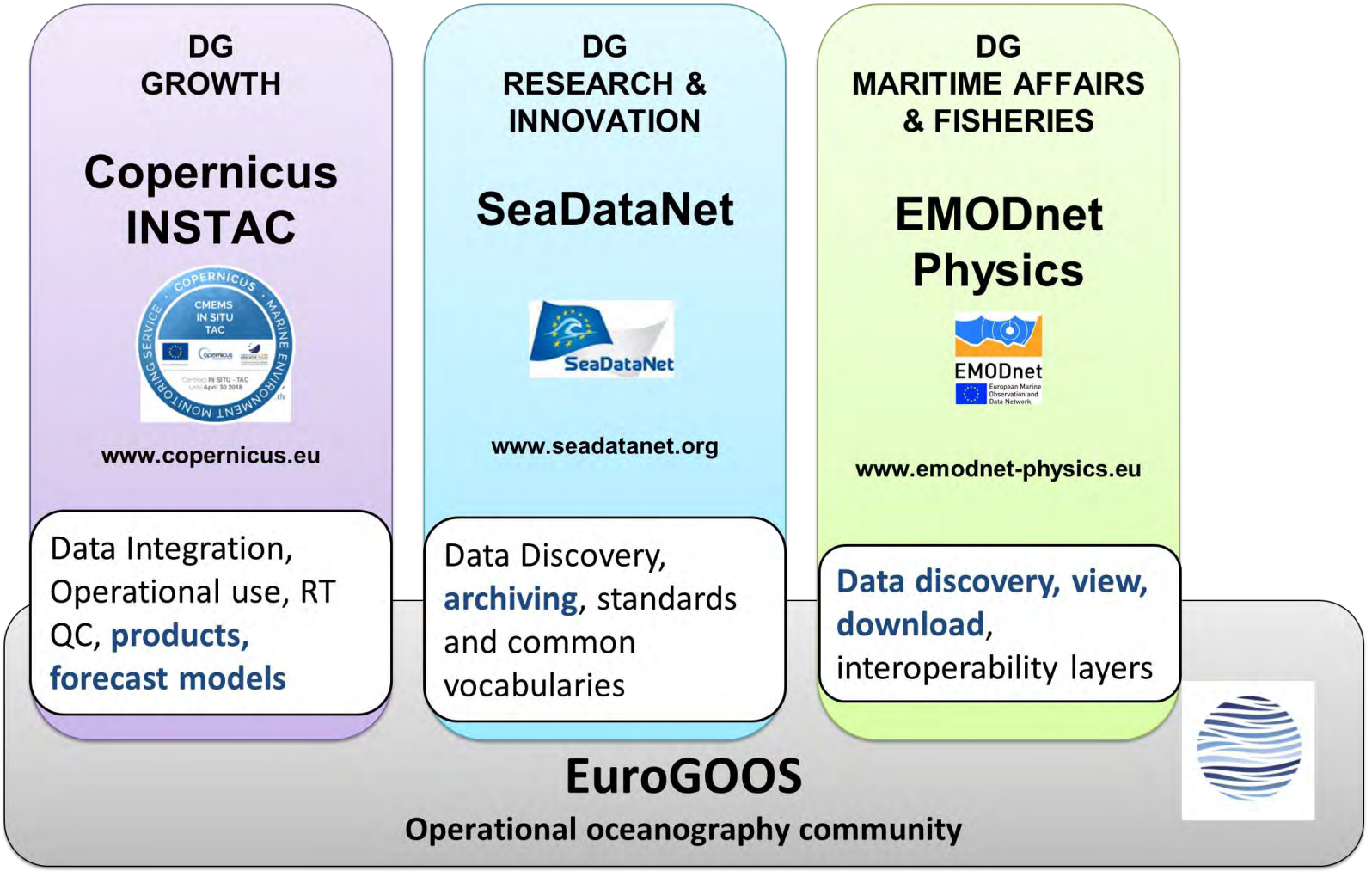
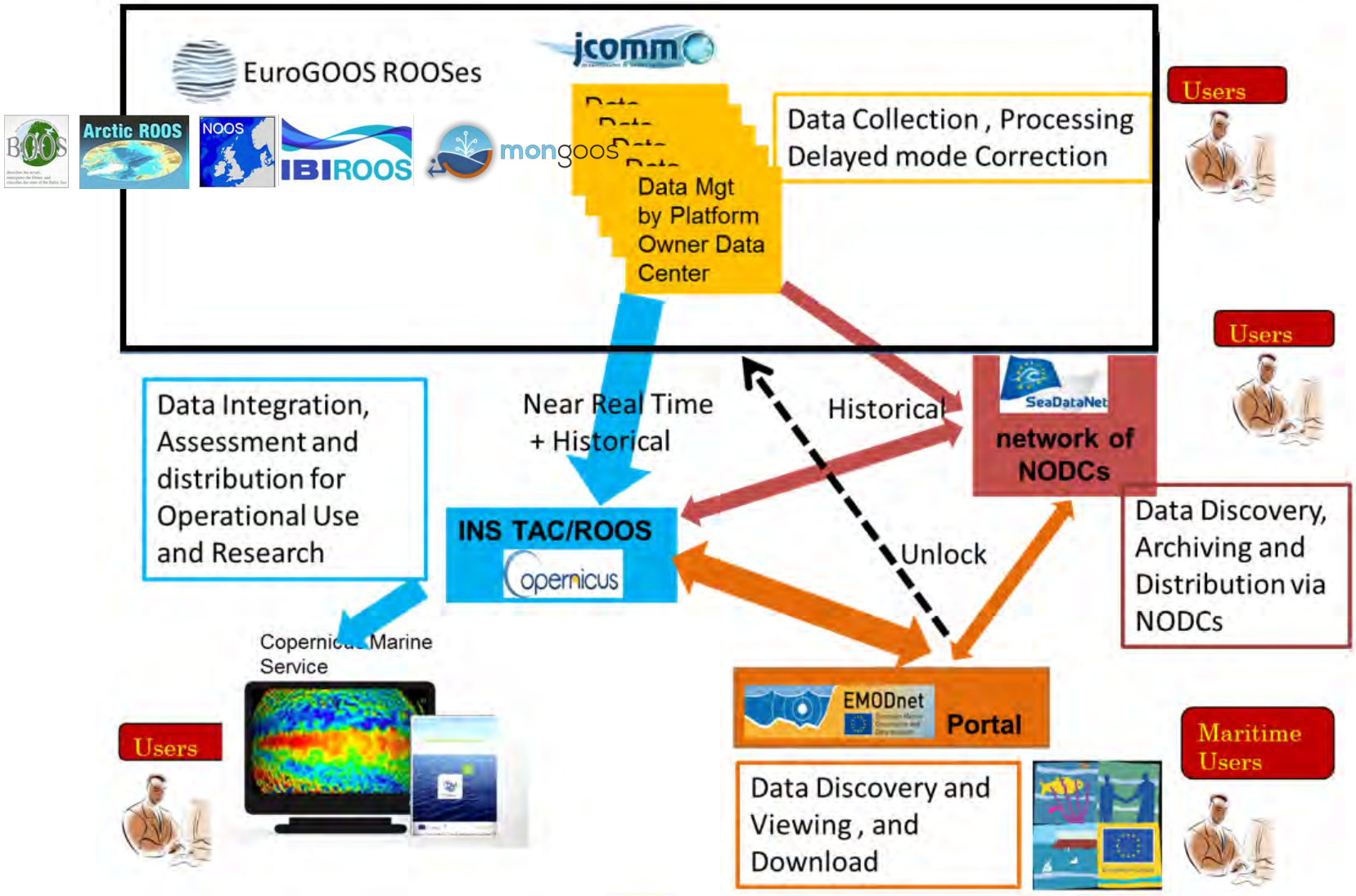
Physics objectives

- Provide a **single access point** of free and open access to marine real-time and archived data for physical parameters as monitored by fixed platforms, ferry boxes, ARGOs, gliders, HF Radars,….
- **Provides easy data access to any user** and stakeholder
- Facilitate **down- and up-stream integration** and **interoperability** (WMS, WFS, Web Service, etc.)
- Collects data in a number of formats, makes available in one common format
- Attract **new data**, new data **providers**, new **platforms**
- Built in **cooperation and coordination** with **EuroGOOS ROOSs** and on other existing European integrators infrastructures **CMEMS and SeaDataNet**

Initiatives for marine information





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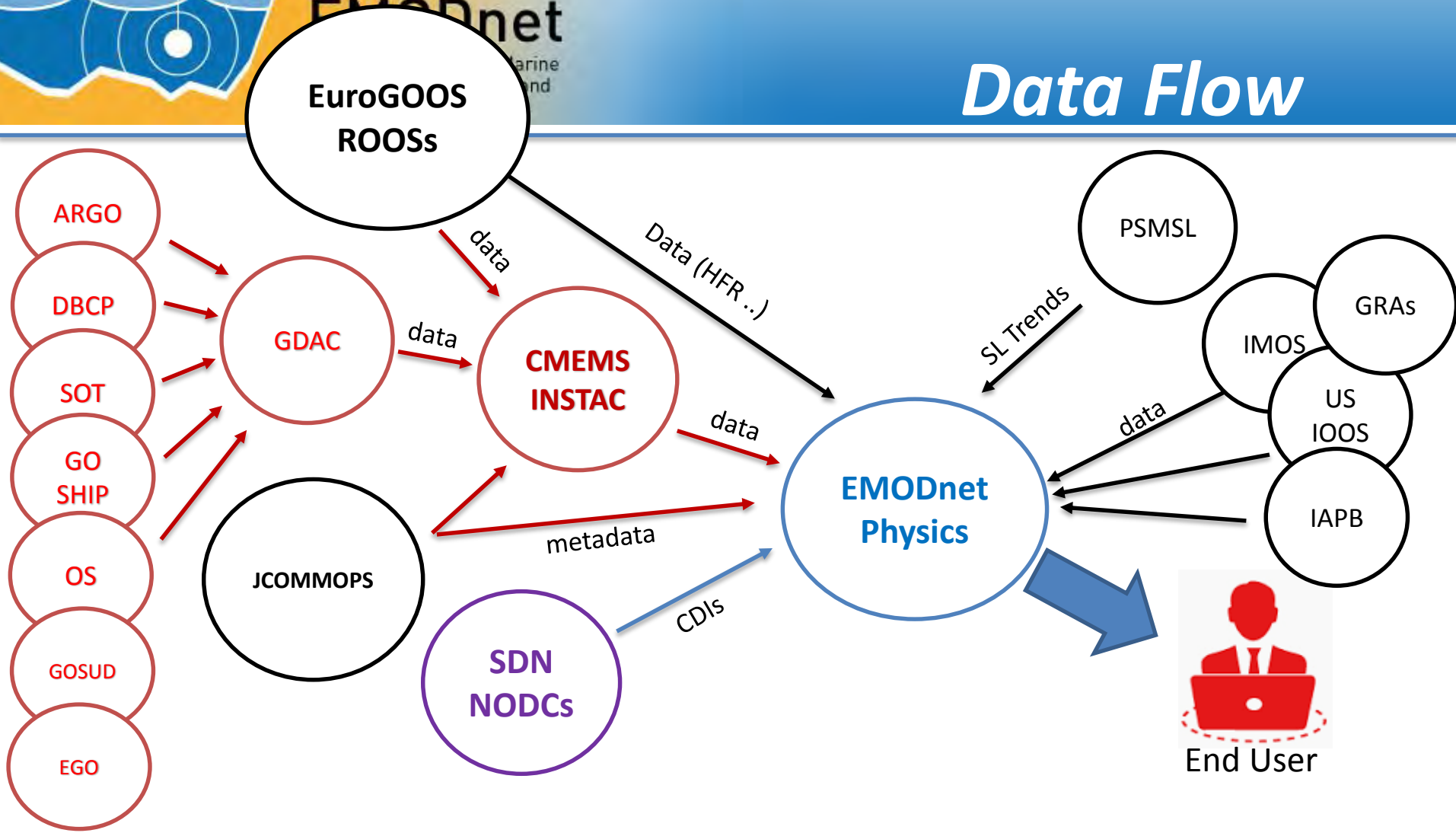
Data Flow



ROOS: Regional Oceanographic Operational Sys.; NODC: National Oceanographic Data Centre;
CMEMS: Copernicus Marine Environment Monitoring Service; SDN: SeaDataNet;
JCOMMPOS: JCOMM in situ Observing Platform Support Centre;
GDAC: Global Data Assembly Centre; PSMSL: Permanent Service Mean Sea Level
DBCP: Data Buoy Coop. Panel; SOT: Ship Obs. Team; OS: OceanSITES;

Portal

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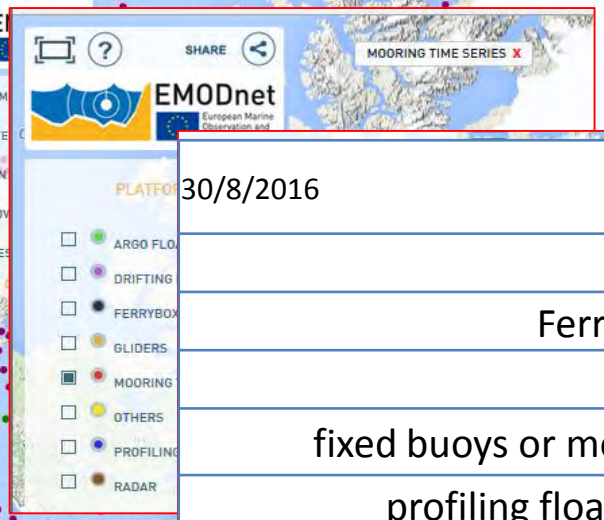

30/8/2016	platforms	Latest 60 days
drifting buoys	5801	1840
Ferrybox + Icebreaker	225	54
gliders	23	2
fixed buoys or mooring time series	3316	1599
profiling floats vertical profiles	853	743
Argo Floats	4744	3100
HF Radar	30	30
TOTAL	14992	7368

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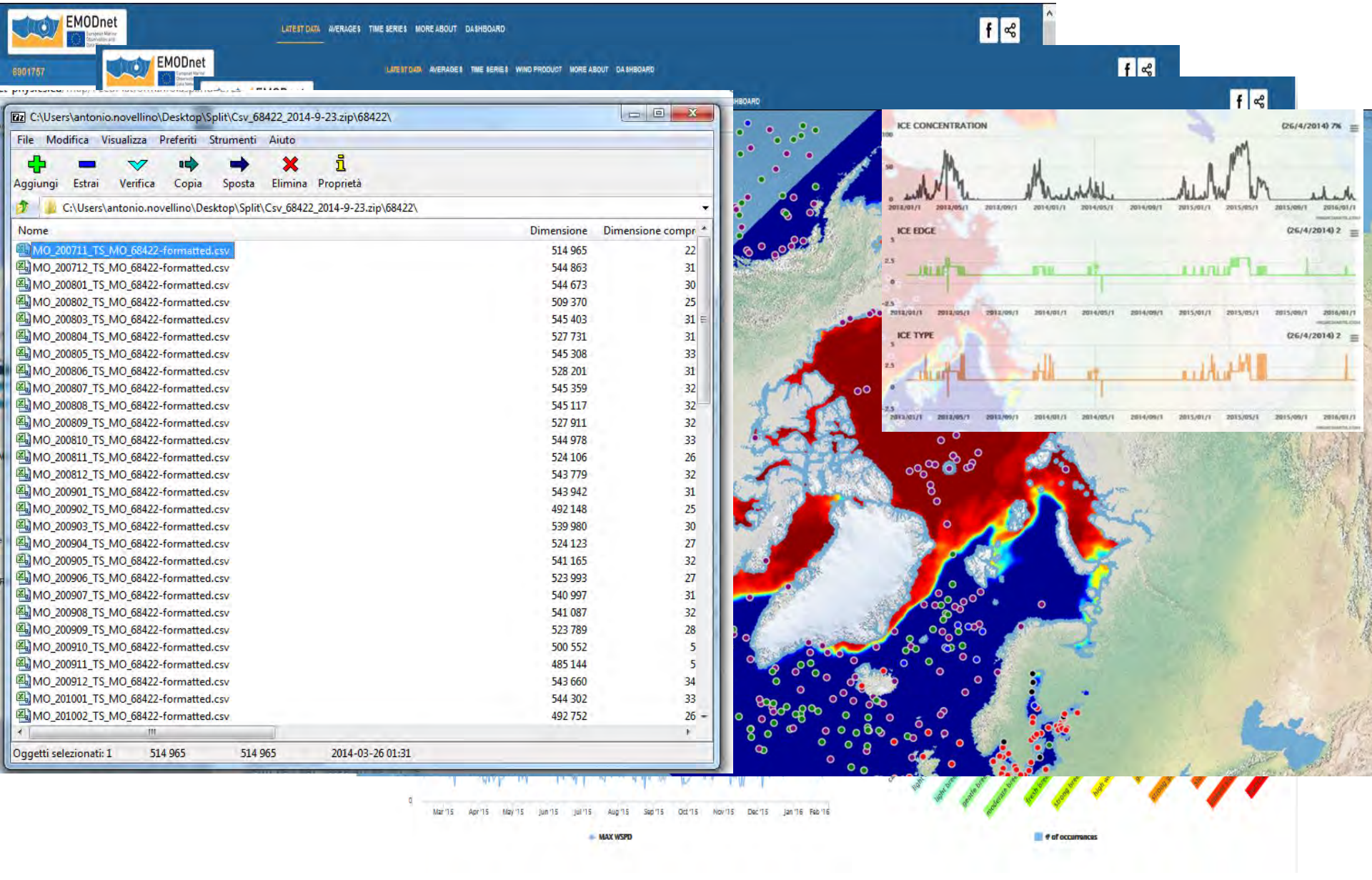

EuroGOOS
European Global Ocean Observing System

EMODnet Physics – looking forward, phase III

EuroGOOS structure

BOOS (Baltic)

ARCTIC ROOS

MONGOOS (Mediterranean)

NOOS (Northwest shelf)

IBI-ROOS (Iberia-Biscay-Ireland)

Working Groups

Data-MEQ | Technology Planning | Products | Science Advisory | Coastal Modelling

Task Teams

Tide Gauge | Ferrybox | Glider | HF radar | Euro-ARGO | Fixed Platforms | Animal-Borne TT

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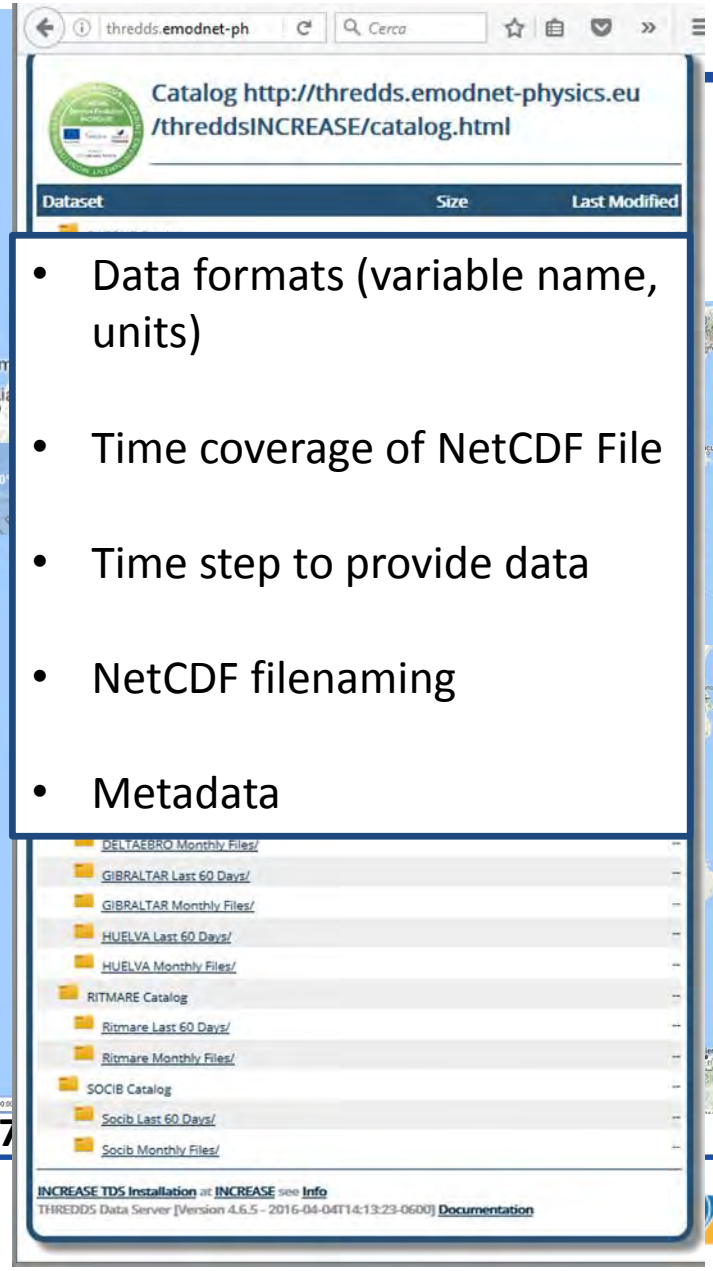
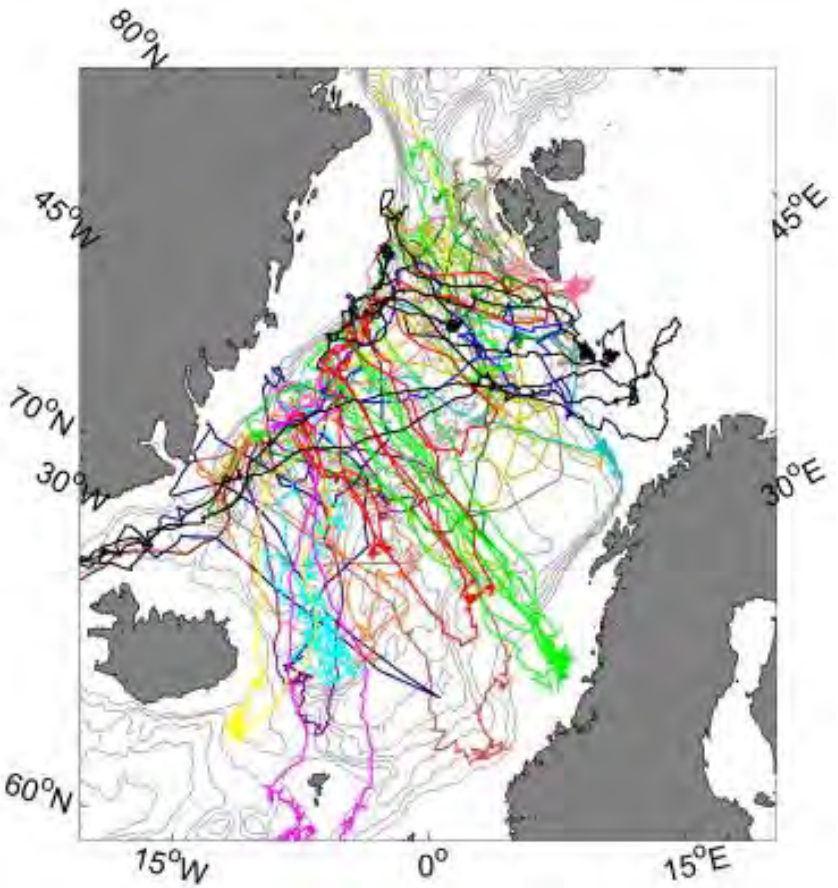
Setting up a European HFR node



- Data formats (variable name, units)
- Time coverage of NetCDF File
- Time step to provide data
- NetCDF filenaming
- Metadata

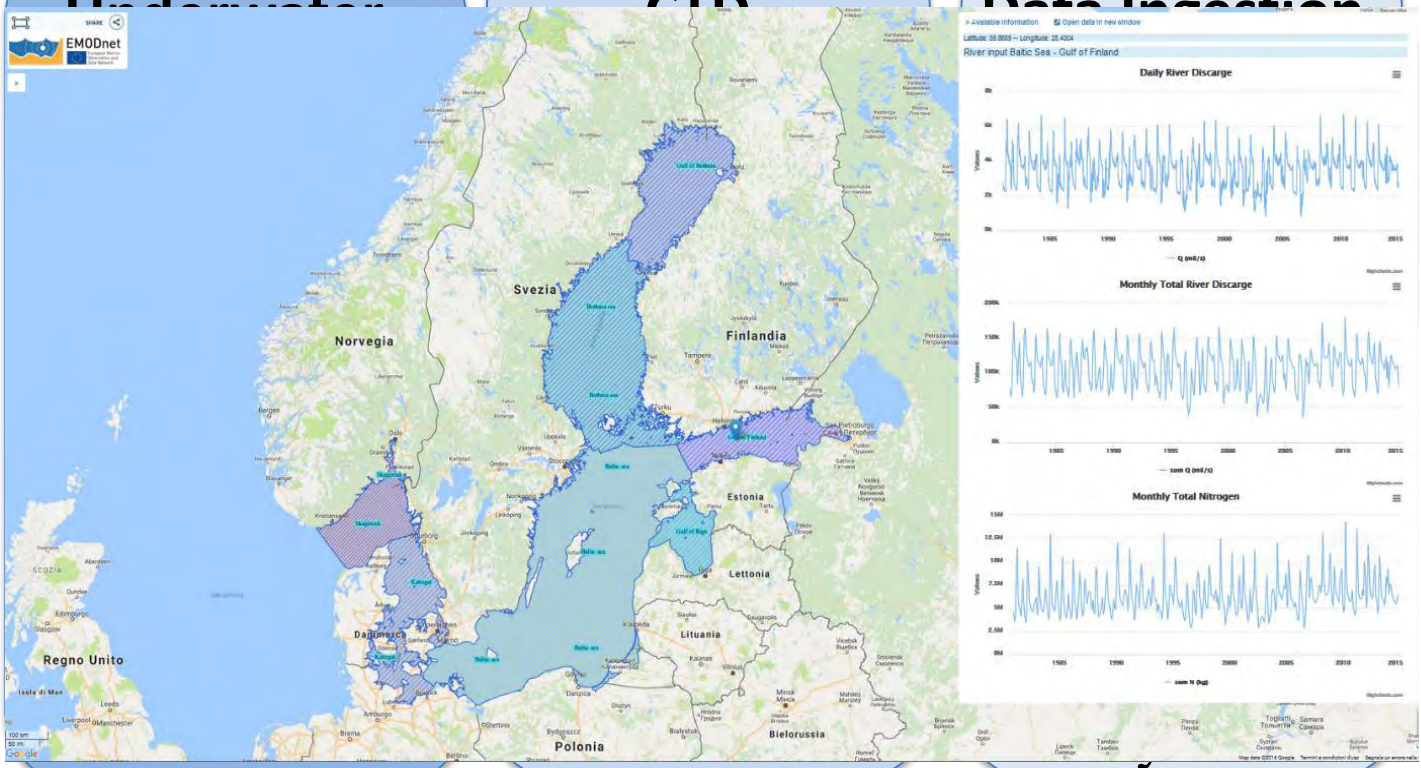


Tracks of seals in the North Sea from mid-July 2008 to end of November 2008 collecting 61112 CTD profiles (Isachsen et al. 2014).

EMODnet Physics – looking forward, phase III

River outflow data

- Make discoverable, accessible and downloadable river data products



Keep improving the portal, unlocking more data, improving web-services and machine-to-machine data distribution services,……,……

EMODnet Physics – looking forward, phase III

River outflow data

- Make discoverable, accessible and downloadable river data products

Underwater noise

- Define and setup a European data flow and data dissemination infrastructure

CTD

- Provide CTD data from both near real time data streams and historical repositories

Data Ingestion

- PANGAEA
- Statoil
- Nord Stream
- Galway bay cable observatory

……..and many more

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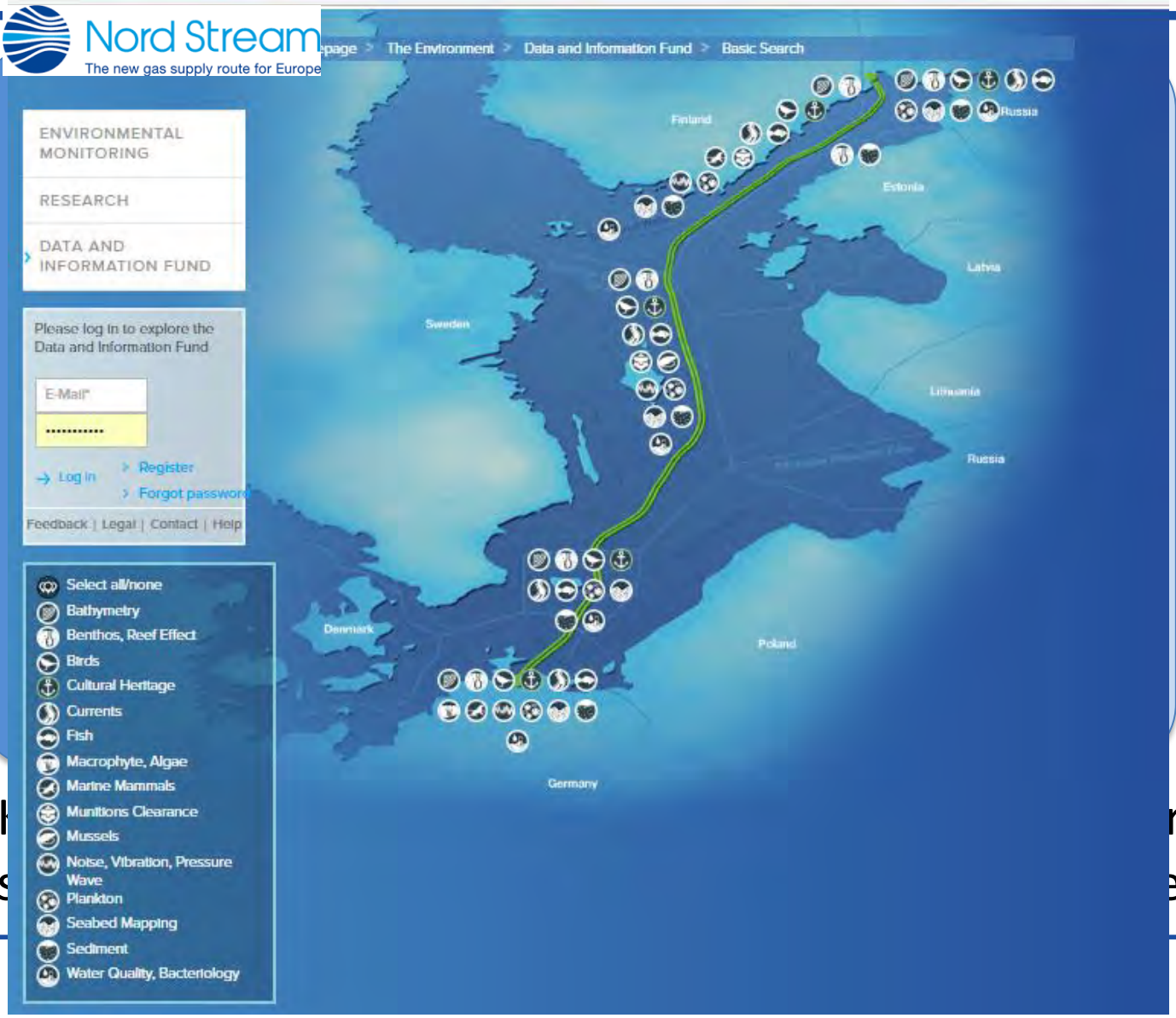
EMODnet Physics – looking forward, phase III



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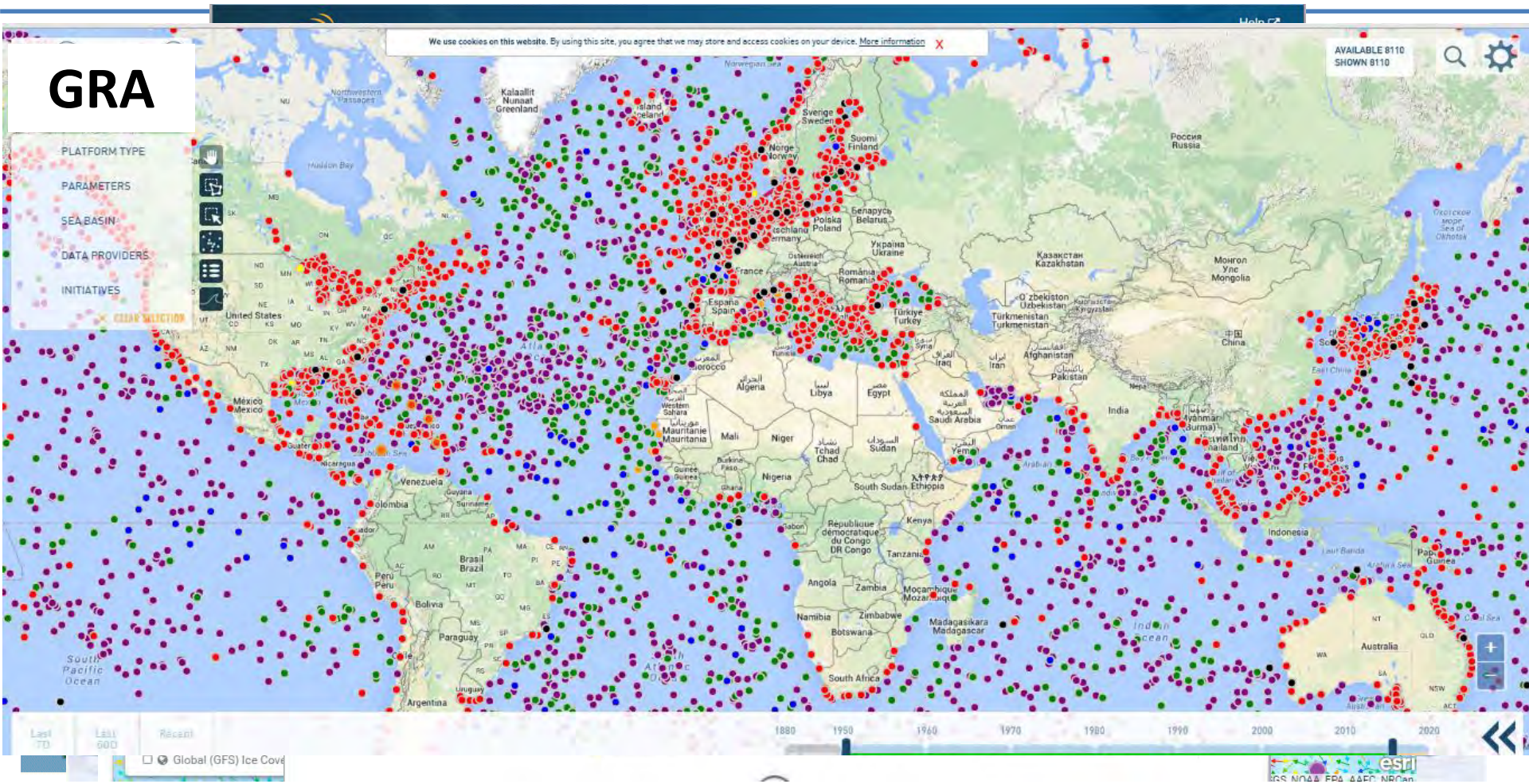
European Global Ocean Observing System

GRA



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EOOS – European Ocean Observing System

EOOS is a coordinating framework designed to:

- **align and integrate** Europe's ocean observing capacity;
- **promote** a systematic and collaborative approach to collecting information on the state and variability of our seas;
- **underpin sustainable management** of the marine environment and its resources

EuroGOOS
European Global Ocean Observing System

Thanks

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