

Meeting Document 4.

High level (draft) scheme of the main components in the European marine data landscape

→ For Discussion and Comments.

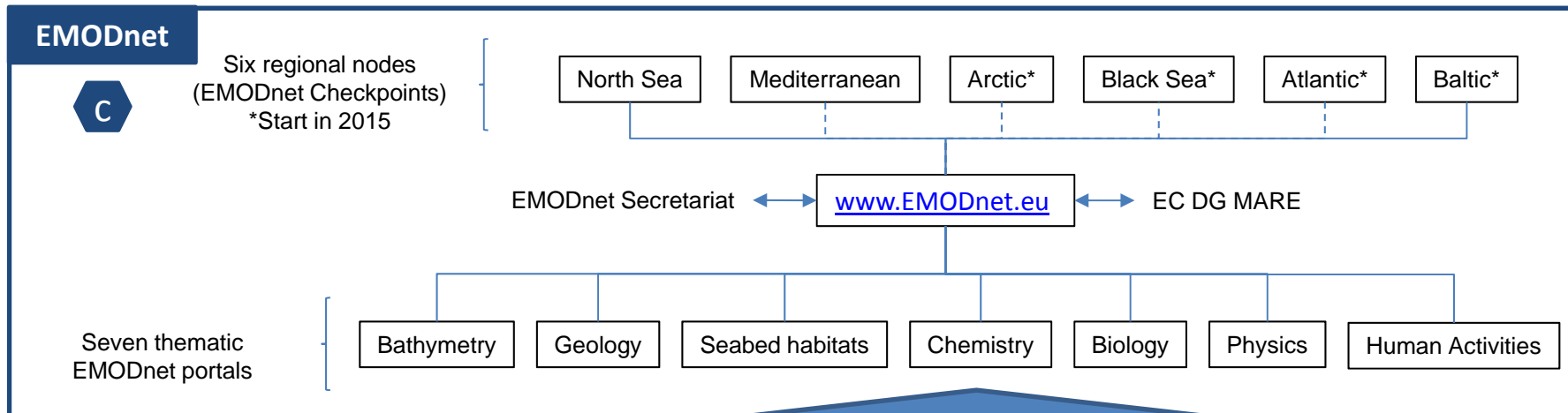
This document contains a tentative schematic with matching explanation aiming to provide a high level overview of EMODnet in the wider European and global marine data landscape and the flows of data/information between the main components. It is presented as a draft for discussion and should be refined and maintained up to date over time (if considered useful).

Regional: Conventions (OSPAR, HELCOM, BSC, ...), organisations (ICES, CIESM...)

Europe: Organisations (EMSA, EEA, JRC, ...), data/information systems (CISE, SEIS, WISE-Marine, Eionet, ...), advisory groups (MODEG, WG DIKE, ...), policies (Blue Growth, ...), relevant European legislation (WFD, MSFD, Natura2000, INSPIRE, ...)

Global: systems (GOOS, GCOS, GEOSS, ...), organisations (WMO, IHO, GEO, IOC/IODE, ...), databases (WoRMS, OBIS, PSMSL, GBIF, ...), platforms (JCOMM, POGO, ...), programmes/projects (ODIP, IODP, ...)

data acquisition, validation and storage, modelling, assembling and dissemination



Subset of parameters

Aggregator organisations, networks & databases — SeaDataNet, ICES, EurOBIS, MyOcean, EuroGOOS, PANGAEA, eurostat, thematic databases assembling national data ...



Member State Archiving Centres & Databases — National Oceanographic Data Centres (NODCs), Regional Ocean Observing Systems (ROOSs), thematic repositories, institutional databases & datasets

Observing systems, networks & data acquisition activities — Remote sensing (EUMETSAT, Copernicus/MyOcean), Drifting-profiling floats (EuroArgo), Gliders (GROOM), Fixed stations & observatories (EMSO, FixO3; JERICO), Ships of opportunity (FerryBox), Coastal installations & stations (tide gauges, marine stations, EMBRC, HF Radars, ...), Research vessels & underwater vehicles (EuroFLEETS, OFEG), Ocean research drilling (ECORD), Member State monitoring campaigns, Outputs from Research Programmes (pan-European: FP6/7, Horizon 2020; regional: e.g. BONUS, Interreg; national programmes, ...), data from industry



Explanation:

The scheme presents a high level overview of the marine data landscape in Europe. The overview is a simplified representation of the situation as some of the interactions between the various platforms, networks and databases are much more complex, change of time and the data does not always flow linear through the system. While it is nearly impossible to provide a complete overview of all the organisations, networks, projects and stakeholders involved and their precise role in one overview, following main components are at the core of the dataflow [a]:

- (i) Data acquisition through research and monitoring by various observing systems and networks.
- (ii) Storage and validation in Member State archiving centres and databases
- (iii) Data assemblage by networks, regional and thematic databases
- (iv) Dissemination of data, metadata, products/services and associated information and knowledge

[b] Not all data flows through all of the above steps in a straight line as some of the observing systems, databases and aggregator services also provide direct access to data, metadata and products and associated information and knowledge to intermediate and end-users.

[c] EMODnet assembles and provides access to both archived and near real-time data for a selection of parameters from a wide range of sources, through seven thematic portals. The regional EMODnet nodes (checkpoints) function as assessment hubs evaluating the adequacy of available data (from EMODnet thematic portals but also from any other relevant source) in terms of its usefulness for concrete societal relevant (e.g. windfarm siting, oil leak response). The EMODnet central portal acts as a gateway to the thematic and regional nodes and develops dataproducts combining data from more than one discipline or themes.

Acronyms and abbreviations:

BONUS: Baltic Sea research and development programme

BSC: Commission on the Protection of the Black Sea Against Pollution (Black Sea Commission)

CISE: Common Information Sharing Environment -

Copernicus: European Earth Observing Programme, previously known as GMES. Copernicus marine monitoring service provides regular and systematic reference information on the state of the physical oceans and regional seas. The observations and forecasts produced by the service support all marine applications. The pre-operational marine service of Copernicus is currently provided through the EU-funded project MyOcean2.

ECORD: European Consortium on Ocean Research Drilling.

EEA: European Environment Agency

Eionet: European Environment Information and Observation Network

EMBRC: European Marine Biological Resource Centre

EMODNET: European Marine Observations and Data Network

EMSA: European Maritime Safety Agency

EMSO: European Multidisciplinary Seafloor and Water Column Observatory, a large-scale European Research Infrastructure (RI) on the ESFRI roadmap.

EUMETSAT: European Organisation for the Exploitation of Meteorological Satellites

Euro-Argo: European contribution to the Broad-scale global array of temperature/salinity profiling floats

EurOBIS : European Ocean Biogeographic Information System (European node of OBIS)

EuroFLEETS: Towards an Alliance of European Research Fleets (FP7 Project)

EuroGOOS: European Global Ocean Observing System

EuroStat::statistical office of the European Union

Ferrybox: Automated instrument package on ship of opportunity

FixO3: Fixed point Open Ocean Observatory network (FP7 Project)

FP: Research and Technology Framework Programme of the European Union

GBIF: Global Biodiversity Information Facility

GCOS: Global Climate Observing System

GEO: Group on Earth Observations

GEOS: Global Earth Observation System of Systems, an initiative which will allow for shared use of the infrastructure and the exchange of scientific information and knowledge.

GMES: Global Monitoring for Environment and Security

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GMES: Global Monitoring for Environment and Security is the Programme for the establishment of a European capacity for Earth Observation

GOOS: Global Ocean Observing System

GROOM: Gliders for Research Ocean Observation and Management (FP7 Project)

HELCOM: Baltic Marine Environment Protection Commission, the governing body of the Convention on the Protection of the Marine Environment of the Baltic Sea Area

HF Radar: High Frequency Radar, a tool for shore based ocean measurements able to reach more than 200 km for ocean current mapping and more than 100 km for wave measurements

ICES: International Council for the Exploration of the Sea

IHO: International Hydrographic Organization

INSPIRE: European Directive establishing Infrastructure for Spatial Information in the European Community

IOC-IODE: Intergovernmental Oceanographic Commission of UNESCO and its International Oceanographic Data and Information Exchange Network.

IODP: Integrated Ocean Drilling Program, successor of ODP

JCOMM: Joint Technical Commission for Oceanography and Marine Meteorology, partnership of the global marine meteorological and oceanographic communities in order to respond to interdisciplinary requirements for met/ocean observations, data management and service products.

JERICO: Towards a Joint European Research Infrastructure Network for Coastal Observatories (FP7 Project)

JRC: Joint Research Centre – European Commissio

MODEG: Marine Observation and Data Expert Group, a group of experts providing advice to the European Commission on matters related to Marine Knowledge 2020 and EMODnet

MSFD: Marine Strategy Framework Directive

MyOcean/MyOcean2: a series of FP projects granted by the European Commission within the GMES/Copernicus Programme, whose objective is to define and to set up a pan-European capacity for ocean monitoring and forecasting for applications in maritime security, oil spill prevention, marine resources management, climate change, seasonal forecasting, coastal activities, ice sheet surveys, water quality and pollution. MyOcean2 currently provides the pre-operational marine core service of Copernicus.

Natura2000: A network of protected areas resulting from European nature protection legislation stipulated in the Habitats Directive and the Birds Directive.

OBIS: Ocean Biogeographic information System

ODIP: Ocean Data Interoperability Platform

ODP: Ocean Drilling Program (1985-2004), predecessor of IODP

ODP: Ocean Data Portal

OFEG: Ocean Facilities Exchange Group

OSPAR: Convention for the Protection of the marine Environment of the North-East Atlantic, governed by the OSPAR Commission

PANGAEA: a digital data library and a data publisher for earth & environmental science where data can be georeferenced in time (date/time or geological age) and space (latitude, longitude, depth/height).

POGO: Partnership for Observation of the Global Oceans

PSMSL: Permanent Service for Mean Sea Level

SeaDataNet : Pan-European Marine Data Management Infrastructure project (EC FP6 project)

SEIS: Shared Environmental Information System

WFD: Water Framework Directive

WG DIKE: Marine Strategy Framework Directive Working Group on Data, Information and Knowledge Exchange (WG DIKE)

WISE: Water Information System for Europe (the marine component is labelled WISE-Marine)

WMO: World Meteorological Organization

WoRMS: World Register of Marine Species: WoRMS