EMODnet - *European Marine Observation and Data Network* ***- Physics***

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 Physics - background

Ur- European Marine Observation and Data network:

- Support **better discovery of data** (INSPIRE Directive), **free access** to data and few restrictions on use and **re-use of data** (Environmental Information Directive and Public Sector Information Directive)
- Support to the **Shared Environmental Information System SEIS** (in collaboration with **EEA**) to **modernise and simplify** the collection, **assembly**, **use** of the data and information for environmental policy
- **integration of different national and local marine** and observation systems into a coherent European system: **ur-EMODnet**

And moved to:

- **Converge data collection** and **build a single gateway** to access data from EMODnet, Copernicus Marine Service and fisheries data (via Data Collection Framework) → *EMODnet = in situ*
- **Support** Member States to **design** the most appropriate monitoring and observation system **for European sea-basins** (*check points*)
- Provide **joint products from multiple sources**

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prototype method

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020

Phase 1 – limited sea basins

Phase 2 - low resolution

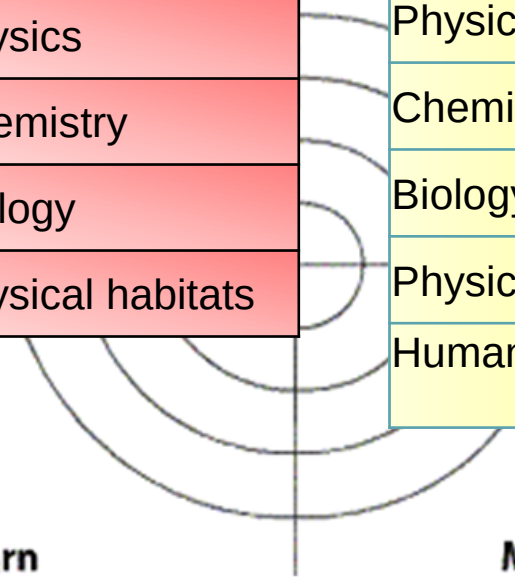
Phase 3 - multi-resolution

- Bathymetry
- Geology
- Physics
- Chemistry
- Biology
- Physical habitats

- Bathymetry
- Geology
- Physics
- Chemist
- Biology
- Physical habitats
- Human activity

- Secretariat – Central portal
- Mediteranean check point
- North Sea Check point
- Artic check point
- Atlantic check point
- Baltic Check point
- Black Sea Check point

s users to assess
roduct by



European Commission

EMODnet Physics *objectives and commitments:*

- *Provides a* ***single point of free and open access to marine real-time and archived data*** *on* ***physical conditions of European Seas***
- *Attract and provide access* ***to any user and stakeholder***
- ***Build on existing infrastructures*** *and* ***avoid duplication*** *of efforts*
- *Facilitate* ***integration and interoperability*** *with further systems*

  (INSPIRE compliant, WMS, WFS, etc)
- ***Attract new and better data*** *and* ***new data owners/providers***

  (e.g. ***Adriatic Sea is a target area****)*
- ***Improve back office infrastructure*** *for the benefit of the ROOSs and contributing Institutes and give* ***visibility and awareness*** *to contributors*
- ***Full engagement of the EuroGOOS ROOSs***

  (50% of the budget to empower ROOSs data interoperability infrastructure)

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EMODnet Physics

OceanDataPortal
Seamless access to ocean data

The Global Ocean Observing System

EMODnet Physics

Interoperability

Commissione europea

Reinforce

WMS
WFS
Web services
…
socials

myOcean

SeaDataNet

BOOS

Arctic ROOS

NOOS

Global Ocean Observing System

Black Sea

Sustain

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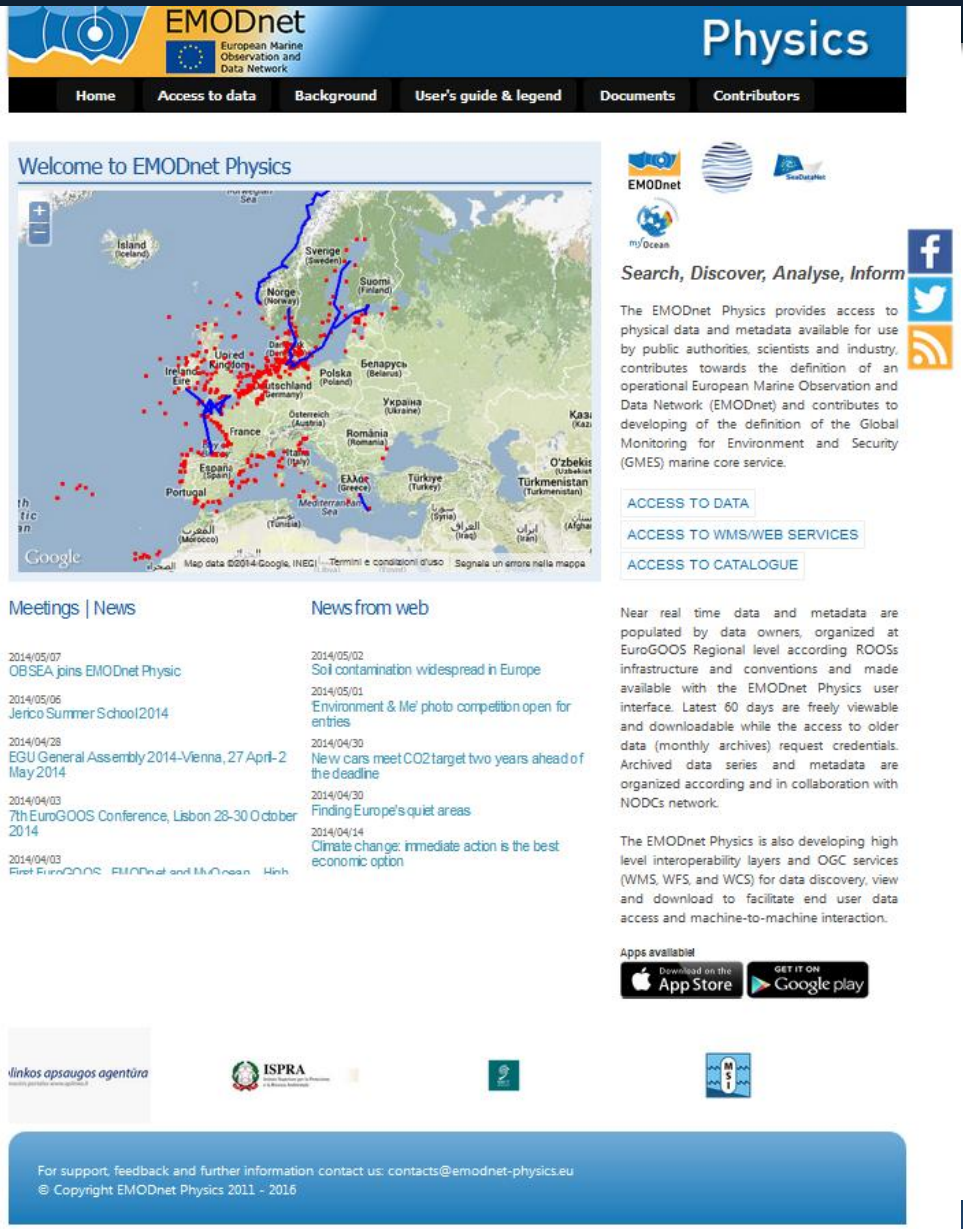

INSPIRE Services

DISCOVER

VIEW

DOWNLOAD

WMS/WFS

Data Policy

Open & Free

www.emodnet-physics.eu

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Interoperability and services

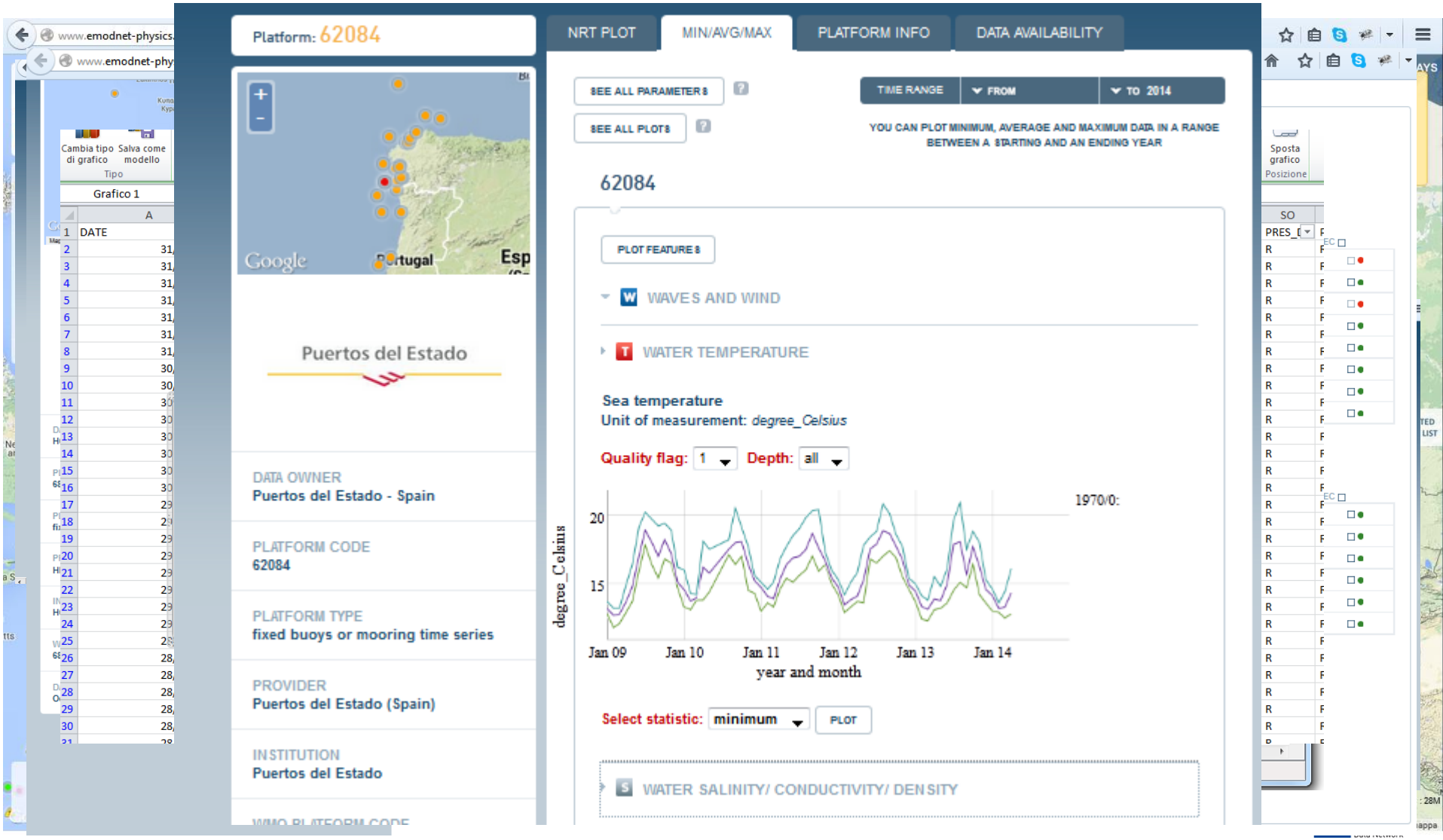
EMODnet 2 PHYSICS | Dashboard | Web Service ASMX | WMS | WFS | Catalogue | Clean address bar

Method	Description	Params	Example
GetAllDataOwner			Example XML Example TXT
GetAllLatestData60Days		PlatformID	Example XML Example TXT
GetAllLatestDataCode		PlatformID ParamCode	Example XML Example TXT
GetAllLatestDataFromTo		PlatformID StartDate EndDate	Example XML Example TXT
GetAllLatestDataFromToCode		PlatformID ParamCode StartDate EndDate	Example XML Example TXT
GetAllLatestDataParameterGroup		PlatformID ParameterGroupID	Example XML Example TXT
GetAllParameters			Example XML Example TXT
GetAllParametersGroup			Example XML Example TXT
GetAllPlatforms			Example XML Example TXT
GetPlatformId		PlatformID	Example XML Example TXT
GetAllPlatformsDataOwner		DataOwnerCode	Example XML Example TXT

Web Services (real time delivery)

EMSA
European Maritime Safety Agency

EMODnet Physics



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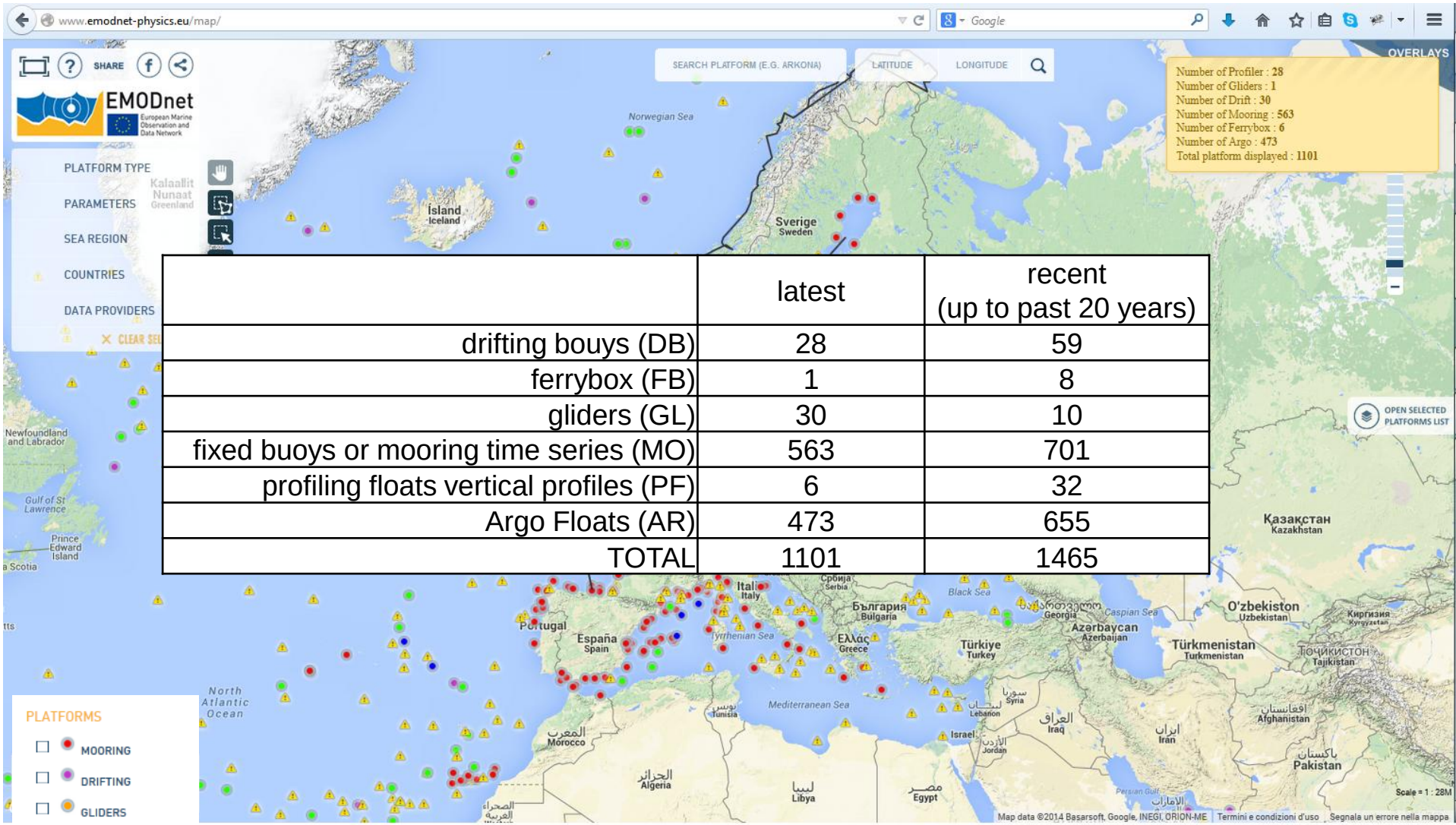

	latest	recent (up to past 20 years)
drifting bouys (DB)	28	59
ferrybox (FB)	1	8
gliders (GL)	30	10
fixed buoys or mooring time series (MO)	563	701
profiling floats vertical profiles (PF)	6	32
Argo Floats (AR)	473	655
TOTAL	1101	1465

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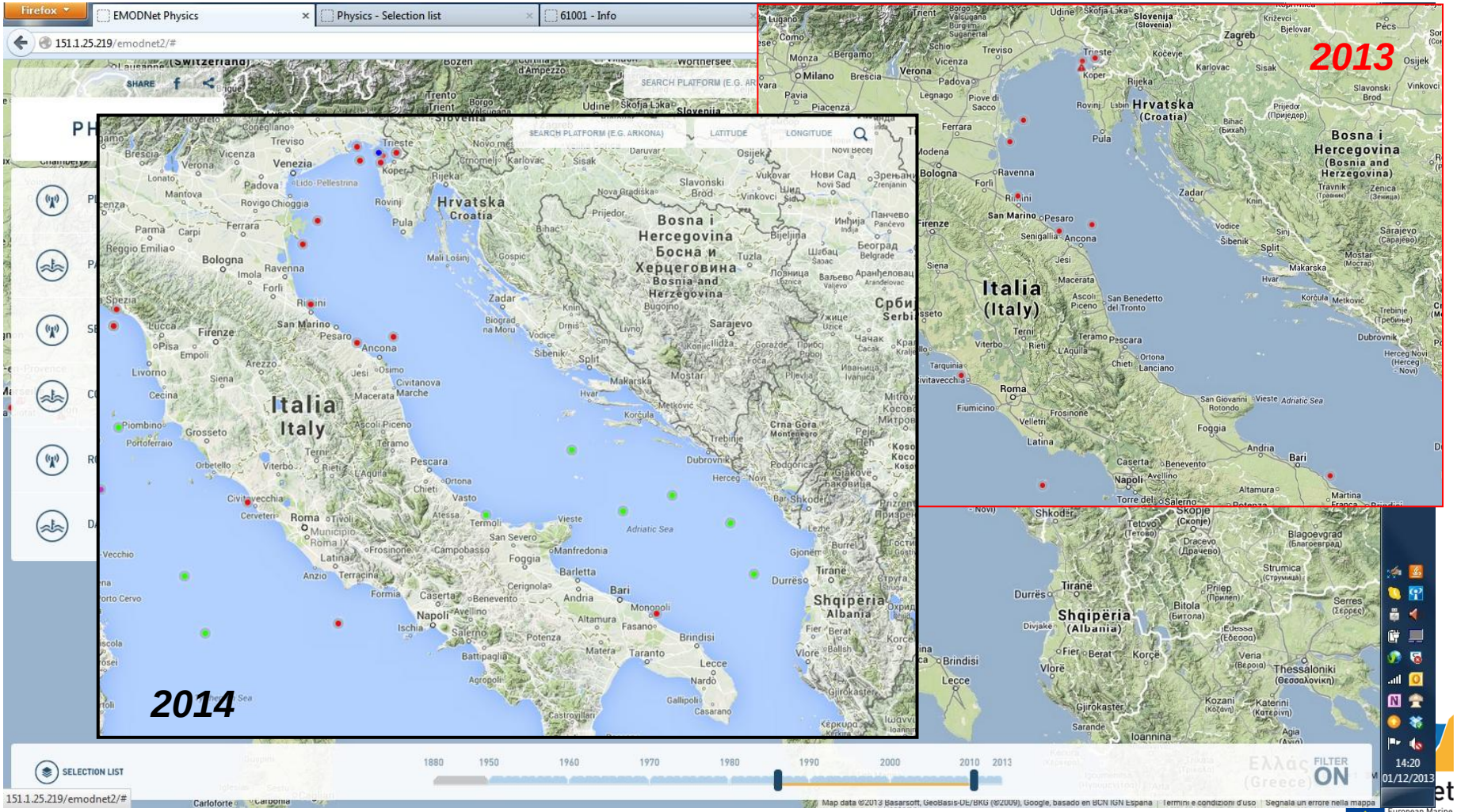

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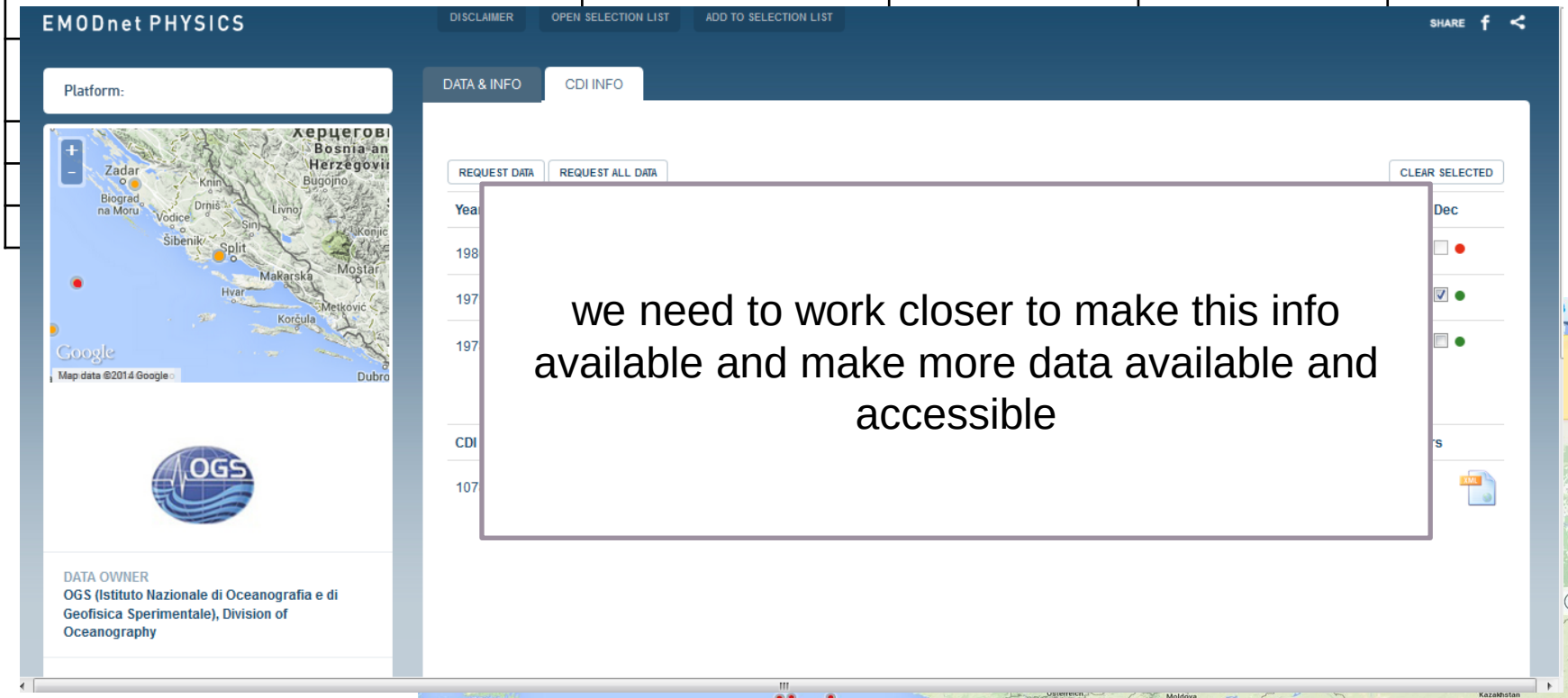
EMODnet Physics and CDI

	latest + recent	connected to CDI	Potential already in SDN
drifting bouys (DB)	59		
ferrybox (FB)	8		



EMODnet Physics

- *Work on a common data flow and management*

  → access data and validate for your purpose and make this available in the system

- *Different users have different needs*

  → make data available and accessible

  → inform about data quality, award any step in the process

- *New platforms are coming → need for new schemas*

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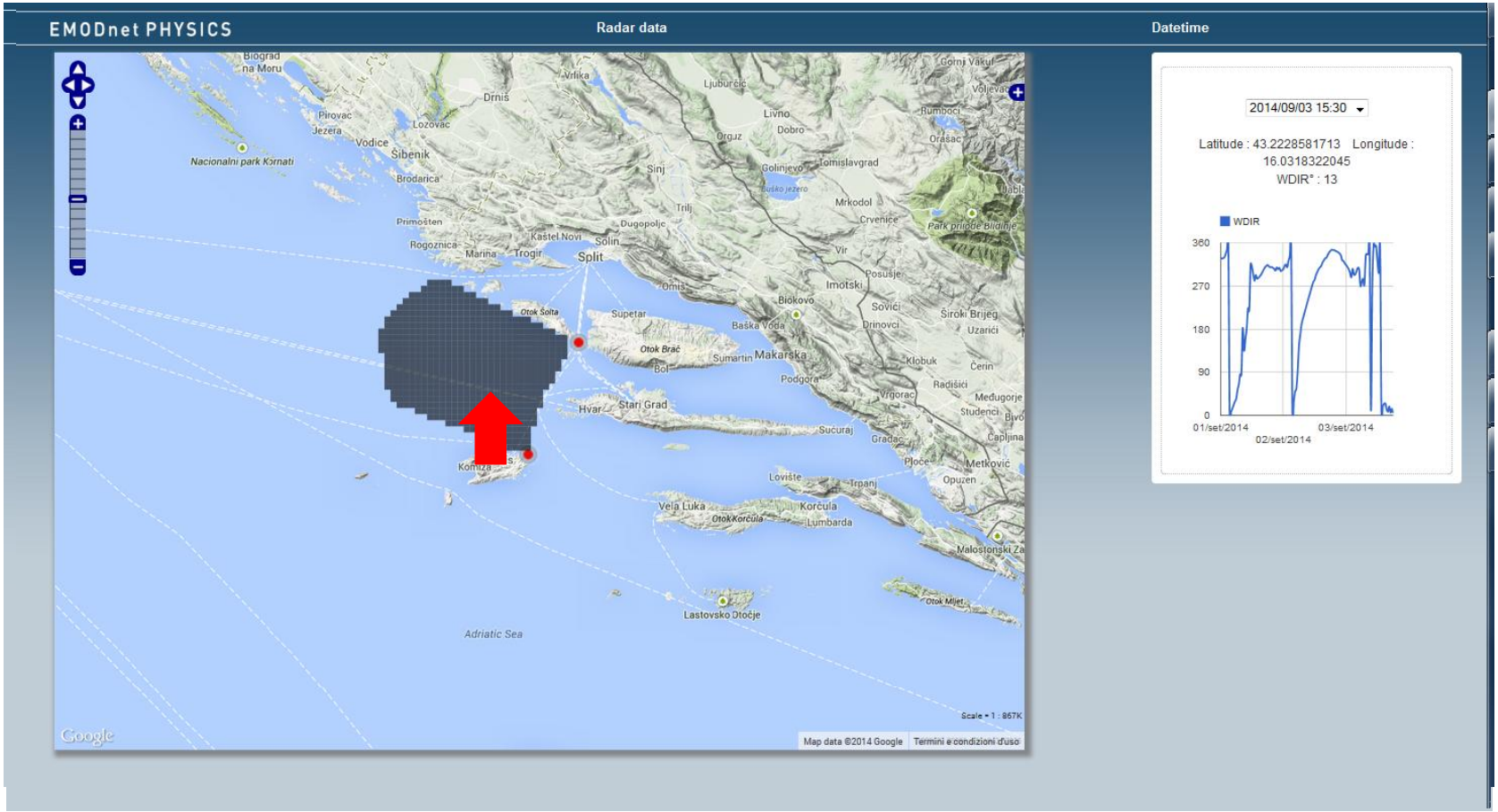
EMODnet Physics and HFR



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EMODnet Physics

Landing pages
www.emodnet-physics.eu
www.emodnet.eu/physics

Contacts and feedback
contacts@emodnet-physics.eu

Operational Test system
http://151.1.25.219/emodnet2/ …

Test system CDI
http://151.1.25.219/emodnet2cdi/

Background, meetings, news
www.emodnet-physics.eu/portal
www.emodnet-physics.eu/portal/news
www.emodnet-physics.eu/portal/bibliography
www.emodnet-physics.eu/portal/meetings

Operational System
www.emodnet-physics.eu/map
www.emodnet-physics.eu/map/dashboard
www.emodnet-physics.eu/map/catalogue
www.emodnet-physics.eu/map/service/defaultWMS
www.emodnet-physics.eu/map/service/WSEmodnet2

QA/QC Protocols

A major pre-requisite for establishing QC standards is a strong QA program. Good QC requires good QA, and good QA requires good scientists, engineers, and technicians.

Publications on QA / QC

Title	Authors	Journal
In Situ Calibration of Optode-Based Oxygen Sensors	H. Uchida,T. Kawano, I. Kaneko & M. Fukasawa	J. of Atmos. and Ocean. Technol. (2008) DOI 10.1175/2008JTECHO549.1
Automated Data Quality Assessment of Marine Sensors	G.P. Timms, P.A. de Souza Jr., L. Reznik and D.V. Smith	Sensors (2011) DOI 10.3390/s111009589
Implementation of Real-Time Quality Control Procedures by Means of a Probabilistic Estimate of Seawater Temperature and Its Temporal Evolution	G.M.R. Manzella and M. Gambetta	J. of Atmos. and Ocean. Technol. (2013) DOI 10.1175/JTECH-D-11-00218.1

Quality Assurance

Quality Control

Reference	Title	Published
IOC-CEC Manual & Guides 26	Manual of quality control procedures for validation of oceanographic data	1993 UNESCO
SIMORC BODC	Data quality control procedures	2007 6th FP DG RESEARCH
IOC Manual & Guides 22	GTSPP Real-Time Quality Control Manual	2010 UNESCO
SeaDataNet QC	SeaDataNet QC procedures V2	2010 SeaDataNet
QARTOD water level manual qc	Manual for Real-Time Quality Control of Water Level Data	2014 QARTOD