



Istituto Nazionale
di Oceanografia e di Geofisica Sperimentale



FAIR and Open Data per i dati marini

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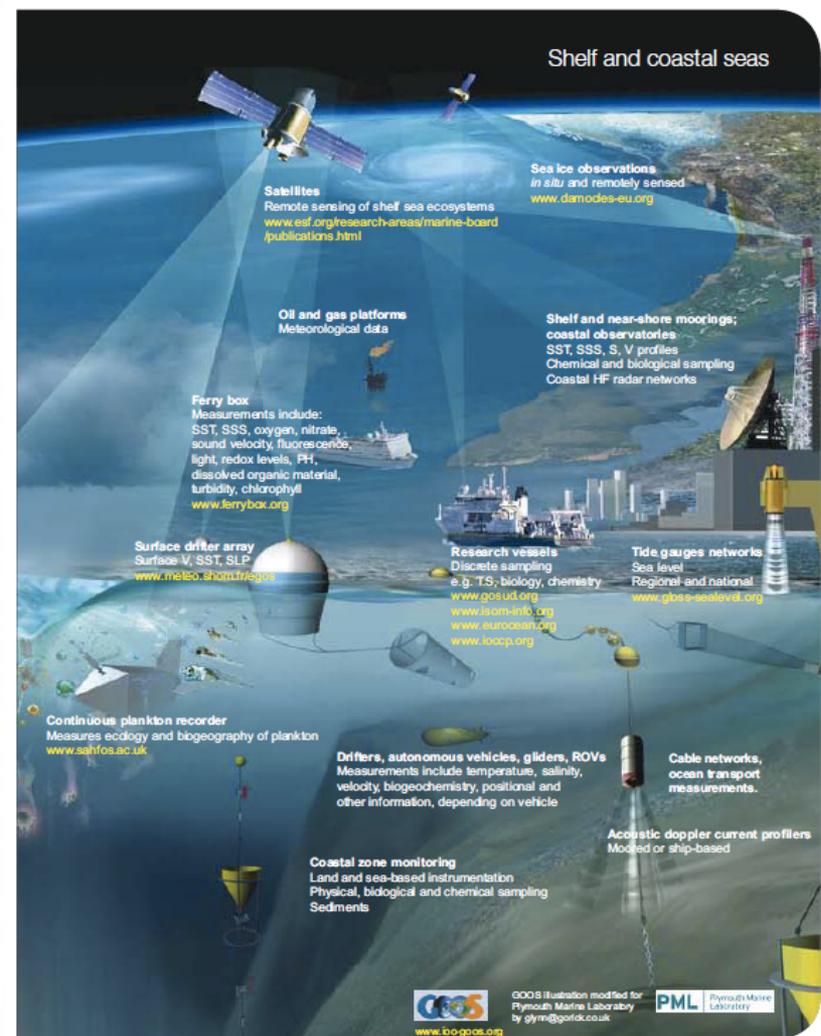
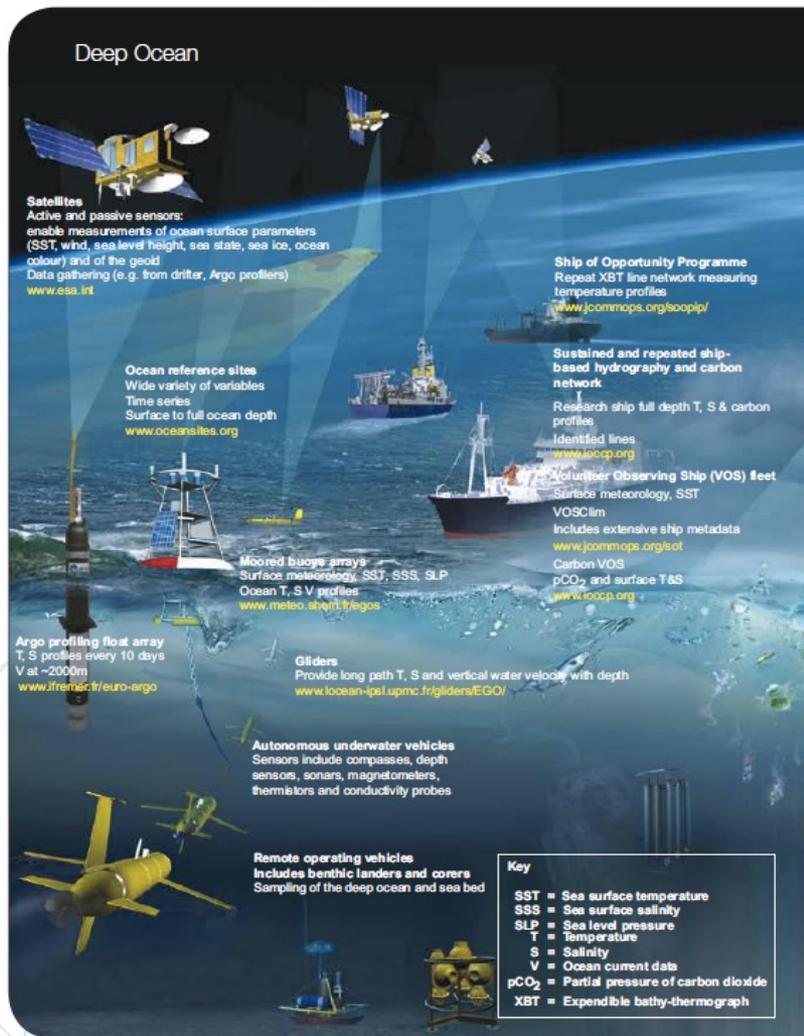
Dati marini in-situ e remoti



- di diverse **discipline**
- su diverse matrici
- acquisiti con strumenti e **metodologie** diverse
- a diversa **risoluzione** spaziale e temporale

Procedure specifiche sono sviluppate per trattare, salvaguardare e distribuire i dati in modo integrato.

Marine data acquisition



EU cost – benefit analysis: cost of marine observation in Europe is circa 400 Million Euro per year for space data and another 1 Billion Euro per year for in-situ data



Iniziativa europea per gestione integrata dei dati marini

EMODnet



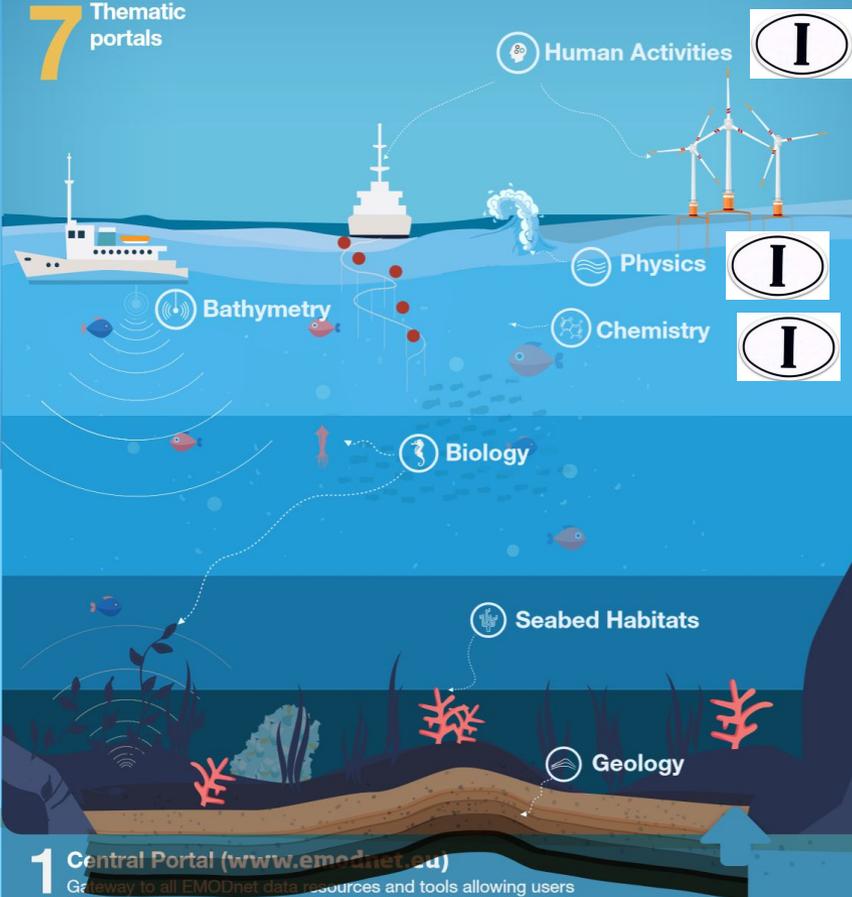
THE EUROPEAN MARINE OBSERVATION AND DATA NETWORK - AT A GLANCE

Over **150 organisations** assembling and making available **marine data, metadata & products**

From raw data to real-life applications



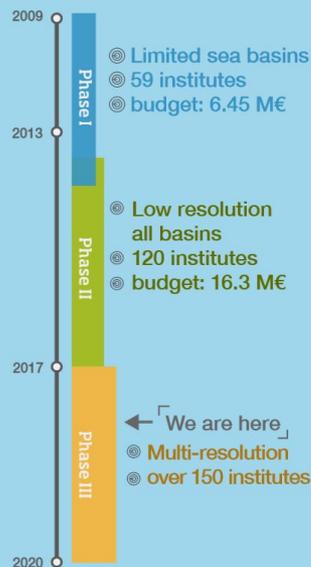
7 Thematic portals



6 Sea

Check of marine basins

EMODnet Timeline



1 Central Portal (www.emodnet.eu)

Gateway to all EMODnet data resources and tools allowing users to retrieve data layers from multiple themes

1 Ingestion Portal

facilitating submission of new datasets

EMODnet Secretariat

Iniziative europee per gestione integrata dei dati marini



90s

EU EDMED
EU Euronodim
EU MEDATLAS
EU EDIOS

2002-2005

EU Sea-Search

2006-2011

EU SeaDataNet

2011-2015

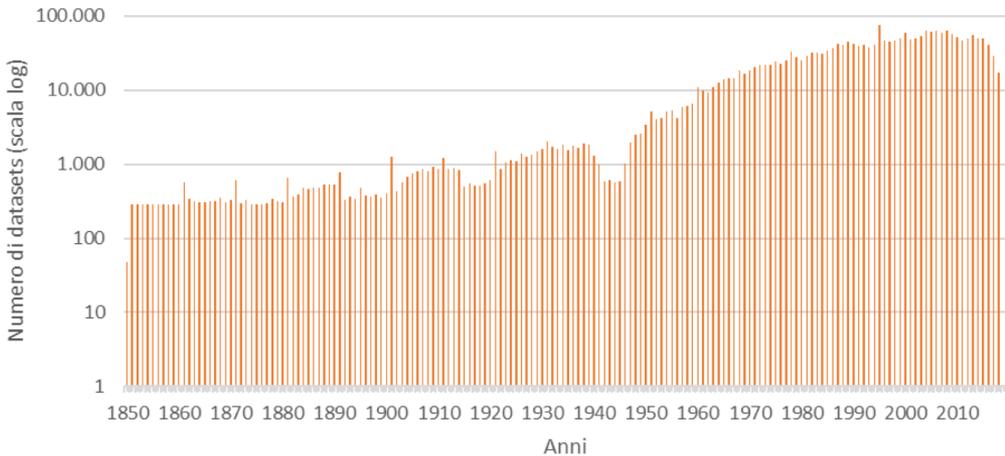
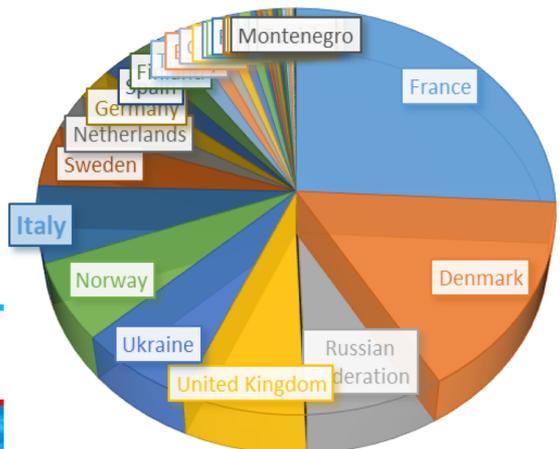
Eu SeaDataNet II

2016-2020

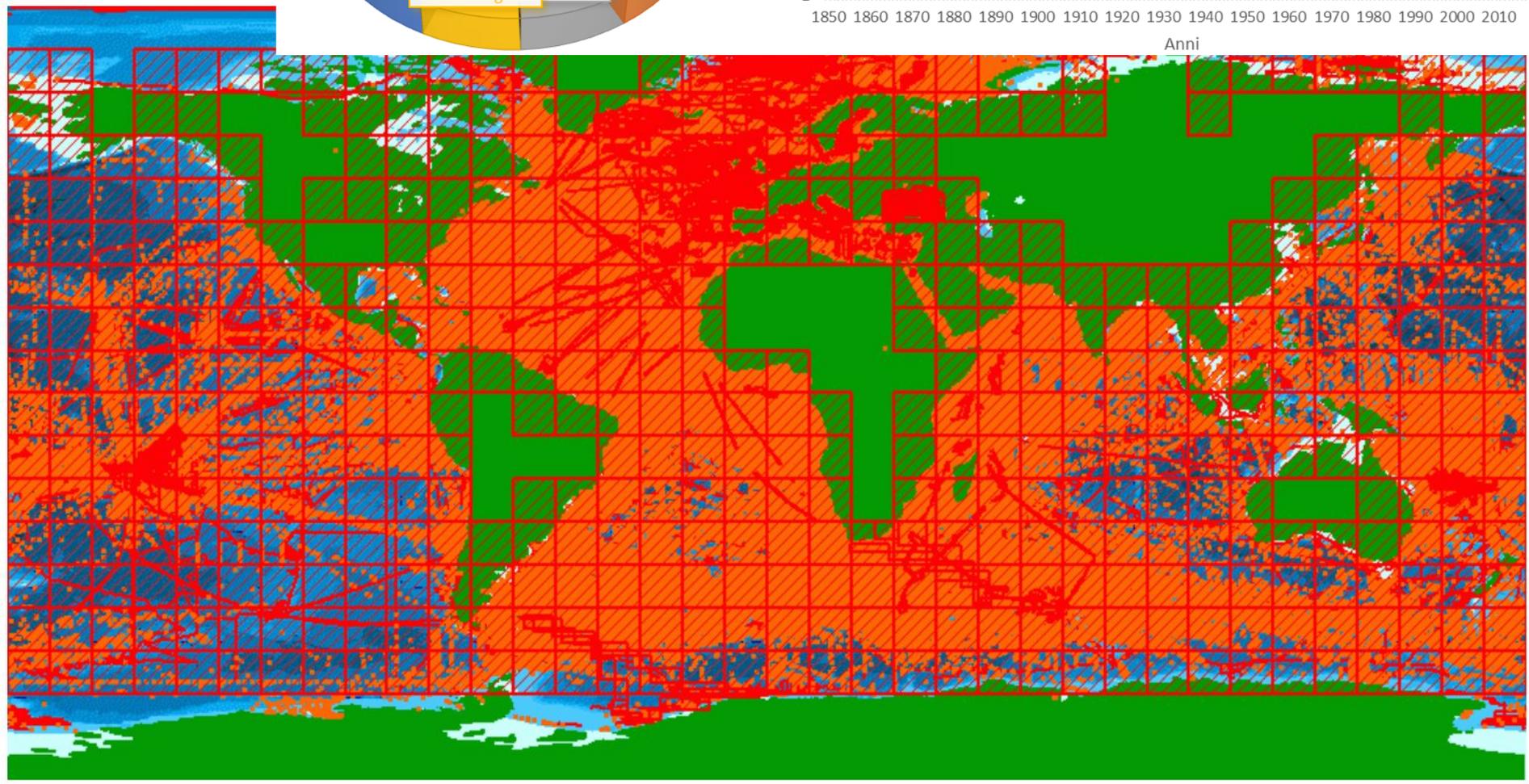
Eu SeaDataCloud



Quali dati?



CDI ENLARGED MAP



Principi FAIR per Open Data

- To be **F**indable -> data are described with rich and standardized metadata



OGS – CTD – T° -2013/02/02- 45.69/13.70

Principi FAIR per Open Data

- To be **F**indable -> data are described with rich and standardized metadata
- To be **A**ccessible -> data are accessible through a dedicated discovery service with authorization procedure

SeaDataNet
PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

PARTNERS USERS

ABOUT US METADATA DATA ACCESS STANDARDS SOFTWARE PRODUCTS EVENTS PUBLICATIONS

SERVICES

SEARCH DATA
Enter your own criteria to search and download data from SeaDataNet CDI catalogue

SEARCH DATA BROWSE DATA DOWNLOAD SOFTWARE
LOOK-UP VOCABULARIES ACCESS PRODUCTS ACCESS METADATA CATALOGUES
HOW TO CONTRIBUTE?

SeaDataNet
PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

SEADATANET COMMON DATA INDEX (CDI) V3

TOOLS
ENLARGE HELP
POSITION INDEX
BASKET RESET

LAYER CONTROL
 CDI entry Points
 CDI entry Tracks
 CDI entry Areas
 Grid Lines
 Regional sea
 Regional sea labels
 Main sea
LAT/LONG
Upper-left Lower-right

SEARCH
Free search
SEARCH CLEAR ?

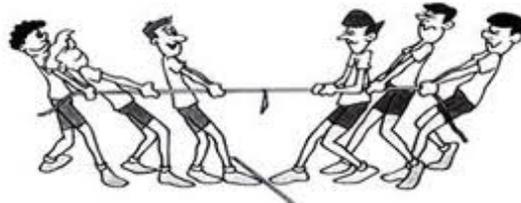
Disciplines - Topics
All
Administration and dimensions
> Administration and dimensions
Atmosphere
> Atmospheric chemistry

Discovery parameters
All
Acoustic backscatter in the water column
Acoustic noise in the water column
Air pressure
Air temperature

Cruise/Station name
Instrument type
Projectname
Instrument depth (m)
Datasetname
from
Sea regions
Platform type
Waterdepth (m) from
to
Originator
Measuring area type
CDI partner
Temporal resolution
Country
Date (yyyymmdd) from
to
Access restriction
Duration
Unit Hour

Data policy

Data originators



Utenti:

comunità scientifica,
organizzazioni
pubbliche, agenzie
ambientali

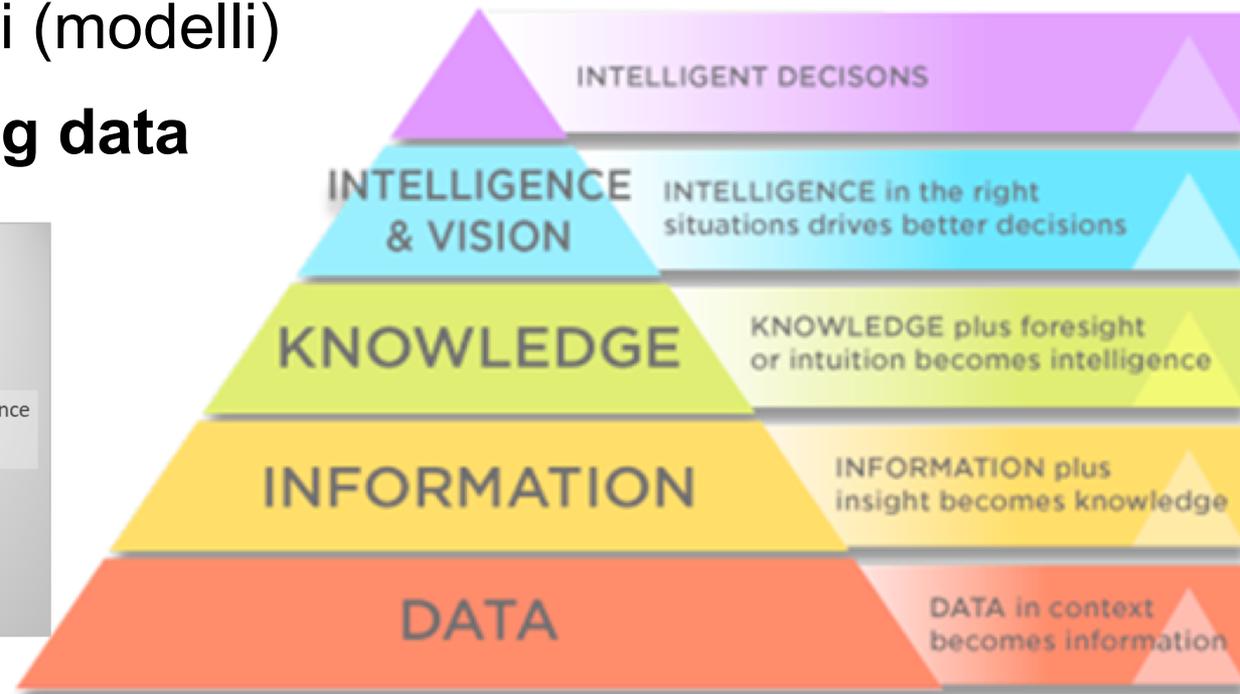
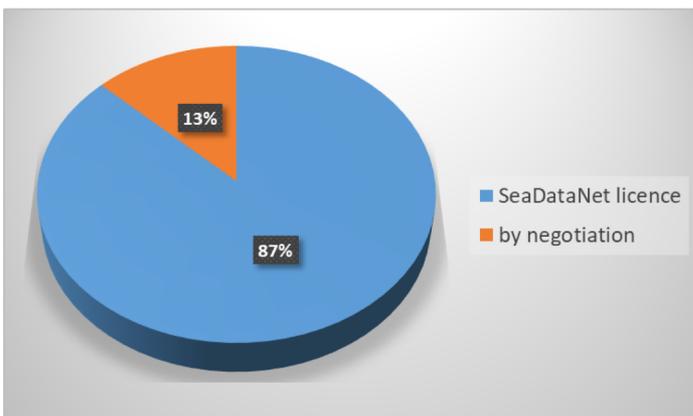
La **Data policy** permette di raggiungere un equilibrio tra i diritti degli *originators* e la necessità di un accesso diffuso attraverso la condivisione e lo scambio libero e senza restrizioni di dati, metadati e prodotti di dati.

Condizioni di Accesso ai dati

- Dati ambientali, preziosi perché non riproducibili seguono una Data Policy
- Le aggregazioni/collezioni (serie temporali, per bacino) sono Open Data
- Dati interpolati (mappe climatologiche) sono Open Data, come i dati sintetici (modelli)

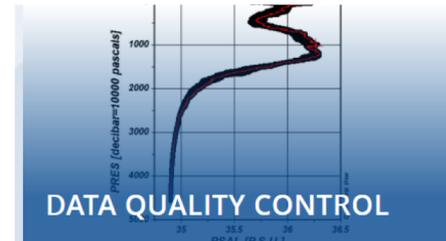
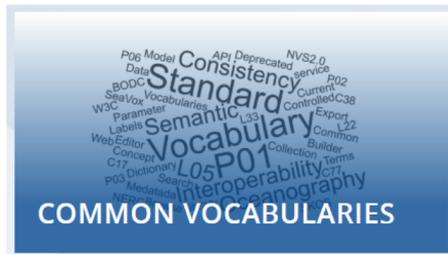


Da dati preziosi a big data



Principi FAIR per Open Data

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- To be **I**nteroperable -> use of standards that follow FAIR principles

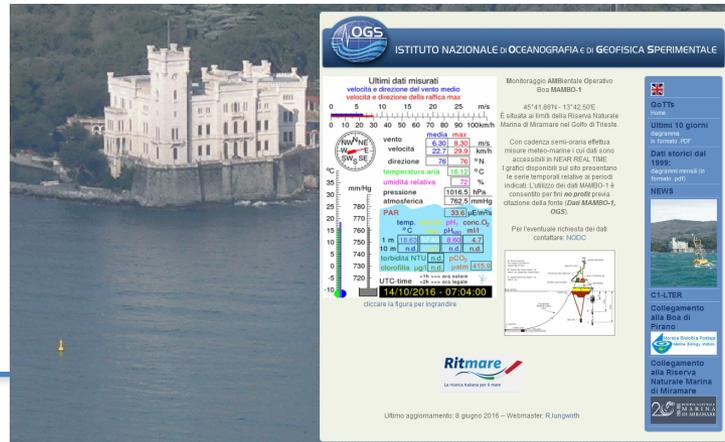
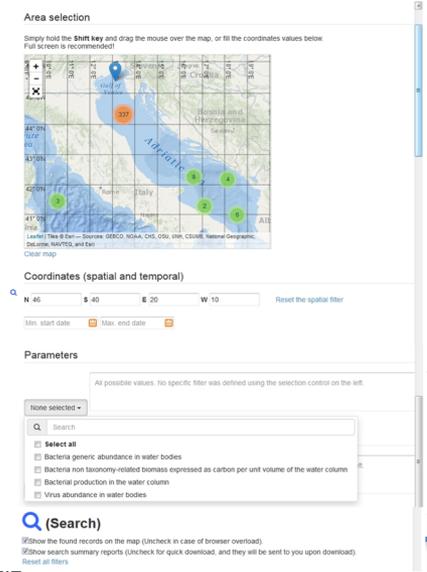
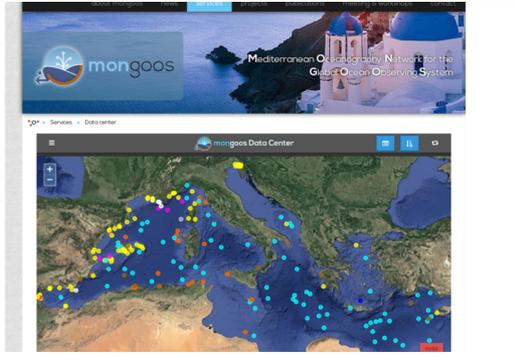
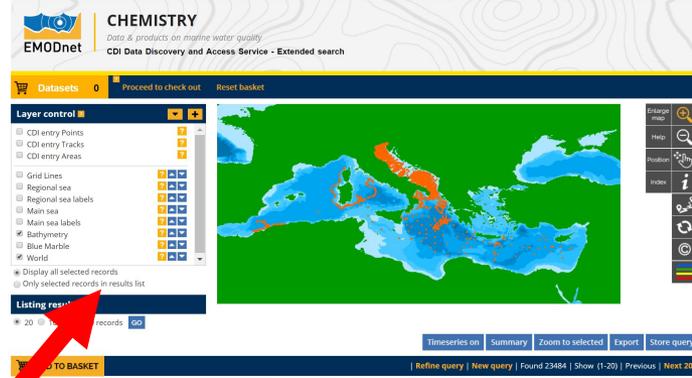


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- To be **R**e-usable -> open data have accurate and relevant attributes

Il flusso dei dati

Standardizzazione di formati
 Metadati
 Termini comuni (vocabolari)
 Validazione



Considerazioni finali

- Dati aperti sono un'opportunità per il mondo scientifico purché «originator» sia opportunamente riconosciuto
- Tutti i servizi di visualizzazione di EMODnet Chemistry sono sul Cloud del Cineca
- In collaborazione con EUDAT, tutto il SeaDataNet VRE sul Cloud (B2ACCESS, B2DROP, ...)
- Sinergia Cineca, GARR+LightNet e NODC rafforza ICDI
- INFRAEOSC-2018 (ENVI-FAIR) e BlueCloud Pilot per migliorare la FAIRness

