SeaDataCloud

Related projects

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SDC Plenary meeting – web conf – October 2020

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SeaDataCloud

ENVRI-FAIR

- H2020 project
- To connect the ESFRI Cluster of Environmental Research Infrastructures (ENVRI) to the European Open Science Cloud (EOSC)
- Involving environmental research infrastructures (RI) in subdomains: Atmosphere, Marine, Solid Earth and Biodiversity / Ecosystems
- Overarching goal: all RIs to improve their FAIRness and to become ready for connection to EOSC. .
- MARINE RIs: SeaDataNet, Euro-ARGO, ICOS Marine, EMSO, and Lifewatch Marine.
- Partners from SeaDataNet: IFREMER, MARIS, RBINS, OGS, BODC, and CSIC.
- 4 year project from 1 January 2019.

What is FAIR?

nature > scientific data > comment > article

SCIENTIFIC DATA

Comment | OPEN | Published: 15 March 2016

The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson, Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg, Jan-Willem Boiten, Luiz Bonino da Silva Santos, Philip E. Bourne, Jildau Bouwman, Anthony J. Brookes, Tim Clark, Mercè Crosas, Ingrid Dillo, Olivier Dumon, Scott Edmunds, Chris T. Evelo, Richard Finkers, Alejandra Gonzalez-Beltran, Alasdair J.G. Gray, Paul Groth, Carole Goble, Jeffrey S. Grethe, Jaap Heringa, Peter A.C 't Hoen, Rob Hooft, Tobias Kuhn, Ruben Kok, Joost Kok, Scott J. Lusher, Maryann E. Martone, Albert Mons, Abel L. Packer, Bengt Persson, Philippe Rocca-Serra, Marco Roos, Rene van Schaik, Susanna-Assunta Sansone, Erik Schultes, Thierry Sengstag, Ted Slater, George Strawn, Morris A. Swertz, Mark Thompson, Johan van der Lei, Erik van Mulligen, Jan Velterop, Andra Waagmeester, Peter Wittenburg, Katherine Wolstencroft, Jun Zhao & Barend Mons - Show fewer authors

Scientific Data **3**, Article number: 160018 (2016) | Download Citation

Article in 2016

"Data and services that are *Findable, Accessible, Interoperable, Re-usable* both for machines and for people."

Further work in:

GO FAIR

RDA RESEARCH DATA ALLIANCE

FAIR Guiding Principles

Box 2 | The FAIR Guiding Principles

To be Findable:
F1. (meta)data are assigned a globally unique and persistent identifier
F2. data are described with rich metadata (defined by R1 below)
F3. metadata clearly and explicitly include the identifier of the data it describes
F4. (meta)data are registered or indexed in a searchable resource

To be Accessible:
A1. (meta)data are retrievable by their identifier using a standardized communications protocol
A1.1 the protocol is open, free, and universally implementable
A1.2 the protocol allows for an authentication and authorization procedure, where necessary
A2. metadata are accessible, even when the data are no longer available

To be Interoperable:
I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles
I3. (meta)data include qualified references to other (meta)data

To be Reusable:
R1. meta(data) are richly described with a plurality of accurate and relevant attributes
R1.1. (meta)data are released with a clear and accessible data usage license
R1.2. (meta)data are associated with detailed provenance
R1.3. (meta)data meet domain-relevant community standards

PHIDIAS – CEF project

- Strong focus on ICT
- To build a prototype for Data/HPC services based on Earth sciences cases
- To develop and provide new services to discover, manage and process spatial and environmental data (in particular from earth surface, atmosphere, ocean…).
- To propose a generic workflow for massive (big) scientific data by combining computing, dissemination and archiving resources in a single framework.
- To explore a distributed model for data transfer and resource allocation between two european computing centers (CINES in France and CSC in Finland).
- Partners from SeaDataNet: IFREMER, MARIS, ULiege, SYKE, and CSC (EUDAT).
- 3 year project from 1 September 2019.

EMODnet thematic projects

- **EMODnet Bathymetry - HRSM2 project**
  - Gathering more bathymetric survey data sets in CDI service
  - Generating new release of the EMODnet Digital Terrain Model for European seas
  - Major synergy with SeaDataNet, using the CDI service.
  - 2 years project agreed with EASME in December 2018; recently green light received for new bid for another 2 years till December 2020
  - Coordinated by Shom; several SDN partners involved
- **EMODnet Chemistry 4:**
  - Continued focus on eutrophication, contaminants, and marine litter data gathering and data products generation.
  - Major synergy with SeaDataNet, using the CDI service
  - Many SDN partners involved
  - 2 years project agreed with EASME in October 2019; awaiting evaluation of latest bid for October 2021 – October 2023
  - Coordinated by OGS; many SDN partners involved

EMODnet thematic projects

- **EMODnet Physics 4**:
  - Continued focus on making operational oceanography time series available from three pillars: SeaDataNet, CMEMS-INSTAC, and EuroGOOS ROOS's.
  - Major synergy with SeaDataNet for bridging the gap between operational oceanography and long term archives.
  - 2 years project agreed with EASME in October 2019 with option another 2 years; awaiting evaluation of latest bid for October 2021 – October 2023
  - Coordinated by ETT; only few SDN partners involved, but SeaDataNet as one of the pillars with EMODnet Physics as shop-window
- **EMODnet Ingestion 2**:
  - Continued focus on including third party data sets in the European marine data exchange
  - Cooperation with EMODnet Physics for identifying and mobilizing more operational oceanography stations and pushing SWE uptake
  - Major synergy with SeaDataNet for routing and elaborating ingested data sets towards standard formats and inclusion in SeaDataNet and EurOBIS and other European infrastructures
  - 2 years project agreed with EASME in October 2019 till October 2021 with option of another 2 years, in case of success
  - Coordinated by MARIS and HCMR; many SDN partners involved

EMODnet thematic projects

- **EMODnet Biology 4**:
  - Gathering more biodiversity data sets in EurOBIS
  - Generating several biodiversity data products
  - Synergy with SeaDataNet CDI web service
  - 2 years project continuation agreed with EASME in April 2019; awaiting evaluation of latest bid for April 2021 – April 2023
  - Coordinated by EurOBIS; a few SDN partners involved

EMODnet – new vision

- So far EMODnet consisted of series of thematic portals and a central portal for promotion and navigation, while thematic portals give more details on products and added functionality for using products and retrieving related data
- New vision and strategy by EU DG MARE: focus on integrated central portal and phasing out thematic portals
- Thematic groups continue their production lines, but deliver services and API's to central portal, which will feature the user interfaces and shop windows
- Change from bottom-up to top-down approach with lots of interaction needed between central team (Secretariate, VLIZ, and EU) and thematic groups
- Contracts for new tenders, starting with EMODnet Bathymetry, will serve as a pilot for the new approach

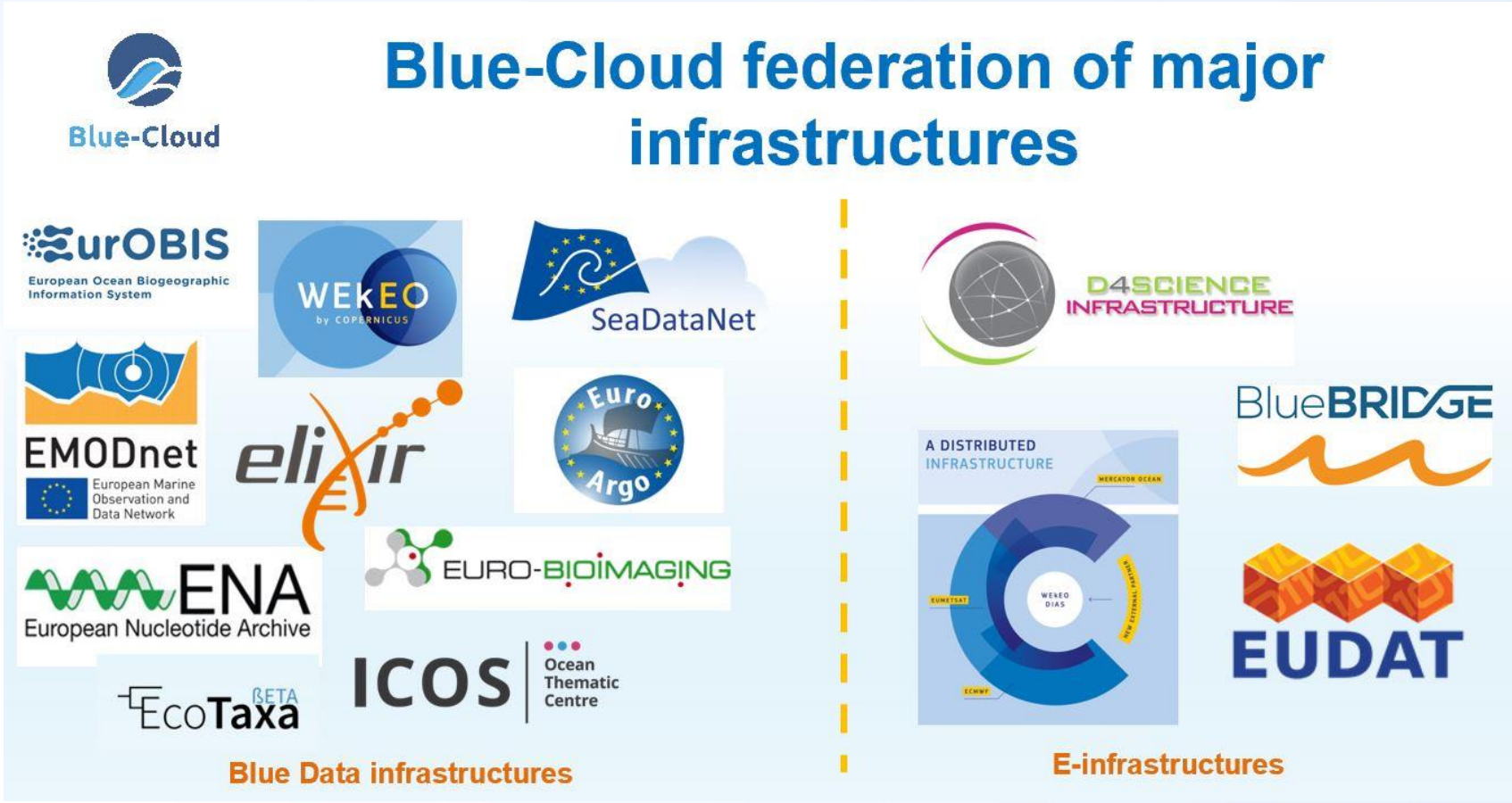
EMOD – PACE project with China

- Follow up from EU – China Summit
- 3 year project, started 19 February 2020
- Coordinated by SSBE (EMODnet Secretariate)
- Involvement of leading partners from all EMODnet lots
- WP1: EU-China Web Portal & creation of interoperable information system linking EMODnet with NMDIS;
- **WP2: Establishing data interoperability between EMODnet and NMDIS;**
- WP3: Comparison of European and Chinese models for regional sea reanalysis;
- WP4: Comparison of European and Chinese models for seabed habitat and ecosystem vulnerability;
- WP5: Coastal Adaptation
- For WP2: working towards brokerage and following earlier ODIP approach with Workshops and focus on a number of products and services, promoting SeaDataNet, EurOBIS, and CMEMS-INSTAC standards

Blue Cloud

- **Blue Cloud:** H2020 project
- Part of 'The Future of Seas and Oceans Flagship Initiative' call.
- To explore and demonstrate the potential of cloud based open science in the domain of ocean sustainability,
- Pilot Blue Cloud as a cyber platform brings together and provides access:
  - 1) multidisciplinary data from observations and models,
  - 2) analytical tools,
  - 3) computing facilities essential for key blue science use cases.
- Outputs includes also a **Blue Cloud 2030 implementation Policy Roadmap**.
- SeaDataNet partners: IFREMER, MARIS, CNR, VLIZ, and EUDAT.
- Lead by TRUST-IT with MARIS as Technical Coordinator.
- 3 year project started October 2019.

Blue Cloud - Capitalising on existing blue infrastructures



Blue Cloud Technical framework

- The pilot Blue-Cloud is envisioned as a **smart federation** of data resources, computing platforms, and analytical services

- The **technical framework** will feature:
  - a component to serve **federated discovery and access** to the blue data infrastructures and their multi-disciplinary data from observations, in-situ and remote sensing, data products and outputs of numerical models. **Combination of GEODAB BROKER and CDI SERVICE TECHNOLOGY**

  - a component to serve as Blue Cloud VRE by a federation of computing platforms and analytical services; this will include Virtual Labs for each of the use case Demonstrators. **Based upon D4Science VRE platform of CNR-ISTI + DIAS (WEkEO)**

Blue Cloud Consultation

- https://www.blue-cloud.org/form/blue-cloud-roadmap-2030-onlineconsultation

EOSC related projects

- **EOSC-HUB**: Jan 2017 – end 2020: **Marine Competence Centre,** involving a few SeaDataNet partners testing new technologies, such as use of Cassandra DB, Elastic Search, and One Data technology

- **INFRA-EOSC 03 Call**:
  - Recently green light by EU after evaluation
  - Large consortium around 40 ME budget for 3 years; led by consultancy group as neutral facilitator
  - Now negotiation with EU on DoW
  - Concerns joint venture between e-infrastructures (e.g. EUDAT, EGI, GEANT, OpenAire, ..) and 5 Research Infrastructure clusters, such as ENVRI-FAIR with SeaDataNet onboard. In total 46 RIs.
  - Part of project is Call for use cases to which ENVRI-FAIR RIs can respond
  - SeaDataNet to be represented by few partners

EOSC related projects

- **INFRA-EOSC 07 Call:**
  - Recently green light by EU after evaluation
  - Consortium led by EGI
  - Concerns EU covering costs of computing resources for running and giving access to use case services that will increase appeal of EOSC
  - SeaDataNet use case for WebODV with MARIS and AWI
  - Very good for promoting SeaDataNet services in EOSC community and researchers