

CNR-ISTI contribution to biodiversity e-Infrastructures

Donatella Castelli

Pasquale Pagano

CNR-ISTI, Pisa

Progetti

- * **iMarine** (scientific co-ordination)
 - * Funding agency: EU DG-Connect
 - * Period: Nov 2011- Apr 2014
 - * Website: www.i-marine.eu

- * **EUBrazilOpenBio** (scientific co-ordination)
 - * Funding agency: EU DG-Connect & CNPq (National Council for Scientific and Technological Development of Brazil)
 - * Period: Oct 2011- Sett 2013
 - * Website: www.eubrazilopenbio.eu

- * **ENVRI** (partner)
 - * Funding agency: EU Infrastructures
 - * Period: Nov 2011- Ott 2014
 - * Website: envri.eu

e-Infrastructure

Electronic platform operated by a **responsible entity** offering an open set of **basic enabling services** (including access to resources) to a distributed **Community of Practice**. By exploiting these shared services the members of the Community of Practice realise **economies of scale**.



Data e-Infrastructure

...

Data
aggreg.

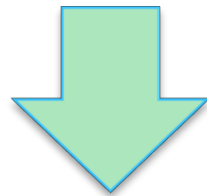
Data
cleaning

Data
selection

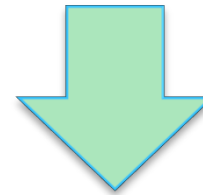
Data
analysis

Product
generat.

VREs



Functionality



Capacity



iMarine

- * **Vessel Activity Analysis**
- * **Ecological Niche Modeling**
- * **Fishery Country Profile Generation**
- * **Global Catch Statistics Quality Improvement**
- * **Collaborative Document Production...**



<https://portal.i-marine.d4science.org/group/data-e-infrastructure-gateway>

- * **Simplified access and exploitation of tools for data analysis, mining, processing and visualization**
- * **Support for access to, harmonization & aggregation of heterogeneous, multi-disciplinary and multi-format data**

Occurrence Data
GBIF, OBIS

Taxon. data
CoL,
ITIS, WoRMS

Environ. Data
MyOcean,
WorldClim,
WOA

Stat. Data
SDMX

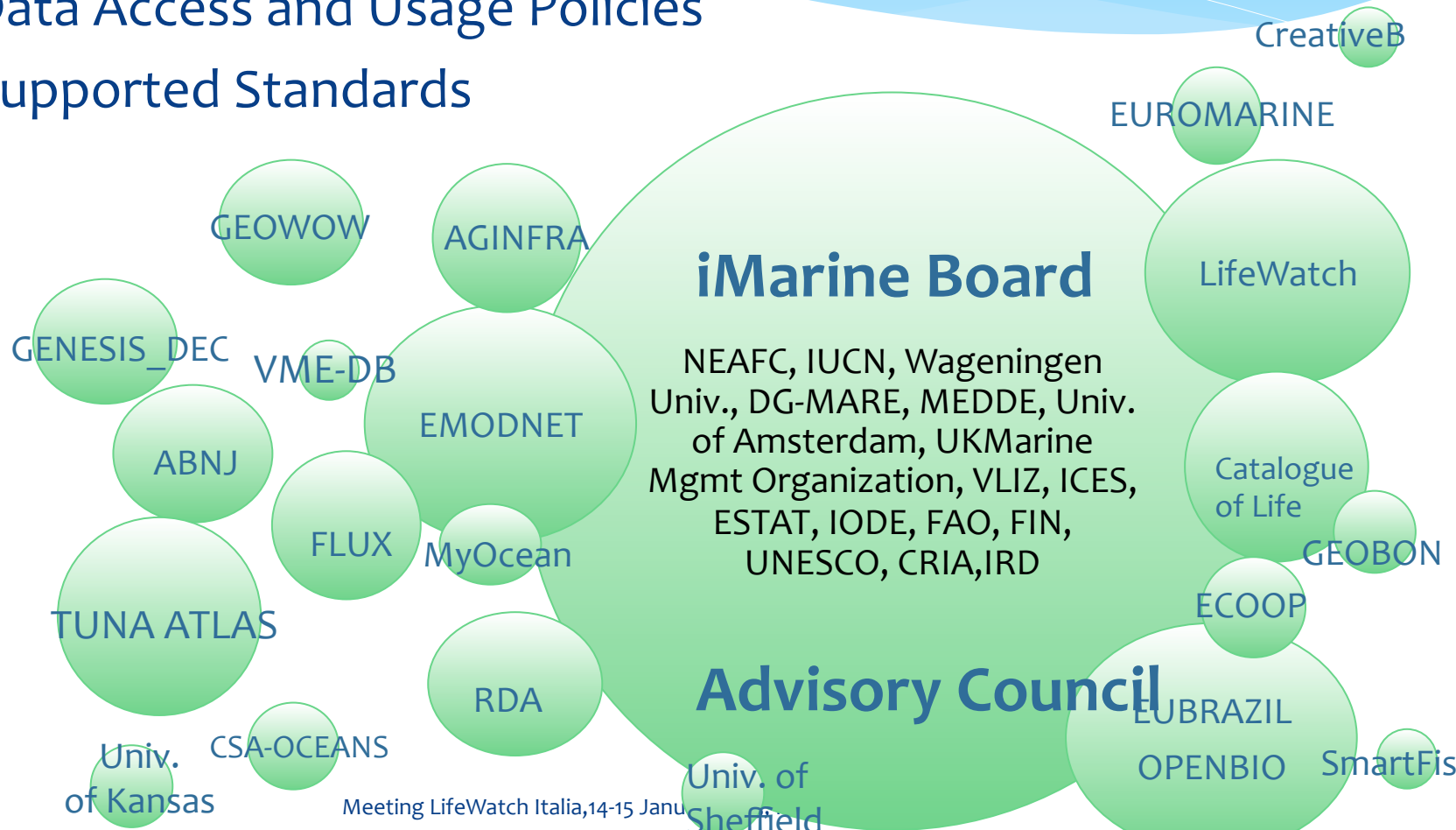
Code Lists
FAO, IRD

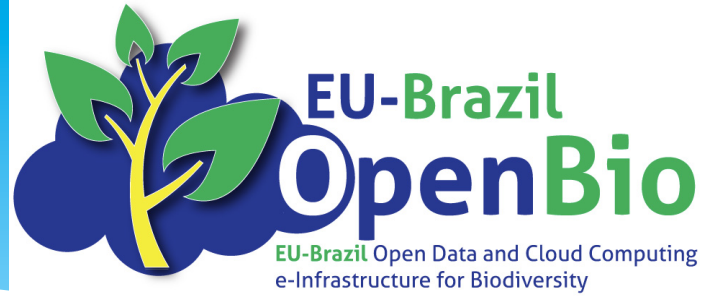
LogBooks
DG-Mare

VMS data
NAFO, DG-
Mare

Policy definition

- * Governance Model
- * Data Access and Usage Policies
- * Supported Standards





To deploy an e-Infrastructure of **Open Access resources** so serve Biodiversity scientists by **integrating EU and Brazilian technologies and resources**

Main Activities:

- * **Integration between Regional & Global Taxonomies (CoL & The Flora of Brazil Species List)**
- * **OpenModeller platform** empowered to access infrastructure available data and able to run on Cloud computing resources

Welcome to EUBrazilOpenBio Virtual Organization.

EUBrazilOpenBio aims to ambitiously combine the Biodiversity Science and the Open Access Movement, promoting the concept of the openness for scientific research.

The project hosts an open-access platform from the federation and integration of existing European and Brazilian infrastructures and resources, making significant strides towards fully supporting the needs and requirements of the biodiversity scientific community.

[Enter now](#)

Species Lab

Welcome to Species Lab Virtual Research Environment. [Enter now](#)

The SpeciesLab VRE supports **two main business cases**:

Cross-mapping of taxonomies : to explore and analyze disparities between the Brazilian regional taxonomic scheme (used in The Flora of Brazil Species List) and the global scheme constructed by the CoL internationally.

Ecological Niche Modeling to understand species distribution. Because of the OpenModeller platform empowered to run on Cloud computing resources, several algorithms are available, e.g., BioClim, GARP, and MAXENT. If applied on a large enough scale these ecological niche modeling routines can provide species distribution models where future movements, expansions or extinctions of species can be predicted.

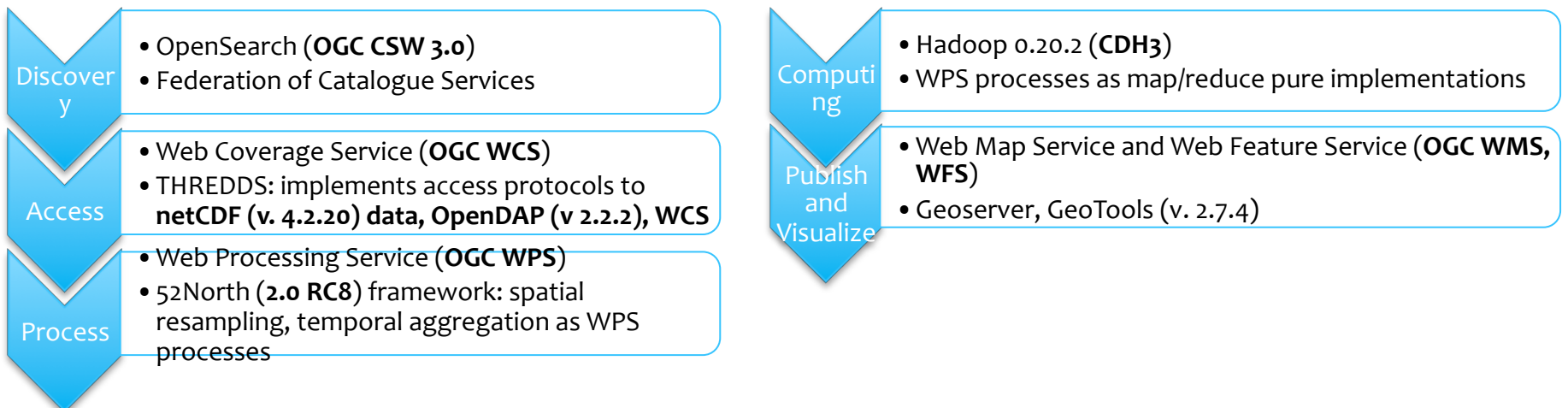
<https://portal.eubrazilopenbio.d4science.org>



Implementation of **common solutions** for a cluster of ESFRI infrastructures in the field of "**Environmental Sciences**"

CNR Involvement:

Prototype of framework for dealing with Geospatial data: from discovery to process and publication

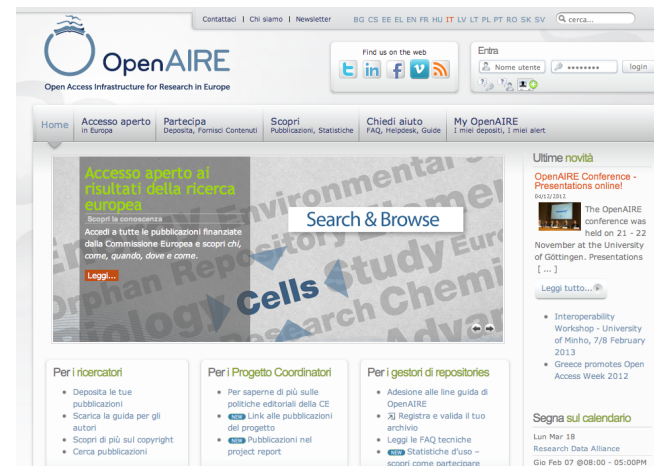




Open Access Infrastructure for Research in Europe

- * Implements the EC Open Access pilot (FP7, FP8, ERC)
- * European Helpdesk System
- * Linking Data & Publications
- * Research Impact Statistics

<http://www.openaire.eu>



More information available at...

- * www.i-marine.eu
- * www.eubrazilopenbio.eu
- * www.envri.eu
- * www.openaire.eu

- * www.d4science.org
- * www.gcube-system.org