The metadata catalogue of the Spanish Institute of Oceanography: a tool to implement the EU Marine Strategy Framework Directive (MSFD)

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ABSTRACT

The **Spanish Institute of Oceanography (IEO-CSIC)** is responsible, among other aspects, for giving scientific and technical advice to the Spanish Government's fisheries policy as well as for the protection and sustainability of the marine environment. Thus, the IEO-CSIC plays a key role in the implementation of the **EU Marine Strategy Framework Directive** (MSFD; 2008/56/CE), a legislative act that seeks to achieve a good environmental status of European marine waters and protect the resource base on which sustain economic and social activities related to the sea.

Under this commission, the IEO-CSIC generates a large amount of marine data characterized by its spatial dispersion during acquisition as well as by its different typologies. One of the main tasks is to safeguard data and **to inform what, where, how and when** has been acquired and, in addition, to provide access to them through the collaboration with different national and international organizations. To this end, the data and metadata are subjected to quality control and formatted for integration into a national Spatial Data Infrastructure (SDI).

n = 2795

1677

241 93

IEO-CSIC cruises   Other cruises   GIS   MSFD

Areas of circles proportional to the number of metadata.

Metadata in the catalogue

THE DATA FLOW...

IEO-CSIC data are stored in different internal databases depending on the scientific purpose. Part of this data is processed by the National Oceanographic Data Center (NODC) whereas other data are managed by the GIS service. External data providers can also contribute through the EMODnet Ingestion portal.

Quality controlled and formatted data flow from IEO-CSIC to different international data infrastructures.

EMODnet portals feed on both data managed directly by the IEO-CSIC and data distributed by different international data infrastructures.

Relevant metadata for the implementation of the MSFD are included in the IEO-CSIC catalogue. From here, they are harvested in other national infrastructures, as the InfoMar catalogue, promoted by the Ministry for the Ecological Transition and Demographic Challenge, and maintained by the CEDEX.

CONCLUSIONS

DONE
- A general data catalogue has been set up (GeoNetwork).
- Metadata from > 4,300 surveys are now available.
- Harmonization of metadata vocabularies and formats.
- Succesful harvesting to other catalogues.

TO-DO
- Improve accesibility and citability.
- Extend metadata creation and training to other internal "data providers".
- Extend automatic quality control to more datasets.

THE CATALOGUE

The IEO-CSIC has a GeoNetwork catalogue (http://datos.ieo.es) with ~2800 institutional oceanographic cruises. The metadata of the surveys known as Cruise Summary Report (CSR) follow the ISO 19139, and although similar to those reported to the pan-European SeaDataNet infrastructure, here they have been adapted following an XSL transformation to facilitate the data discovery to the Spanish community.

CSRs constitute the parent metadata for ~250 layers associated with the implementation of the MSFD. Thus, the INSPIRE-compliant layers with biological, geological and physical resource data can be found through the catalogue and are linked to the corresponding map services.
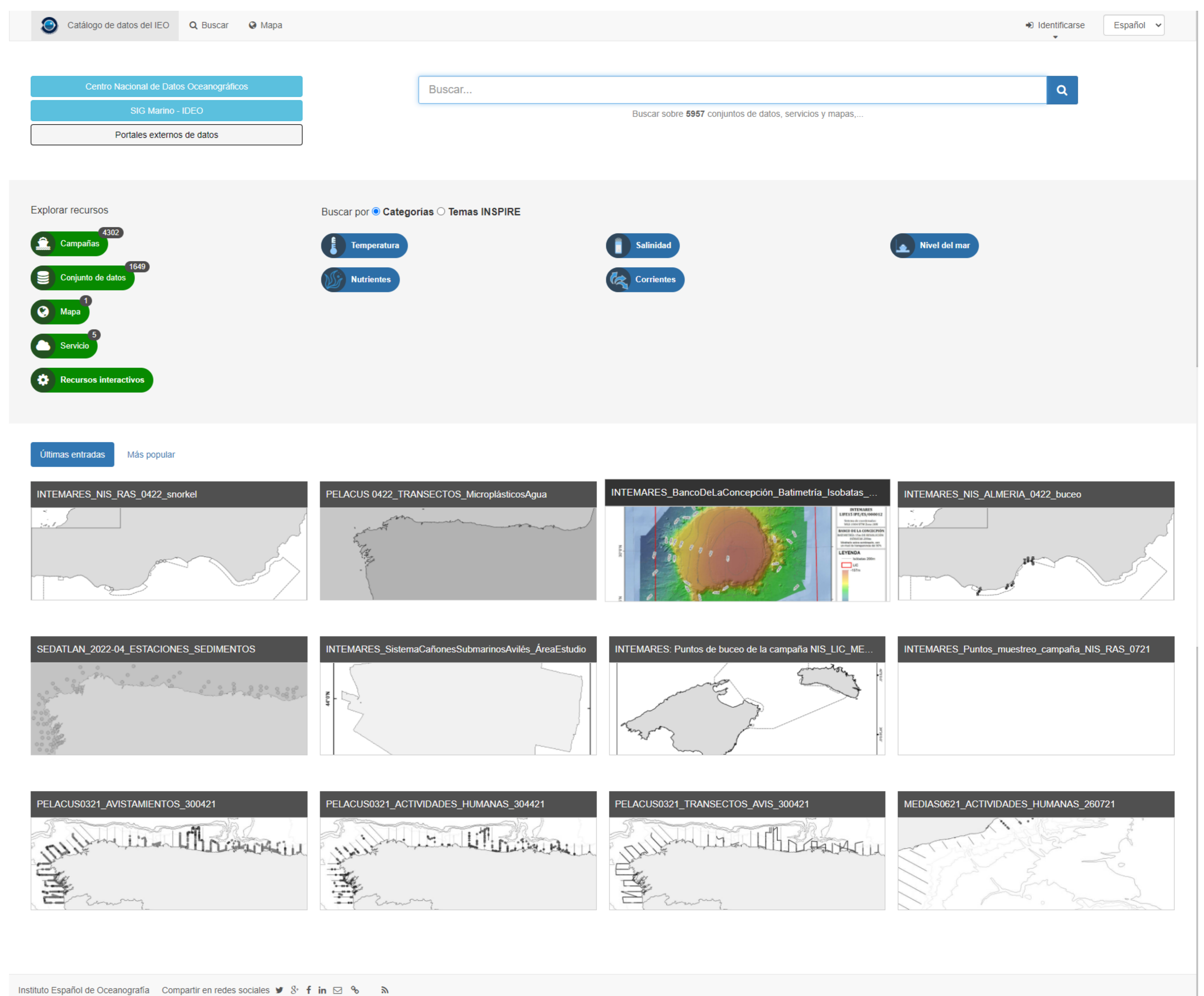
There are five Web Maps Services for the different Spanish marine demarcations with spatial information of the first (2012-2018) and the second cycle (2018-2024). Datasets are organized according to the different monitoring programs of the MSFD.

Screenshot of the IEO-CSIC metadata catalogue
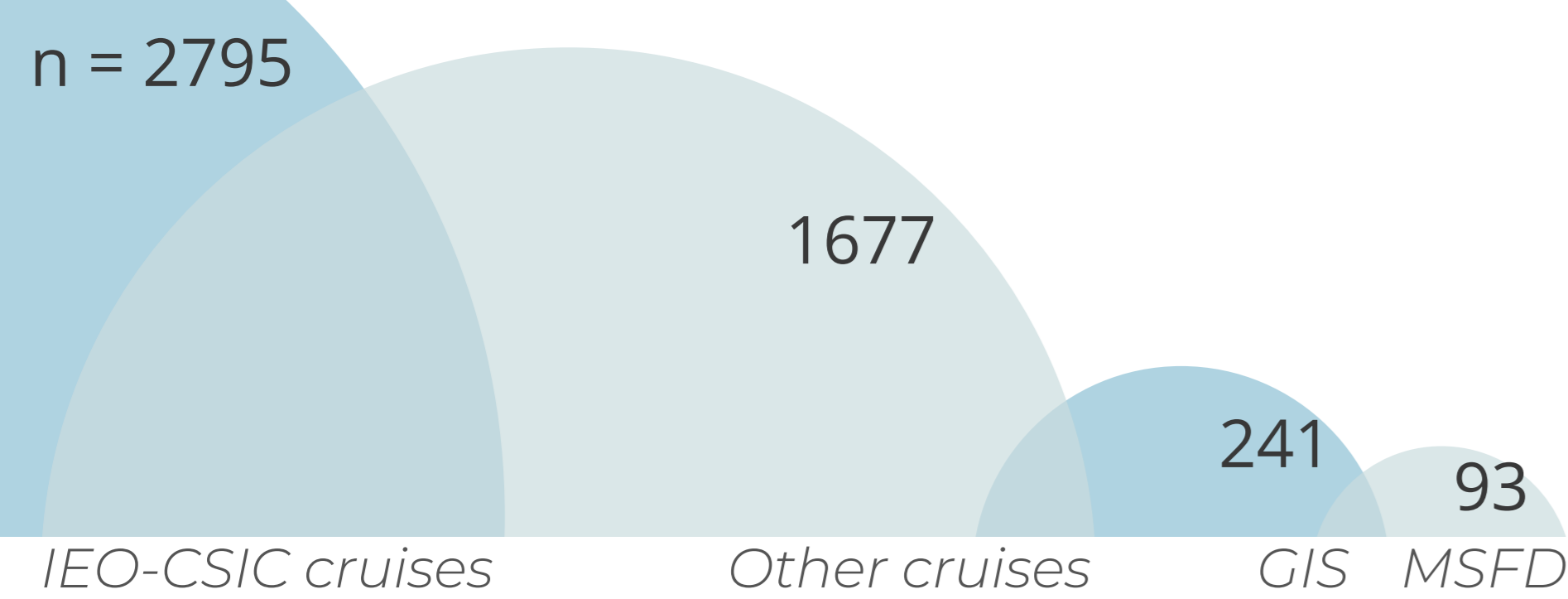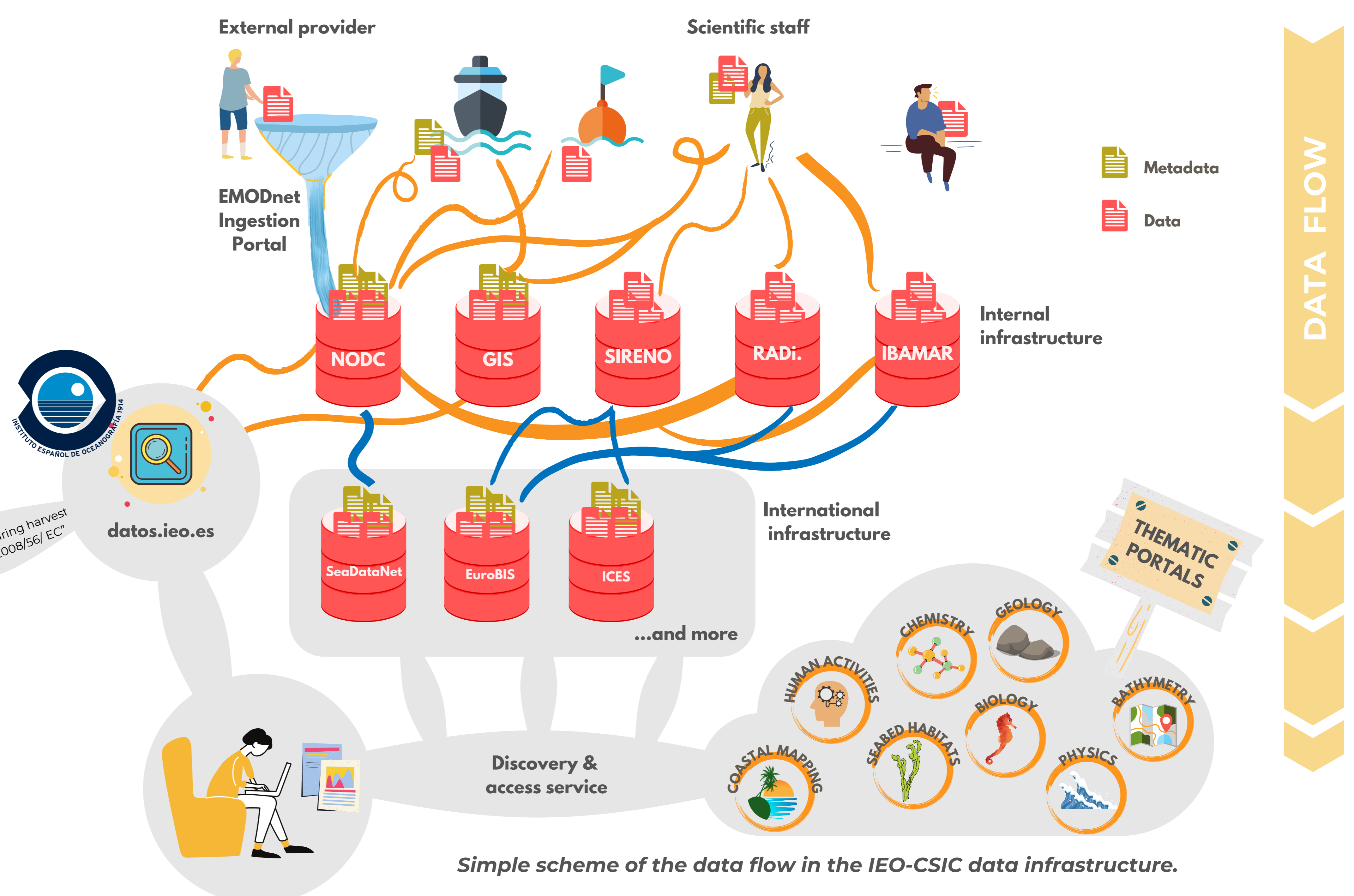
THE SPANISH MARINE STRATEGY IN A NUTSHELL

Marine Strategies are organized as cyclical processes of adaptive management, which must be kept up-to-date and reviewed every 6 years. Its main objective is the achievement of the **Good Environmental Status (GES)** of marine waters. They are applied on the 5 Spanish **marine subdivisions**: north Atlantic, south Atlantic, Levantine-Balearic, Estrecho and Alboran, and Canary.

Descriptors are the basis for the characterisation and definition of GES of the marine environment. The MSFD Directive 2008/56/CE (MSFD) provides a list of 11 qualitative descriptors.

Simple scheme of the data flow in the IEO-CSIC data infrastructure.

Keyword used during harvest "Directive 2008/56/ EC"

datos.ieo.es   infomar.miteco.es

External provider   Scientific staff

EMODnet Ingestion Portal

NODC GIS SIRENO RADi. IBAMAR

Internal infrastructure

SeaDataNet EuroBIS ICES

International infrastructure

...and more

Discovery & access service

THEMATIC PORTALS

Metadata   Data

DATA FLOW

datos.ieo.es

https://ocevi.github.io   @PabloOteroT