

Promoting FAIRness in marine data at Centro Nacional Instituto Español de Oceanografía

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Abstract – The Spanish Institute of Oceanography is responsible, among other aspects, for scientific and technical advice for the Government's fisheries policy as well as for the protection and sustainability of the marine environment. In this task, it generates a large amount of oceanographic data characterized by its spatial dispersion during acquisition as well as by its different typology. The purpose of both the National Oceanographic Data Center and the GIS team is to safeguard data and to disclose what data exists and where, how and when it has been acquired and, in addition, to provide access to that data through the collaboration with different international data infrastructures like EMODnet or SeaDataNet. To this end, the data and metadata are subjected to quality control and formatted for integration into a national Spatial Data Infrastructure (SDI). This SDI has a GeoNetwork catalogue with ~ 1750 oceanographic campaigns, together with (meta)data and services that are continuously being revised and incorporated. All this with the ultimate goal of making the data increasingly FAIR.

Keywords – marine data, metadata, GeoNetwork, FAIR, SDI.

I. INTRODUCTION

The IEO, as National Oceanographic Data Centre (NODC), acts as one of the core partners of the SeaDataNet, an operational infrastructure for managing, indexing and providing access to ocean and marine data. SeaDataNet promotes common standards for metadata and data formats, controlled vocabularies, quality flags and services for marine data management, which are widely adopted and used for improving FAIRness (Findable, Accessible, Interoperable and Reusable) [1]. For years now, the IEO has shared part of its data through this infrastructure, which has meant adopting common standards and also technology for the sake of interoperability. On the other hand, the GIS team has been in charge of adapting metadata and layers to the INSPIRE Directive, and since 2009 has been development the IDEO (Spatial Data Infrastructure of IEO), among other tasks. The need to make data localizable to national authorities and adapt to a wider variety of data has led to the merge efforts of both teams and implement several of the already explored FAIR criteria into a national Spatial Data Infrastructure (SDI).

II. METHODOLOGY

As a common access point to different resources, the *datos.ieo.es* landing page has been created and implemented on GeoNetwork, a free software code and environment to catalogue resources referenced in the geographic space (see Fig. 1). This catalogue is the core element of the SDI. In turn, the main element of the catalogue is the collection of oceanographic campaigns. Currently there are about 1750 registered, carried out since 1950. The metadata of the campaigns known as Cruise Summary Report (CSR) follow the ISO 19139, and although similar to those reported to SeaDataNet, here they have been adapted following a XSL transformation to facilitate the data discovery to the Spanish community. The catalogue also has data from tide gauges, the Augusto Gonzalez Linares ocean-meteorological buoy and thermosalinograph measurements, among others. The catalogue is also the entry point to provide GIS layers within the mandate of the EU Marine Strategy Framework Directive and/or important environmental projects such as INTEMARES. 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. Finally, the catalogue also has metadata for a variety of interactive resources and applications.

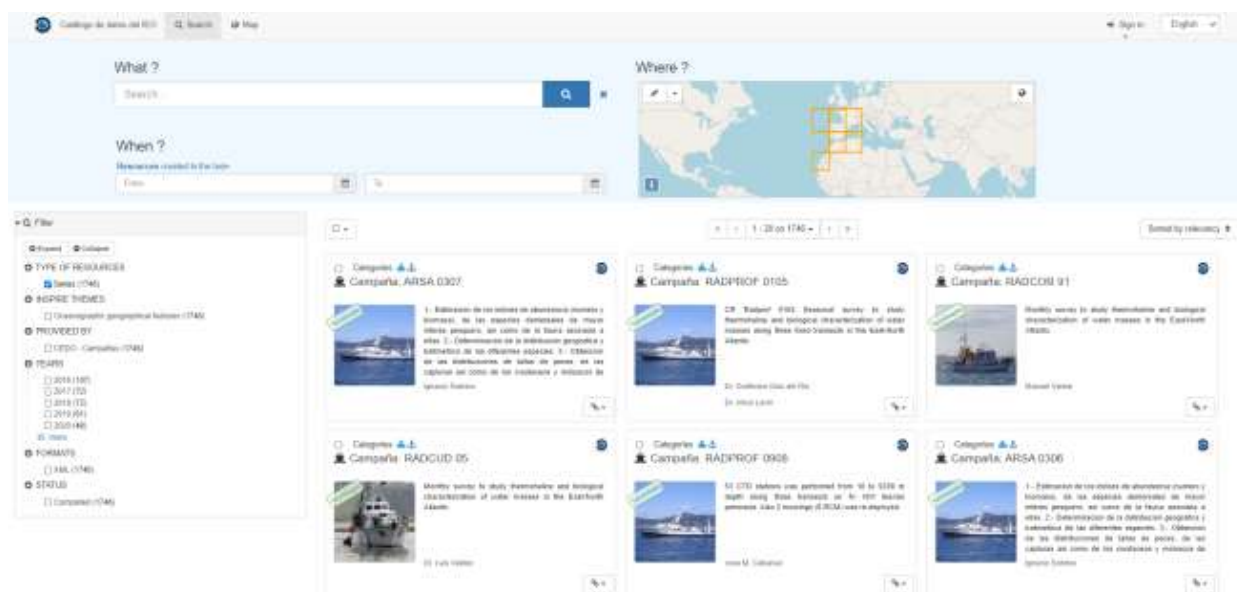


Fig 1. Screenshot of the metadata catalogue (datos.ieo.es), showing here the collection of campaigns.

III. CONCLUSIONS

Within the IEO, an effort is being made to combine oceanographic data managed by the NODC and those GIS layers in the same portal. At this point, the campaign metadata becomes the parent metadata for easy data localization. In this strategy, an open source metadata catalogue has been chosen and metadata standards (ISO 19139, INSPIRE), common vocabularies, data transport formats and persistent identifiers (PID) have been adopted. However, there is still a long way to add more data to the catalogue, make them accessible, and generalize the use of digital object identifiers (DOI) to facilitate their discoverability among other aspects.

REFERENCES

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