

# Oceanographic data in the EU legislation: a temporal evolution analysis

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## INTRODUCTION

The management of oceanographic data (fisheries, marine, maritime, water and spatial data) is an increasingly relevant question for European environmental policy and management. To get familiar with the services and tools for data management (access, storage, transmission, quality, dissemination, reutilization), they must be based on clear legal grounds in terms of their access, use and practical support.

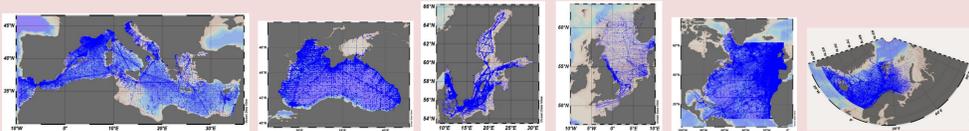


FIG.1 European sea basins (Mediterranean Sea, Black Sea, Baltic Sea, North Sea, North Atlantic Ocean, Arctic Sea).

The Community Institutions (especially the European Commission) introduced over the past 40 years (1976-2016), a set of legal texts on the oceanographic data concerned with issues related to:

- the guarantees that these data can be used and re-used as widely as possible
- the best way to interconnect the new and existing oceanographic data infrastructures
- the coordination of already existing aids in favour of the data infrastructures

But EU searching to legally commit governments to grant access to ocean data and allow their re-use, does not automatically apply to the large pools of data held by research institutions for the benefit of National Oceanographic Data Centers (NODC)

## Objectives

This proposal attempts to analyse the existing information at the European legislation level on oceanographic data. That means that this will focus on examining the temporal distribution of the legal texts, the type of document, the organization that issued them, the type of data which is referred (fisheries, marine, maritime, water and spatial data) and the actions of data management that correspond to their retrieval and compilation, process, custody, distribution and re-use.

## Results

Data Oceanographic data management legislation in Europe, begins with the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, originally signed in 1976 by the European Economic Community (FIG.3). Inside the Convention a main activity is data compilation. The last document analyzed is a Commission implementing Decision concerning fisheries data for the period (2017-2019). The temporal distribution within these limits shows two main peaks: 2006, when the EU outlined its Integrated Maritime Policy (IMP) and its European Marine Observation and Data Network (EMODnet) and 2008 when the Marine Strategy Framework Directive (MSFD) and the Data Collection Framework (DCF) were promulgated.

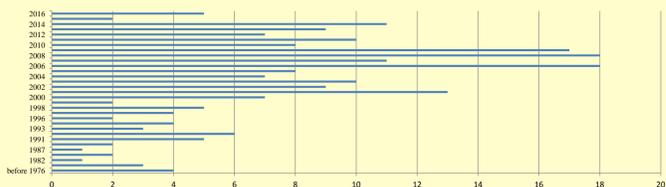


FIG.3 Number of European legal provisions on Oceanographic Data along the period 1976-2016.

The legal basis at European level to support Oceanographic Data translates political decisions and targets into data management actions. The percentage of its documentary typology (including regulations, directives, communications, and others (for less common types)) allocated to the data management actions draws attention to the data accessibility, storage, transmission, quality management, dissemination and reutilization (FIG.4). It is essential to consider the importance of interaction between European policies and their need for data. The main policy on this supranational level is the Common Fisheries Policy, its data regulation and its data collection framework (DCR, DCF), the marine strategy framework directive (MSFD) and the integrated maritime policy (IMP) communication.

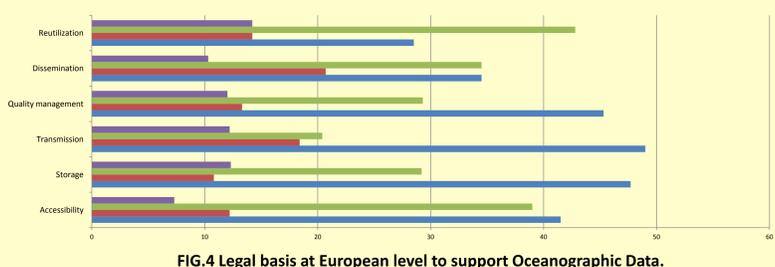


FIG.4 Legal basis at European level to support Oceanographic Data.

While privacy options are critical for **access rights**, national jurisprudence remains a top priority in the case of **data storage** (FIG.5). A common standard format (eg, FLUX) is important to understand transmission, and **quality management** requires the acceptance of the legal terms laid out by the European Commission. **Data dissemination** has its own juridical problems related to the absence of visibility of the data providers (eg, national institutes). Furthermore, **reutilization** forms the legal basis for a system of licences, both in commercial and non-commercial terms.

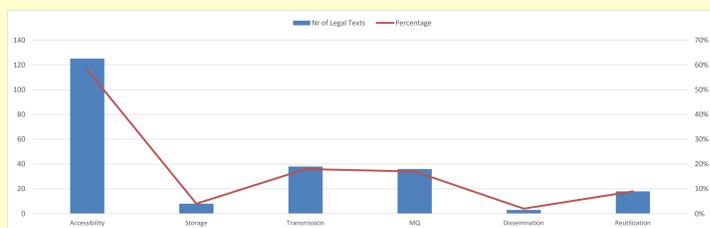


FIG.5 Distribution of the Oceanographic Data Management Actions.

## Methodology

A database has been compiled with all the valid and binding EU legislation referred to the European Seas and Oceans, available from the EU official gateway to European legislation, EUR-Lex, since 1973 to 2016. This database contains a total of 213 records. A content analysis was performed associated with each of the legal texts, by using a set of seven indicators: type of document, the organization that has approved them, content description, date and place of adoption, geographical scope, type of data, actions applied to these research data.

Título	Tipo de documento	Organización	Descripción	Fecha	Lugar	URL	Ámbito geográfico	Tipo de datos	Cita en la legislación	Comentarios	Acciones
Convenio sobre el Convenio Internacional de Espacios Acuáticos de Pesca y Pesca Acuática (CITE)	Tratado internacional	Programa de las Naciones Unidas para el Medio Ambiente (PNUMA-UNEP)	Norma internacional en la que se indica que para obtener datos científicos sobre los ecosistemas marinos, se debe consultar a los estados intergubernamentales.	03/10/2019	Washington, DC	<a href="https://www.unep.org/press/2019/10/03/unep-launches-new-international-agreement-to-protect-oceans">https://www.unep.org/press/2019/10/03/unep-launches-new-international-agreement-to-protect-oceans</a>	Global	Maritime	Artículo 19.2 (b) "Trabaja los ecosistemas marinos, el feroz cambio climático y la contaminación, desde consultar a los estados intergubernamentales que tienen relación con estas especies con vistas a obtener de ellas datos científicos, para facilitar su gestión...".	Específicamente para las especies marinas, el Artículo 19 indica que para obtener datos científicos se debe consultar a las autoridades intergubernamentales. El Artículo 19 de la Convención (previsto por el Director Ejecutivo del Programa de las Naciones Unidas para el Medio Ambiente (PNUMA)), recibe los datos de los ecosistemas marinos.	1. Accesibilidad. El Documento de la Convención para la conservación de los ecosistemas marinos intergubernamentales para obtener los datos científicos con vistas a las especies marinas.
Convenio de Convención (norma)	Convenio (norma)	Internacional Marítima Organización Jurídica Marítima Adhucos Asociación	Convención internacional sobre seguridad marítima que concierne a los datos hidográficos para asegurar la navegación.	02/11/2014	Londres	<a href="https://www.imo.org/About/Conventions/Conventions%20and%20Agreements/Articles/Articles%20of%20the%20International%20Convention%20on%20Safety%20of%20Life%20at%20Sea">https://www.imo.org/About/Conventions/Conventions%20and%20Agreements/Articles/Articles%20of%20the%20International%20Convention%20on%20Safety%20of%20Life%20at%20Sea</a>	Global	Maritime	Regulación de Servicios Hidrográficos. 1. "Los gobiernos contratantes se comprometen a llevar a cabo la investigación y la compilación de datos hidográficos y a publicarla, de manera que permita al día de hoy la información electrónica necesaria para la navegación segura."	1. El Artículo 1 de la Convención indica que el propósito de la Convención es garantizar la seguridad de la navegación.	1. Accesibilidad. Compromiso de los gobiernos para la recopilación de datos. 2. Actualización. Compromiso de los gobiernos para la compilación de datos. 3. Gestión de calidad. Compromiso de los gobiernos para la puesta al día de los datos.
Directiva 2002/43/CE del Consejo, de 6 de mayo de 2002, relativa a la calidad de las aguas de baño	Directiva	Consejo de la Comunidad Europea	Directiva que considera que es conveniente informar a la opinión pública de manera objetiva acerca de la calidad de las aguas de baño.	06/12/2005	Bruselas	<a href="https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32002L0043">https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32002L0043</a>	Europa	Maritime	Artículo 6.1. "Las autoridades competentes de los Estados miembros efectuarán los muestreos cuya frecuencia mínima se fija en el Anexo."	1. La determinación periódica (frecuencia mínima de muestreo) de los datos geográficos, topográficos, volumétricos y de calidad de las aguas de baño.	1. Accesibilidad. Frecuencia mínima de muestreo de los datos de los vertidos contaminantes.

FIG.2 A database on oceanographic data in EU legislation has been compiled.

## Results

The analysis unit identifies 20 different types of documents, pointing out that regulations (31%), communications (25%) and directives (14%) are the main sources for the study of the European legislation on oceanographic data (FIG.6); also important were the decisions (8%), the international treaties (5%) and the laws (4%). Other legal documents (13%) complement the types of legislation. Concerning the body that promotes and approves the applicable legislation, the European Commission should be mentioned with the greater number of legal provisions issued (40%); above the European Parliament (23%) and the European Council (20%) (FIG.7).

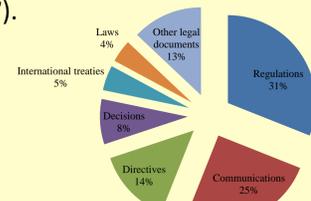


FIG.6 Types of documents in the EU legislation concerning the management of oceanographic data.

The EU institutions are distributed according to the number of legal provisions that are promulgated. The rationale behind this FIG.7 includes the fact that the legislative resolutions of the European Parliament concerning oceanographic data are also Council of Europe specific agreements. This difference shows the policy differences in budgetary matters between both organizations. The European Commission relevance is a result of its position on public-funded research data accessibility, focused on the provision of safety, adequacy and standardization.

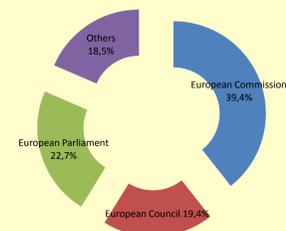


FIG.7 Legislative priorities in the area of oceanographic data by the EU bodies.

According to their geographic framework of application, all the analyzed documents have the overall geographic aim to cover the coasts, seas and oceans of the 23 EU coastal Member States. In relationship to the typology of data managed, reference is made to fisheries (35%), maritime (13%), marine (17%), water (4%), spatial (7%) and other (24%) kind of data (FIG.8). Concerning the actions that can be taken to manage the data and which explicitly appear in the legal texts, data retrieval and compilation rose 64%, process 11% and, to a lesser extent, data custody 6%, distribution 4% and other tasks 15

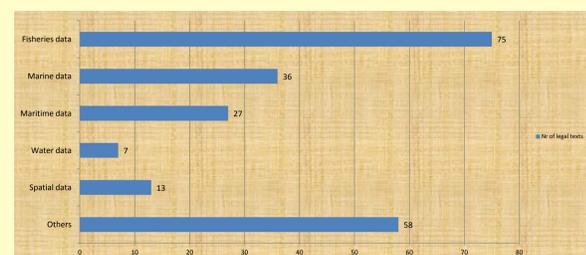


FIG.8 Distribution of the Data typology based on the number of legal texts.