

**Institute: IHCantabria**

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**FPCUP Action 2021-2-47: Report on the first cycle of interaction with national users.**

**INTRODUCTION**

IHCantabria recognizes the value of Copernicus services and downstream products, as well as the need to promote their use. Within this framework, IHCantabria actively engages in multiple FPCUP initiatives (2021-2-33, 2021-2-42, and 2021-2-47) to underscore the value of these products.

Regarding Action 2021-2-47 “Coastal coordination of user needs and methodologies”, IHCantabria realized the need to identify the gaps and needs of the Spanish coastal stakeholders and how Copernicus products can address these gaps. Following the proposal's work plan, this analysis involves two cycles of engagement with national users, with the initial cycle's outcomes detailed below.

As starting point, IHCantabria identified the Copernicus coastal users in Spain. With the aim to interact with actions 2021-2-33 and 2021-2-42, relevant coastal stakeholders were recognized within four different marine sectors: Species conservation and protected areas, Coastal protection, Ports and harbours and Maritime transport. Consequently, a total of 200 coastal stakeholders in Spain were identified, and a contact database has been established (Figure 1).

A	B	C	D	E	F	G	H	I	J
Stakeholder name	Sector	Group	Phone number	email	Webpage	Contact person	Position	Persona de contacto (*campos obligatorios)	
								phone number	email
26	Autoridad Portuaria de A Coruña	Ports and harbours	Public administration	981 21 96 21	aguerra@puertocoruna.com	http://www.puertocoruna.com/es	Andrés Guerra Sierra		Jefe departamento de Sostenibilidad
27	Autoridad Portuaria de A Coruña	Ports and harbours	Public administration		sostenibilidad@puertocoruna.com	http://www.puertocoruna.com/es			
28	Autoridad Portuaria de A Coruña	Ports and harbours	Public administration		usuario@puertocoruna.com	http://www.puertocoruna.com/es			
29	Autoridad Portuaria de Alicante	Ports and harbours	Public administration	965 13 00 95	secretaria.apa@puertoalicante.com	https://www.apalmi.com	Javier Jerez Escolano		Responsable de medio ambiente
30	Autoridad Portuaria de Almería	Ports and harbours	Public administration	950 23 60 33	almeria@apalmeria.com	www.apalmi.com	José Luis Doucet López		Técnico de Seguridad, Medio Ambiente y PRL
31	Autoridad Portuaria de Almería	Ports and harbours	Public administration		maguarnido@apalmeria.com	www.apalmi.com	Departamento de Explotación y Conservación		
32	Autoridad Portuaria de Avilés	Ports and harbours	Public administration	985 54 11 11	info@puertoaviles.com	https://www.puertoaviles.com	Virginia Fournier Rodríguez		Responsable de medio ambiente
33	Autoridad Portuaria de Bahía de Algeciras	Ports and harbours	Public administration		atencioncliente@apba.es		Juan Lopera Flores		Responsable de desarrollo sostenible
34	Autoridad Portuaria de Bahía de Algeciras	Ports and harbours	Public administration	956 58 54 00	sostenibilidad@apba.es	https://www.apba.es	Juan Antonio Patrón		Jefe del Área de Desarrollo Sostenible
35	Autoridad Portuaria de Bahía de Cádiz	Ports and harbours	Public administration	956 240 400		https://www.apba.es	Eugenio Domingo Parra		Jefe de Departamento de (edomingo@puertocadiz.com)
36	Autoridad Portuaria de Baleares	Ports and harbours	Public administration		cristinaalburquerque@portsdebalears.com		Mª Cristina Alburquerque Otero		
37	Autoridad Portuaria de Baleares	Ports and harbours	Public administration	971226150	portsdebalears@portsdebalears.com	https://seu.apba.es	Jorge Martín Jiménez		Calidad, Med +34 971 22 83   martin@portsdebalears.com
38	Autoridad Portuaria de Baleares	Ports and harbours	Public administration	971 22 81 50	portsdebalears@portsdebalears.com	https://www.apba.es	Laura Molano		Jefa de Sostenibilidad y RSC
39	Autoridad Portuaria de Baleares	Ports and harbours	Public administration		quejas y sugerencias@portsdebalears.com		Mateo Eduardo Barceló Vogt		lmbarcelo@portsib.es
40	Autoridad Portuaria de Barcelona	Ports and harbours	Public administration	93 298 60 00	sau@portdebarcelona.es	https://www.apba.es	Javier Romo		Responsable Técnico Medio Marino
41	Autoridad Portuaria de Bilbao	Ports and harbours	Public administration	944871200	comercial@bilbaoport.eus	https://www.apba.es	Alberto Ojanguren		Jefe del Departamento de acjanguren@bilbaoport.eus
42	Autoridad Portuaria de Bilbao	Ports and harbours	Public administration		prevencion@bilbaoport.eus		Sara Del Rey García		Técnica de medio ambiente
43	Autoridad Portuaria de Bilbao	Ports and harbours	Public administration		cartagena@apc.es				
44	Autoridad Portuaria de Cartagena	Ports and harbours	Public administration			http://www.apba.es	Rafael J. Cano Albaladejo		Jefe División Seguridad y Rincano@apc.es
45	Autoridad Portuaria de Cartagena	Ports and harbours	Public administration	968 32 58 00	sac@portcastello.com	https://www.apba.es	JUAN BAUTISTA MINGARRO MEN		Jefe del Área Técnica (Departamento de conservación e Innovación: división de
46	Autoridad Portuaria de Castellón	Ports and harbours	Public administration	964 28 11 40	calidad@puertodeceuta.com	http://www.apba.es	Jorge Vidal Madrigal		Jefe de la División de Conservación, Seguridad y Medio ambiente
47	Autoridad Portuaria de Ceuta	Ports and harbours	Public administration	956 52 70 00	calidad@puertodeceuta.com	http://www.apba.es	José Antonio Patiño Pillado		Responsable de la División de Seguridad y protección del medio ambiente
48	Autoridad Portuaria de Ferrol-San Cibrao	Ports and harbours	Public administration	981 338 000	seguridad@apfsc.es	https://www.apba.es	Ana Menéndez Buitrago		Técnica de Medio Ambiente
49	Autoridad Portuaria de Ferrol-San Cibrao	Ports and harbours	Public administration		rrhh@puertogijon.es	https://www.apba.es	Alfonso Peña López-Pavo		Jefe del Área 959493100   aplopezpazo@puertoehuelva.com
50	Autoridad Portuaria de Gijón	Ports and harbours	Public administration	985179600		https://www.apba.es			
51	Autoridad Portuaria de Huelva	Ports and harbours	Public administration	959493100	ap@puertoehuelva.com	https://www.apba.es			

Figure 1. Contact database

To interact with all these stakeholders, IHCantabria developed an online survey aimed at engaging them, gathering insights into their familiarity with Copernicus data and products. The survey examined into how these stakeholders integrate these products into their respective working areas. Moreover, the survey also tried to identify potential data gaps and needs, and requests of improvements.

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## RESULTS FOR FIRST CYCLE OF INTERACTION WITH NATIONAL USERS

Approximately 20% of the contacted stakeholders participated in the survey. So, the survey received a total number of 46 responses, encompassing a total of 26 entities.

The distribution of stakeholders across the **four marine sectors** demonstrates a notably higher representation in "Species conservation and protected areas" (70%), followed by "Coastal protection" (50%), "Ports and harbours" (30%), and "Maritime transport routes and traffic flows" (15%). It is important to note that stakeholders can develop their activity in one than more sectors and this is reflected in the data collection.

In terms of **entity type**, the majority call to research institutions (61%), followed by academia (30%) and public administration (28%).

Regarding the **utilization of Copernicus Data**, the survey revealed that 43% of respondents incorporate Copernicus Data in their work. Notably, the sectors related to "Ports and harbours" and "Maritime transport routes and traffic flows" exhibited the lowest rates of Copernicus usage. However, among those using Copernicus products, there is a notable satisfaction level with the service provided.

Overall, the identified **opportunities for improvement** primarily revolve around marine data resolution and accessibility, particularly in coastal areas. These improvements encompass enhanced spatial and spectral resolution, improved access mechanisms, and the development of more user-friendly interfaces. The survey results also underscore the crucial need to integrate different datasets and enhance the diversity of available products. Specifically, coastal stakeholders expressed a demand for more observation products focusing on anthropogenic impacts. This includes requests for data related to anthropogenic impacts, such as pipelines, legal and illegal outfalls, and maritime traffic.

Regarding **new users' requirements**, when coastal stakeholders were asked about the kind of data or services they would need, the common themes recorded are the following:

- bathymetric data
- detailed coastal mapping at a meter scale and the use of altimetry data for calculating river basin flows
- data on the distribution and conservation status of marine habitats and species
- data on various human activities (maritime traffic, fishing, recreational nautical activities, etc.) and their impact on marine ecosystems
- data related to climate and its influence on marine environments
- tools for managing and handling large volumes of marine data, including open cartography, file managers for easier data access, and tools for bulk downloading
- detailed needs like maritime traffic data, water quality data, marine biodiversity distribution, multispectral or hyperspectral drones, and in-situ species distribution data for validation

An additional issue was the **data needs of stakeholders in terms of Copernicus use for their current activities**. On the one hand, when asked about the most prevalent issues encountered while working

with available data, stakeholders consistently highlighted challenges associated with "Inaccessible data or data unavailability" and "Incomplete temporal and spatial distribution" (Figure 2).

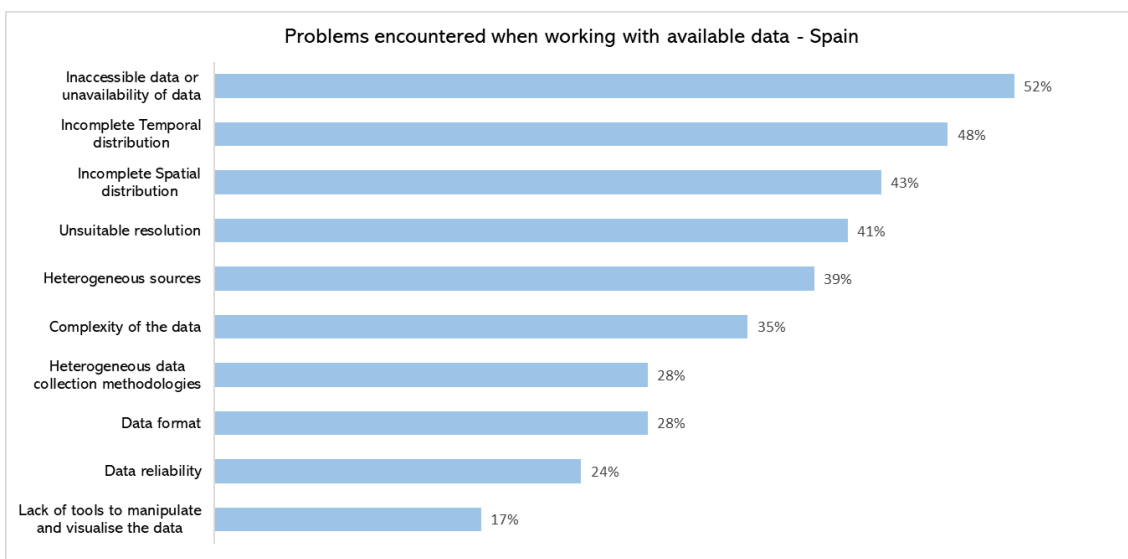


Figure 2. Coastal stakeholders' problems encountered when working with available data

On the other hand, when stakeholders were asked about their needs regarding **temporal extent of the data**, they expressed a clear higher need for long-term historical data series (years) (Figure 3a) and for long-term projections (month). In terms of **spatial resolution** needs, stakeholders prioritized the requirement for medium resolutions ranging between 5 to 30 meters (Figure 3b).

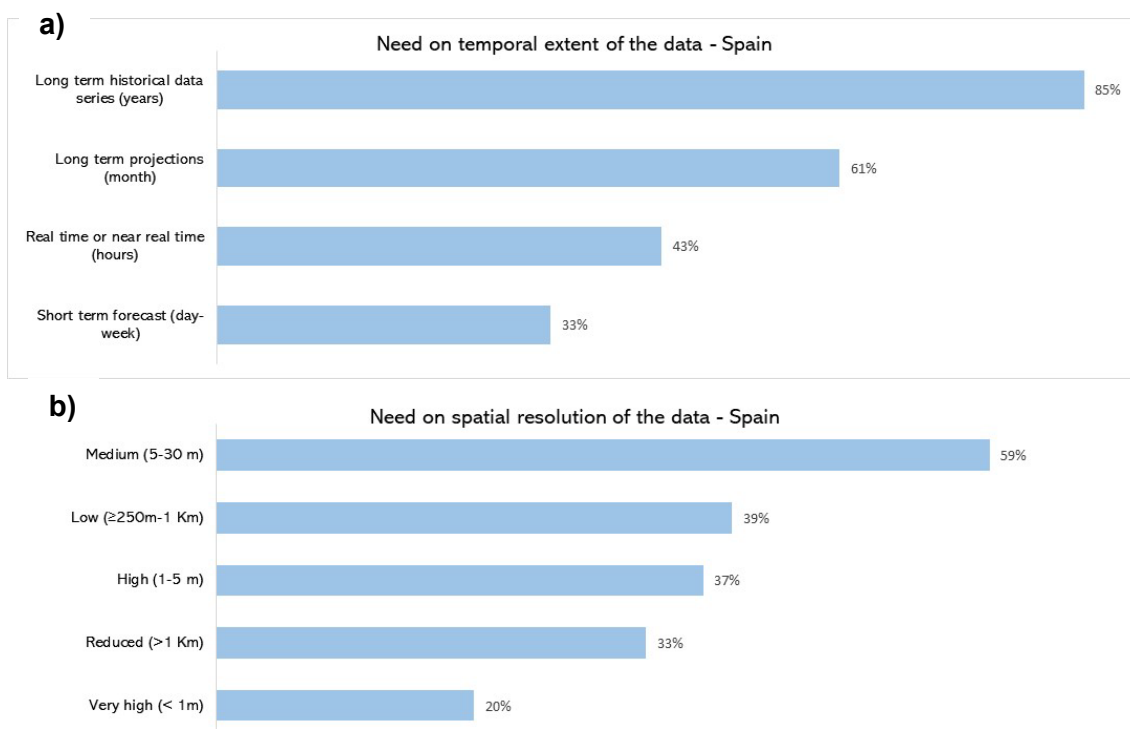


Figure 3. Coastal stakeholder's needs on temporal extent (a) and spatial resolution (b) of the data

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The final section of the survey focused on gathering details regarding **the utilization of national downstream products**. In this sense, stakeholders only referred to the following products:

- EMODNET (<https://emodnet.ec.europa.eu/en/partnership/copernicus-marine-service>)
- Bio-ORACLE (<https://bio-oracle.org/>)
- OCLE (<https://ocle.ihcantabria.com/>)
- IH-MSP Platform (<https://msp.ihcantabria.com/#/tool>)

### ACKNOELWDGMENT

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