

Institute: ISPRA

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

Introduction: this cycle of interaction took advantage of one of the periodic meetings of the Coastal Board of the Italian national Copernicus User Forum. This is a discussion group composed of public and private bodies (including institutions, research institutes, commercial and industrial subjects) that are users of Copernicus products for activities in coastal areas. As agreed with the other partners of the action this interaction should also tackle the theme of “presentation of new national products downstream of Copernicus products”.

Copernicus products: There are not specific outputs on this topic during this cycle of interaction.

Copernicus downstream products: The meeting opened with a general update on the technical consultancy role played by the User Forum and its tables for the interventions related to the PNRR that take inspiration from the Document “Analysis of the needs of the Buyers Group Mirror Copernicus: identification of thematic services of reference” (Annex II to the National Plan for Earth Observation). In particular, the following projects are cited: IRIDE, whose management has been entrusted to ESA by the Italian Government, the SIM managed by MASE (Italian Ministry for Environment) and, for the coastal marine part only, to the MER, whose management has been entrusted to ISPRA by MASE. The discussion, in particular, highlights how it is appropriate to work both on the institutional side (accompanying the industry in the design and implementation of the products) and on the industrial consortiums (adapting the projects presented to the needs of public stakeholders) entrusted with the tenders to identify a path of sustainability over time of these investments, once the implementation interventions have been completed. In conclusion, the Italian representative at the Copernicus User Forum reports about the contact activity with the Entrusted Entities of the Copernicus services for the stipulation of National Collaboration Programmes aimed at supporting the uptake of Copernicus products at a national level and promoting the integration between Copernicus products and national products. The second speech, from the coordinator of the MER project is dedicated to the activities covered by the project aimed at restoring marine ecosystems. This intervention illustrates how, in addition to the restoration interventions, actions are being launched to strengthen marine monitoring instruments through the installation of new tide gauges, wave buoys, offshore buoys and coastal radars or the addition of sensors to existing ones to strengthen existing field networks. Mapping interventions will be carried out on the seabed (which extend up to 800 m inland from the coastline) aimed at identifying both bathymetry and vegetation cover. Finally, marine monitoring modelling tools (oceanographic, marine meteorology and bio-geo-chemical) will be developed at a national and local level for the study of specific impacts. Following this speech a representative for the OC-TAC of CMEMS, illustrates the features of the Ocean Colour products offered by CMEMS with particular attention to the products dedicated to monitoring of the Coastal Strip with 100m resolution. The discussion that follows highlights the importance of a contact between the IRIDE Service Segment and the OC-TAC of CMEMS to ensure the consistency of the products developed at national level with the European ones. The next presentation from the coordinator of the IRIDE Service Segment regards the Service Value Chains of potential interest for users in the coastal strip follows. In particular, the speech offers a general overview of the IRIDE project, highlighting how it is made up of 3 successive cycles, during the first of which, defined as precursor, the IRIDE services are developed in the absence of the data produced by the satellites that will be created in IRIDE. The Service Value Chains of interest are then illustrated in detail with explicit reference to the objectives of the precursor phase only. The products illustrated cover the development of Earth Observation (EO) products and validation tools for modelling instruments with respect to EO products for national seas, for areas of interest (ports, aquaculture, off-shore platforms); the development of modelling

products for port areas, in particular with reference to the two Port System Authorities participating in the IRIDE Service Segment as pilot users; the development of products for the operational mapping of the coastline and its characterisation. These are supported by services for mapping and modelling of river channels and for identifying oil spill events and forecasting their movement. In particular, the discussion highlights the need for coordination with MASE, which in the SIM intervention plans to develop products for Oil spill, and the need to involve the Coast Guard more in the development of these products. Subsequently, the Project Manager of IRIDE, illustrates the CyberItaly initiative, still under development in IRIDE, aimed at the creation of Digital Twins. The initiative is aimed both at integrating existing Digital Twins into a common platform and at developing Digital Twins of interest to the target users. With particular attention to the coastal strip issues, the possibility of proposing topics of interest by the Coastal Strip Table is hypothesized, to be detailed by the end of the year, so that these can be proposed to the industrial groups that operate in CyberItaly for an assessment of the possibility of development in the period 2024-2025 (CyberItaly ends in Q1 2026). As an example of the contribution requested from users for the proposal of the topics, the description of the Digital Twin already under development in CyberItaly for air quality is shown. The discussion highlights the interest of the Table in seizing this opportunity and the need for these proposals to also be coordinated with the Digital Twin of the Ocean under development at European level.

New users' requirements: national users show a great interest in developing Digital Twins for coastal areas.