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

In France, the main interaction with stakeholders consisted of disseminating the collaborative survey developed with the partners of actions 33 and 42. The survey collected 12 responses focused on coastal activities, with participants mainly from the research sector (5), the private sector (5) and a minority of the public sector (2). Interactions also extended to discussions with key research stakeholders.

The use of Copernicus products in France covers different areas, from mapping marine habitats to forecasting coastal blooms, including plastic pollution and coastal dynamics. However, these applications require high resolution capabilities coupled with a good ability to identify the composition of the environment and the land use. This work is often based on aerial imaging mission which are expensive missions, and which do not allow a good enough revision rate to account for the dynamics on several scales of this zone (tides, seasons, etc.). The use of Copernicus data has the capability to provide continuous and cost-effective.

Although programming languages, mapping and image processing software are commonly used, challenges persist in coastal line modelling, contributing to limited use of visualization tools. The resolution gap along the coasts poses a significant challenge, which could be solved by exploiting very high-resolution data (<1 m) and employing multi or hyperspectral methods for a better description of the area.

Additionally, users highlight the need to integrate watershed information coherently across temporal and spatial domains. They express a need for refined processing models, particularly in atmospheric correction and chlorophyll calculation.

Time series of winds, waves, and currents, both at the measurement and model levels, are widely used in the study of coastal dynamics. As AIS or radio frequency data is also used for maritime traffic analysis and currents modelling. Additionally, as in situ data primarily powers these models, users are demanding more in situ data sources and better areas coverage. Indeed, in coastal areas, in situ data seem easier to use than satellite images.