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SENTINEL-2 SUPPORTS COASTAL MANAGEMENT FOR OPTIMISED DECISION MAKING

>>> A few years later

In the last few years, the Sentinel-2 missions provided ecosystem observations that allowed the environmental community, researchers and water managers to evaluate changes in water quality and harmful algal blooms (HABs) distribution.

Isabel Caballero de Frutos, Spanish National Research Council



BENEFICIARIES	Spanish National Research Council	Regional Government of Andalusia	National Coastal Office in Cadiz (Spanish Government)	Citizens and Society
TIER 1: SERVICE PROVIDER	TIER 2 PRIMARY USER	TIER 3 SECONDARY USER	TIER 4 END USER BENEFICIARIES	
SERVICES	Sentinel-2	Total Suspended Solids (TSS); Effective estimation of dredged-induced turbidity events	Improved management of highly sensitive coastal ecosystems; Contribution to the study of the historic tuna fishing ("almadraba")	Operational and routinely assistance of coastal zones management; Contribution to the local and regional water quality programmes.

Value chain definition following SeBS Methodology - <https://earsc.org/sebs>

The space-based solution

This Copernicus-based solution was produced by a scientific entity for other users such as companies, professionals, agencies, associations, single citizens. Respect to the original solution, additional information is now generated.

The Usage Maturity Level

Over the past few years, the UML has consolidated at level 2/3 and it has been better integrated in the workflow of the administration.

Thematic Area



CLIMATE, WATER AND ENERGY

Region of Application



ANDALUSIA - CÁDIZ

Sentinel mission used



S2

Copernicus Service used



-

Usage Maturity Level



2/3

Overall benefits

ECONOMIC



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

INNOVATION



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

ENVIRONMENTAL



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

SCIENCE



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

REGULATORY



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

SOCIETAL



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

Benefits classification following SeBS Methodology - <https://ears.org/sebs>

Interesting facts...

The value added by the Sentinel-2 products in terms of frequency and synoptic observations has been of paramount importance for ecological and management purposes at regional scales in Spain. In addition to monitoring, the solutions had facilitated field-based measurements. In the future, water managers will be able to focus their limited resources on mitigating the risks of potentially harmful blooms and pollution at regional to national scales.

Outlook to the future

For the future, a multi-sensor approach using both S2 and S3 data will be developed for the operational and complete monitoring of water quality and algal bloom detection over broader regions. These new capabilities will offer coastal water managers in Spain novel powerful tools for assessing the condition of their water bodies more frequently and synoptically.

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