

CASE
STUDY



Protection of the marine ecosystems of the Andalusian coast with oceanographic buoys



EBM18OC-SAS Buoys



Background

CASE STUDY

The **Andalusian Agricultural and Fisheries Management (AGAPA)** launched a project for the protection and recovery of marine ecosystems and biodiversity of the Andalusian coast, which involves the collection, study, and analysis of meteorological, oceanographic, and physicochemical data to develop plans for the optimal conservation of the seabed. For this project relied on the Spanish companies **INNOVA Oceanografía Litoral** and **SouthTEK**, which supplied a series of sensors for the measurement of multiple parameters, and the **MSM Ocean** team for the design of a floating system that would house and protect the sensors supplied for the study of the seabed.

Isla Cristina (Huelva) and Almería have been the first two locations installing these oceanographic stations.



Project Requirements

- Floating system for housing sensors
- Marine environment resistant
- Long Service Life
- Minimum maintenance costs
- Sensors integrated for multi-parameter measuring

The Challenge

The challenge was to develop a **floating system for the integration and protection of a set of sensors**, which would also be resistant to the marine environment and to possible impacts, with a long service life, and minimum maintenance costs.



EBM180C-SAS Oceanographic buoy

How did we solve it?

MSM Ocean developed and manufactured two elastomer oceanographic buoys model **EBM180C-SAS**, designed according to **IALA recommendations**, being the first two buoys that have formed part of the network of oceanographic stations on the Andalusian coast for **monitoring meteorological, oceanographic, and environmental parameters** thanks to the sensors incorporated in these buoys.

These devices are perfectly integrated into our state-of-the-art buoys through our innovative **SAS system (Surface Accessible Sensors)**, which allows the sensors to be extracted from the buoy's surface in a practical way to **facilitate the maintenance tasks and reducing costs**, as maintenance only requires a small boat to get the buoy's location, and logistics support from a crane or divers is no needed.

On the other hand, it should be noted that the float of the buoy is manufactured with closed-cell polyethylene foam sheet and with a coloured polyurethane **elastomer** coat, which guarantees a long service life. Thanks to this type of float, the buoy is also **practically unsinkable**, with **high resistance and recovery capacity against strong impacts**, thus protecting all the scientific equipment housed in the buoy.



Project details

The sensors integrated in our buoys **register relevant data** which is transmitted in real time 365 days a year via **GPRS** to a reception and storage centre, and thanks to this, this information is available both to the general public and to official institutions, thus **supporting scientific research, management for the protection of the seabed and the search for strategies for a sustainable and responsible fishing activity**.

In addition, MSM Ocean buoys have been equipped with an **Automatic Weather Station (EMA)** from Vaisala, a Finnish company specialized in solutions for carrying out meteorological and environmental measurements, a **Doppler Current Profiler (ADCP)** developed by Nortek, a Norwegian company focused on the development of scientific instrumentation for the measurement of currents and waves, and a **Multiparameter Sounder (CTD)** from Sea-Bird Electronics, specialists in the development of devices to measure salinity, temperature, pressure and nutrients, among others, in marine waters.



Result

For MSM Ocean it has been a pleasure to contribute to this AGAPA project with our oceanographic equipment so that the competent agencies can have **highly reliable and accurate technological tools**, with the aim of **planning and acting optimally in the protection of our marine ecosystems**.

MORE
INFORMATION



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