

Document: ACCOBAMS-SC14/2021/Doc36  
Distribution: 19/11/2021

# PROGRESS REPORT ON THE IMPLEMENTATION OF NETCCOBAMS

## PROGRESS REPORT ON THE IMPLEMENTATION OF NETCCOBAMS

**Issue:** Information regarding NETCCOBAMS, the ACCOBAMS digital platform for cetacean conservation

### 1. Actions requested

The Scientific Committee is invited to:

- a. **note** the development of NETCCOBAMS;
- b. **provide** views on next steps.

### 2. Background

The initiative to create an ACCOBAMS communication database came from a specific need expressed by ACCOBAMS Parties during regional workshops on the 'ACCOBAMS Strategy' in 2012.

After consultation with the Scientific Committee and Partners, it was decided to propose an internet tool that would transpose into GIS layers the main and most important information received by the ACCOBAMS Secretariat.

In collaboration with WWF France and GIS 3M, in 2015 ACCOBAMS tried to integrate the ACCOBAMS communication database in a more global tool: the Network on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (NETCCOBAMS).

The first NETCCOBAMS platform was devoted to all experts working on cetacean conservation (scientific community, managers, IGOs, NGOs, relevant national and regional administrations, academia and so forth).

A first website proposal was provided by a web-designer in September 2015 but was not considered appropriate for a collaborative network. This led ACCOBAMS Secretariat to recruit a new web designer early 2017 but the aimed outcome was still not achieved.

Thanks to a voluntary contribution from Italy in 2018, the ACCOBAMS Secretariat is currently implementing a "cetacean digital platform" with an engineering office - SINAY. This platform is built upon a technological basis provided by SINAY, based on a Big Data architecture, High Performance Computing Facilities and Dedicated Apps, which are accessible from a web-interface.

## PROGRESS REPORT ON THE IMPLEMENTATION OF NETCCOBAMS

### Background

The initiative to create an ACCOBAMS communication database came from a specific need expressed by ACCOBAMS Parties during the regional workshops on the 'ACCOBAMS Strategy' in 2012. In this context, and after consultation with the ACCOBAMS Scientific Committee and the ACCOBAMS Partners, it was decided to propose an internet tool that transposes in GIS layers the main and most important information received by the ACCOBAMS Permanent Secretariat. In 2015, in collaboration with WWF France and GIS 3M, ACCOBAMS tried to integrate the ACCOBAMS communication database to a more global tool: the Network on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (NetCCOBAMS).

The first NetCCOBAMS platform was devoted to all experts working on the cetacean conservation (the scientific community, managers, members of NGOs, members of IGOs, relevant national and regional administrations, students...). A first website proposal has been provided by a web-designer in September 2015 but it did not appear appropriate for a real collaborative network. In this context, the ACCOBAMS Secretariat recruited a new web designer early 2017 but the result was not there again.

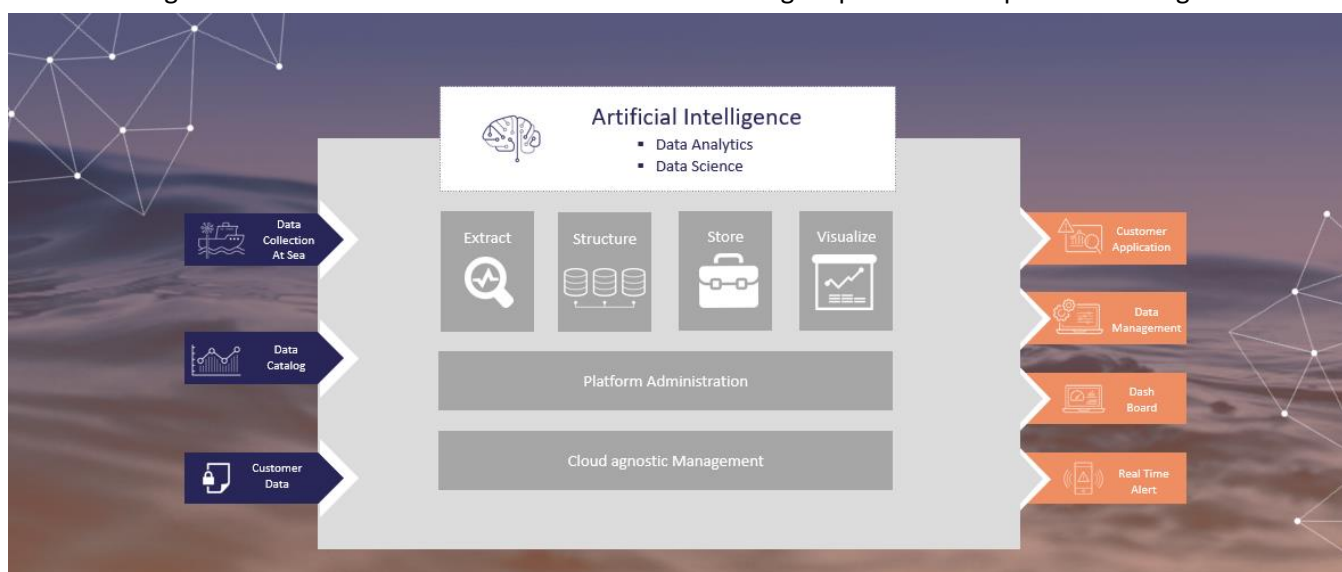
### Objectives of NetCCOBAMS

- to facilitate the visualization of important areas for cetacean conservation;
- to reinforce exchanges and collaboration of all actors in cetacean conservation;
- to assist Parties in taking appropriate management and conservation measures.

### New initiative: ACCOBAMS Digital Platform for Cetacean Conservation

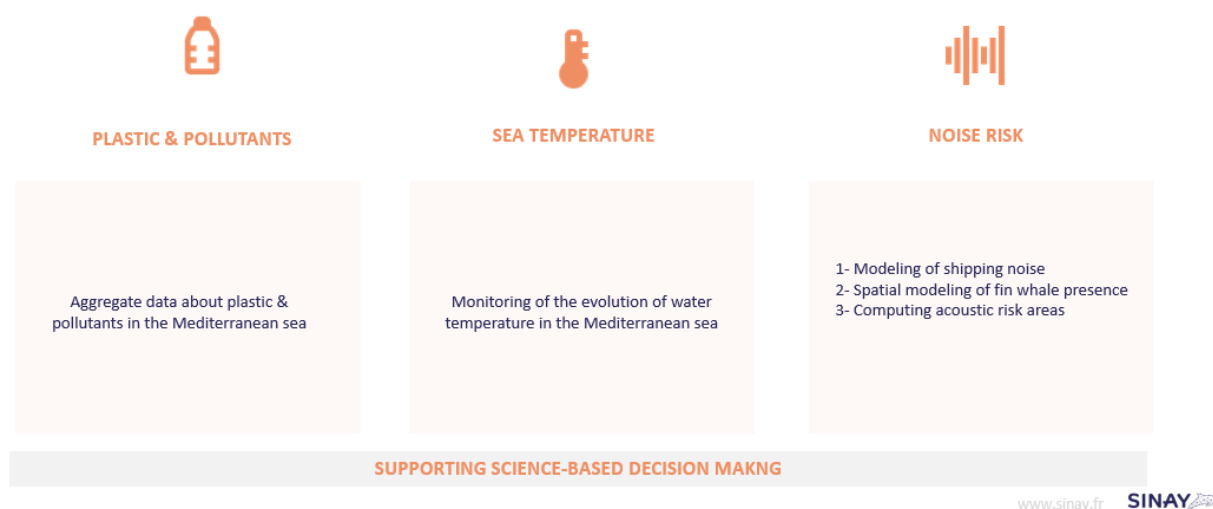
Thanks to the 2018 Italian Voluntary Contribution, the ACCOBAMS Permanent Secretariat is now implementing a "cetacean digital platform" with an engineering office - SINAY. This platform is built upon the technological basis provided by SINAY which is formed by a Big Data architecture, High Performance Computing Facilities and Dedicated Apps, which are accessible from a web-interface.

The technological basis for the construction of the ACCOBAMS digital platform is depicted in the figure below:



**Figure 1.** Technological stack for the development of the ACCOBAMS Digital Platform. In blue: Data inputs; in grey: Big Data and Data Processing architecture; in orange: Added-value for users (web-based apps, indicators, monitoring parameters...)

Three “use case applications” were defined with the Secretariat, in accordance with the priorities proposed by the Italian Focal Point: water temperature, marine litters and underwater noise (Figure 2).



**Figure 2. The three use cases were defined by the Secretariat in accordance with the priorities proposed by the Italian Focal Point. The picture briefly describes the objectives of each specific use case.**

#### Current progress:

The work started in November 2019 and followed a stepwise process:

- An Onboarding Workshop on November 28<sup>th</sup>, 2019 to define the objectives and mid- and long-term view
- A first development round in January and February 2020, with a delivery of a Proof of Concept (PoC) focused on the Ligurian Sea on February 25<sup>th</sup>, 2020. First maps and indicators on underwater noise, water temperature and plastic pollution are provided.
- A Workshop with the Scientific Committee (February 25<sup>th</sup>, 2020) to present the PoC and get first feedback and guidance. During the 13<sup>th</sup> Scientific Committee (SC) Meeting (February 26<sup>th</sup> to 28<sup>th</sup>, 2020), the Proof of Concept (PoC) was presented to all SC members to get their impression and feedback. A preliminary plan was also drafted regarding the involvement of the SC into the development of the tool in terms of supervision, method validation, and guidance alongside the development phase.
- A second development round, between March and July 2020, to extend the geographical scope of the PoC to the whole ACCOBAMS area. This second round deliverable was achieved in May 2020 and the new product was reviewed and tested until July 2020.
- A third round of development from August to November 2020, in order to integrate data and new features into the platform, such as an online GIS tool aimed at gathering all relevant ACCOBAMS data. This third round was focused on underwater noise and the improvement of the user experience.
- A workshop held with the ACCOBAMS Scientific Committee and experts on noise, including the co-chair of EU TG-Noise, was done in November 2020. During this workshop, the methodology for deriving acoustic risk maps proposed during the PoC was discussed and decisions were taken about the final methodology to be implemented.
- A fourth and final development round is now taking place, since July 2021 and with expected end early 2022. This development phase is meant to update the PoC methodology considering the decisions taken during the workshop mentioned above in order to lead to a first operational tool providing validated risk maps and associated indicators. Also, this phase is dedicated to the implementation of further NETCCOBAMS modules as stressed during the latest ACCOBAMS Bureau Meeting: a new homepage and a module dedicated to

projects implemented in the ACCOBAMS area. Finally, the GIS tool is meant to be finalized with the possibility for users to upload new layers by themselves.

Currently, the platform is available at the following URL: <https://accobams.sinay.fr>

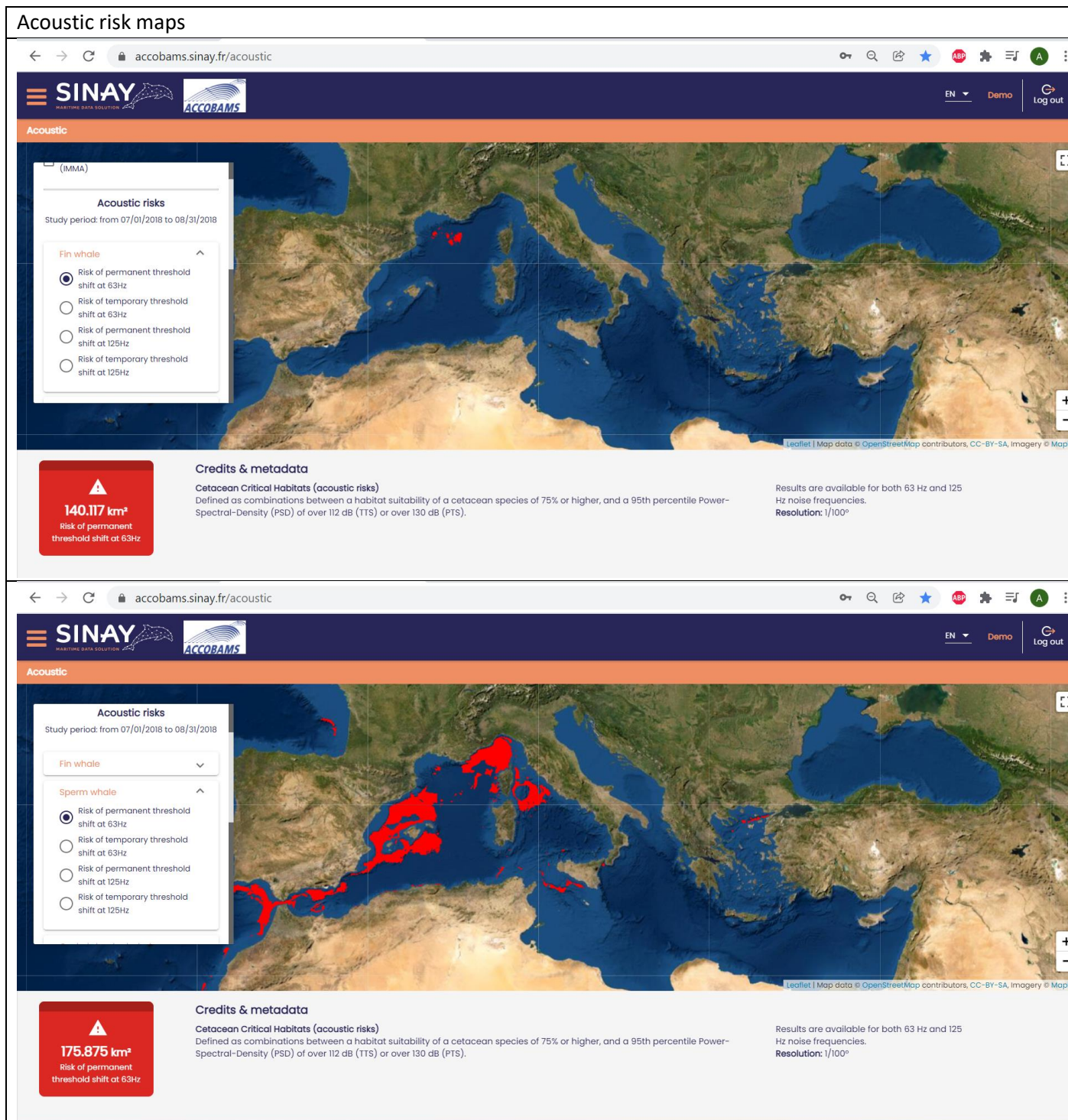
Login and password can be requested to the Secretariat, or directly to SINAY, in order to create new accounts and register new users.

The data, information and indicators provided in the platform are the following:

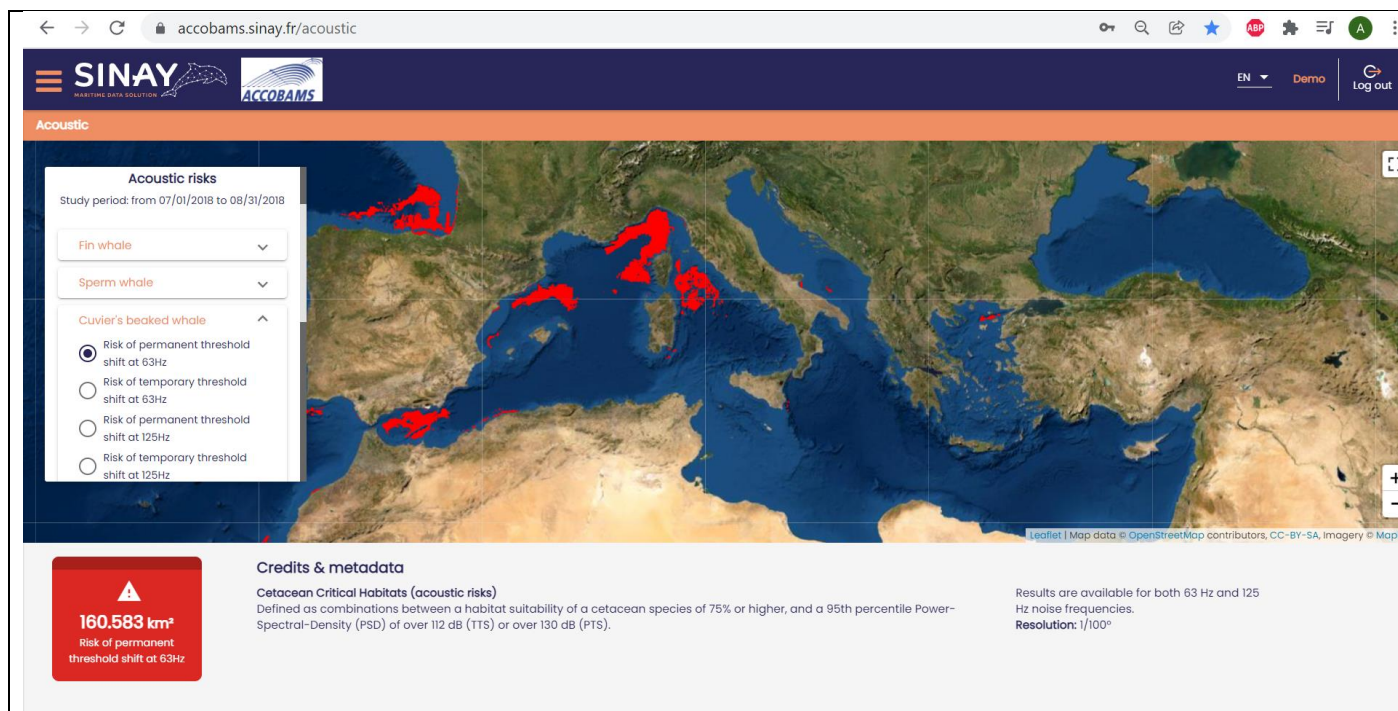
- Model-based maps of shipping noise in the whole ACCOBAMS area for summer 2018
- Model-based presence maps for 8 species of the ACCOBAMS area
- Acoustic Risk Maps: areas where fin whales, sperm whales and Cuvier's beaked whales are under risk of loss of auditory capabilities
- Important Marine Mammal Areas (IMMAS)
- Data collected by ACCOBAMS during the Noise Hotspot project (2005 – 2015 data on the spatial and temporal distribution of impulsive noise generating activities).
- Input data used to produce model-based noise maps and habitat maps
  - o Ship traffic map from AIS data in 2018 in the whole area
  - o Temperature
  - o Salinity
  - o Chlorophyll-A
  - o Depth
  - o Raw sighting data of fin whale from OBIS
- 28-years of Sea Surface Temperature (SST) data for the whole ACCOBAMS area. Yearly maps are produced and visualized on the platform
- Point monitoring of SST in two points of the ACCOBAMS Agreement area
- Data on beached plastics around the Mediterranean, Black Sea and contiguous Atlantic coasts.
- A list of oceanographic, geophysical and biological data as well as data on human activities (shipping, wind farm construction, subsea cables, etc.) contained in the GIS tool

The following pictures illustrate a sample of the information and indicators contained in the platform, which are available for consultation.

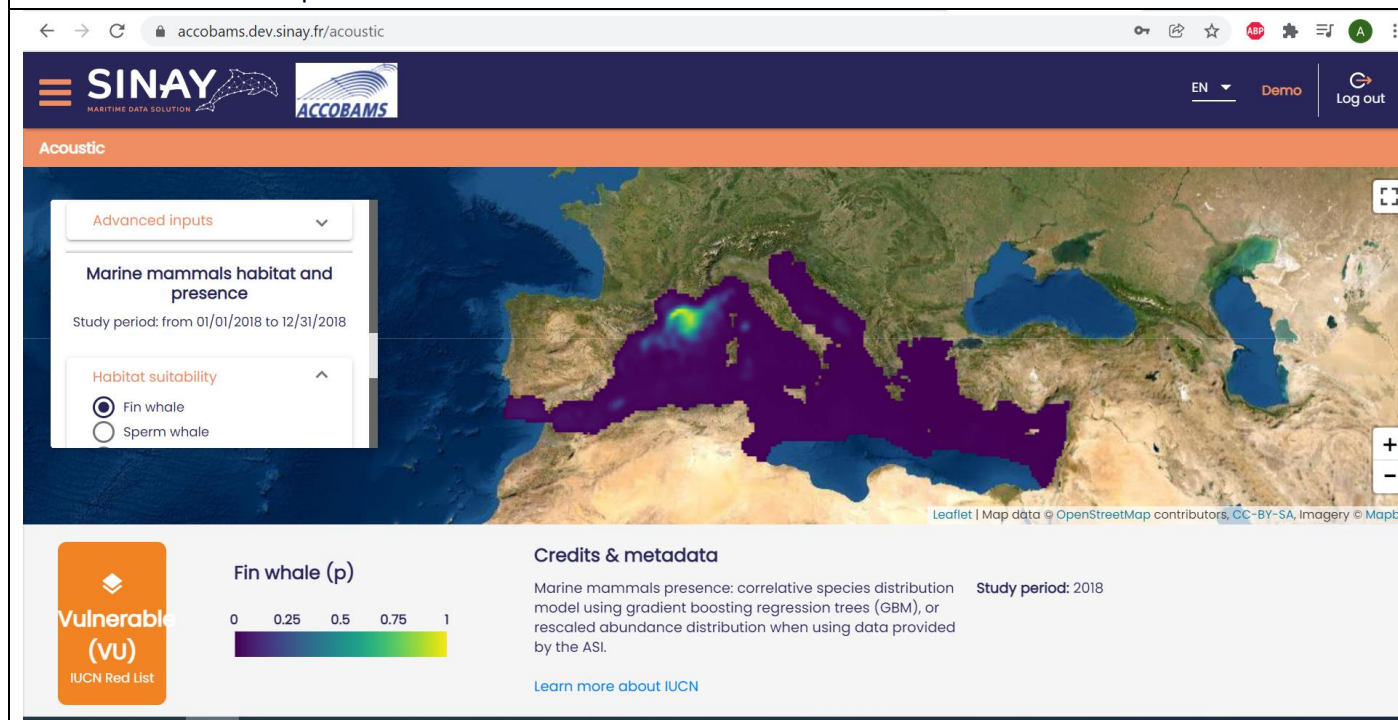
### Acoustic risk maps

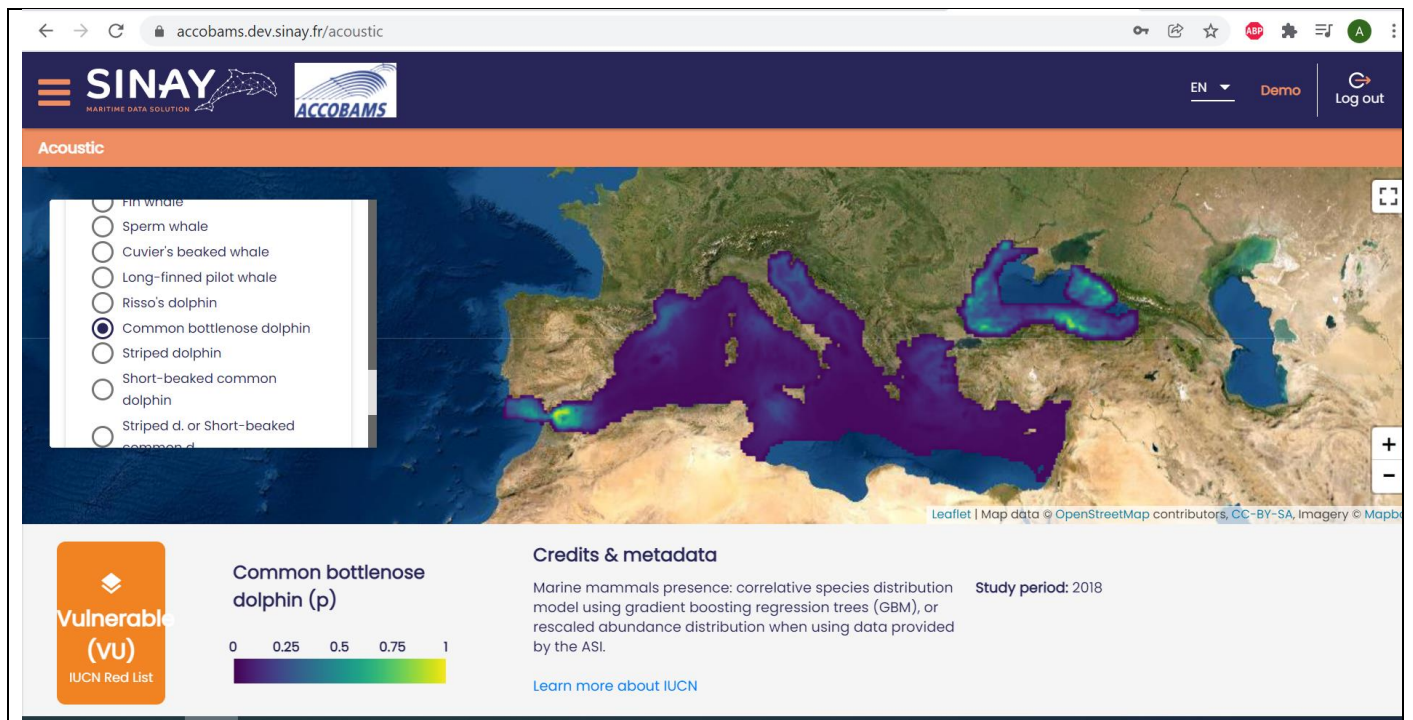






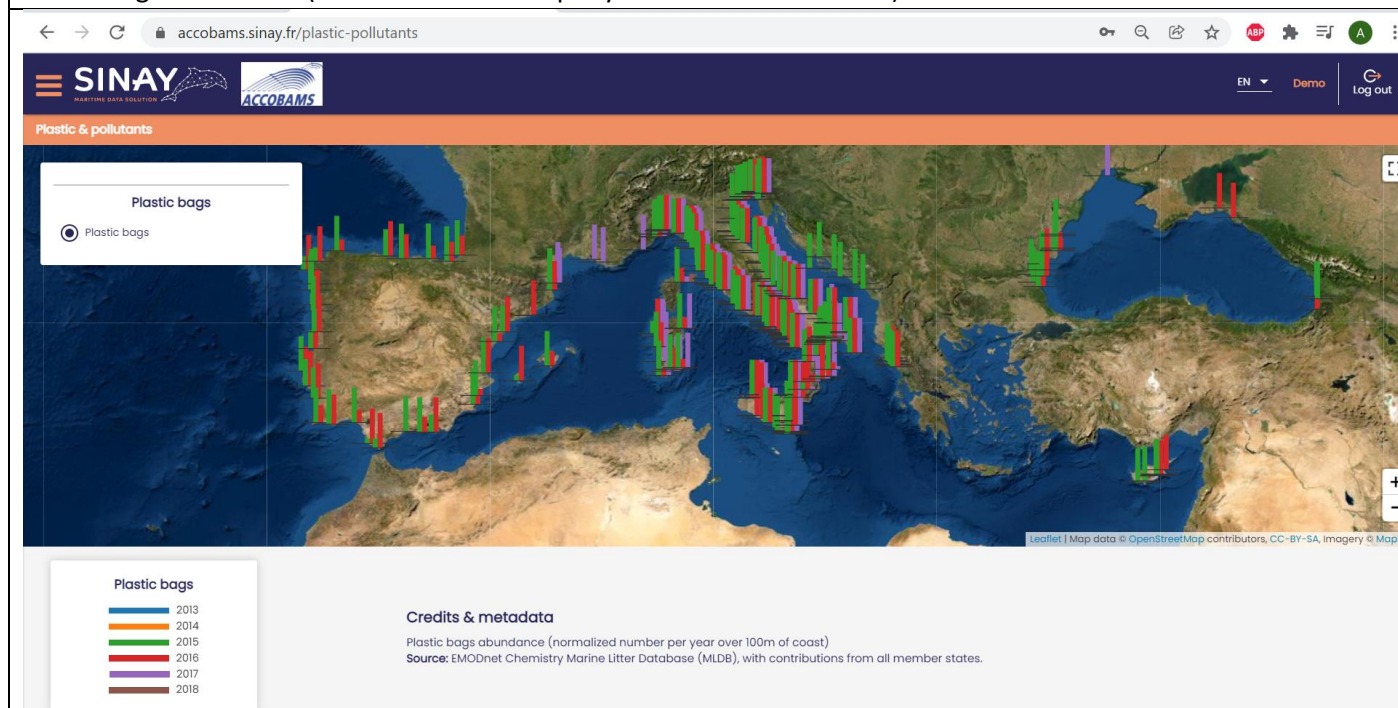
## Model-based cetacean presence



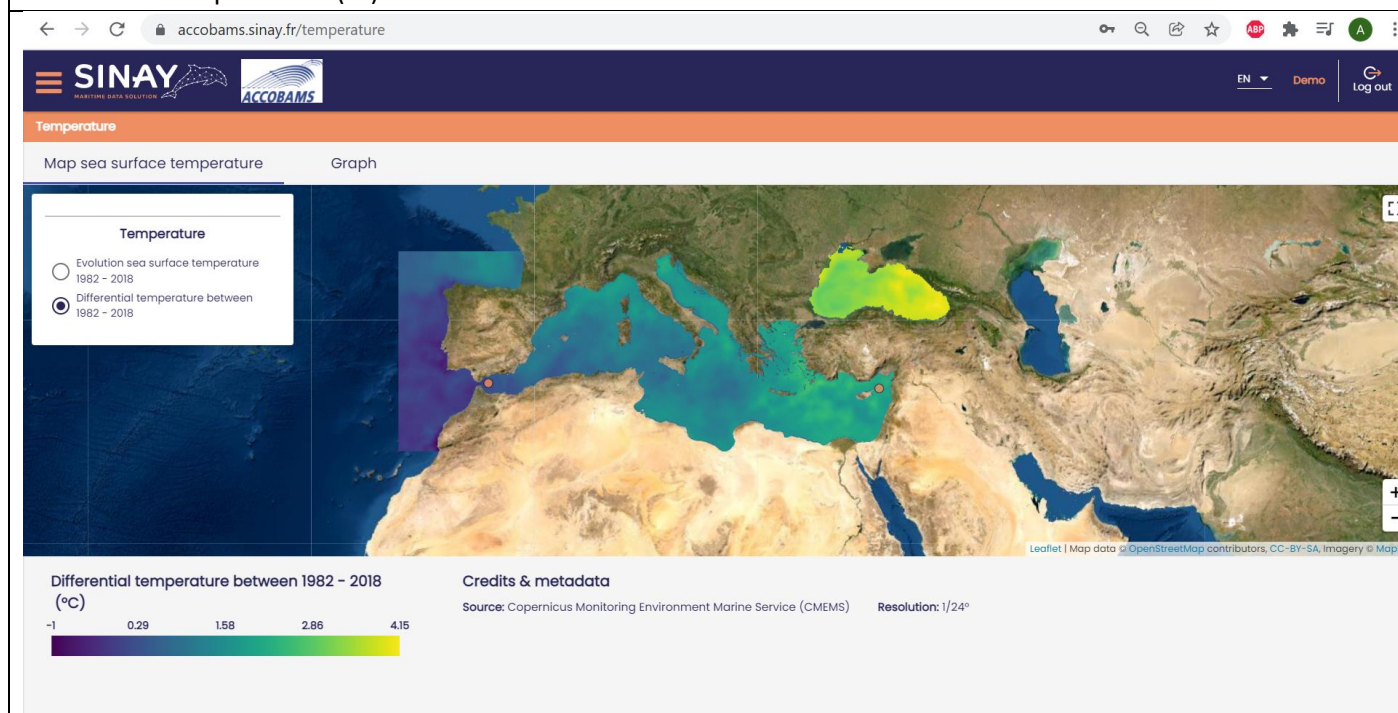




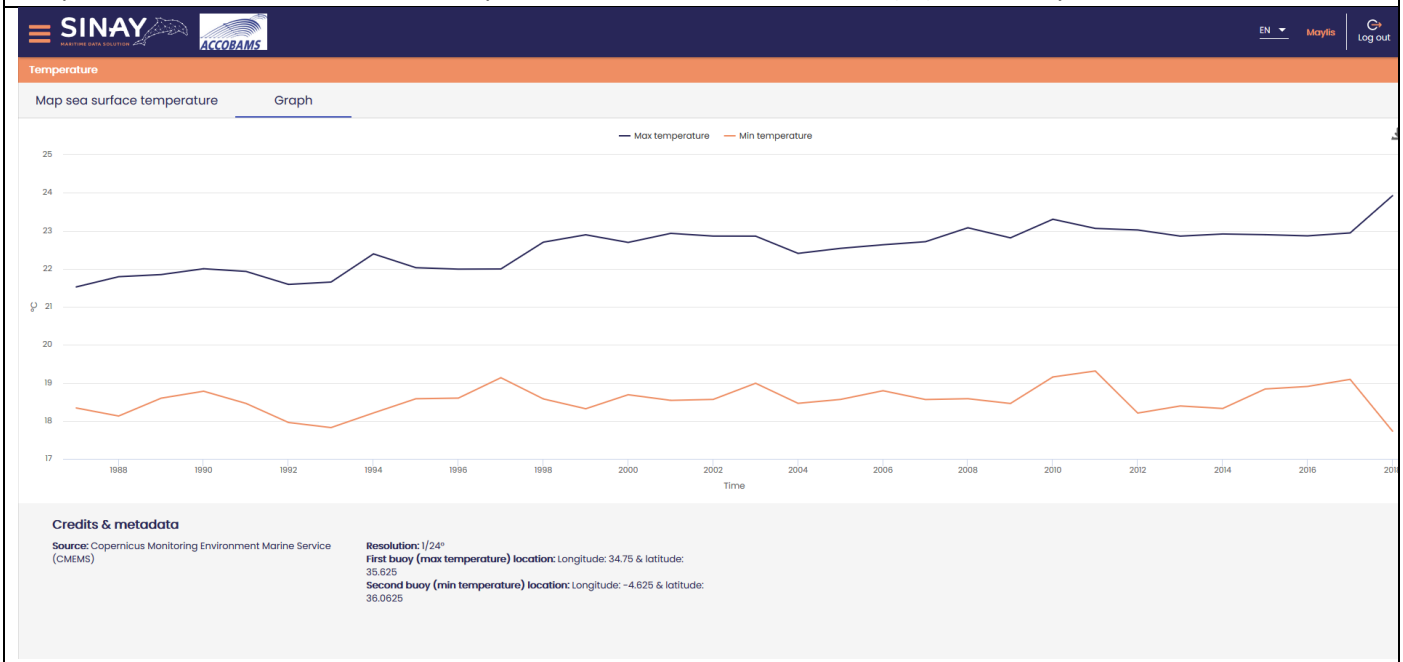
### Plastic bags abundance (normalized number per year over 100m of coast)



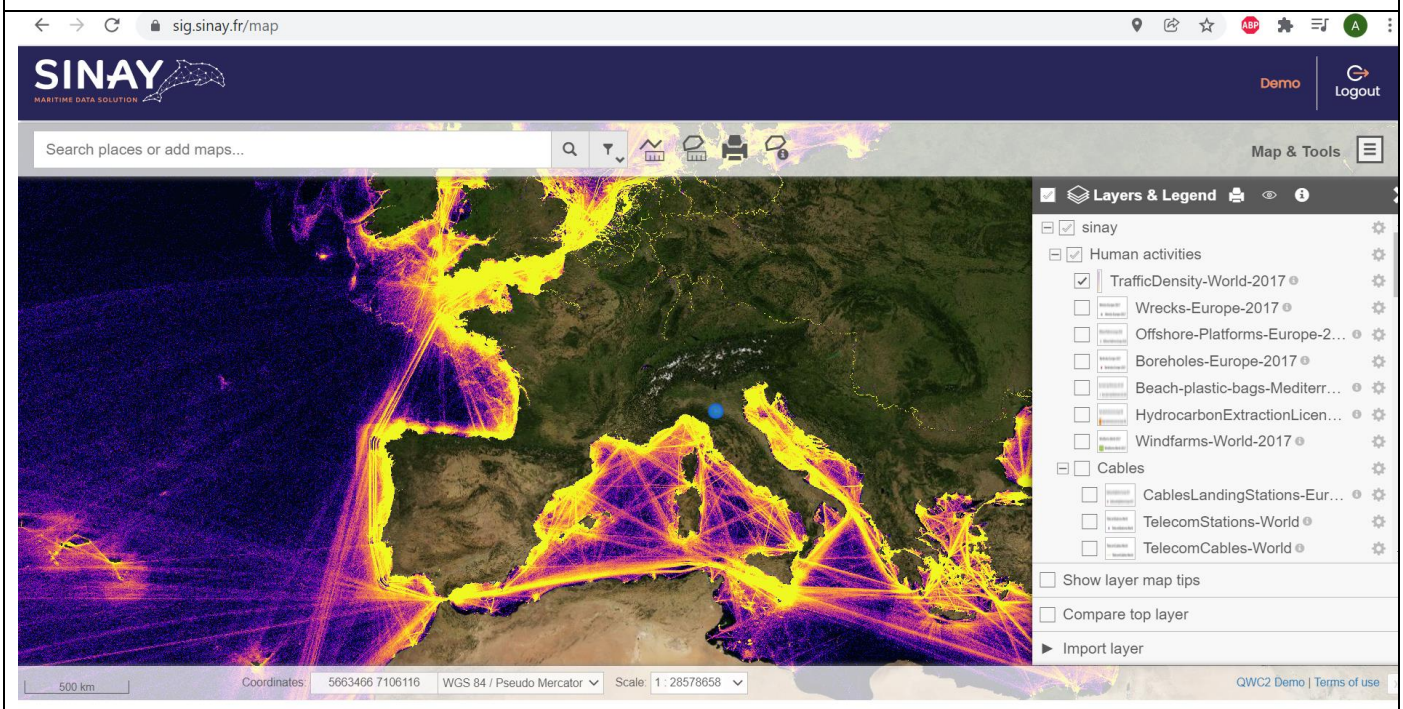
### Sea surface temperatures (°C) between 1982 and 2018 - evolution



## Graph of the evolution sea surface temperature between 1982 and 2018 (°C) / in 2 buoys



## GIS tool



The ACCOBAMS Digital Platform has become the updated NETCCOBAMS and was officially launched during the 13<sup>th</sup> Meeting of the ACCOBAMS Bureau (9-11 December 2020, Monaco).

**Next development steps of NetCCOBAMS**

Under the terms and condition of the contract signed between SINAY and the ACCOBAMS Secretariat, the new NETCCOBAMS platform will be operational at the beginning of 2022 and will include the following features:

- A new homepage
- Modules for acoustic risk mapping, GIS, noise hotspots, Marine plastics, national reporting
- Project consultation part

Moreover, a part of the budget available from the EU-funded QUIETSEAS project (<https://quietseas.eu/>) will be used to improve the NETCCOBAMS platform and develop new feature more related to MSFD-D11 implementation, including the possibility to evaluate emission reduction scenarios.