

FIFTH MEETING OF ACCOBAMS NATIONAL REPRESENTATIVES

12 -15 July 2021

PROGRESS REPORT ON THE IMPLEMENTATION OF THE NETCCOBAMS PLATFORM

Presented by the Secretariat

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

1. Actions requested

ACCOBAMS National Representatives are invited to:

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

2. 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 into 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 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 (the scientific community, managers, members of NGOs, members of IGOs, relevant national and regional administrations, students...). A first website proposal was provided by a web-designer in September 2015 but was not 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 the 2018 Italian Voluntary Contribution, 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.

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.

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

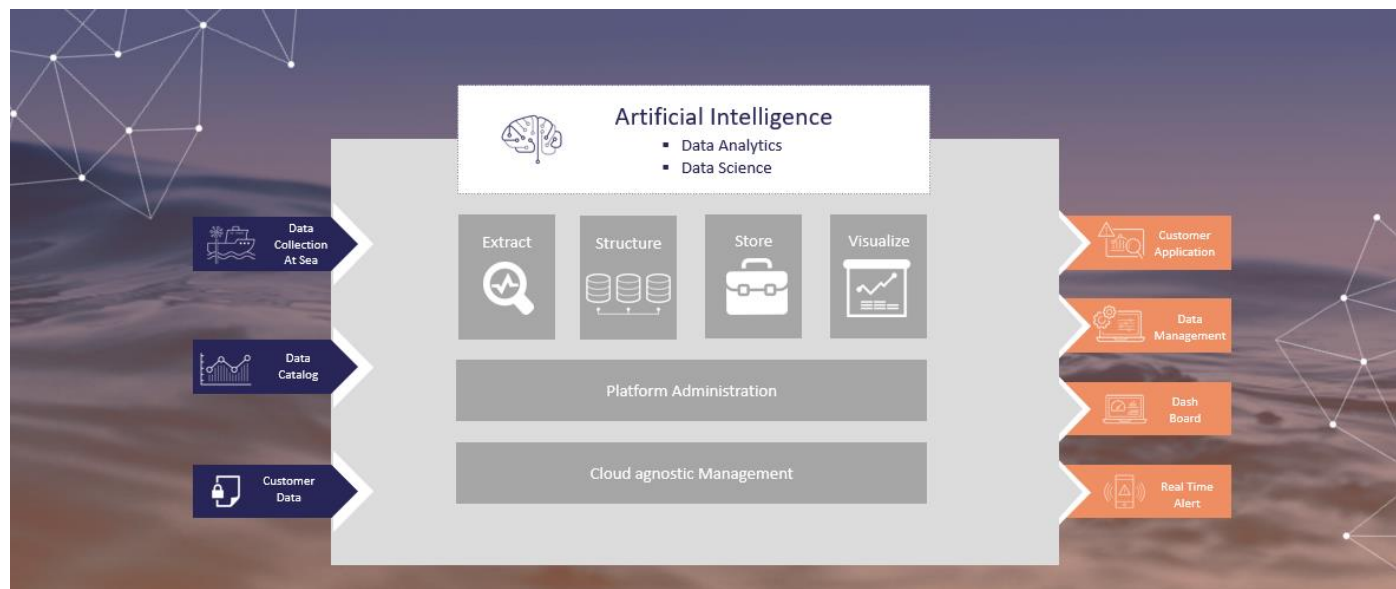


Figure 1. Technological stack for the development of the ACCOBAMS Digital Platform. In blue: Data inputs; in grey: Big Data and Data Processing architecture; in orange: Added-value for users (web-based apps, indicators, monitoring parameters...)

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

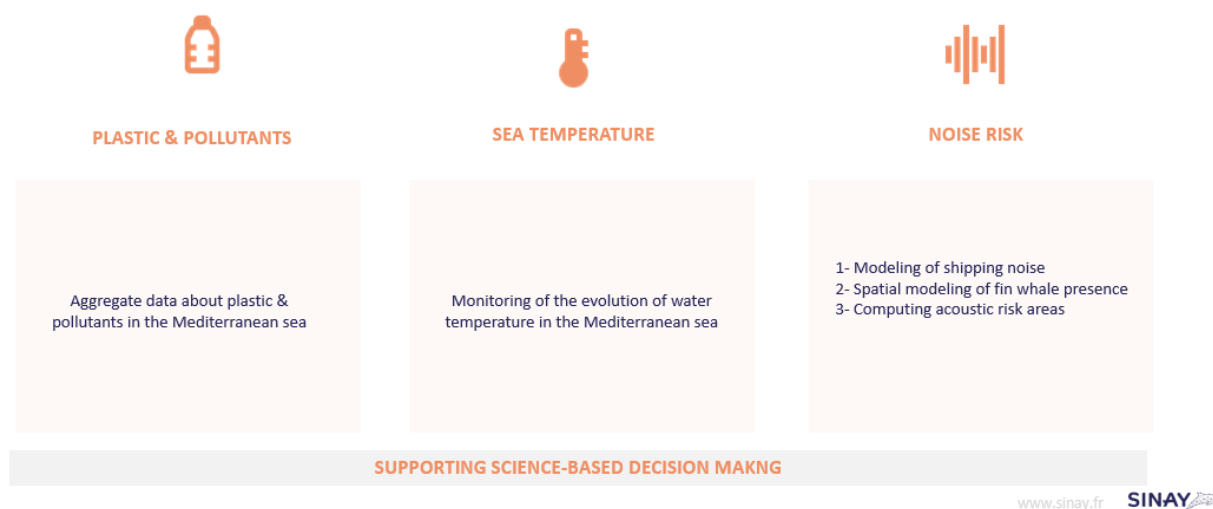


Figure 2. The three use cases were defined by the Secretariat in accordance with the priorities proposed by the Italian Focal Point. The picture briefly describes the objectives of each specific use case.

Current progress:

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

- An Onboarding Workshop on 28 November 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 25 February 2020. First maps and indicators on underwater noise, water temperature and plastic pollution are provided.
- A Workshop with the Scientific Committee (25 February 2020) to present the PoC and get first feedback and guidance. During the 13th Scientific Committee (SC) Meeting (26-28 February 2020) the PoC was presented to all SC members for their feedback. A preliminary plan was also drafted regarding the involvement of the SC in 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, aimed at extending 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, integrated 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 “user experience”.
- A workshop with members of the Joint Noise Working Group and the Scientific Committee of ACCOBAMS in November 2020. The scientific processes used for computations and modelling were discussed and validated. The conclusions of this workshop were set as basis for the final development round.
- A final development round is to be ended in autumn 2021, when The new NETCCOBAMS platform will be validated and ready to be in operation in 2022.

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

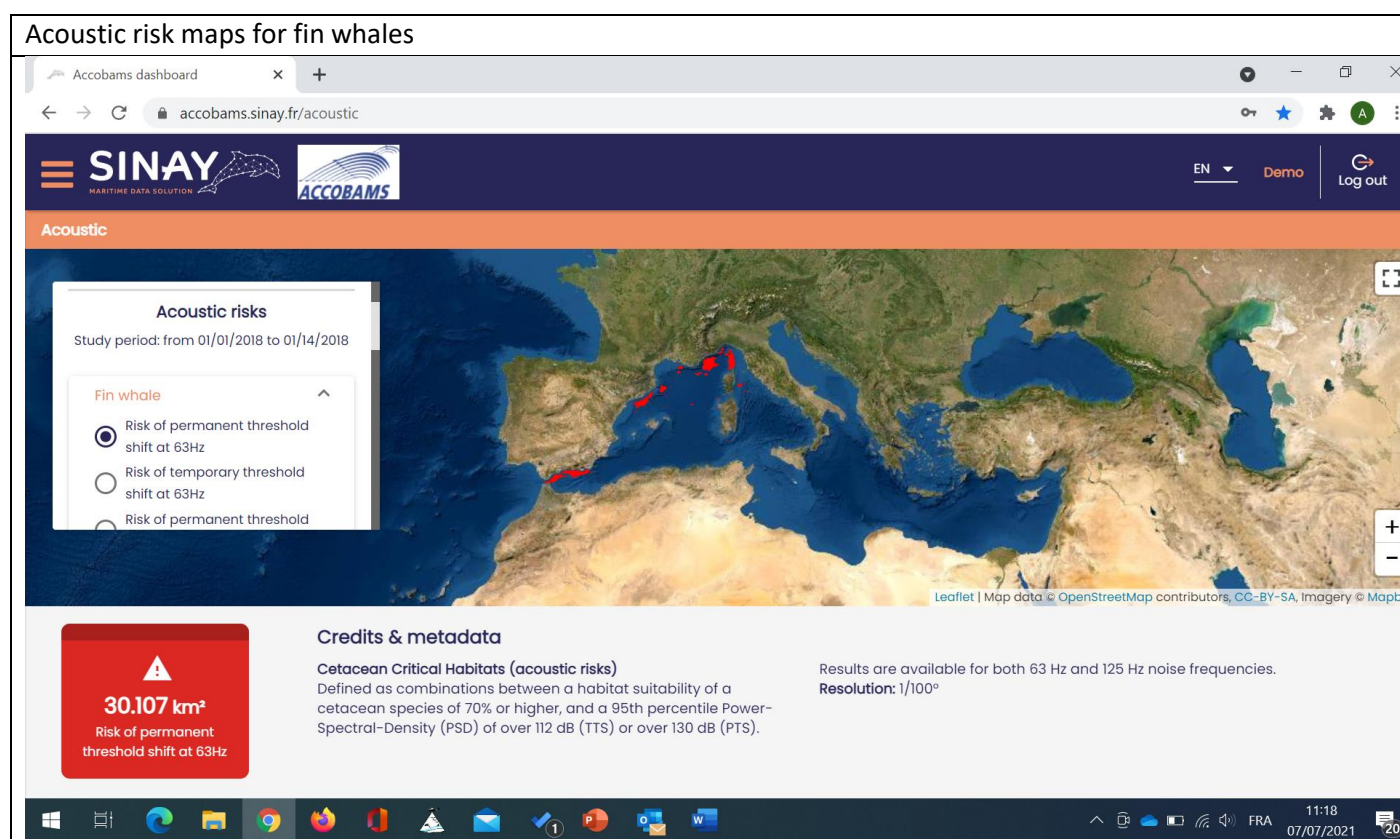
Login and password can be requested to the Secretariat, or directly to SINAY, in order to create new accounts and register new users.

Data, information and indicators provided in the platform are as follows:

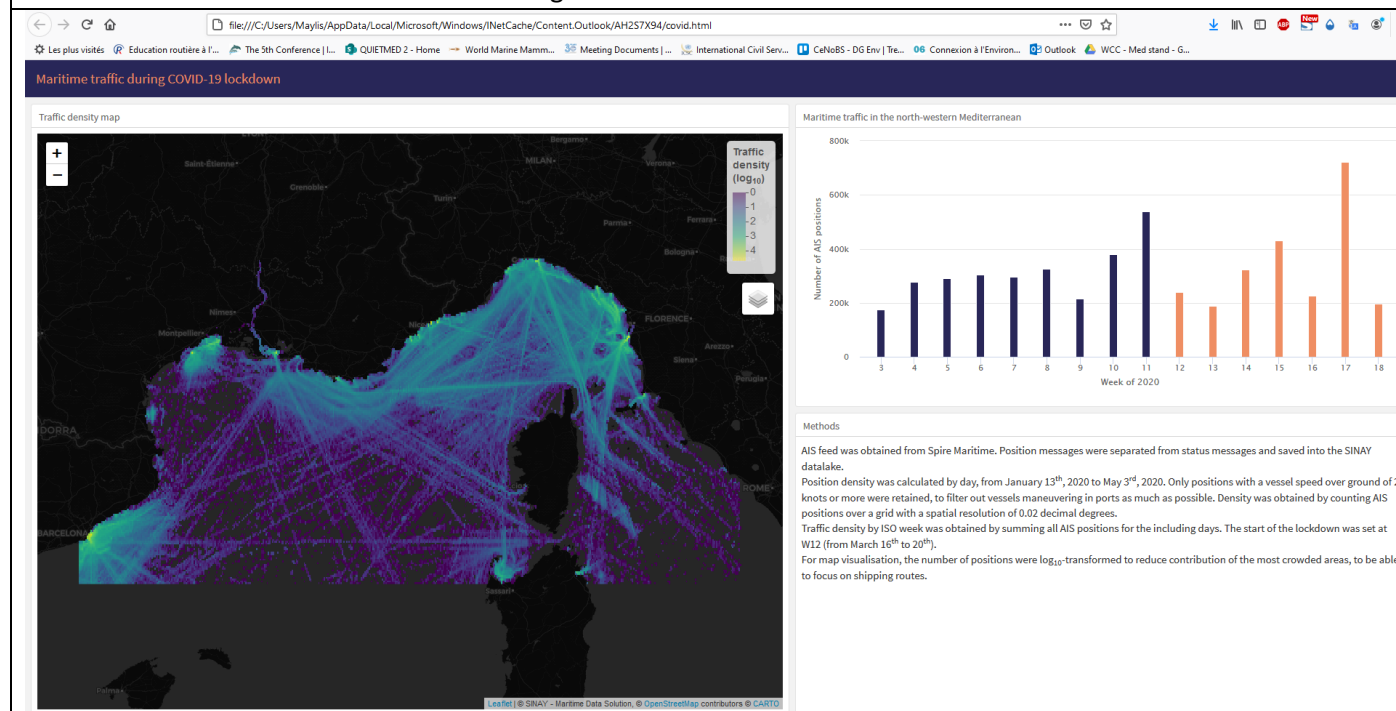
- Model-based maps of shipping noise in the whole ACCOBAMS area for 2018
- Model-based habitat maps for 8 species based on an interim modelling framework. These model-based habitat maps are made merging raw cetacean data from OBIS from 2018 and raw data from the ACCOBAMS Survey Initiative (also in 2018). As agreed in June 2021 by the ACCOBAMS Secretariat, this interim modelling framework will be used until validated results of the ACCOBAMS Survey Initiative become available for NETCCOBAMS and integrated into the framework.
- Acoustic Risk Maps for three species: fin whales, Cuvier's beaked whale, sperm whales. These maps inform on areas where such species 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

- Depth
- 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

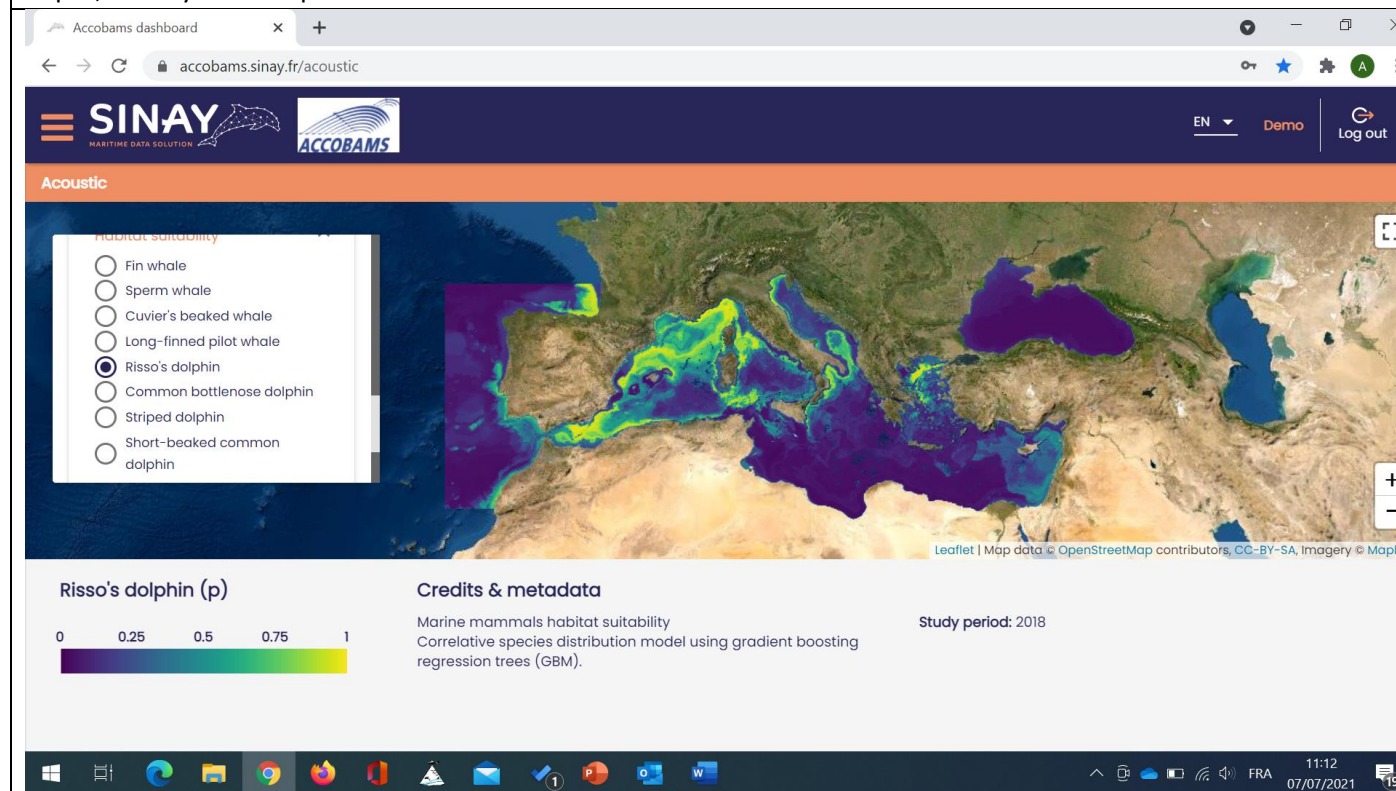
The following pictures illustrate all the information and indicators contained in the platform, which are available for consultation.



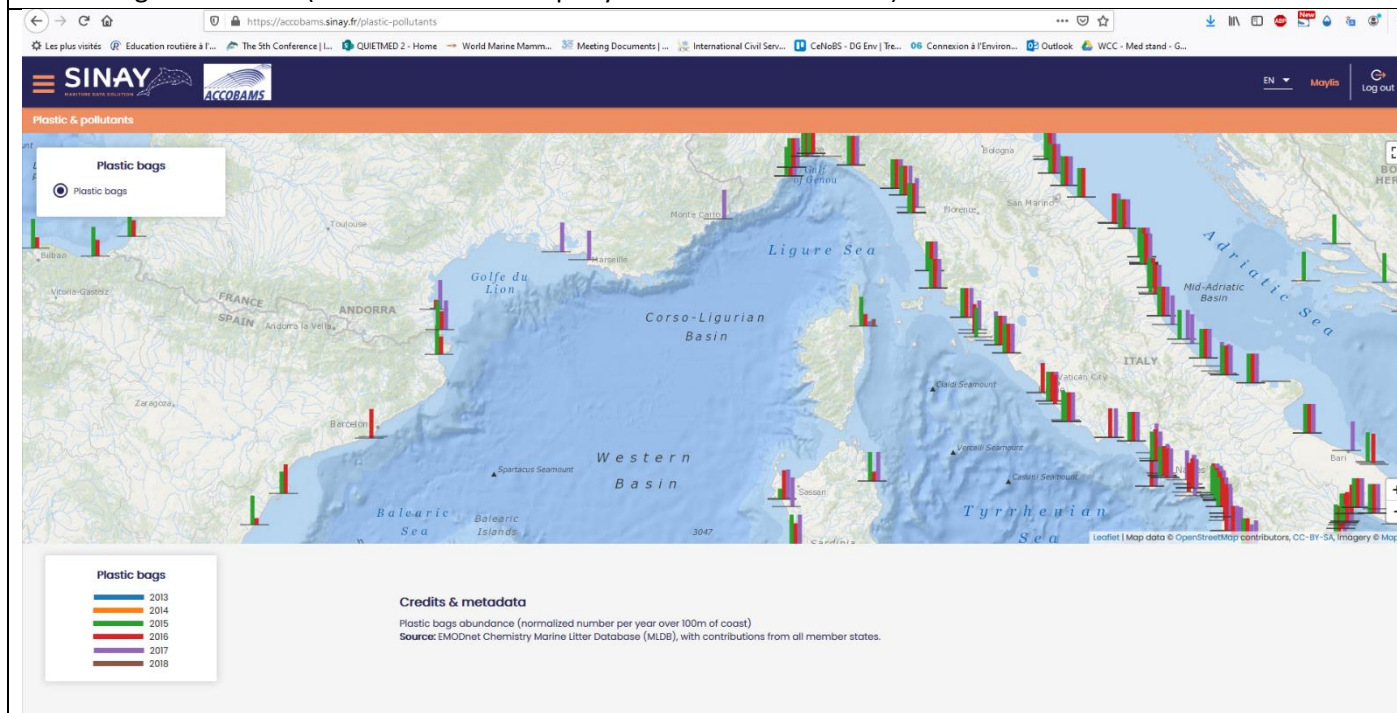
Marine traffic visualization before and during the 2020 lockdown



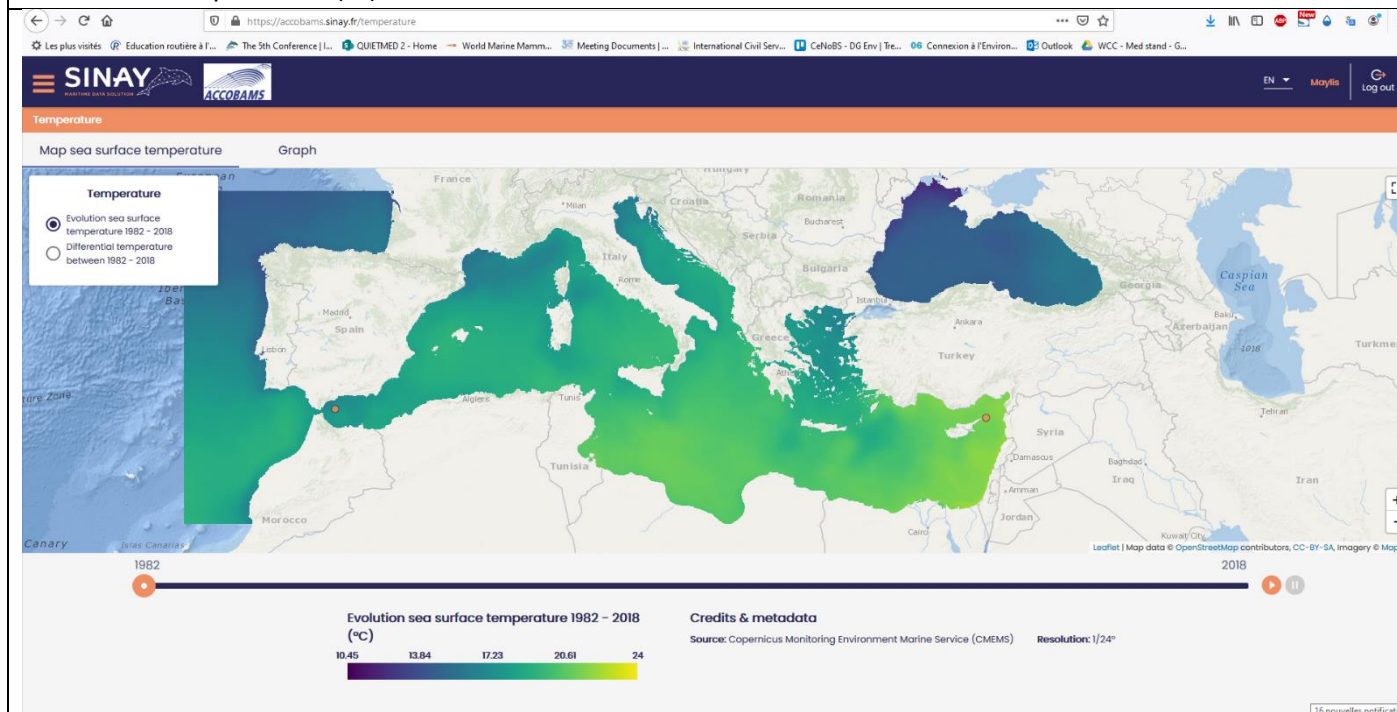
Interim model of Risso's dolphin habitat suitability - taking into account sighting data, Chlorophyll-A concentration, depth, salinity and temperature



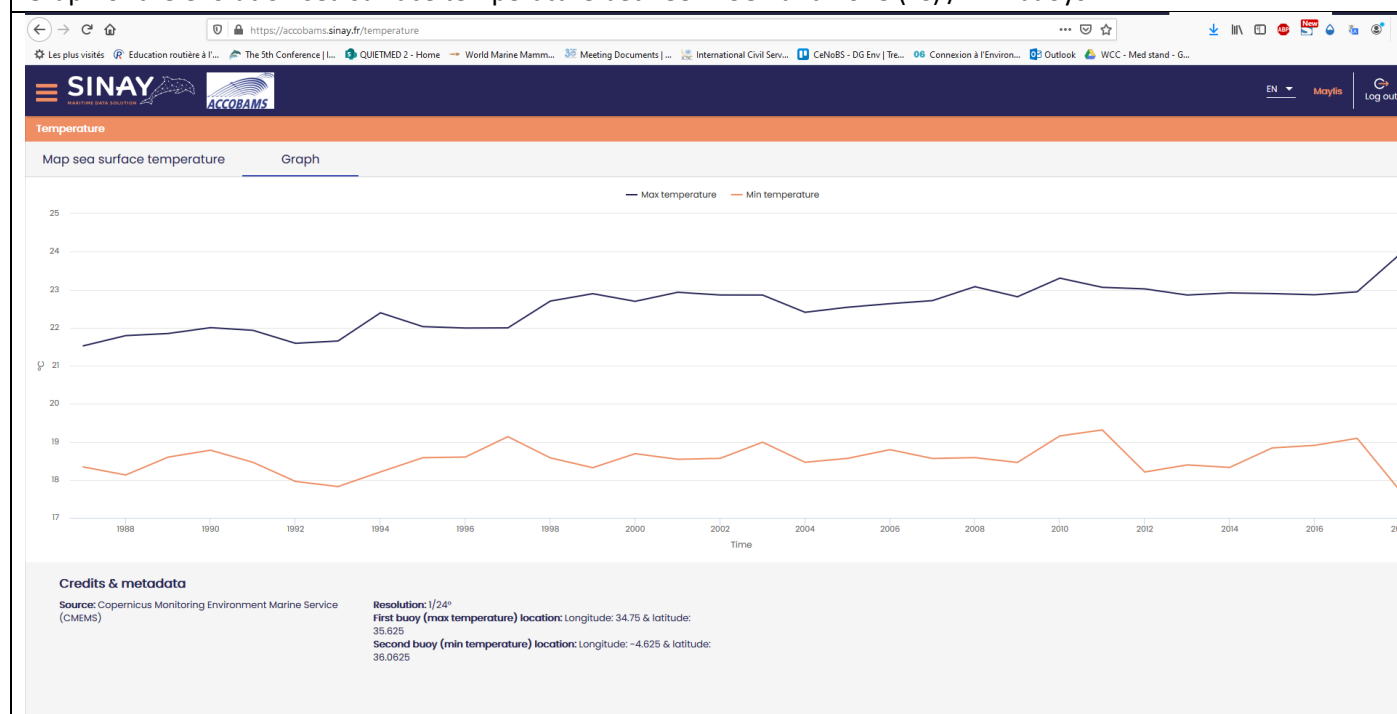
Plastic bags abundance (normalized number per year over 100m of coast)



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



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



The ACCOBAMS Digital Platform is intended to become the updated NETCCOBAMS and is planned to be officially launched during the 13th Meeting of the ACCOBAMS Bureau (9-11 December 2020, Monaco).

Next development steps of NetCCOBAMS

Implementing the conclusions of the Workshop between the ACCOBAMS Scientific Committee and the JNWG 12/11/2020:

- Integrating more robust and validated biological layers (distribution and abundance maps of cetaceans). It has been agreed by the Secretariat in June 2021 that the modelling framework already used can be run *ad interim* until validated results from the ACCOBAMS Survey Initiative (cetacean distribution and abundance maps) become available for NETCCOBAMS
- Moving to a routinely update and delivery of information on acoustic risk area extension:
 - o 2 risk maps and related indicators (extension area in km²): 1 for Summer, 1 for Winter
- Developing and delivering the part dedicated to projects and activities of ACCOBAMS partners
- Enhancing the GIS tools

Improvement of the User Experience: assure that data-visualization experience, especially map layers are optimized with GIS viewer within the application.