



NETCCOBAMS PROGRESS REPORT

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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 Secretariat. In 2015, in collaboration with WWF France and GIS 3M, ACCOBAMS endeavored to integrate the ACCOBAMS communication database into 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...). Back in September 2015, a web-designer delivered a first website proposal, which however did not respond to the requirement and the need for a real collaborative network. In this context, the ACCOBAMS Secretariat recruited a new web designer early 2017, but the expected result was still not achieved.

Objectives of NETCCOBAMS

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

Current version of NETCCOBAMS: an ACCOBAMS Digital Platform for Cetacean Conservation

Thanks to the 2018 Italian Voluntary Contribution, the ACCOBAMS Secretariat started the implementation of 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. SINAY has also provided co-funding during the triennium 2020-2022 and is planning to pursue their commitment in the next implementation phase, in accordance with ACCOBAMS Secretariat. The current technological basis for the construction of NETCCOBAMS is depicted in the figure below:

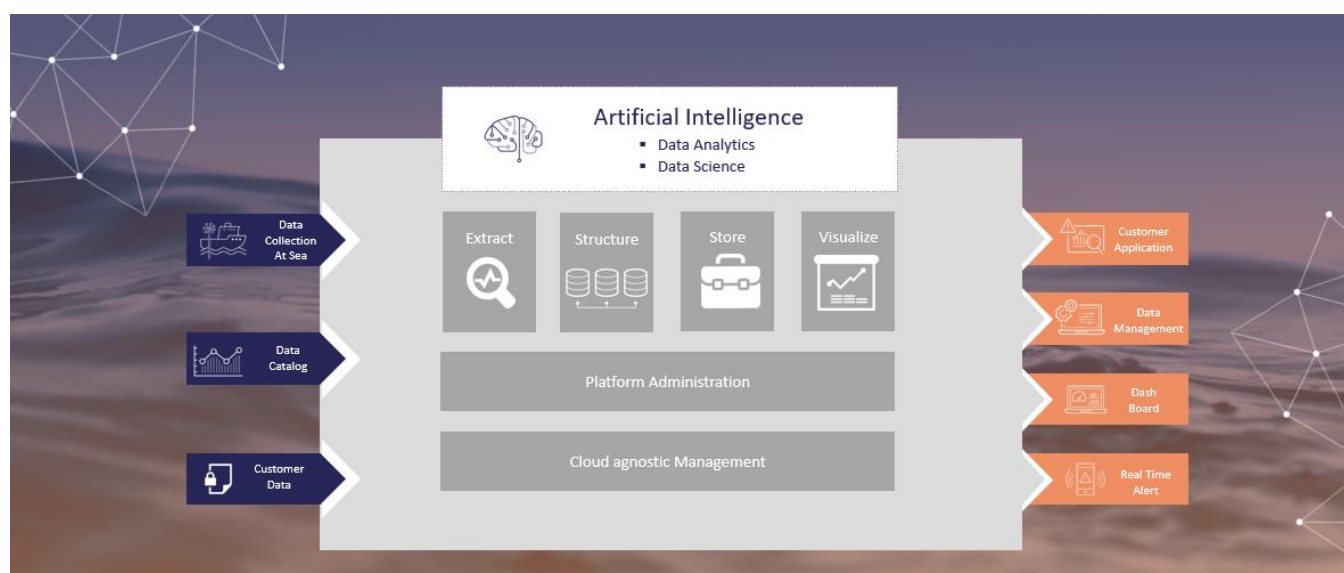


Figure 1. Technological stack for the development of NETCCOBAMS. In blue: Data inputs; in grey: Big Data and Data Processing architecture; in orange: Added-value for users (web-based apps, indicators, monitoring parameters...)

Initially (early 2020), three “use case applications” were defined with ACCOBAMS Secretariat, in response to the priorities proposed by the Italian Focal Point: water temperature, marine litters and underwater noise (Figure 2).

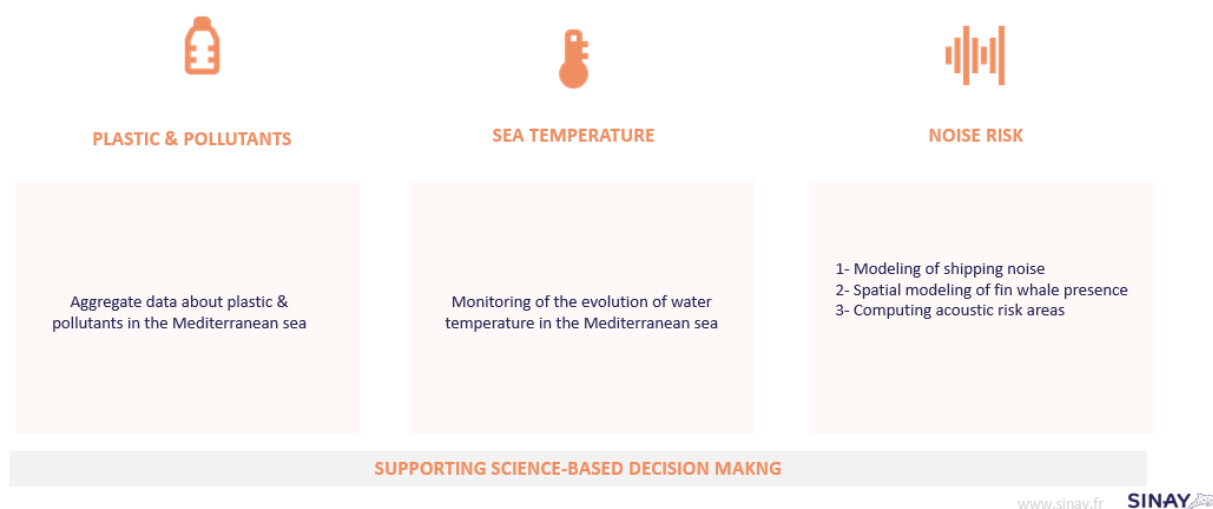


Figure 2. The three use cases were defined by the Secretariat in accordance with the priorities proposed by the Italian Focal Point. The picture briefly describes the objectives of each specific use case.

During the 13th Meeting of the ACCOBAMS Bureau (9-11 December 2020, Monaco), an additional topic became the fourth priority, i.e., the setting up of all the necessary functions and features for a user-friendly interface that handle the creation of new users, the management of user's rights, the access to all use case applications, as well as an overview of research projects, studies and monitoring programs across the Agreement area and the user ability to create new projects, to upload data and documents, amongst many other.

Work done in the period November 2019-November 2022 (1st NETCCOBAMS Contractual period)

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

- An Onboarding Workshop on November 28th, 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 25th, 2020. First maps and indicators on underwater noise, water temperature and plastic pollution are provided.
- A Workshop with the Scientific Committee (February 25th, 2020) to present the PoC and get first feedback and guidance. During the 13th Scientific Committee (SC) Meeting (February 26th to 28th, 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.
- The new NETCCOBAMS Platform was officially launched during the 13th Meeting of the ACCOBAMS Bureau (9-11 December 2020, Monaco). This meeting stressed that further work was needed on the platform and

especially on a new homepage and management features dedicated to users (creation of new users, management of rights) and projects (research, studies, monitoring programs, etc.) implemented in the ACCOBAMS area. On top of this, the ACCOBAMS Secretariat requested further work to implement a module dedicated to National Reports. These new priorities induced some changes in the planning of the fourth development round, in particular about the further work needed to finalize the GIS tool and to turn operational the 'Sea Temperature' and 'Plastics & Pollutant' modules.

- A fourth development round took place, since July 2021 and until June 2022. This development phase was dedicated to update the methodology implemented during the PoC phase in order to deliver acoustic risk maps and associated indicators as agreed during the Workshop with the Scientific Committee and experts on noise, including the co-chair of EU TG-Noise. Moreover, this phase was dedicated to the new priority of developing a new homepage and management features dedicated to users and projects, as stressed during the latest ACCOBAMS Bureau Meeting (Cf previous point). Contractually, this is the last development round and it led to deliver a first operational tool satisfying the large range of needs expressed since the beginning of the work.

Since June 2022, the platform is available at the following URL: <https://hub.sinay.ai/accobams/home>

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

The new homepage and project part include the following functions:

- Login
- Visualization of most used modules, recent projects and news feeds
- Settings page for workspace details:
 - o Logo, color charts, pictures of the homepage
- Visualization of all projects
- Creation of new projects and management of users and user's rights.

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

Work done in the June 2022-November 2022 under the QUIETSEAS project (QUIETSEAS period):

The QUIETSEAS project include a part dedicated to the further development of NETCCOBAMS:

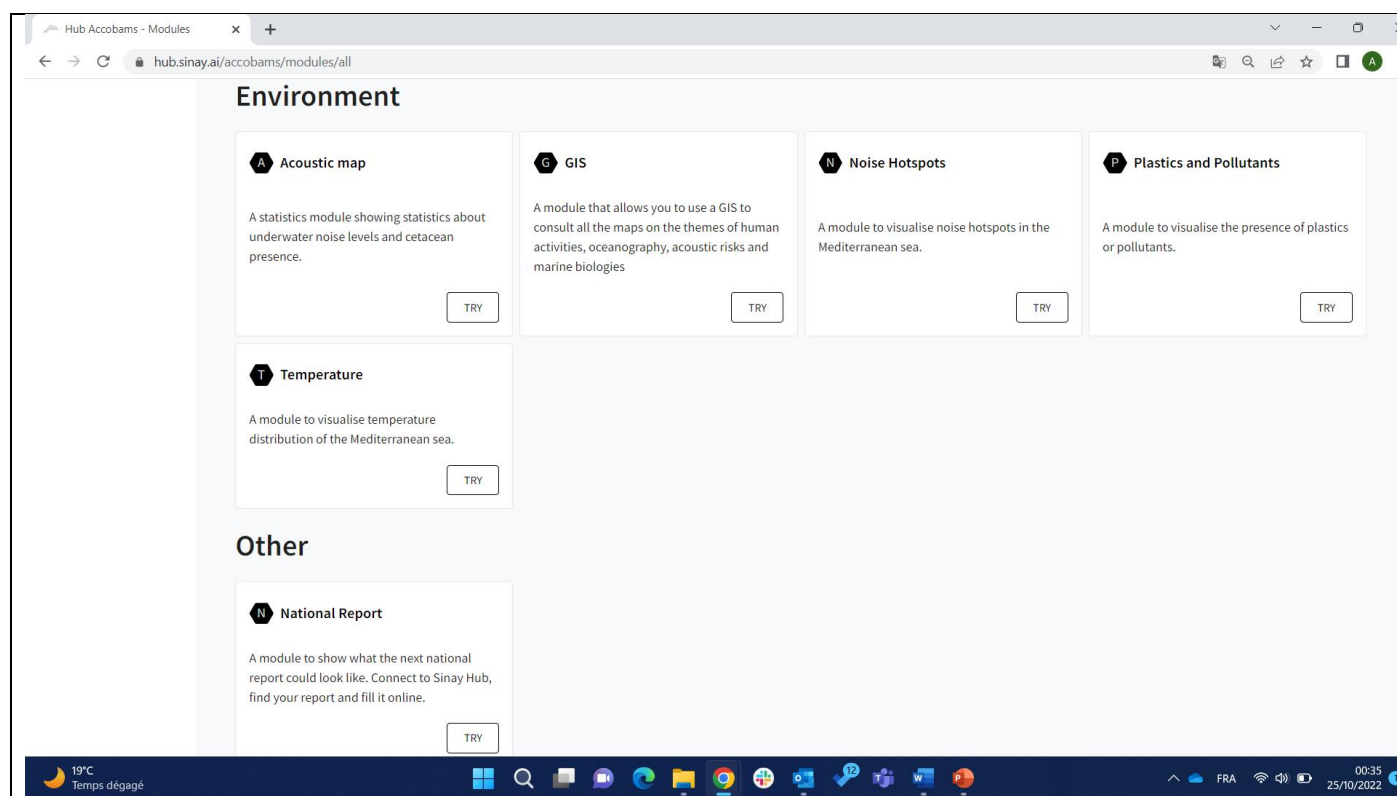
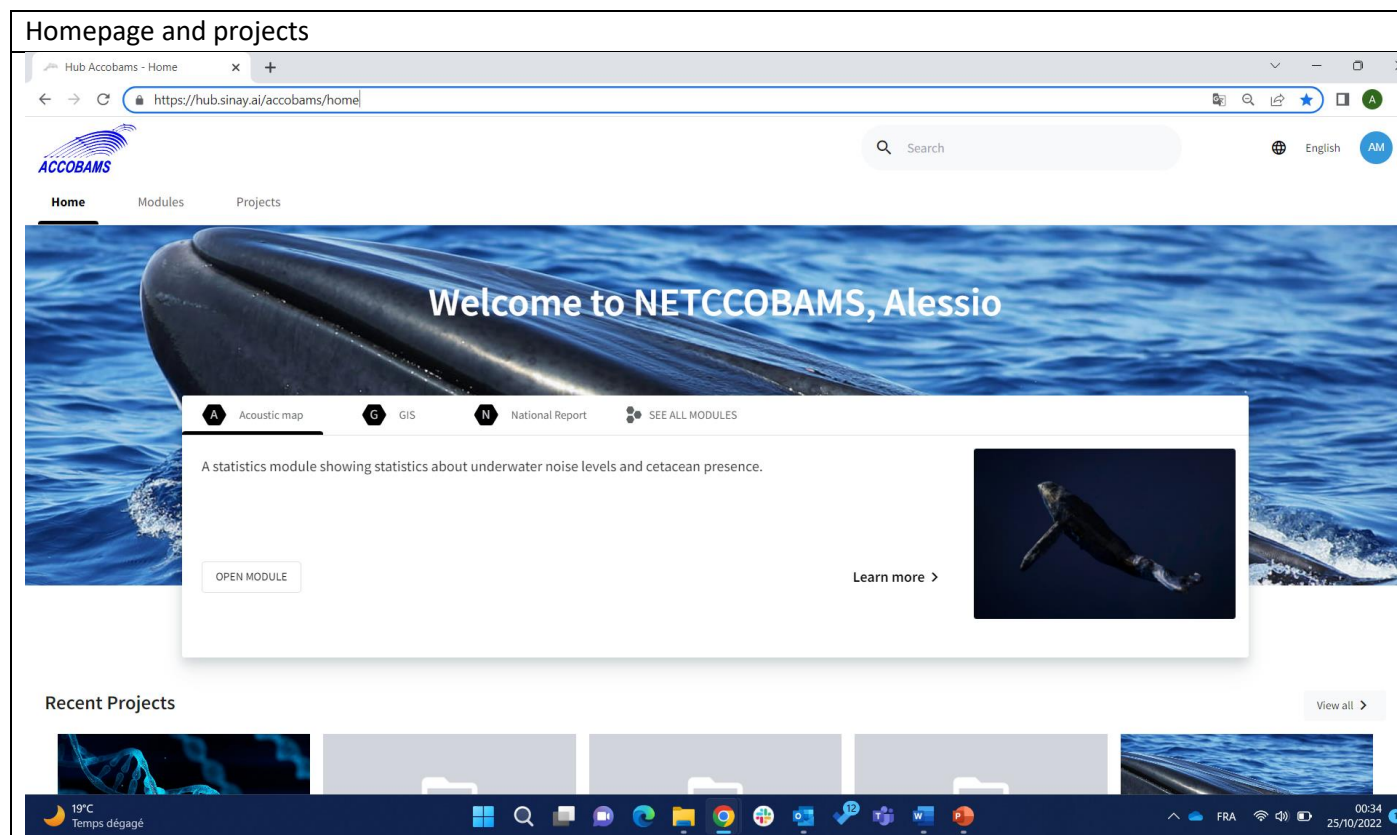
- Integration with the International Noise Register, developed by CTN under the QUIETMED project (2017-2018)
- Including further data formats and expand the capacity to upload data in the project part of ACCOBAMS. Especially, since June 2022 NETCCOBAMS can host HDF5 data containing acoustic measurements.

Additional work (July - October 2022)

One additional task has been voluntarily taken in charge by SINAY, i.e., the development of a module in NETCCOBAMS for National Reports. This module has been developed to meet the specific need expressed by the ACCOBAMS Secretariat to streamline the national reporting phase which is due every three years. The first version of the National Report module has been released in September 2022.

Another activity, funded by the Secretariat, concerns the preparation of a pilot module of NETCCOBAMS addressing the surveillance of ships and ship speed in the future PSSA area established under IMO in the North-western Mediterranean Sea. This activity is due by November 2022. The next phase will be discussed after (and depending on) discussions to be held during the 8th Meeting of the Parties to the ACCOBAMS Agreement.

The following pictures illustrate a sample of the NETCCOBAMS platform.



Hub Accobams - Projects

hub.sinay.ai/accobams/projects/fc262d87-fb8b-4302-bc5d-d85d3deb2cf7

ACCOBAMS

Home Modules **Projects**


+ NEW PROJECT

Project

- 6th Meeting of the Parties
- ACCOBAMS MMO/PAM certificate
- ACCOBAMS Stand in Monacology
- Accobams Survey Initiative / LTMP
- ASI training in Cuers
- Conservation management plans for cetaceans (CMPs)
- CSMC4
- EcoSTRIM
- FLT MED Net
- FLT Med_Net
- Impacts dauphins/pêcheries

Population Structure

DESCRIPTION DOCUMENTS USERS



As part of conservation actions, ACCOBAMS aims to improve data collection on cetacean populations genetic within the Agreement Area and encourage better collaboration between tissue banks to facilitate exchanges of samples for joint analysis.

PUBLIC

EDIT

Publication

Last update	July 20, 2022
Author	Maylis Salivas
Status	Ongoing
Project visibility	Public

19°C
Temps dégagé

00:37
25/10/2022

Hub Accobams - Workspace

hub.sinay.ai/accobams/workspace/settings

ACCOBAMS

< BACK TO HUB

ADMINISTRATION

Users

Modules

Customization

RSS feeds

Settings

Workspace settings

My Workspace

Edit Name

Workspace name
NETCCOBAMS

Edit Theme Colors


Theme Color Primary
#NaNNaN0a

Theme Color Accent
#NaNNaN0a


Modify

Edit Workspace Images (1 Mo maximum)

Workspace Logo



Workspace Banner

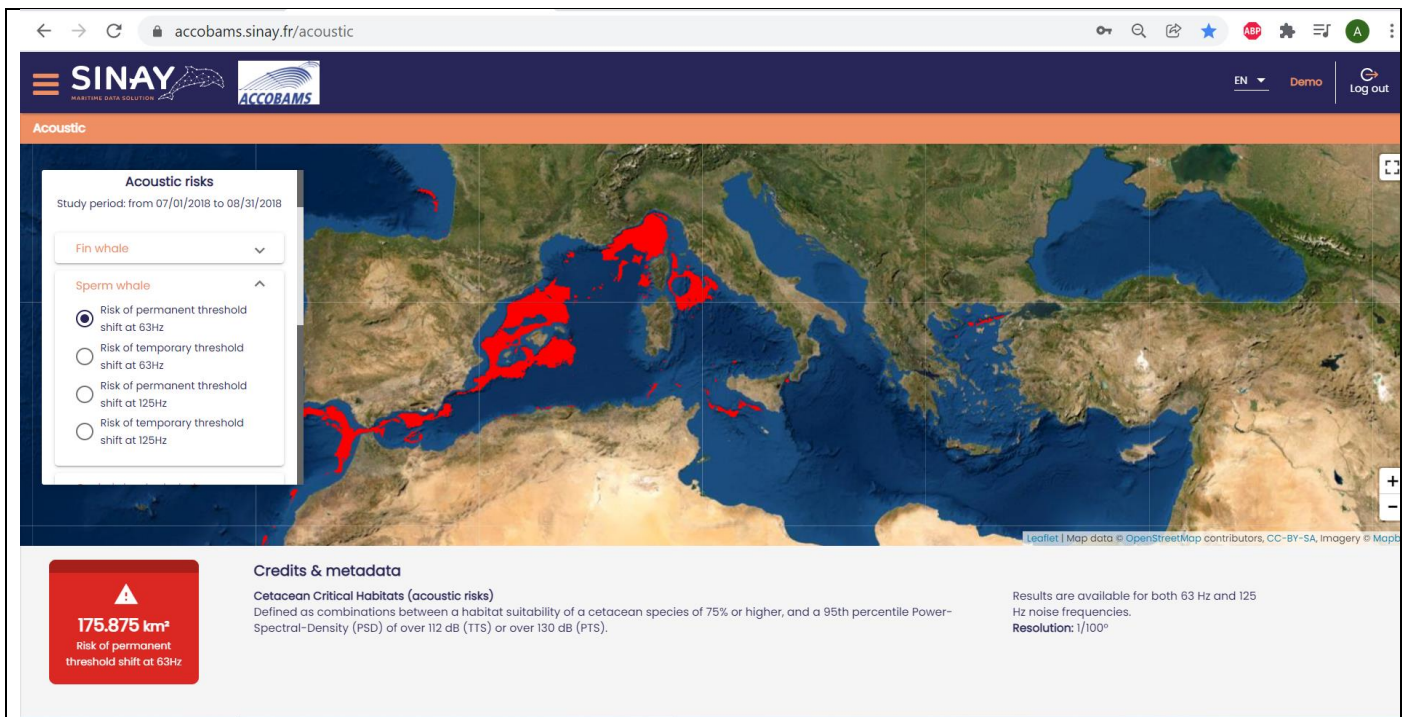
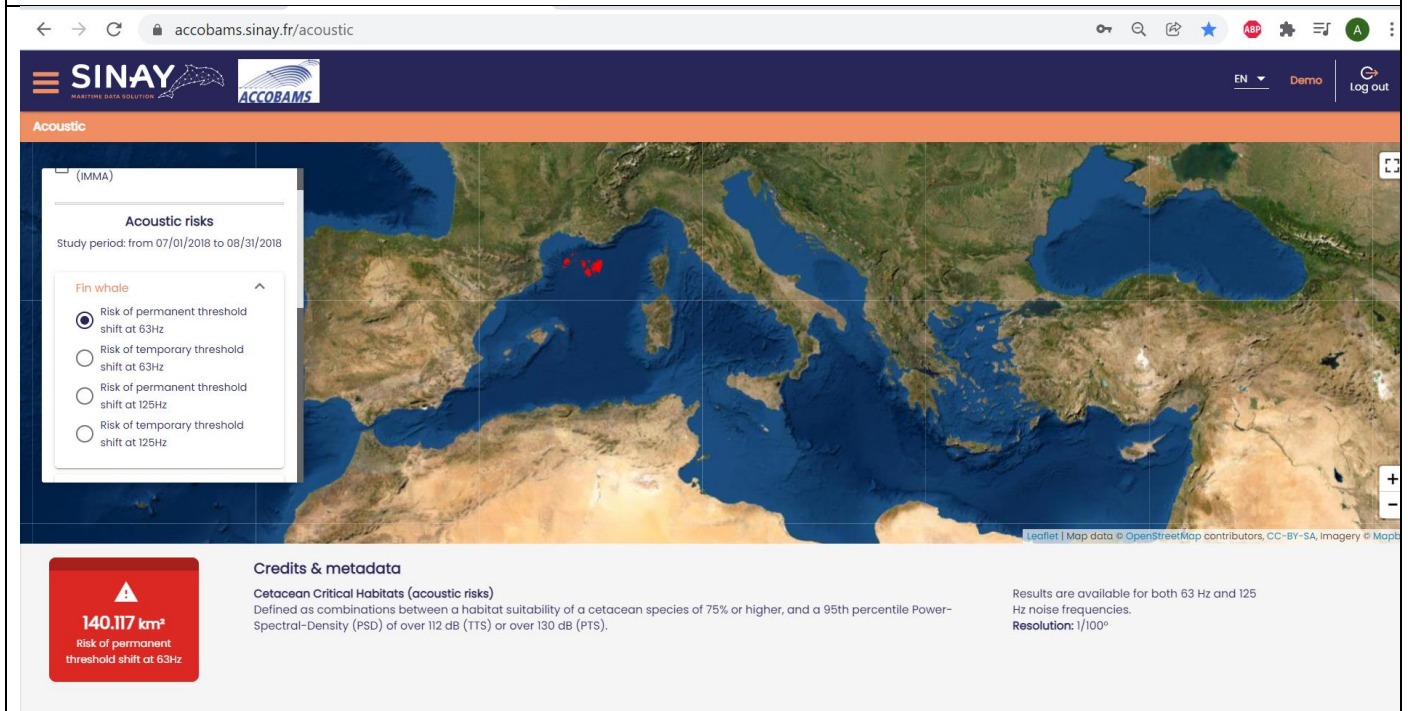


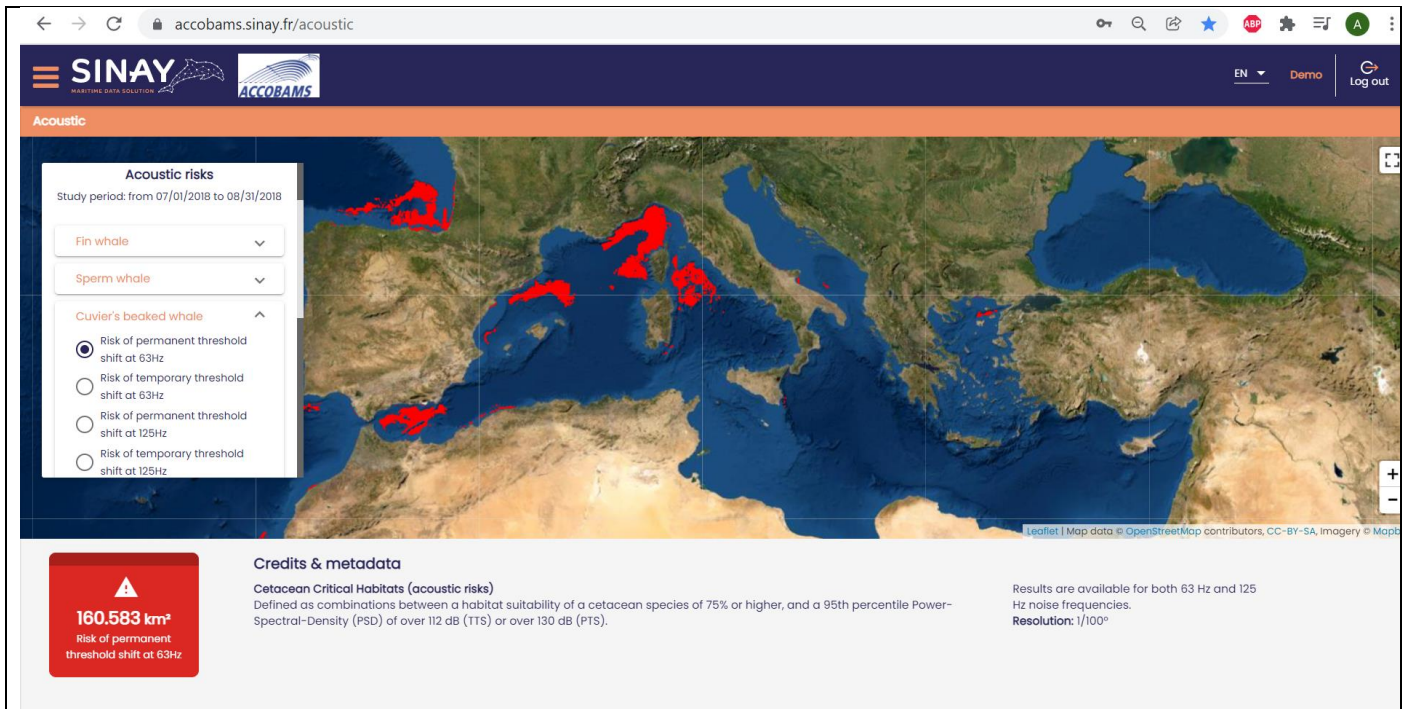
Modify

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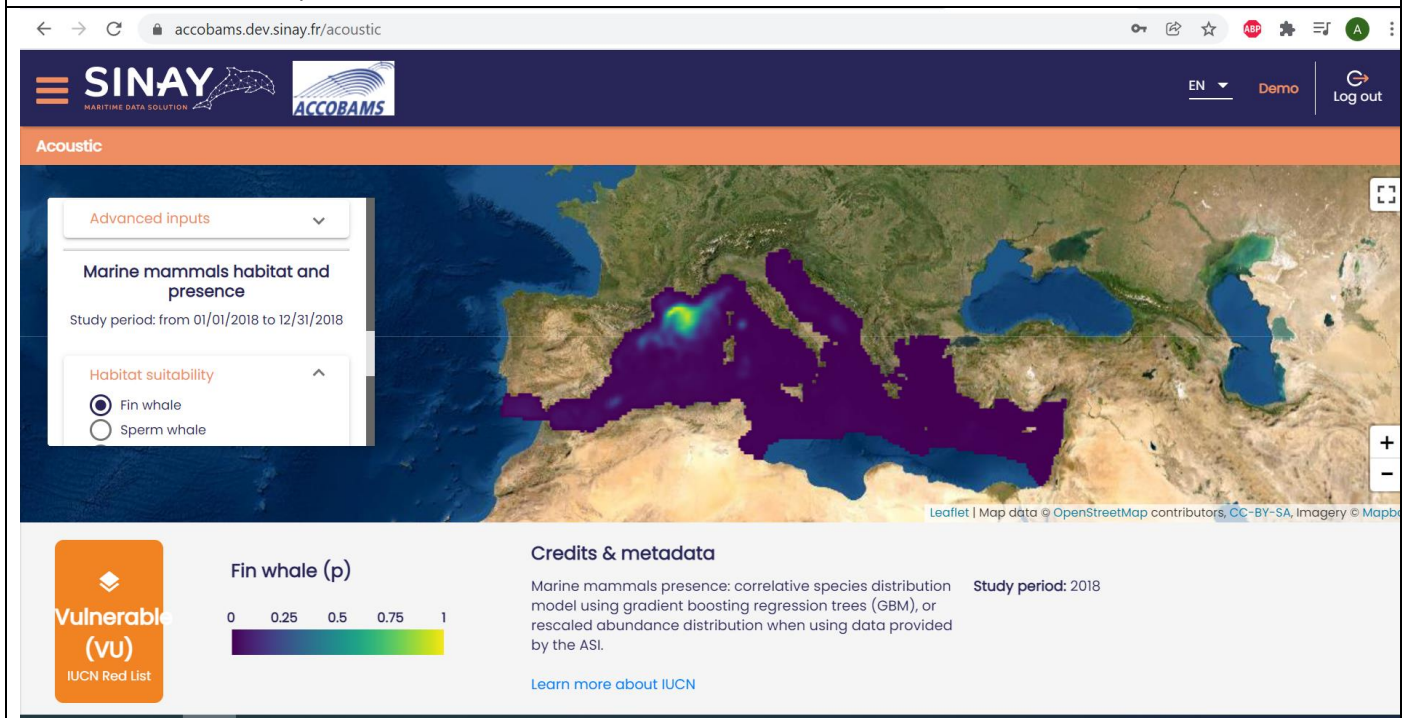
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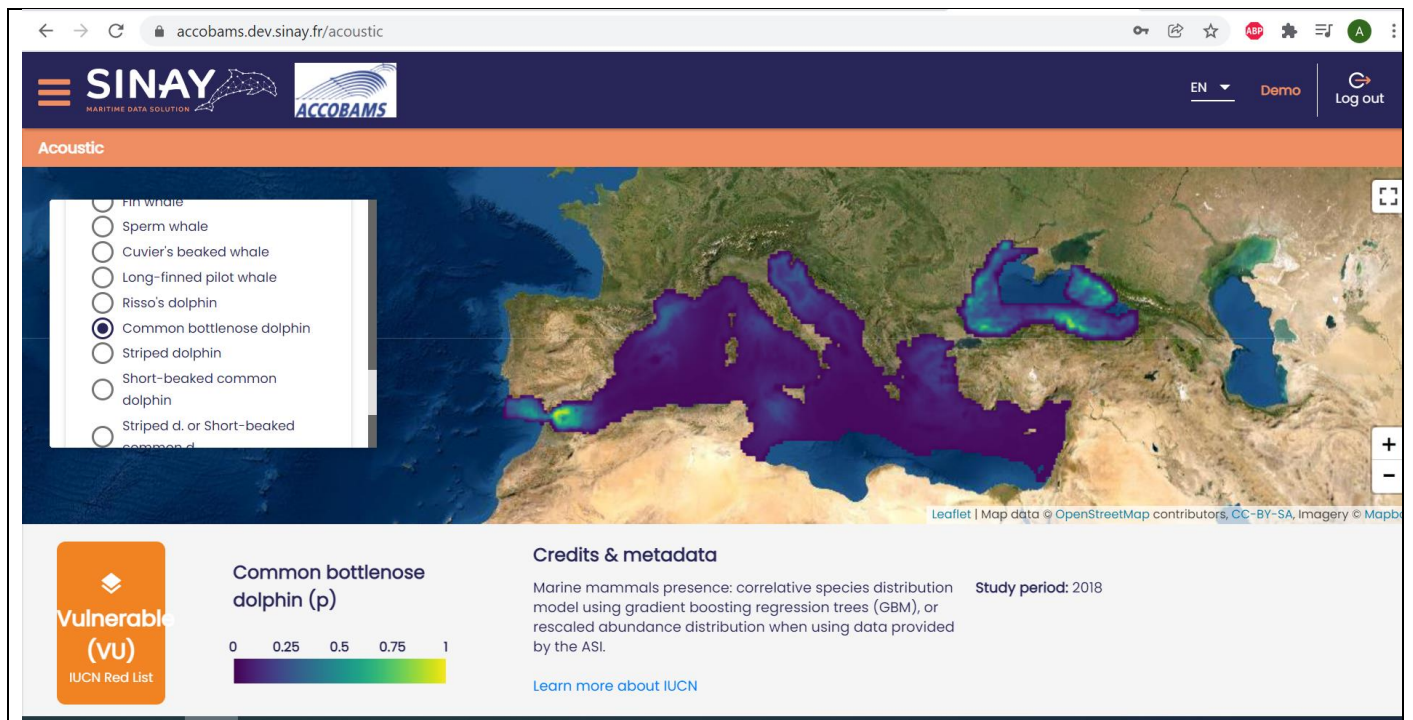
Acoustic risk maps



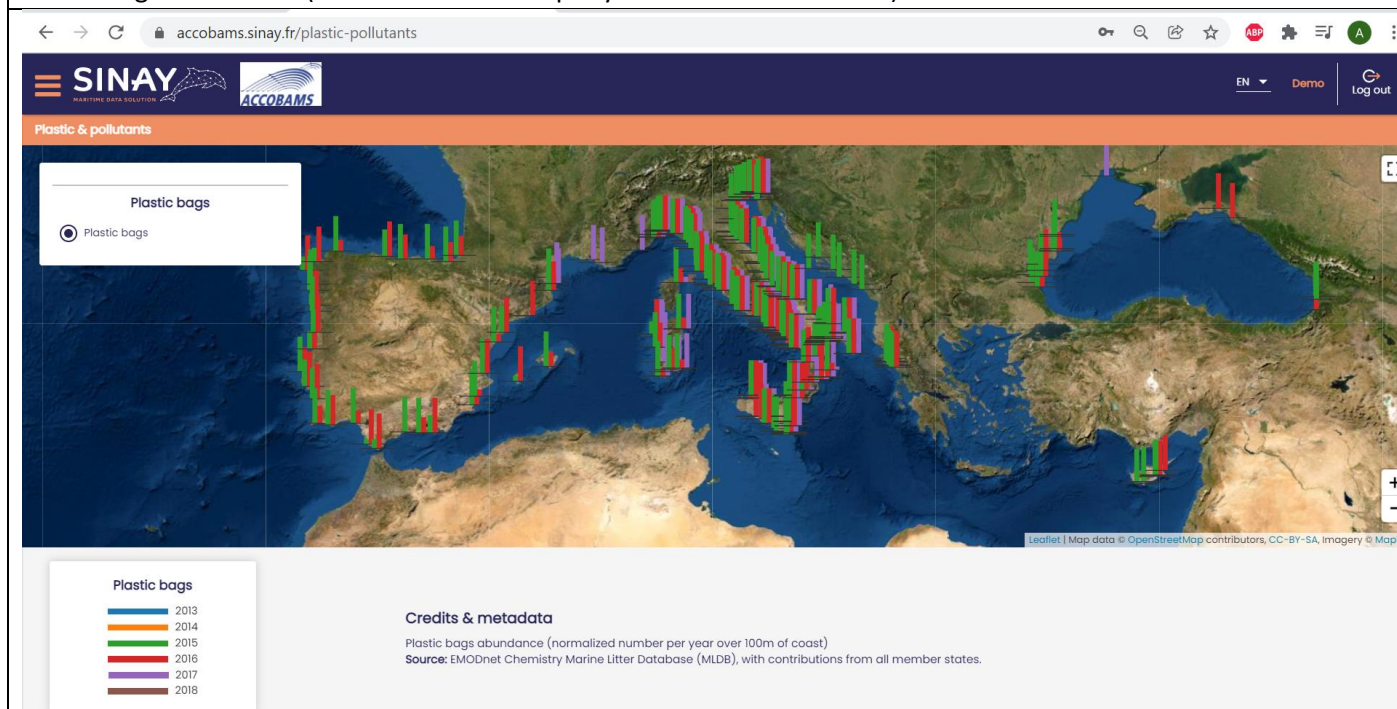


Model-based cetacean presence

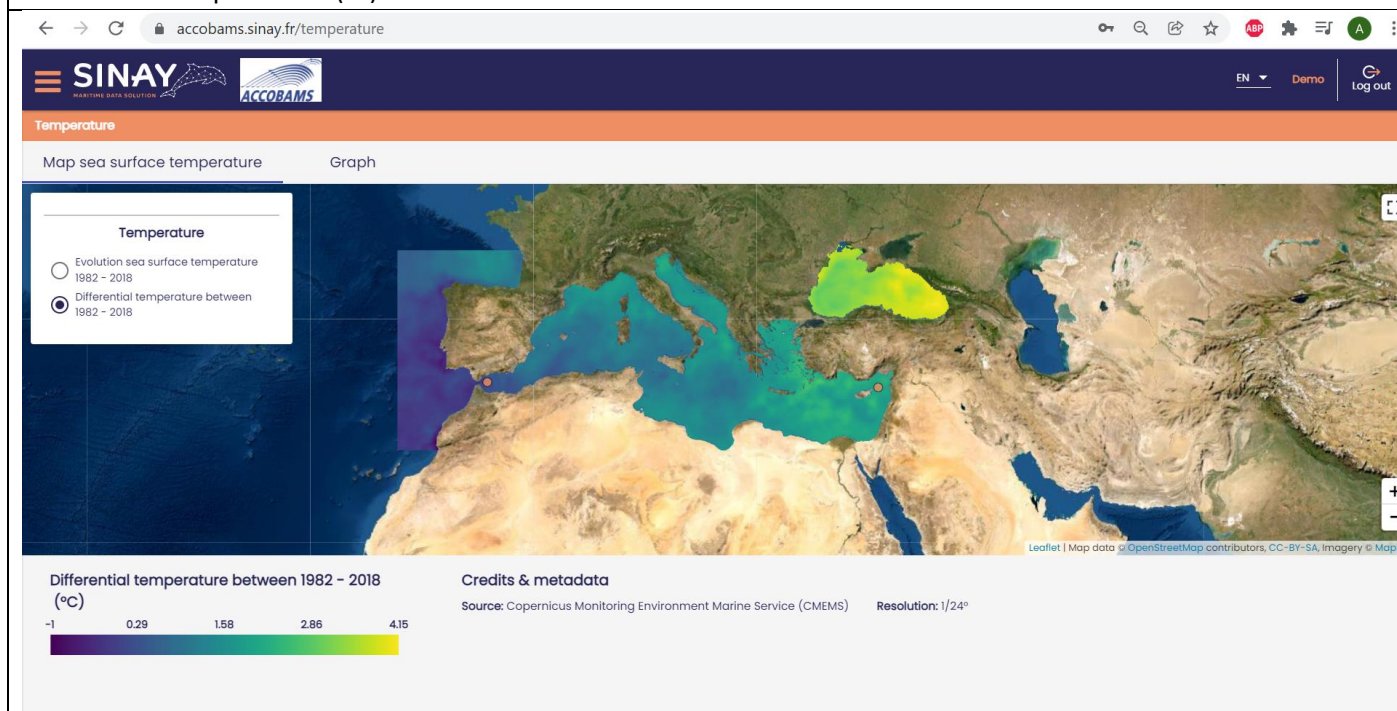




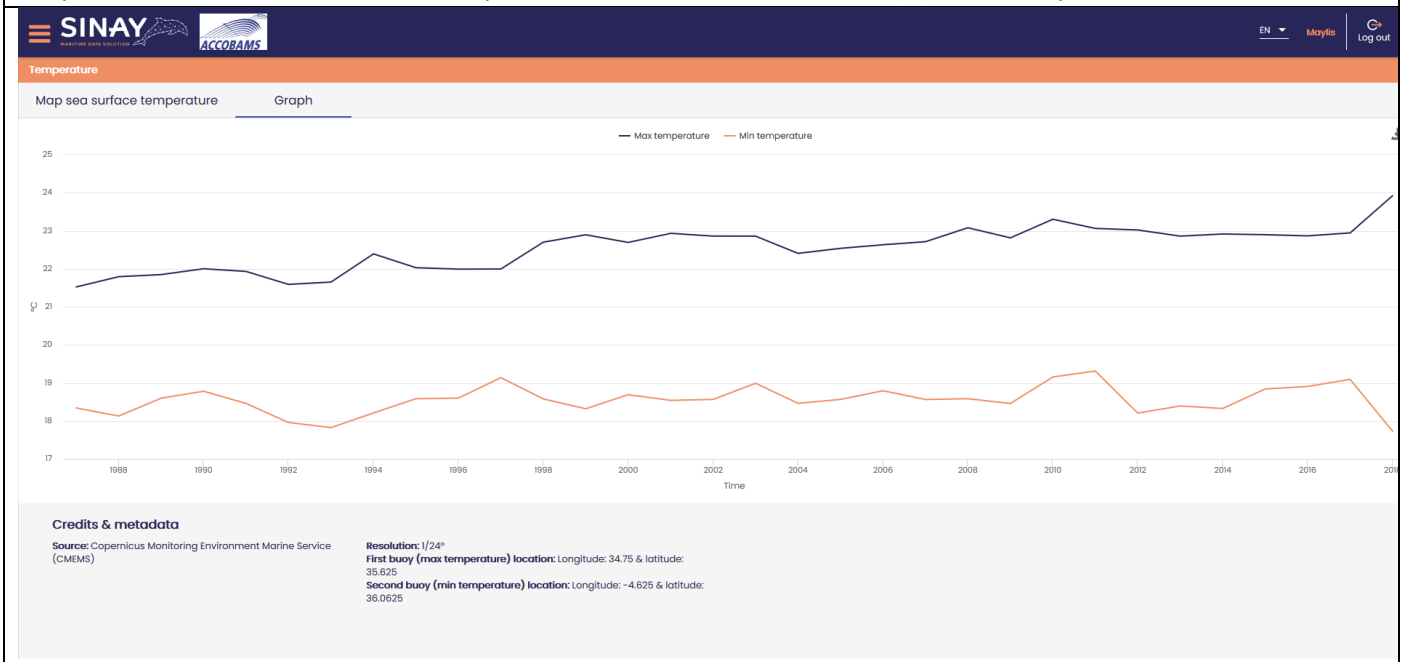
Plastic bags abundance (normalized number per year over 100m of coast)



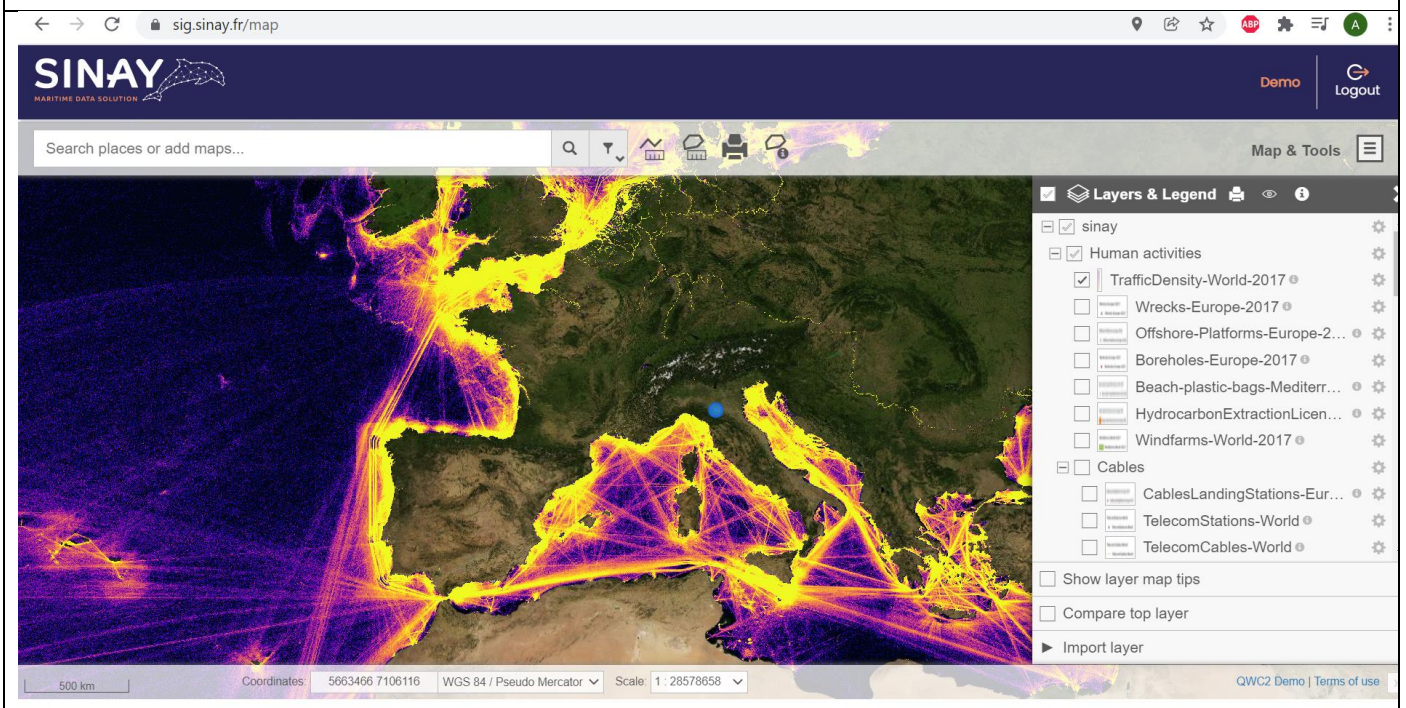
Sea surface temperatures (°C) between 1982 and 2018 - evolution



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



GIS tool



Summary of work done, ongoing and future developments

Under the terms and condition of the contract signed between SINAY and the ACCOBAMS Secretariat in November 2019, the development phase is considered concluded and the tool is now operational. The platform can be maintained, improved and updated under a subscription model to be agreed on by the Parties.

The main ongoing development on NETCCOBAMS concern the pilot module for the surveillance of ships speed. This work is the object of a new contract signed between SINAY and the ACCOBAMS Secretariat. The pilot phase development ends in November 2022 and a 1-year access is provided (until November 2023). Within this time window, discussions will be held about the development of the operational module containing all the relevant features yet to be validated.

Other ongoing work on NETCCOBAMS concerns the objectives of the QUIETSEAS project and will be ended by April 2023 (end of QUIETSEAS).

The summary of work done and future development is provided below.

Table 1. Overview of the items developed since November 2019 for the new NETCCOBAMS platform. Items in light green represent the initial work plan.

Item	Scope	Development period	Status
Acoustic risk module	1 st NETCCOBAMS Contractual Period	Dec 2019 – June 2022	Operational
Sea Temperature module	1 st NETCCOBAMS Contractual Period	Dec 2019 – July 2020	PoC
Plastics & Pollutant module	1 st NETCCOBAMS Contractual Period	Dec 2019 – July 2020	PoC
GIS module	1 st NETCCOBAMS Contractual Period	Aug 2020 – Dec 2020	Pre-operational
NETCCOBAMS Hub (Homepage, projects, news feeds, workspace settings, user management, etc.)	1 st NETCCOBAMS Contractual Period	May 2021 – June 2022	Operational
National Report module	SINAY	Feb 2022 – Sept 2022	Operational
Integration of the Int. Noise Register	QUIETSEAS	June 2022 – November 2022	Ongoing
Hosting of Acoustic Measurement data in HDF5	QUIETSEAS	June 2022 – November 2022	Operational
Vessel Monitoring module	PSSA	Sept 2022 – Nov 2022	PoC