



MSP-OR

Advancing Maritime
Spatial Planning
in Outermost Regions

D.3.14

FRENCH GUIANA MARITIME SAFETY OF NAVIGATION DATASET

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ABBREVIATIONS AND ACRONYMS

| | French translation | English translation |
|--------|---|--|
| CCOG | Communauté de Commune de l'Ouest Guyanais | Municipalities community of West Guiana |
| Cerema | Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement | Center for studies and expertise on risks, environment, mobility and development |
| CNES | Centre National d'Etudes Spatiales | National Center for Space Studies |
| CNRS | Centre National de la Recherche Scientifique | National Center for Scientific Research |
| CSG | Centre Spatial Guyanais | Guiana Space Center |
| DDC | Dégrad-des-Cannes | Dégrad-des-Cannes |
| DGTM | Direction Générale Territoires et Mer | Delegation of the territories and sea |
| DSBM | Document Stratégique de Bassin Maritime | The strategic sea basin document |
| EMIA | Etat Major Interarmées | Joint Chiefs of Staff |
| FAG | Forces Armées en Guyane | French Guiana Armed Forces |
| GEPOG | Groupe d'étude et de protection des oiseaux en Guyane | Group for the study and protection of birds |
| GPM | Grand Port-Maritime | Harbour Master |
| IRD | Institut de Recherche pour le Développement | Research Institute for Development |
| MSP | Planification de l'Espace Maritime | Maritime Spatial Planning |
| MSP-OR | Planification de l'Espace Maritime dans les Outre-mers | Maritime Spatial Planning in Outermost Regions |
| OFB | Office français de la Biodiversité | French Biodiversity Office |
| Shom | Service Hydrographique et Océanographique de la Marine | French national Hydrographic and Oceanographic Office |
| SNML | Stratégie Nationale pour la mer et le littoral | French National Strategy of the sea and coastline |
| NSM | Société Nationale de Sauvetage en Mer | National Society for Sea Rescue |

INTRODUCTION

MSP PROCESS IN FRENCH GUIANA IN A FEW WORDS

The strategic document of sea basin (DSBM) is the local declination in French Guiana EEZ of the French National Strategy of the Sea and Coastline (SNML), adopted in 2017 in response to the Directive 2014/89/EU. The DSBM specifies and completes the sea activities guidelines with regard to the state of the environment, the economic and social activities linked to the sea and the development of the coastline.

It deals with the following themes:

- the protection of environment, resources, biological and ecological balances as well as the preservation of sites, landscapes and heritage;
- the prevention of risks and the management of the coastline;
- knowledge, research and innovation as well as education and training in the sea-related professions;
- the sustainable development of economic, maritime and coastal activities and the development of natural mineral, biological and energy resources.

This DSBM includes a strategic component listing the inventory of the existing situation with both socio-economic and environmental stakes and providing strategic objectives to be achieved and an operational component composed of both an action plan and a monitoring plan.

The existing situation of the sea basin of French Guiana was developed in 2018 and updated with minor corrections in 2021. The further development of the strategic document has been relaunched with the installation of the new Ultramarine Maritime Council of French Guiana in 2021.

A public consultation was conducted in November 2021 on the vision for the future and the strategic objectives. The objectives and the operational component have been approved following the consultation. The complete draft will be subject to institutional and public consultation in the beginning of 2023.

The final approval of the document is planned for the end of 2023. The detailed process of this public consultation can be found in deliverable D.3.12 *Syntheses map of socio-economic issues at sea in French Guiana* of the project, written by Cerema and provided to the MSP-OR consortium on April 2022.

OBJECTIVES OF THE DELIVERABLE

Shom is a French public operator based in Brest (mainland France). Its missions include support to public policies implementation by providing reference maritime data and expertise on the marine physical environment and marine safety of navigation. In the MSP-OR project, Shom has the essential role to develop and bring its expertise on MSP relevant information related to safety of navigation and maritime surveillance.

The objective of this deliverable is to supplement the MSP implementation process with knowledge on issues of the French Guiana area by providing support to the publication and preparation of the DSBM to the DGTM (Delegation of the territories and sea), local marine spatial planning authority, and recommending a maritime safety of navigation dataset.

Maritime safety of navigation is a key driver in addressing the MSP objectives as it guarantees limitation of environmental disasters. It also needs to be ensured, regardless of the MSP planning scenarios and therefore need to be advertised to marine regional authorities for them to have a complete picture of the stakes at sea.

MARITIME SURVEILLANCE AND SAFETY OF NAVIGATION

Between October 15th - 25th 2022, Shom went on field mission to French Guiana to meet local actors and authorities directly or indirectly involved with safety of navigation and maritime surveillance aspects, in order to establish the most comprehensive dataset as possible.

Table 1 gathers the names of the different organizations the Shom met before and during the mission field with the role and function of the person representative of the infrastructure.

Table 1: Organizations related to maritime surveillance and safety of navigation in French Guiana and representative person

| Organizations /Infrastructures | Role and function of the persons met |
|--|--|
| French National Hydrographic and Oceanographic Office (Shom) | Bathymetry, sedimentology, hydrography currentology and maregraphy Services |
| Harbour Master of Dégrad-des-Cannes | Harbour Master |
| Delegation of the territories and sea | Project manager - coordination of maritime, coastal and river policies - overseas maritime council |
| Center for studies and expertise on risks, environment, mobility and development (Cerema) | Delegate Director of Maritime Planning |
| Delegation of the territories and sea (DGTM) Delegation of the Environment, Planning and Housing (DEAL) | International Geographic System Manager |
| French Guiana Armed Forces (FAG) | Surface Assistant J3/mer |
| Etat Major Interarmées (EMIA) | Liaison Officer of the Brazilian Navy |
| Maritime Zone Commander | Head of the Office for State Action at Sea |
| Customs - Kourou Coast Guard Brigade | Commander of the DF39 ALIZEE |
| The port of the West | Responsible for the port of the West 2 nd vice-president of the Community Office of the port of the West |
| National Society for Sea Rescue (SNSM) | Responsible for studies and President of the association |
| National Center for Scientific Research (CNRS) Research Institute for Development (IRD) | Researcher in coastal geomorphology at CNRS Researcher specialized in mangrove |
| French Biodiversity Office (OFB) | Territorial Delegate Head of environmental policing |
| Delegation of the sea, coastline and rivers | Head of the surveillance and control of maritime and fluvial activities Department of the Sea, Coast and Rivers Head of the Maritime, Coastal and River Affairs Department Head of the Environment, Strategy and Public Domain Management Unit Head of the Maritime and River Operations Department |
| Group for the study and protection of birds in French Guiana (GEPOG) | National Nature Reserve of the Ile du Grand Connétable |
| National Space Center | Flight Range Safety Operations Engineer |

FRENCH GUIANA MARITIME SAFETY OF NAVIGATION DATASET

The dataset on safety of navigation and maritime surveillance was established with the Shom's knowledge of the area and expertise and information collected from the numerous actors and authorities met in French Guiana.

Table 2 indicates the category, the sub-category and the data name following a classification developed by Shom and EU partners in previous project (MSP MED). Details related to these data such as the owner, publication/revision, date, metadata or any other information are provided in the attached document to this deliverable (Annex 1). All data indicated in Table 2 are public.

Figure 1 represents safety of navigation dataset stakes in French Guiana. This dataset is focused on for Cayenne (Figure 2) and Kourou (Figure 3) cities.

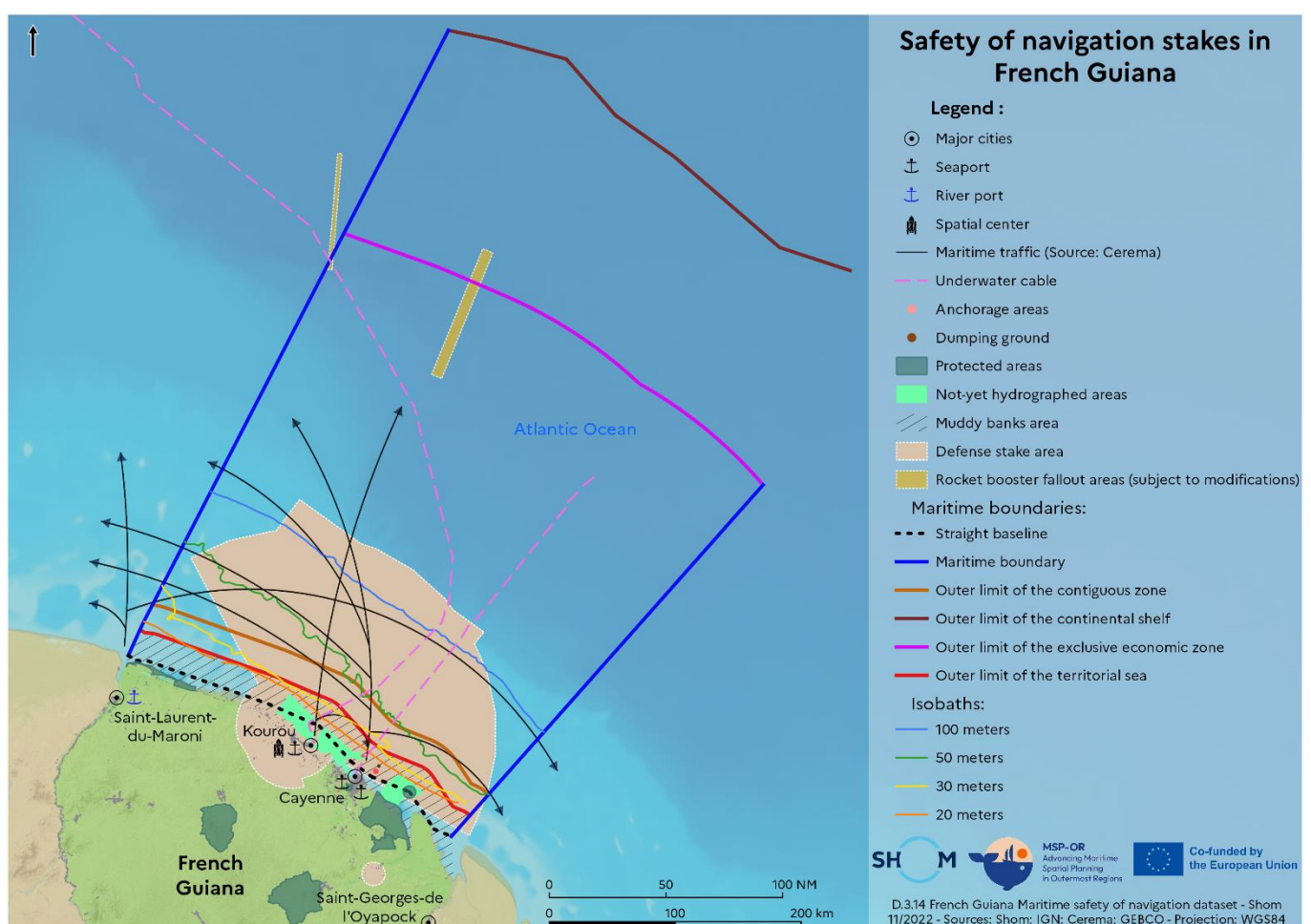


Figure 1: Map of safety of navigation stakes in French Guiana

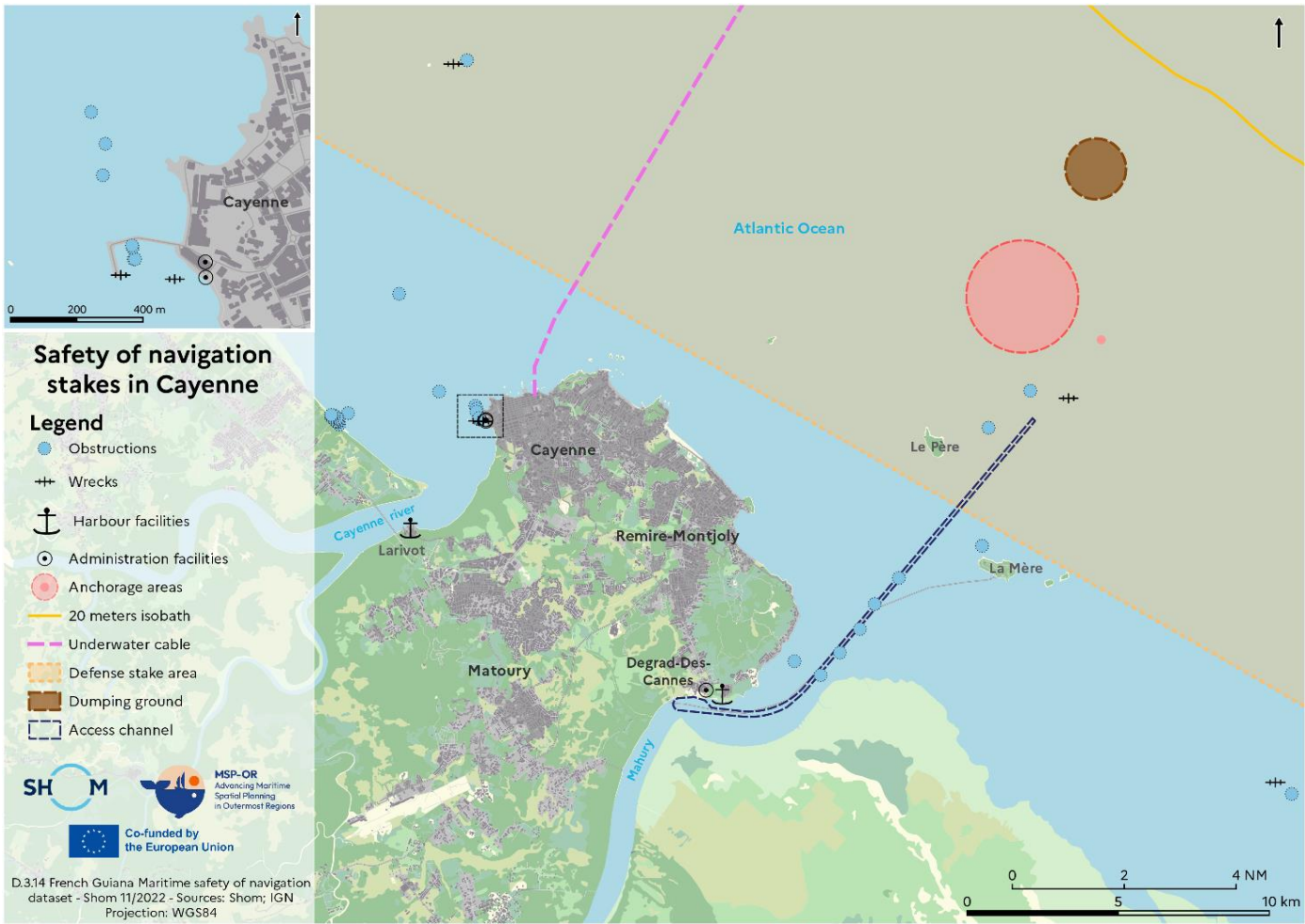


Figure 2: Map of safety of navigation stakes in Cayenne

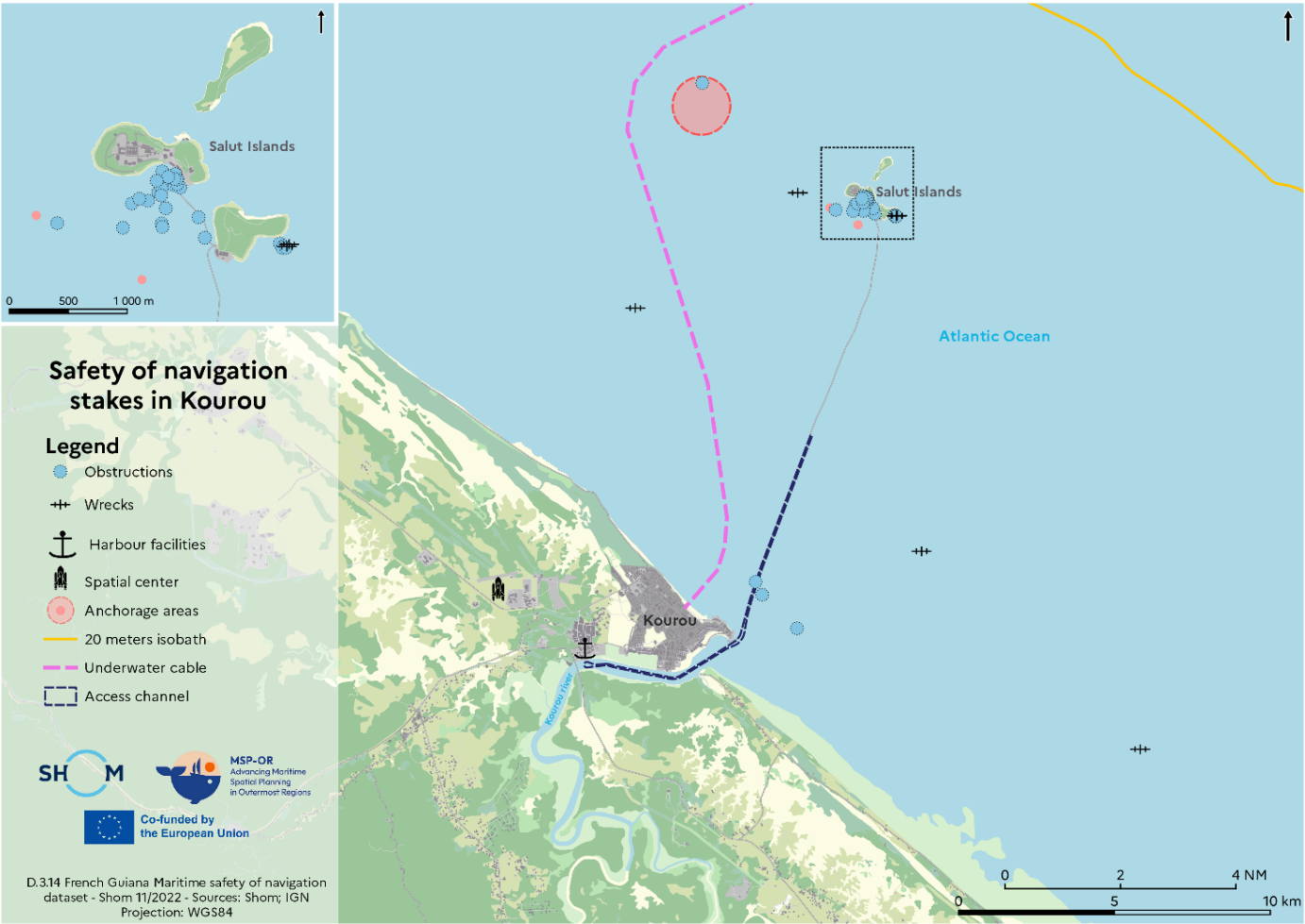


Figure 3: Map of safety of navigation stakes in Kourou

Table 2: Data category and sub category linked with maritime surveillance and safety of navigation

| Category | Sub-category | Data name | Figure on which the data is represented |
|---|---|--|---|
| Maritime boundaries | Geopolitical boundaries (legal status) DELMAR | Maritime limits and boundaries | Figure 1 |
| Physical characteristics | Bathymetry | Isobathymetric lines (20m/30m/50m/100m) | Figure 1, Figure 2, Figure 3 |
| | | Not yet hydrographed areas | Figure 1 |
| | | Muddy banks area | Figure 1 |
| Maritime transport and traffic flows | Maritime routes and areas | Ports access channel | Figure 2, Figure 3 |
| | Maritime traffic | Navigation by professional vessels | Figure 1 |
| Ports & Infrastructures | Governance and planning | Harbour-master's office | Figure 2, Figure 3 |
| | | Pilot office | Figure 2, Figure 3 |
| | | Custom office | Figure 2, Figure 3 |
| | Infrastructures | Berth stations | |
| | | Bridge | |
| | | Ports | Figure 1, Figure 2, Figure 3 |
| Nature and species conservation sites & protected areas | Sub-national protected areas (marine and coastal) | National natural reserve | Figure 1 |
| Submarine cable & pipeline routes | Telecommunication and pipelines | Sub-marine cables and pipelines | Figure 1, Figure 2, Figure 3 |
| Surveillance and security | Obstructions and wrecks | Obstructions | Figure 2, Figure 3 |
| | | Underwater Rocks | |
| | | Wrecks | Figure 2, Figure 3 |
| | Aids to navigation | Landmarks | |
| | | Beaconage | |
| | | Buoyage | |
| | Search and rescue (SAR) area | | |
| Fishing | Fisheries | The limits related to fishery uses | |
| Military | Military areas | Temporary and exclusive restriction areas (during rocket launch) | Figure 1, Figure 2 |
| Spatial policy | Governance of spatial planning on land and at sea | Anchoring area | Figure 1, Figure 2, Figure 3 |
| Pressures and impacts | Other impacts | Dumping ground | Figure 1, Figure 2 |
| Scientific research | Areas and sites for research | Limit of the preventive archaeology fee | |

CONCLUSION AND NEXT STEPS

The MSP-OR project, and in particular French Guiana, benefit from this dataset as it:

- supplements the MSP implementation process with knowledge on issues of the French Guiana area
- provides support to the publication and preparation of the DSBM and recommending a maritime safety of navigation dataset.

Physical characteristics data play one of the most important roles in terms of safety of navigation, especially bathymetry data. Indeed, the non-hydrographed areas cause serious issues for operation and intervention at sea (rescue, military...). French Guiana suffers from particular physical and geomorphological characteristics including muddy banks moving (there are 5 to 6 mud banks of 40 to 50km each which move along the coast about 2 km per year). Muddy banks can extend up to 15km offshore). Thus, hydrographic surveys necessary prior to any implementation of infrastructures on the littoral or coastal navigation are complicated.

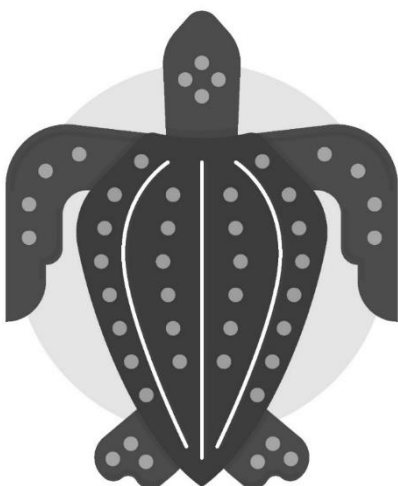
The activities of the National Space Center in Kourou also affect the safety of navigation. A specific sea area is closed to navigation during rocket launching in order to prevent incidents where boosters could fall at sea.

Moreover, actors and authorities' territory have to tackle with various local problems such as illegal fishing, human trafficking/immigration or illegal substances trafficking. These illegal activities are dangerous and hard to quantify (limited data available on these subjects) which highly affects the safety at sea.

This deliverable will be the basis of the Deliverable 3.8. Guidance on the French Guiana sea basin strategy zones publication (to be delivered in M18) as safety of navigation is a key for maritime surveillance. Other actors and authorities will be consulted in order to have a holistic vision of maritime surveillance and safety of navigation in French Guiana (e.g. Amana natural reserve, CSG for environmental aspects, fishing committee, pilot station...). Whereas this deliverable focused more on safety of navigation, the D.3.8. will capitalize these aspects to bring more details and context elements on maritime surveillance.

This deliverable is specific to French Guiana with its territorial particularities (illegal fishing, muddy banks, spatial activities...). Nevertheless, other EU countries can consider data related to safety of navigation such as bathymetry, maritime traffic, fisheries, ports and infrastructure as a basis for taking this aspect and maritime surveillance into account in their own MSP.

Finally, the work also highlighted the difference in the implementation of the MSP between metropolitan France and the Outermost Regions. For example, relative lower financial resources restrain the development and the planning of the French Guiana maritime territory.



Annex

Annex 1: [Data information related to safety of navigation and maritime surveillance](#)

| Category | Sub-category | Data name | Owner | Publication/Revision date | Metadata | Dissemination |
|---|---|---|---|---------------------------|---|----------------------|
| Maritime boundaries | | | | | | |
| | Geopolitical boundaries (legal status) DELMAR | Maritime limits and boundaries | SHOM | 31/01/2022 | https://services.data.shom.fr/geonet/work/srv/en/catalog_search#/metadata/a/BDML_DELMAR.xml | Data.shom.fr WMS/WFS |
| Physical characteristics | | | | | | |
| | Bathymetry | Bathymetric Digital Elevation Model | SHOM | 09/09/2015 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/MNT_GUY100m_HOMONIM_WGS84.xml | Data.shom.fr WMS/WFS |
| | | Isobathymetric lines (20m/30m/50m/100m) | SHOM | | x | ENC |
| | | Not yet hydrographed areas | SHOM | | x | ENC |
| | | Muddy banks area | CNRS | | | |
| Maritime transport and traffic flows | | | | | | |
| | Maritime routes and areas | Ports access channel | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_REGLEMENTATION_NAVIGATION.xml | Data.shom.fr WMS/WFS |
| | Maritime traffic | Navigation by professional vessels | Cerema | 29/07/2016 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_DAM_LIMITE_CAT_NAVIGATION.xml | Data.shom.fr WMS/WFS |
| Ports & Infrastructures | | | | | | |
| | Governance and planning | Harbour-master's office | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_PORTS.xml | Data.shom.fr WMS/WFS |
| | | Pilot office | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_PORTS.xml | Data.shom.fr WMS/WFS |
| | | Custom office | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_PORTS.xml | Data.shom.fr WMS/WFS |
| | | Berth stations | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog_search#/metadata/a/BDML_PORTS.xml | Data.shom.fr WMS/WFS |
| | Infrastructures | Bridge | SHOM | | | Data.shom.fr WMS/WFS |
| | | Ports | SHOM | | | Data.shom.fr WMS/WFS |
| Nature and species conservation sites & protected areas | | | | | | |
| | Sub-national protected areas (marine and coastal) | National natural reserve | Observatoire des Réserves naturelles / INPN | | | Data.shom.fr WMS/WFS |
| Submarine cable & pipeline routes | | | | | | |
| | Telecommunication and pipelines | Sub-marine cables and pipelines | SHOM | 07/01/2019 | https://services.data.shom.fr/geonet/work/srv/eng/catalog_search#/metadata/a/BDML_CABLES.xml | Data.shom.fr WMS/WFS |

| | | | | | | |
|---|--|--|------|------------|---|--------------------------|
| <i>Surveillance and security</i> | | | | | | |
| Obstructions and wrecks | Obstructions | | SHOM | 23/11/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_EPAVES.xml | Data.shom.fr WMS/WFS |
| | Underwater Rocks | | SHOM | 24/11/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_EPAVES.xml | Data.shom.fr WMS/WFS |
| | Wrecks | | SHOM | 24/11/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_EPAVES.xml | Data.shom.fr WMS/WFS |
| Aids to navigation | Landmarks | | SHOM | 21/06/2022 | https://services.data.shom.fr/geonet/work/srv/eng/catalog.search#/metadata/a/BDML_BALISAGE.xml | Data.shom.fr WMS/WFS |
| | Beaconage | | SHOM | 21/06/2022 | https://services.data.shom.fr/geonet/work/srv/eng/catalog.search#/metadata/a/BDML_BALISAGE.xml | Data.shom.fr WMS/WFS |
| | Buoyage | | SHOM | 21/06/2022 | https://services.data.shom.fr/geonet/work/srv/eng/catalog.search#/metadata/a/BDML_BALISAGE.xml | Data.shom.fr WMS/WFS |
| Research and rescue area | Research and rescue area | | SHOM | 09/11/2018 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_SAR.xml | Data.shom.fr WMS/WFS |
| <i>Fishing</i> | | | | | | |
| Fisheries | The limits related to fishery uses | | SHOM | 15/02/2020 | https://services.data.shom.fr/geonet/work/srv/eng/catalog.search#/metadata/a/BDML_LIMITES_PECHE.xml | Data.shom.fr WMS/WFS |
| <i>Military</i> | | | | | | |
| Military areas | Temporary and exclusive restriction areas (during rocket launch) | | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_REGLEMENTATION_NAVIGATION.xml | Restricted dissemination |
| <i>Spatial policy</i> | | | | | | |
| Governance of spatial planning on land and at sea | Anchoring area | | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_REGLEMENTATION_NAVIGATION.xml | Data.shom.fr WFS/WMS |
| <i>Pressures and impacts</i> | | | | | | |
| Other impacts | Dumping ground | | SHOM | 16/06/2021 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_REGLEMENTATION_NAVIGATION.xml | Data.shom.fr WFS/WMS |
| <i>Scientific research</i> | | | | | | |
| Areas and sites for research | Limit of the preventive archaeology fee | | SHOM | 15/02/2015 | https://services.data.shom.fr/geonet/work/srv/fre/catalog.search#/metadata/a/BDML_RAP.xml | Data.shom.fr WFS/WMS |



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