



Swedish Agency
for Marine and
Water Management

MADAGASCAR presentation

Practical Exercises part 1 to 4



MSP WIO Symphony technical training

October 2024



Swedish Agency
for Marine and
Water Management

Name and expertise of team members

1. RAMANANIHANITRA VERO *Ranja*, *ocean governance expert*
2. RAKOTOMAMONJY *Mendrika*, *GIS expert*
3. RABARY Andriantsilavo J.M, *MSP and blue economy expert*



» Nosy-Be MSP

- **WHY?**

Blue economy development in each region of Madagascar

- **WHAT?**

- **PUDI** –Plan d’Urbanisme Directeur: augmentation de la fréquentation, des zones d’intérêts touristiques
- **Politique Nationale du Tourisme (PNT)** de Madagascar et Code du Tourisme (CdT)
- **Pressures on Nature-Based Tourism:** Sustainable tourism in Nosy Be is under threat due to a range of pressures, including demographic growth, land conflicts, deforestation, pollution, economic disparity, poverty, gender issues, crime, and weak local institutions, all exacerbated by climate change.
- **Economic Role of Tourism:** Tourism is crucial to Nosy Be's economy, which has shifted from its former focus on sugar cane and fishing. However, this growth in tourism has led to increased human pressure on natural resources, leaving many reliant on subsistence farming and fishing.
- **Stagnation in Other Sectors:** While tourism is growing, other economic sectors, such as food production, alternative energy, industry, commerce, and handicrafts, are stagnating, limiting the island's broader development potential.

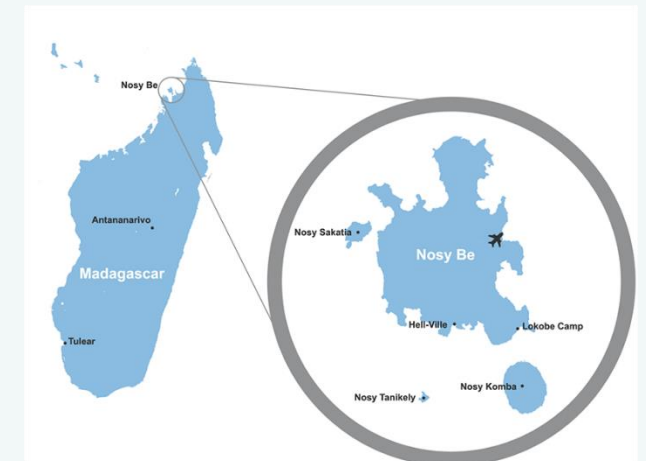
» Focus sector: **tourism**

» Find supporting data layers

- in WIO Symphony and
- national data



Swedish Agency
for Marine and
Water Management

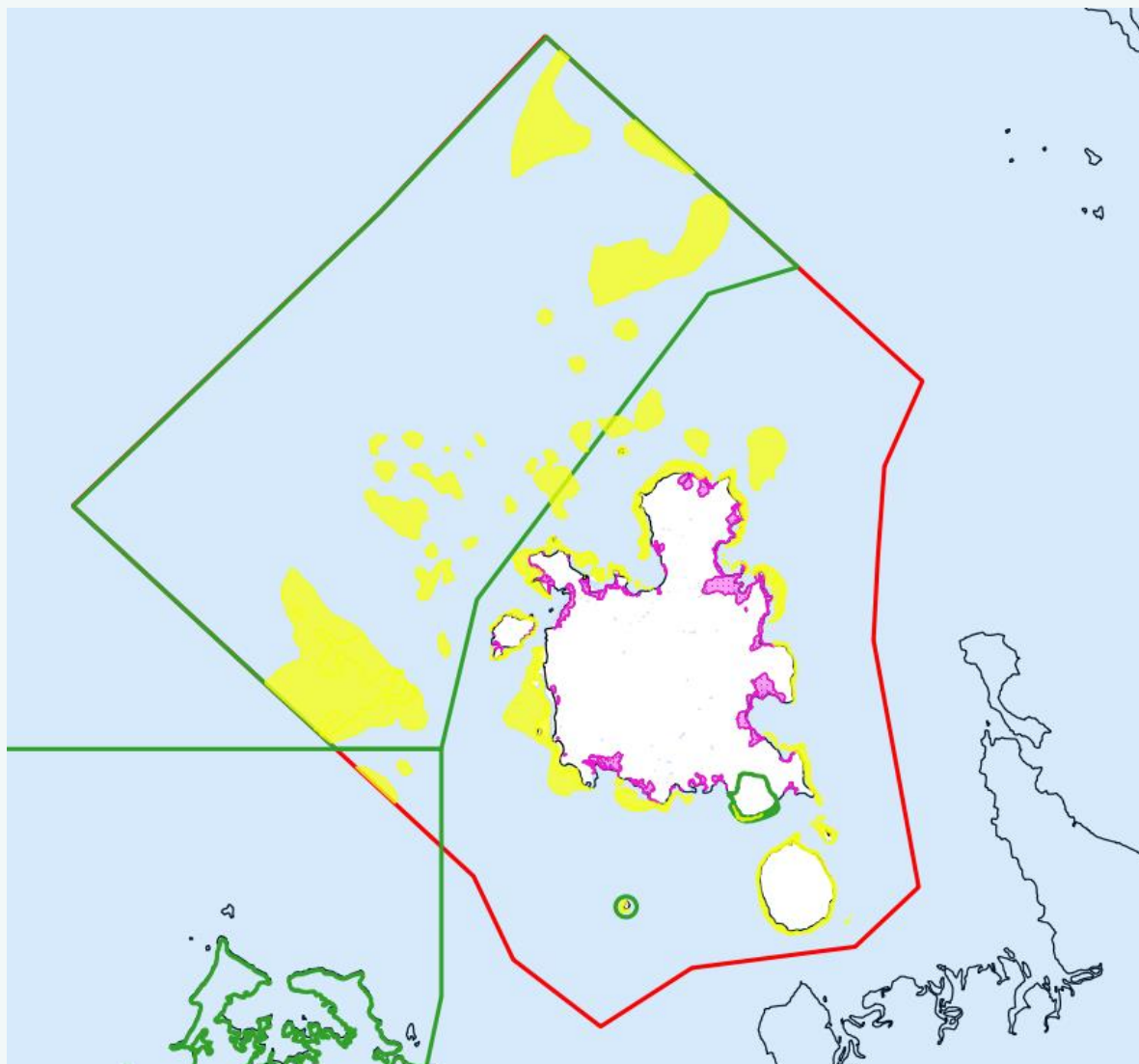


280 Km²

MPA
Mangroves
Coral reefs



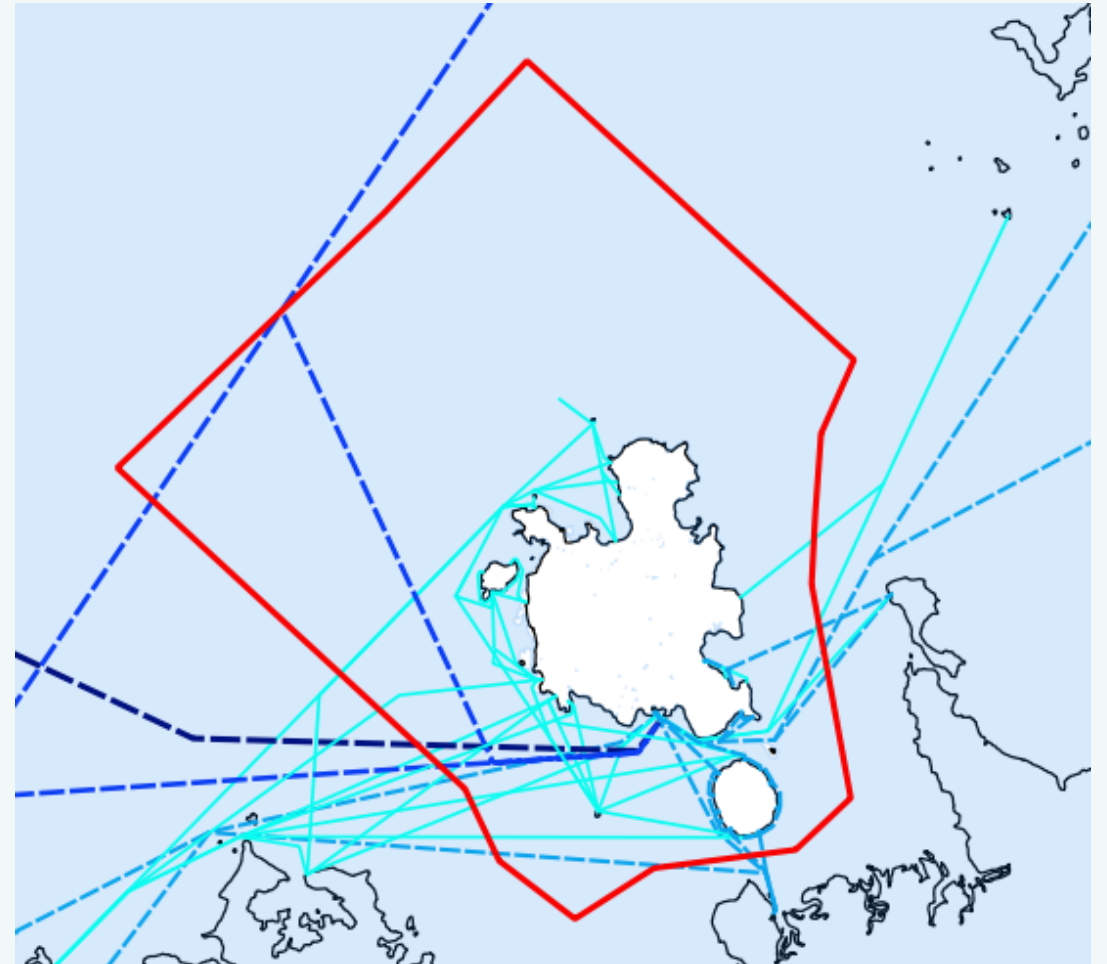
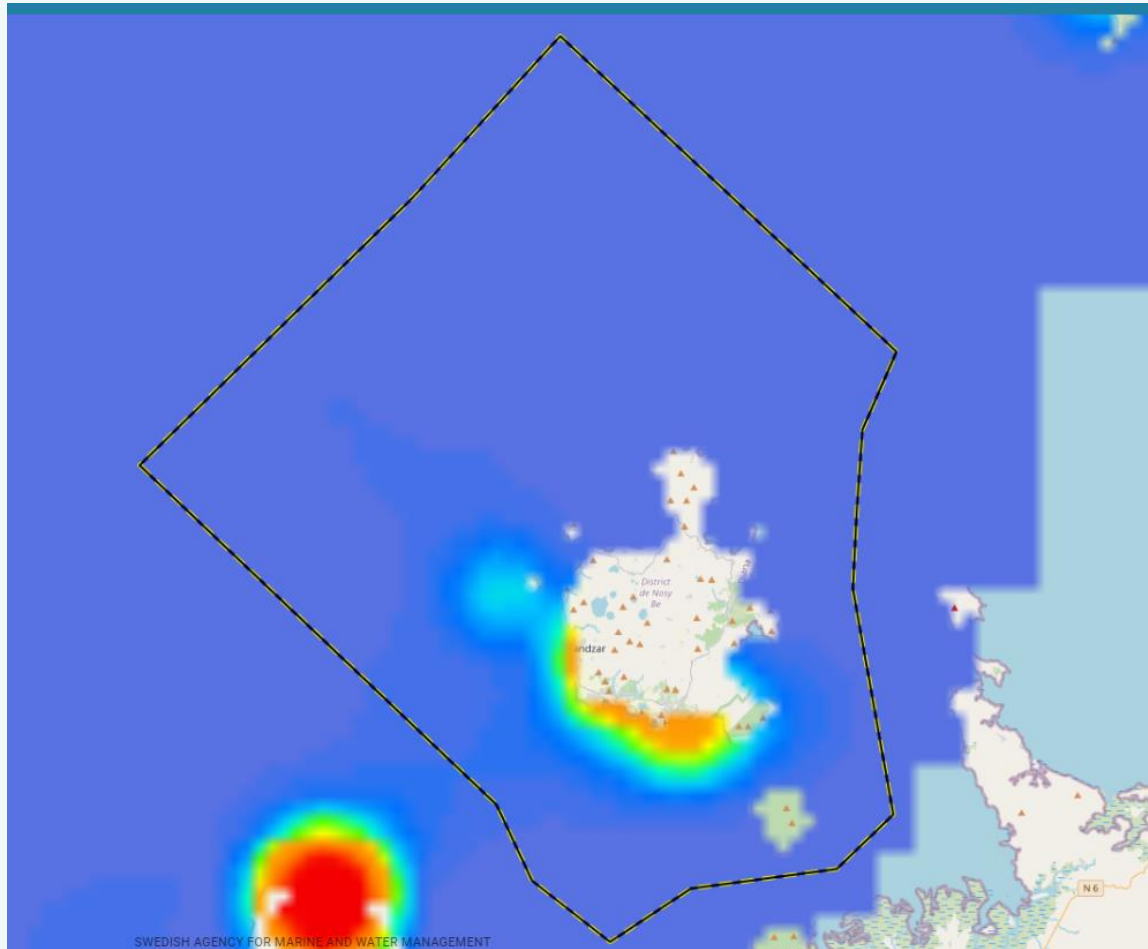
Swedish Agency
for Marine and
Water Management





Swedish Agency
for Marine and
Water Management

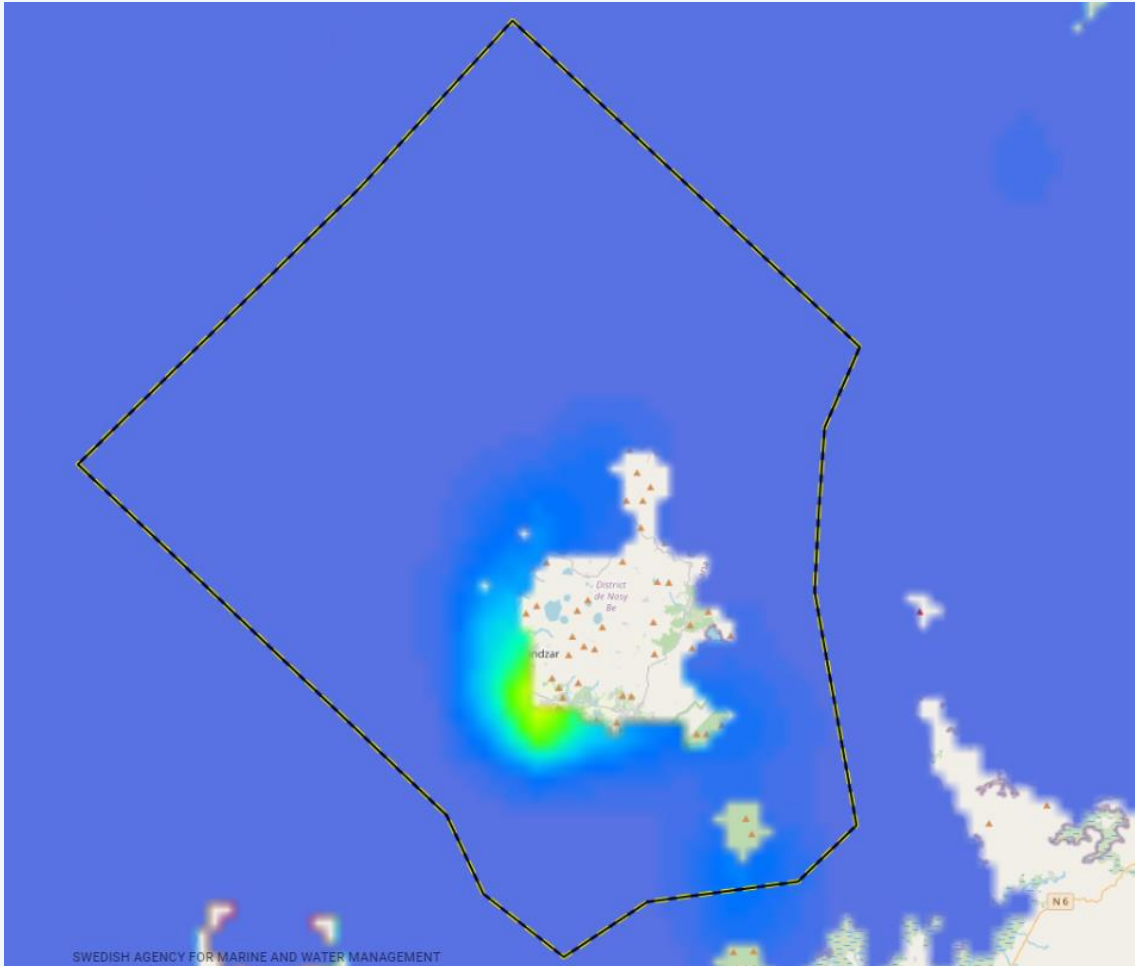
Recreational boat



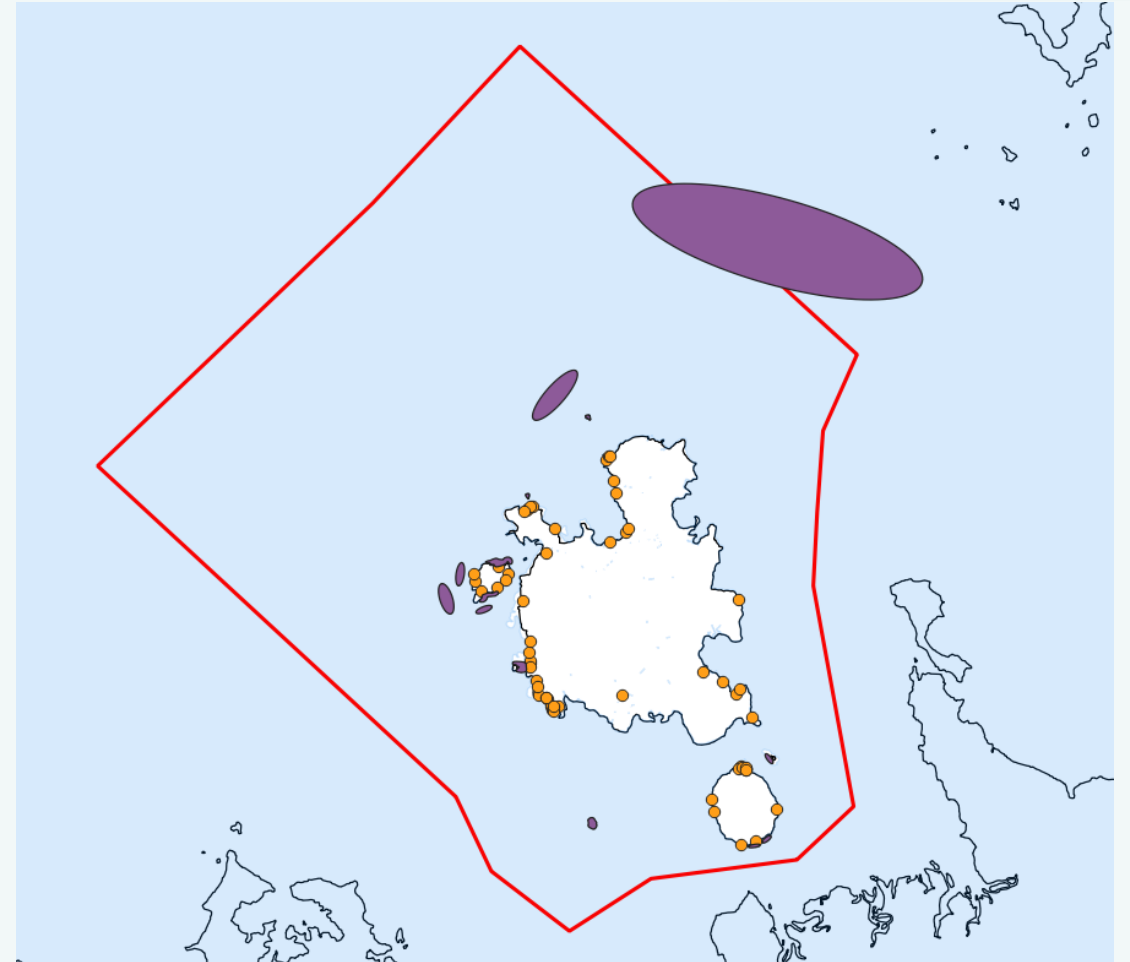
Coastal tourism



Swedish Agency
for Marine and
Water Management



SWEDISH AGENCY FOR MARINE AND WATER MANAGEMENT

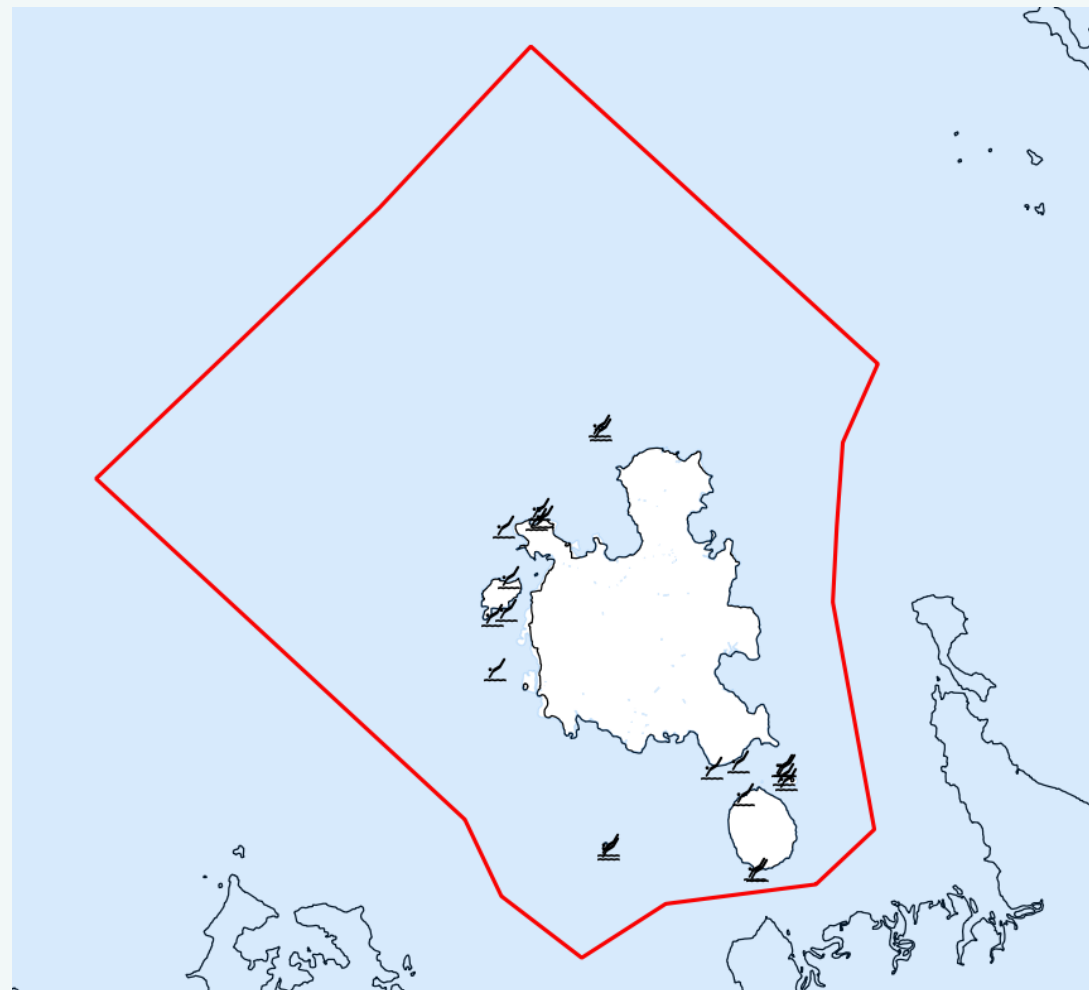
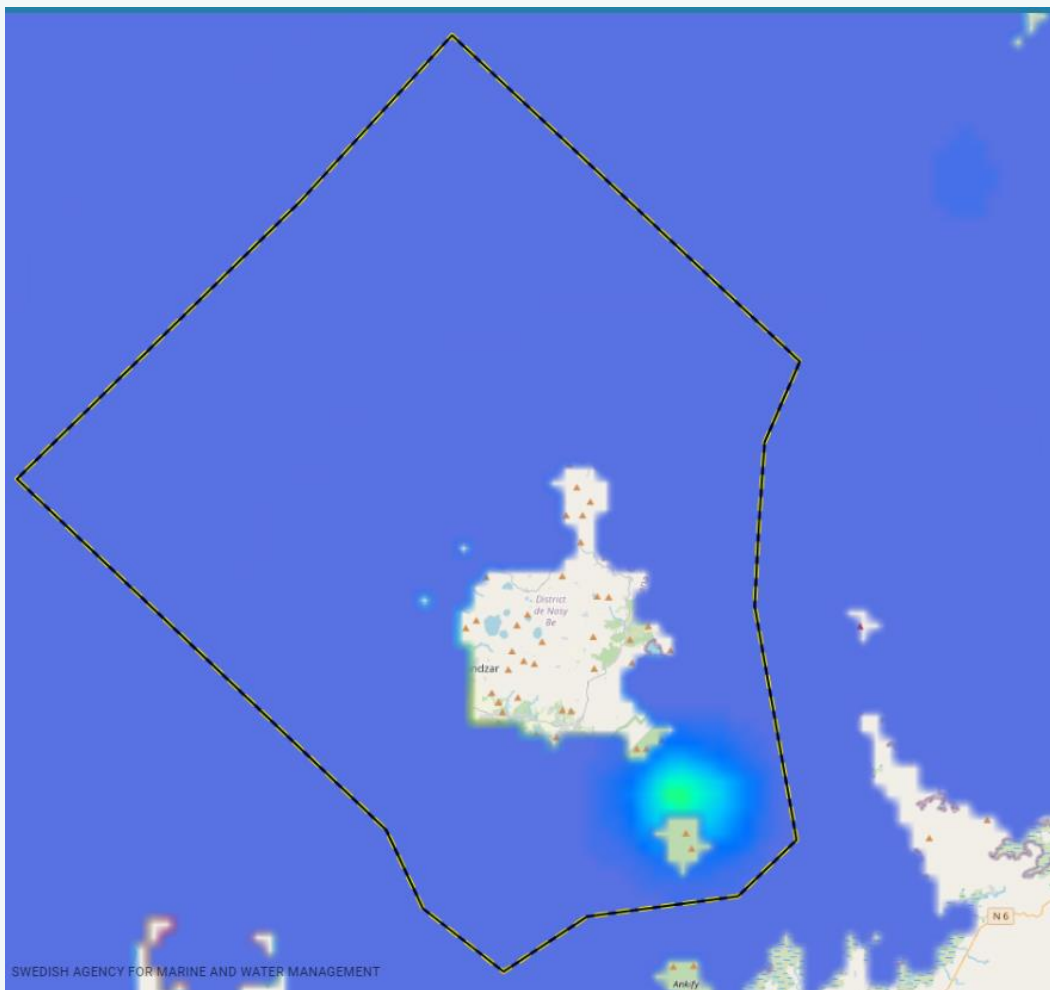


Yellow point: Hotel

Diving



Swedish Agency
for Marine and
Water Management

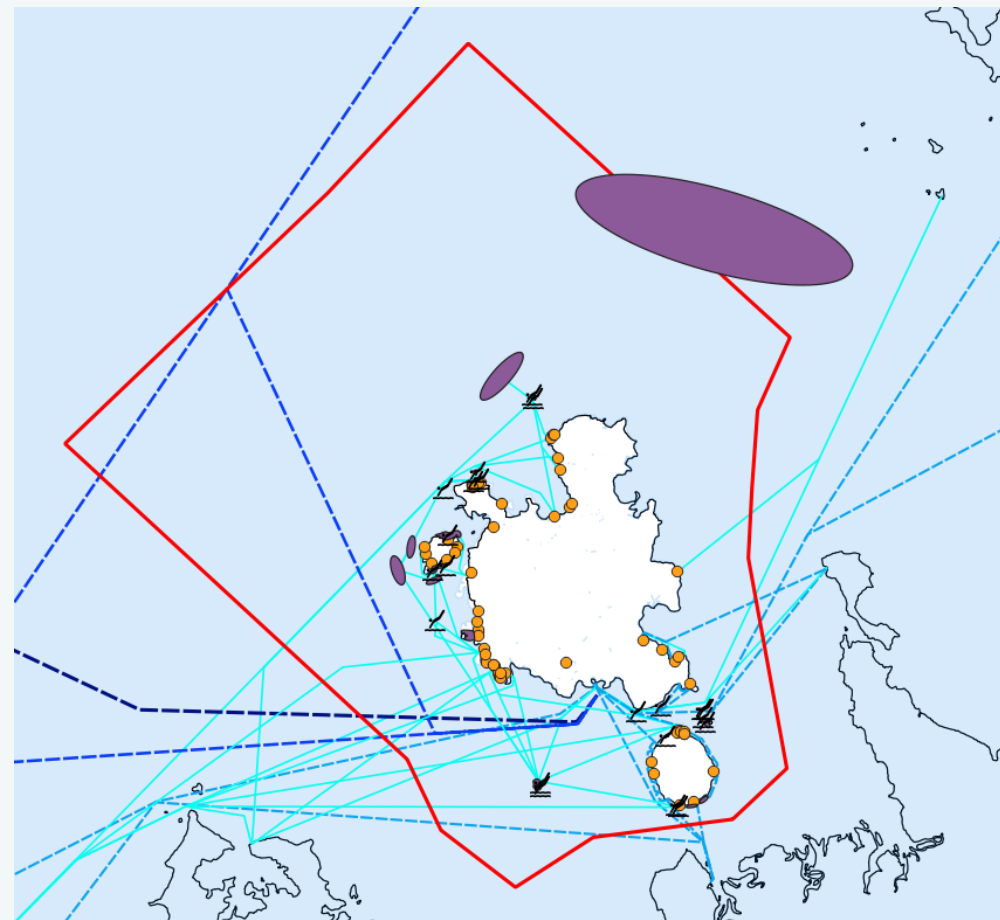
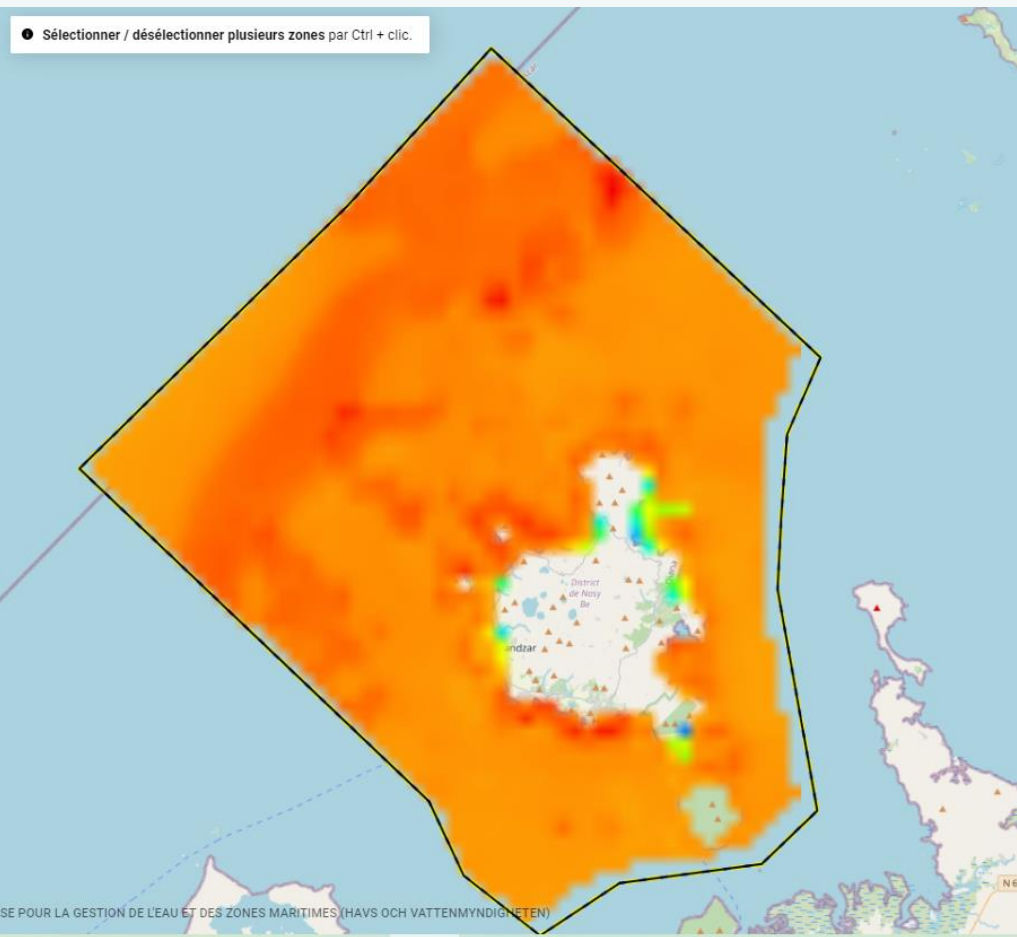
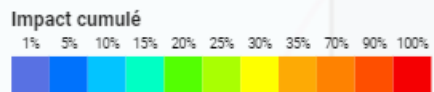


NB – Basic Scenario



Swedish Agency
for Marine and
Water Management

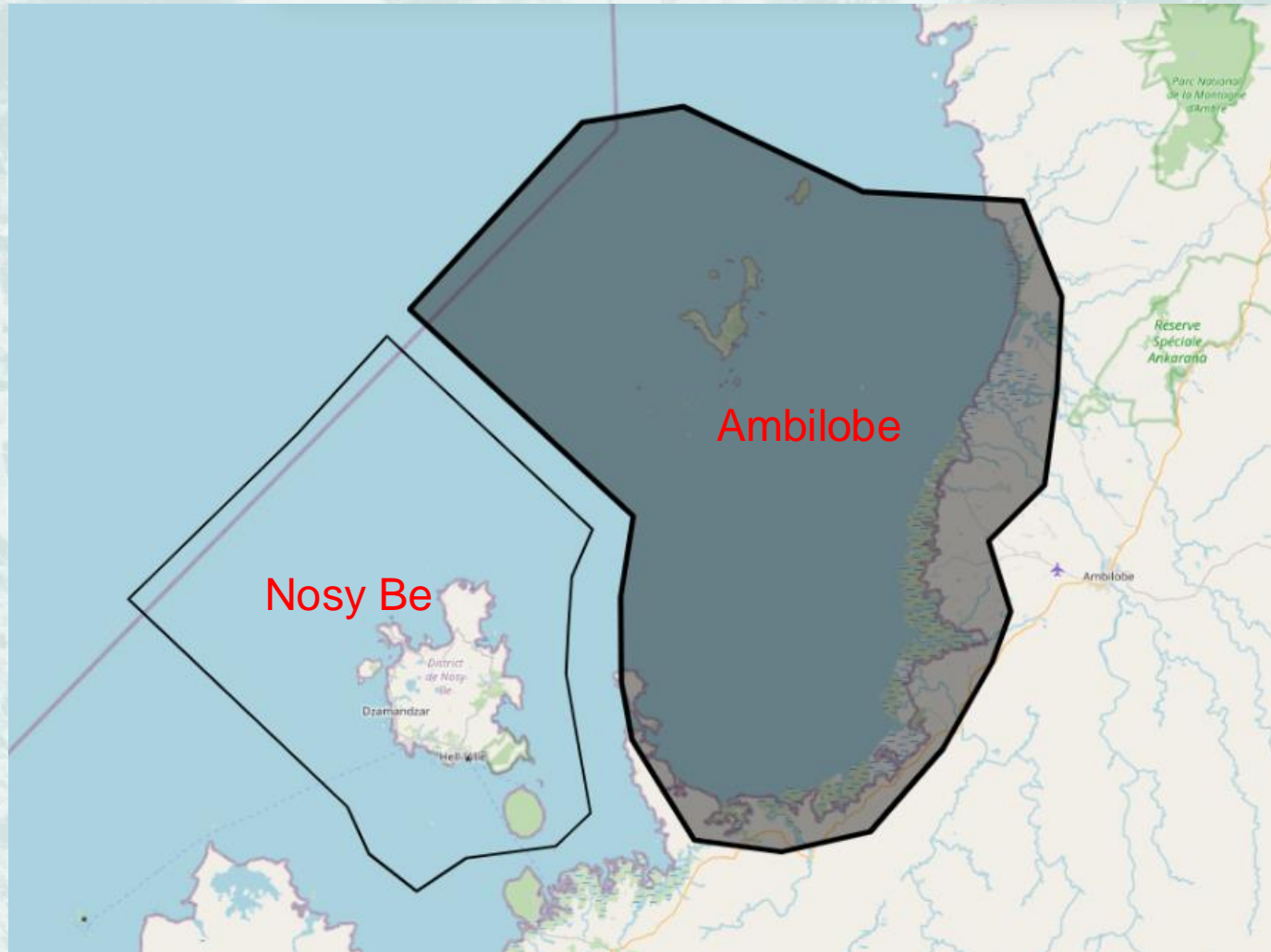
● Scénario actif
NB_Scénario_BAU Arrêter





Swedish Agency
for Marine and
Water Management

2 areas : Nosy Be and Ambilobe



Focus sector: **tourism**
(Coastal tourism, Diving,
Recreational boat)

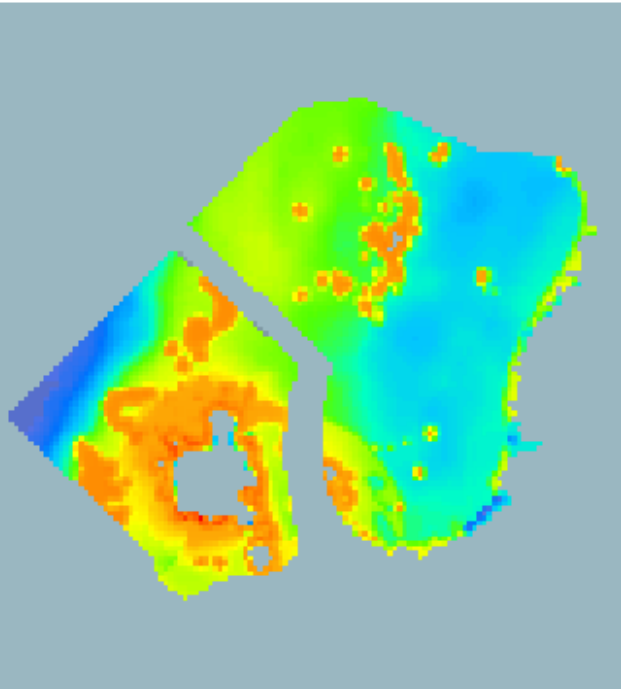
Focus on **6 ecosystem components:**
Coral reef
Mangrove
Whale shark
Demersal fish
Turtles
Seagrass



Version de référence: BASELINE2023-v2
 Algorithme: Impact cumulé
 Palette de couleurs: Valeur maximale dans la zone de calcul

Impact cumulé

Total: 44 324 669
 Moyenne: 5 805,4576
 Min.: 0
 Max.: 29 487
 Ecart type: 4 426,9168
 Surface: N/A

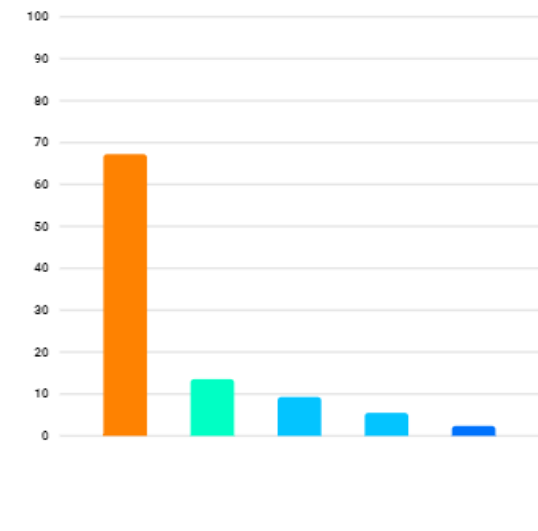
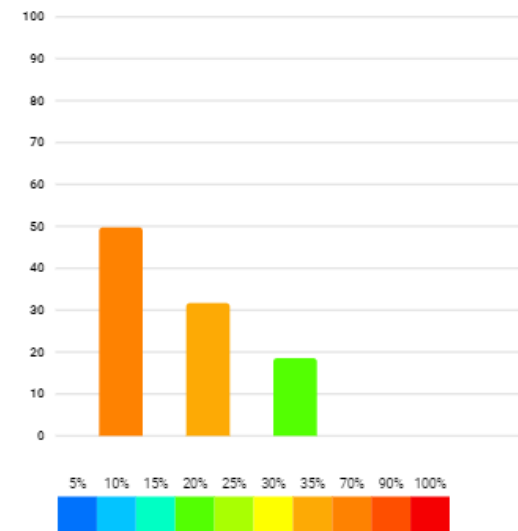


Pressions avec l'impact le plus important

Navires de plaisance	49,74%
Tourisme côtier	31,71%
Plongée	18,55%

Composante écosystèmes avec l'impact le plus important

Requins baleine	67,23%
Récif de corail	13,55%
Tortues de mer	9,28%
Herbiers marins	5,5%
Mangrove	2,38%



Nosy Be and Ambilobe (Constant 100)

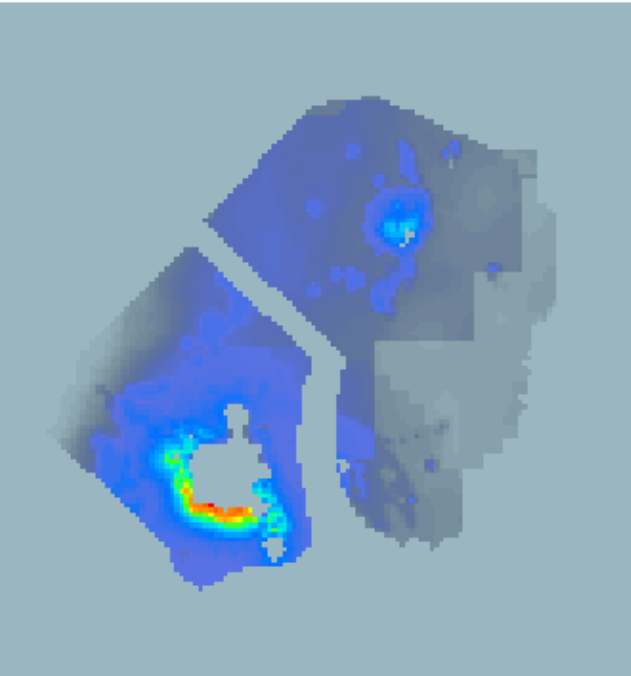


Swedish Agency for Marine and Water Management

Version de référence: BASELINE2023-v2
Algorithme: Impact cumulé
Palette de couleurs: Valeur maximale dans la zone de calcul

Impact cumulé

Total: 665868
Moyenne: 87,2126
Min.: 0
Max.: 6750
Ecart type: 296,4611
Surface: N/A



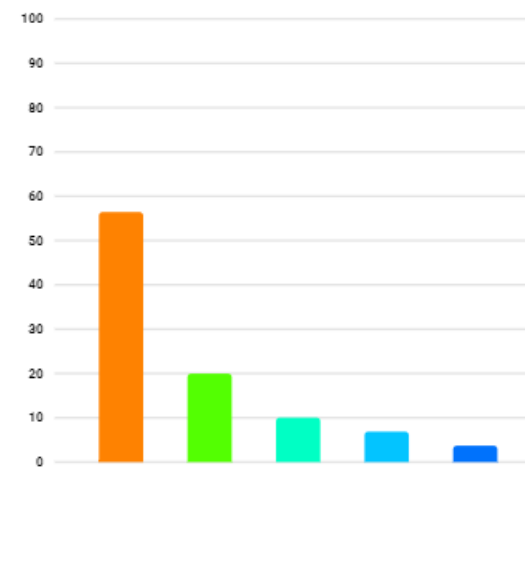
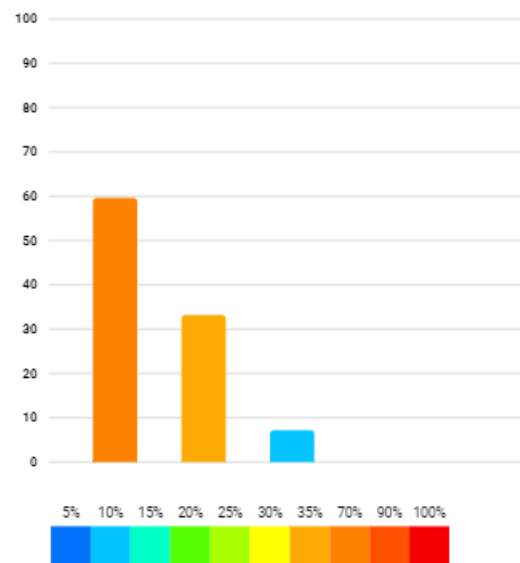
Nosy Be and Ambilobe (Baseline)

Pressions avec l'impact le plus important

Table with 2 columns: Pressure type and percentage. Includes Navires de plaisance (59,62%), Tourisme côtier (33,2%), and Plongée (7,18%).

Composante écosystèmes avec l'impact le plus important

Table with 2 columns: Ecosystem component and percentage. Includes Requins baleine (56,43%), Récif de corail (19,97%), Herbiers marins (10,03%), Tortues de mer (6,87%), and Mangrove (3,7%).



Scenario



Swedish Agency
for Marine and
Water Management

Version de référence : BASELINE2023-v2
 Algorithme: Impact cumulé
 Palette de couleurs: Valeur maximale dans la zone de calcul

Impact cumulé

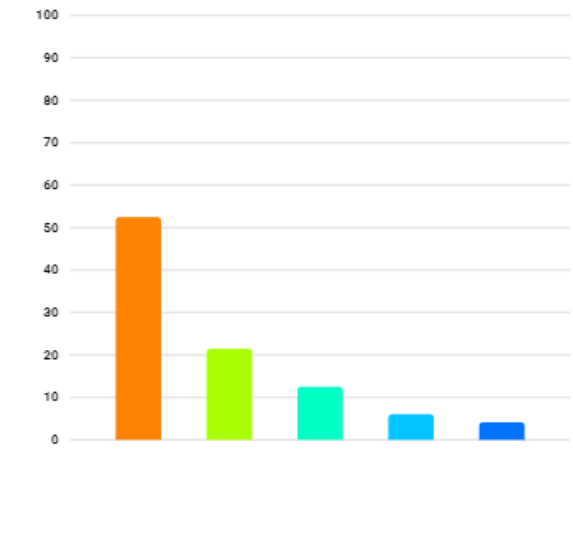
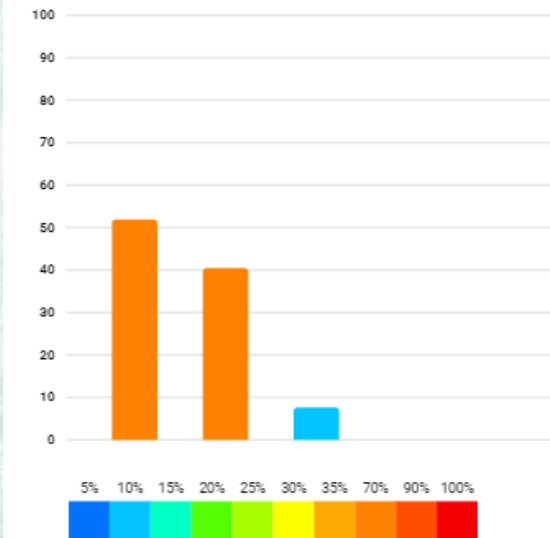
Total: 677 725
 Moyenne: 88 7656
 Min.: 0
 Max.: 8 326
 Type de carte électronique : 369 5436
 Surface: N/A

Pressions avec l'impact le plus important

Navires de plaisance	51,9%
Tourisme côtier	40,47%
Plongée	7,63%

Composante écosystèmes avec l'impact le plus important

Requins baleine	52,48%
Récif de corail	21,44%
Herbiers marins	12,5%
Tortues de mer	6,03%
Mangrove	4,14%



Nosy Be and Ambilobe (Change)

MODIFICATIONS SPÉCIFIQUES À LA ZONE

vf_zone_etude

Navires de plaisance	Variation de -25%
Tourisme côtier	Variation de +15%
Plongée	Variation de +10%

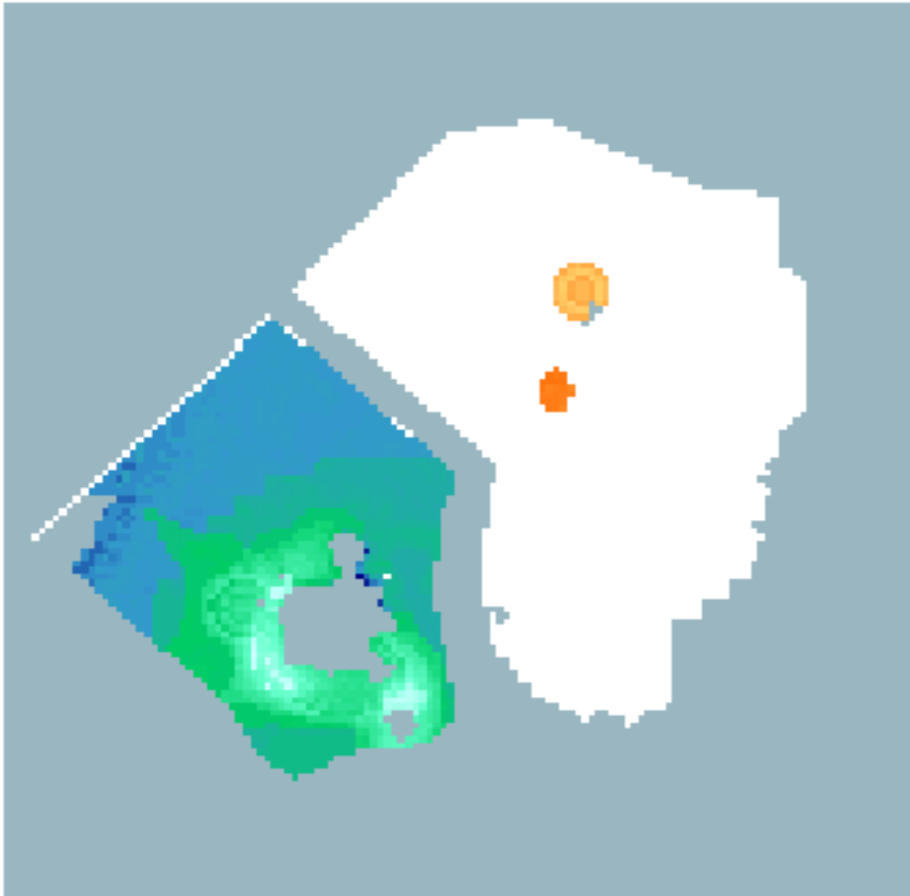
AMBILOBE

Navires de plaisance	Variation de +20%
Tourisme côtier	Variation de +50%
Plongée	Variation de +30%

RESULT: Baseline vs Scenario



Swedish Agency
for Marine and
Water Management

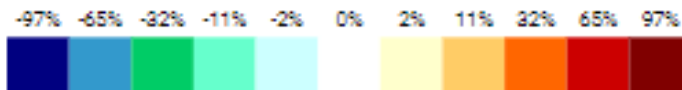


Version de référence: BASELINE2023-v2

Algorithme: Impact cumulé

Impact cumulé

	Baseline Comb (2)	Change Comb (1)	Changement relatif
Total:	665 868	545 123	-18,13%
Moyenne:	87,2126	71,3979	-18,13%
Min.:	0	0	0%
Max.:	6 750	5 364	-20,53%
Ecart type:	296,4611	245,9317	-17,04%
Surface:	N/A		





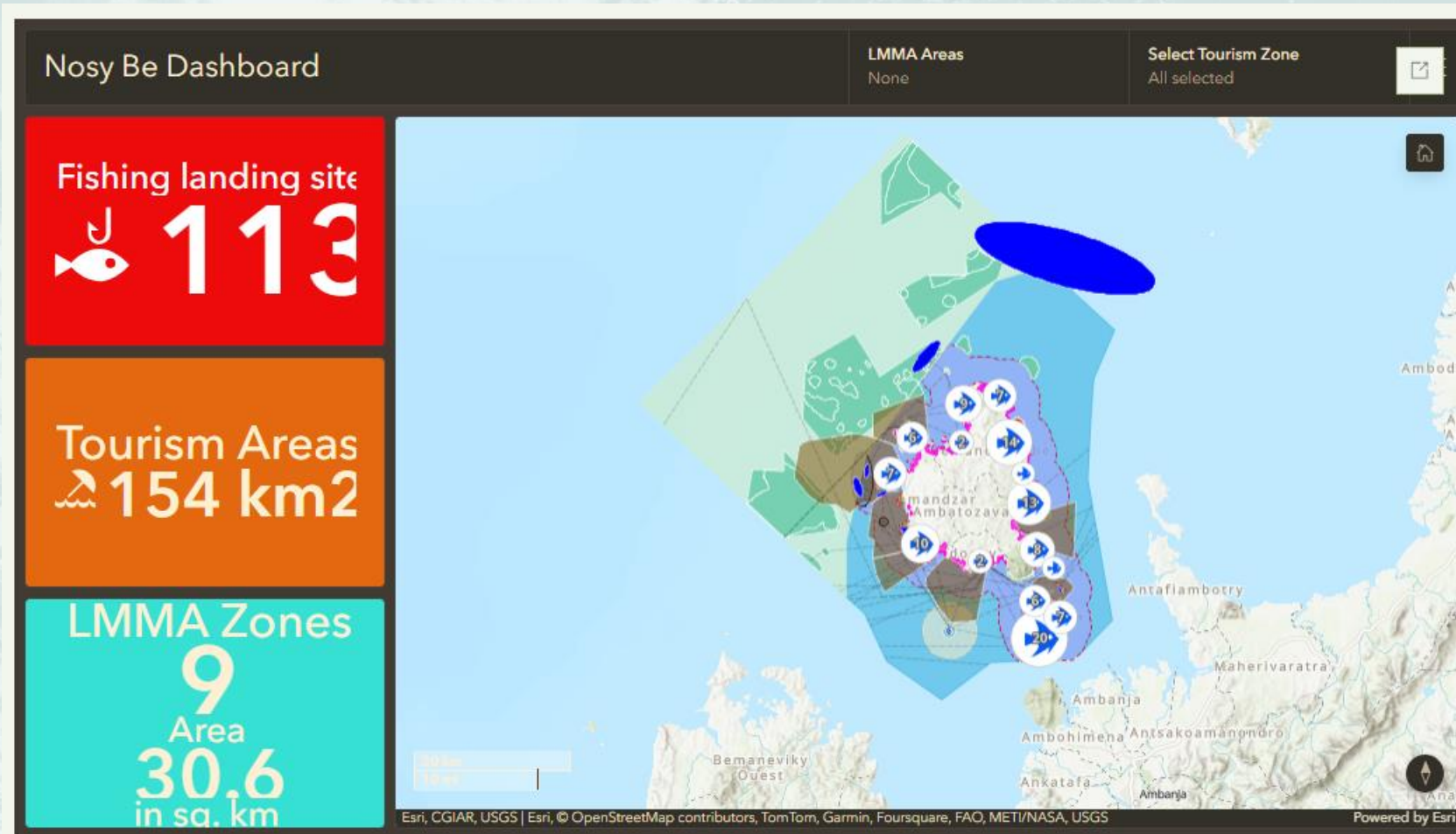
Swedish Agency
for Marine and
Water Management

ARC GIS online

DASHBOARD



Swedish Agency
for Marine and
Water Management



Story map



Browser tabs: Untitled map, Nosy Be MSP

URL: <https://storymaps.arcgis.com/stories/aa2ba20400d14cb89a96c66adbae45f6>

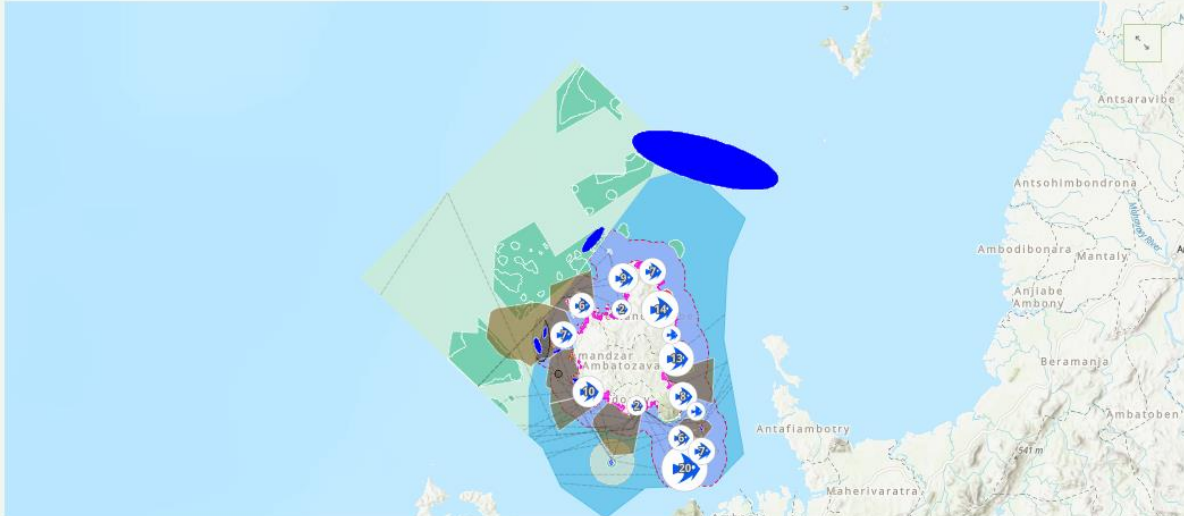
Page Title: Nosy Be MSP

Navigation: [Introduction: Nosy Be webmap](#) | [Monitoring dashboard](#) | [Baseline](#) | [ASSUMPTION MADE](#) | [IMPACT](#) | [Proposal zoning for MSP](#)

Introduction: Nosy Be webmap

A Comprehensive Tool for Local Marine Spatial Planning:

The Nosy-Be Web Map is an interactive platform designed to support sustainable development and marine spatial planning on Nosy-Be, integrating essential data across tourism, fisheries, conservation, and transportation. Through detailed geographic layers, users can explore marine protected areas, fishing zones, biodiversity hotspots, and transportation routes, while identifying potential eco-tourism sites and areas facing environmental challenges. This tool serves as a vital resource for decision-makers, researchers, and local communities, promoting informed planning and a balanced approach to economic growth and environmental conservation, guiding sustainable development efforts on the island.





Swedish Agency
for Marine and
Water Management

Misaotra

