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Contributions of the integrated coastal zone management protocol of the Western Indian Ocean to protect coral reefs (2023 ICZM protocol of the Nairobi Convention)

Florence Galletti

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HAL Authorization

Regional thematic school on the Vulnerability of Reef heritage

DIDEM program

CONTRIBUTIONS OF THE INTEGRATED COASTAL ZONE MANAGEMENT PROTOCOL OF THE WESTERN INDIAN OCEAN TO PROTECT CORAL REEFS (2023 ICZM PROTOCOL TO THE NAIROBI CONVENTION)

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June 10, 2024 – Blue Economy Research University of Seychelles



UNIVERSITY OF
SEYCHELLES
Knowledge hub of the Indian Ocean



1. To whom do the Nairobi protocols apply? (slide 4)

- 1.1. **Differences** & Similarities : 10 “reef” maritime States engaged in MSP including Coral reefs
- 1.2. **Similarities** between 10 “reef” maritime States
- 1.3. Where the Reef Marine Environmental Heritage is **located**?
- 1.4. Scope of the Nairobi ICZM Protocol

2. Integrated Coastal Zone Management, binding or not binding ? (slide 12)

- 2.1 - Rules & instruments produced
- 2.2 - Approaching in 2024 (August)...

3. Reef Law, Assessment? (slide 17)

- 3.1. Binding reefs Law and rules... (assessment)
- 3.2. Integrated Coastal Management, what do you mean for reefs ?

4 . Marine Integrated Management, what it would be useful ... (slide 22)

- 4.1. Going further the MPAS favorite action on matter of ecologic (slide 23)
- 4.2. Incorporating other relevant aspects in ICMZ Law

5. More in detailed: incorporating relevant aspects in ICMZ Law ? (slide 24)

- 5.1 Incorporating depth in ICMZ Law...
- 5.2. Incorporating Marine connectivity dimension's in ICMZ Law...
- 5.3. Incorporating FADS Issues in ICZM Law?
- 5.4 Legislative, regulatory & judicial support

6. Main barriers and hope for integrated coastal management zone exercise ? (slide 43)

7. Not to conclude, What is matter for blue justice? (slide 45)

Introduction: type of work presented here...

Some WIO country are surrounded by coral reefs
in others the corral cover is less present

How to frame the issue from a legal standpoint?

- Views of a non-national lawyer, on coral reef law issues, on MSP processes, in 9 WIO countries of which he is not a national
- Comparative Materials : from the PADDLE Project (2019-2023 brazil cases) and from the IRD DIDEM Project in the Western Indian Ocean (2021-2024), 7 countries involved (Nairobi convention context)
- Aims: to familiarize people with the subject and open up discussion towards “blue justice”)...



FONDS FRANÇAIS POUR
L'ENVIRONNEMENT MONDIAL

DIDEM

Dialogue Science-Decision Makers
for Integrated Management of Coastal and Marine Environment

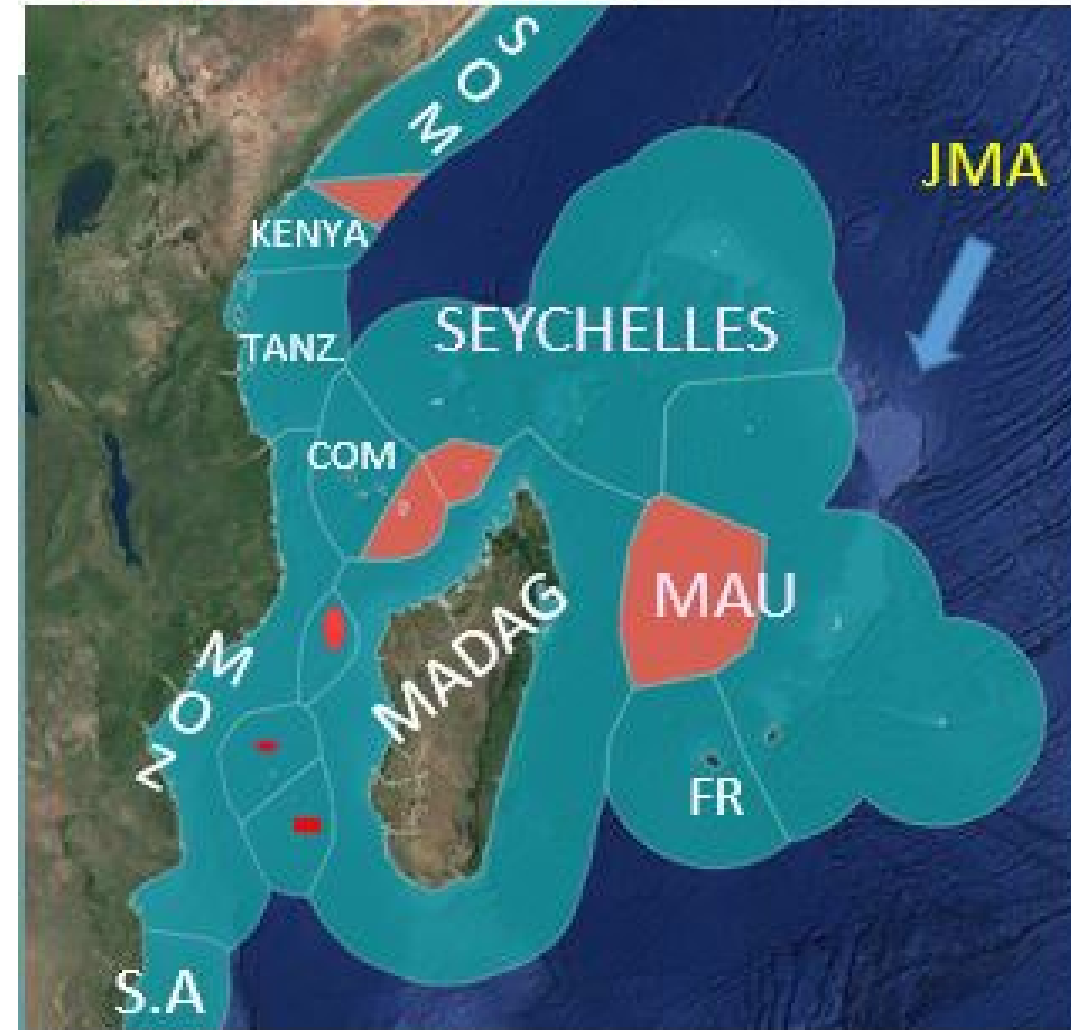
Component : High Seas, Remote and/or Deep Seabed [HS/RS/DS] & ABNJ

1- To whom do the Nairobi protocols apply?



(10 States...& Law State)

Sources :2024 adapted from Google Earth et Flanders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marineregions.org>



1 – Differences & Similarities :10 “reef” maritime States (& more tropical States) engaged in MSP including *Coral reefs*

1.1. Differences...

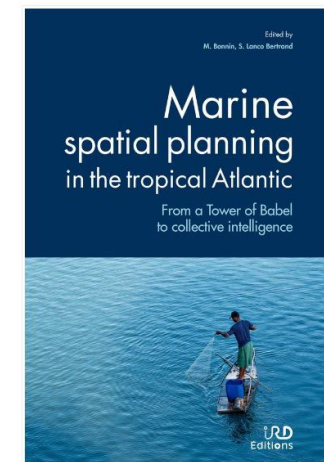
Structural Differences for actions

- unitary States, Continental State (mainland State), Small Island Developing States (SIDS), Archipelagic State status (Seychelles), Federal State (Brazil, India, Tanzania...)
- Ratio* of Land area to Projected sea area...
- No similar dependence and vulnerability to the ocean...

Different approach to taking action with MSP 2012-2024...

- **Brazil** started Planning RATHER WITH THE LAND & THE COASTAL ZONE...
- **Mauritius & Seychelles** primarily involved in maritime areas, **REMOTE FROM THE COASTLINE...**
- Some States convinced of the fact that **Blue Economy is integral** to the sustainable development goals & to ocean protection targets...

Marine spatial planning in the Tropical Atlantic, see for Brazil Katuscia Da Silva Leite Noury & Florence Galletti, 2023, Chapter 7, IRD editions, 2023



1.2- Similarities between 10 “reef” maritime States

– engaged in ...

- ❑ **A Same legal support:** given to States by [International Law of the Sea](#) (delineation of maritime areas methods & shared designations for areas [where marine reef heritage is located...](#))
- ❑ **A shared regional legal framework:** *The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean Region* (as amended in 2010), together with its Protocols...
- ❑ **A shared concern:** [size](#) of the national [maritime territory](#) likely to host MSP... (see below) and points for [seaward side](#) and [nearward side](#)
- ❑ **Centralised institutions Mobilization at the highest level** (CIRM Brazil, Prime Min.Office Mauritius, administrative heads of Ministries, Seychelles future ocean Agency etc.)
- ❑ **A common occurrence:**
Late appearance of **explicit references** to MSPs in legislative texts (“Acts”)
but: marine plans dividing up activities at Sea are being proposed to the authorities and to stakeholders

same remark for “corals”

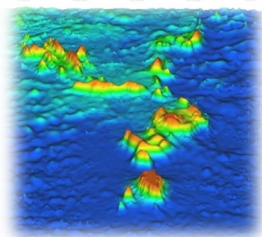
WHERE ARE « THE REEFS ACTS » ?

WHERE is this Marine REEF Heritage located?

In order not to get lost in a lot of definitions and nuances of this “Heritage” concept, it is wise to use legal and recognized definitions of maritime areas to deal it

RMH can be usefully refined and better circumscribed by the ecological sciences and geography

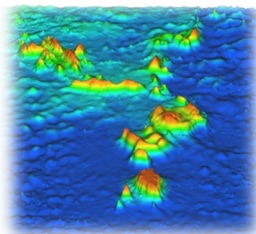
(INTERNATIONAL) REEF REMOTE MARINE HERITAGE?



350 nm (eventually)

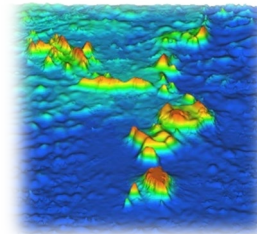


(NATIONAL) REEF REMOTE MARINE HERITAGE?



200 nm

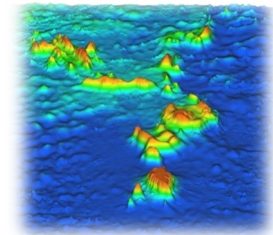
(NATIONAL) REEF REMOTE MARINE HERITAGE?



12 nm

Territorial sea of State

(NATIONAL) REEF COASTAL MARINE HERITAGE



0 nm

Coastline (base line)

internal waters

l a n d



Scope of the Nairobi ICZM Protocol

Wide geographic coverage :

(all national waters and the national CS up to 200 NM finally)

Size of the national **maritime territory** likely to host MSP or Int.Coast. Zon. Manag...

ARTICLE 2

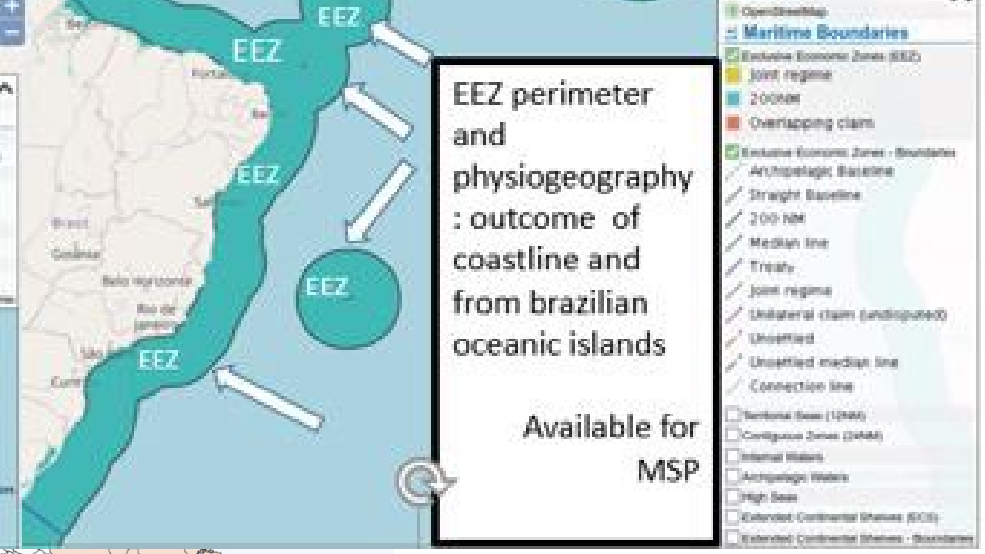
Geographical Coverage of the Protocol

For national **near (reefs) areas?**

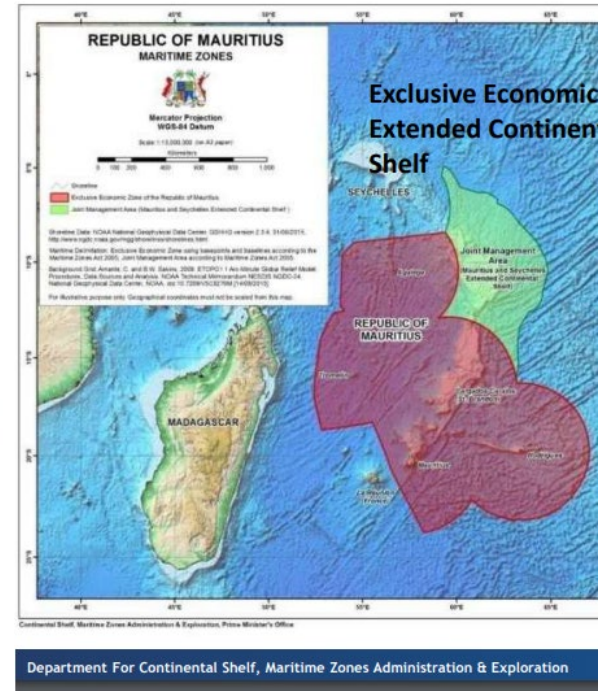
For national **remote (reefs) areas ?**

1. The geographical coverage of the Protocol shall be:
 - (a) the landward limit of the coastal zone as defined by each Contracting Party; and
 - (b) the seaward limit of the coastal zone extending to the outer limits of the exclusive economic zone and continental shelf as recognized by international law.
2. Notwithstanding paragraph 1(b), a Contracting Party may define its seaward limit to an extent that is less than the outer limit of its exclusive economic zone.
3. Each Contracting Party shall notify the other Contracting Parties through the Organization of the extent of the land and seaward limits.

NB: CS means « Continental shelf »



BRAZIL



Source: Map section, EEZ Republic of Mauritius, CZMEA, 26 O2020

Ratios land area/ (national) Sea area for ICZM ?

*Examples...
MEANS NEEDED? ...*

(EEZ) of 3,5 million sq. km
 (CS) of 963 000 sq.km
 EEZ+CS= 4.451.766 sq. km
 EEZ+CS+ Terr. Sea = 4.476 000 sq. km
 Land: **8,5 million sq.km**
 Population: 216,618,346
 Coastal zone: less than 4.1% of the national land territory

MAURITIUS
 (EEZ) of **2,3 millions sq. km**
 Zone JMA: 400.000 sq.km
 Land: **2040 sq.km**
 Population:
 1.291 230 inhabitants
 mainly concentrated on 2 islands

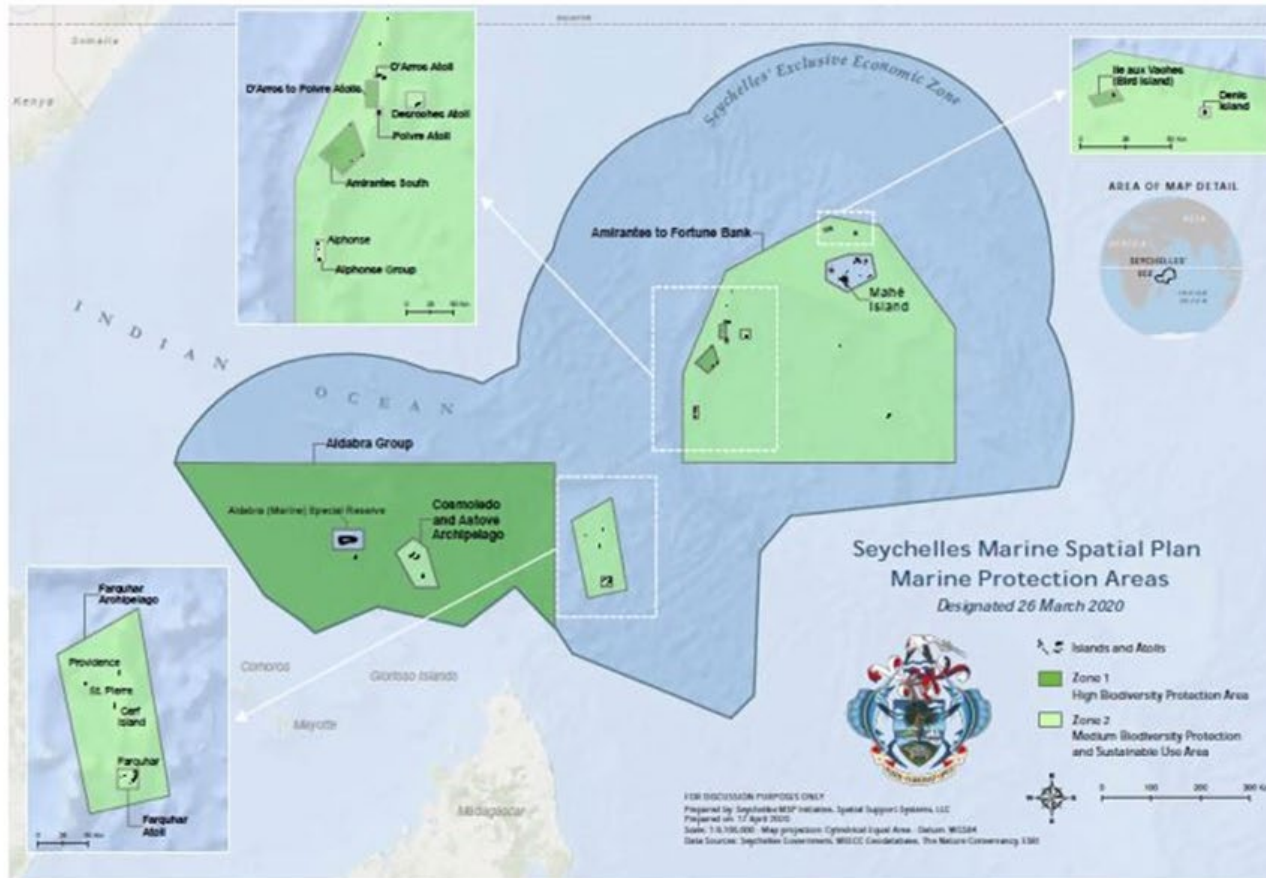
SEYCHELLES
 (EEZ) of **1.37 million sq.km**
 Zone JMA: 400.000 sq.km
 Land: **455 sq.km**
 (amongst 115 Islands)
 Population : 94,000 inhabitants
 mainly concentrated on 3 islands,
 Mahé, Praslin, La Digue

For near and remote areas

E.G. : **Seychelles Case: Seychelles Marine Spatial Plan (SMSP)**

On going in 2023-2024...

Goal 1: Achieved in March 2020



5 Marine National Parks
8 Sustainable Use Areas
Total: 13 Areas

Zone 1: 203,071 km²
Zone 2: 238,442 km²

Legally designated under Nature Reserves Conservancy Act (NRC)

a government-led process
Lead: The **Ministry for Agriculture, Climate Change and Environment (MACCE)**, co chair: : The **Ministry for Fisheries & Blue Economy (MFBE)**

➤ Project management & development of the marine spatial plan: **The Nature Conservancy (TNC)**

The Seychelles Conservation and Climate Adaptation Trust (**SeyCCAT**): established from the \$21.6M debt conversion, supports the SMSP, as well as other marine conservation activities

On 2022, the National Assembly approved **The Nature Reserves and Conservancy (NRC) Act** (areas will be re-designated if need be)

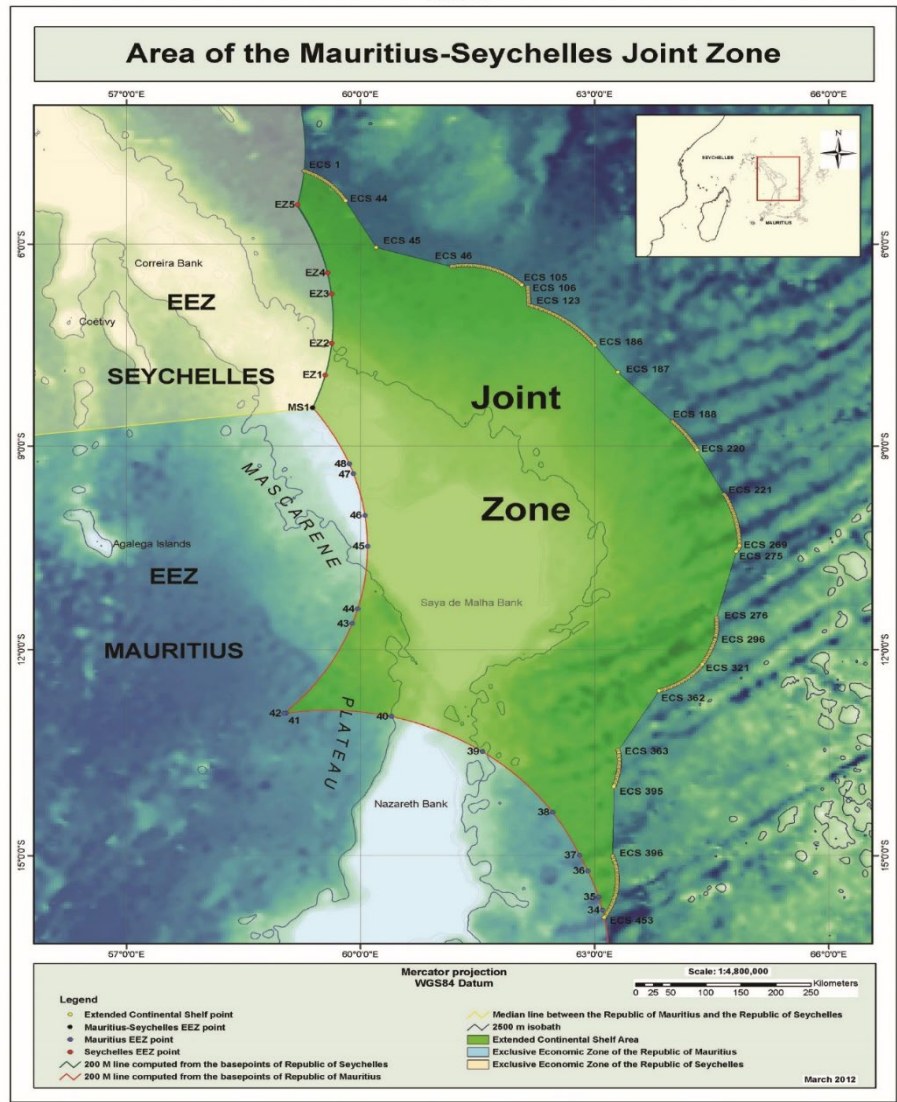
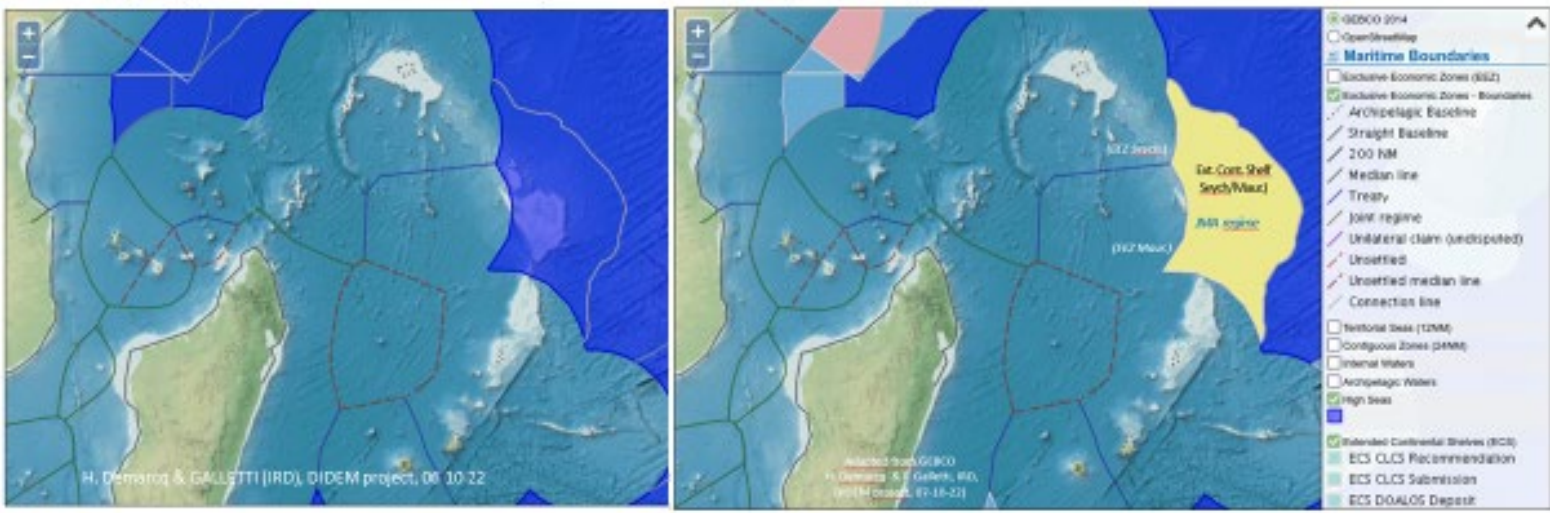
in 2023, Drafting of the MSP Plan is underway (with Mauritius, for JMA)

Size of the national maritime territory likely to host MSP or ICMZ

For remote (reefs) areas ?...

E.G.: **Mauritius & Seychelles case**: involved on the JMA on their continental shelf, remote from the coastline

Limits of the Joint Zone between Mauritius and Seychelles as contained in the *Treaty concerning the joint exercise of sovereign rights over the continental shelf in the Mascarene plateau region* of 13 March 2012



Map showing the coordinates of the fixed points delineating the Mauritius-Seychelles Joint Zone.

For their *continental shelf*, **Seychelles & Mauritius** acted together.

On 9 July 2012, Mauritius & the Seychelles deposited, pursuant to article 84, paragraph 2 (UNCLOS), a list of geographical coordinates of points defining the limits of the **Joint Zone between Mauritius and Seychelles** as contained in the **Treaty concerning the joint exercise of sovereign rights over the continental shelf in the Mascarene plateau region** of 13 March 2012



2 - Integrated Coastal Zone Management, binding or not binding ?

2.1 - Rules & instruments produced:

Decisions of the CoP, publications, Clearing house mechanism CRH, projects hosted...

a CoP or a Regional body “**decision**” is **binding** for signatory States & cooperating parties
a “**resolution**” of an RFMO is **not binding**,
a “resolution” of the united nations: not binding...

Nairobi Convention & **Protocols, entered into force, are binding, if not...**

2.2 - Approaching 2024...

- **THE PROTOCOL CONCERNING PROTECTED AREAS AND WILD FAUNA AND FLORA IN THE EASTERN AFRICAN REGION (A REVISED PROTOCOL)**
- **THE INTEGRATED COASTAL ZONE MANAGEMENT PROTOCOL FOR THE WESTERN INDIAN OCEAN PROTOCOL (new) WAS ADOPTED IN SEPTEMBER 2023 AND IS AWAITING RATIFICATION BY CONTRACTING PARTIES TO ENTER INTO FORCE**

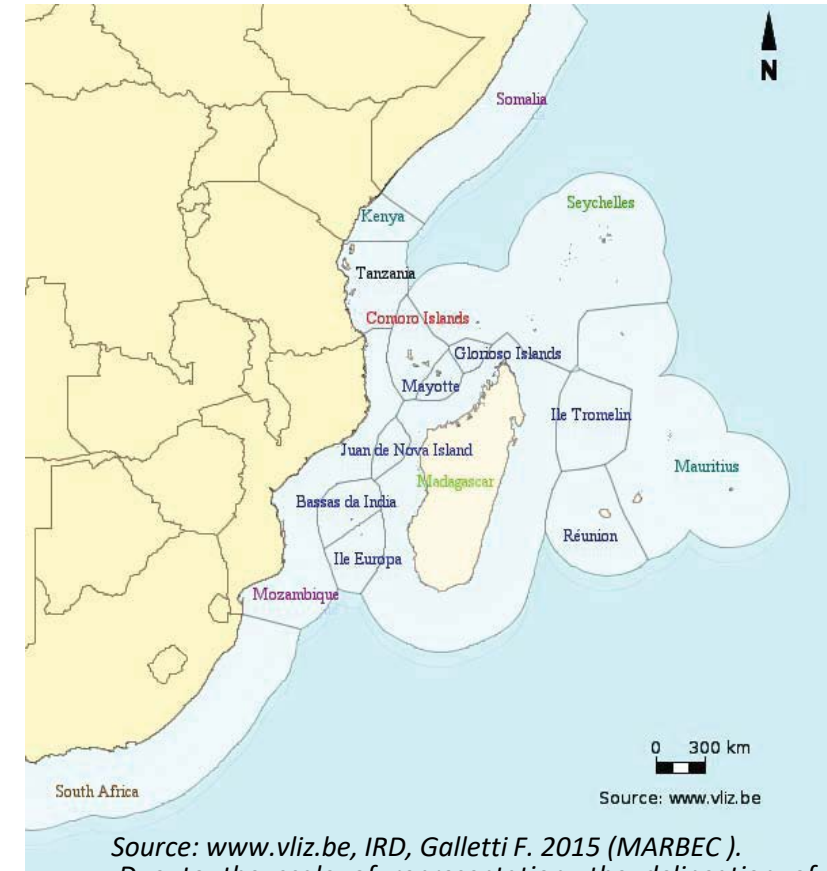
REGIONAL CONTEXT:

« *Nairobi convention for the Protection, Management, and Development of the Coastal and Marine Environment of the Eastern Africa region*” (Nairobi Convention, UNEP)

10 signatory countries: Comoros, Kenya, France, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, and Tanzania

*The **Conference of Parties (CoP)** is the decision-making forum of the Nairobi Convention where policies and strategies are agreed on to continue the protection, management, & development of the Western Indian Ocean*

Area of competence of the Nairobi convention, as amended - 2010



Source: www.vliz.be, IRD, Galletti F. 2015 (MARBEC).
Due to the scale of representation, the delineation of maritime boundaries is simplified or incomplete in some parts of the map. Not all the maritime delimitations shown are recognised by international agreements and some of them are the subject of disputes between States. This document is without prejudice to the sovereignty of States and does not prejudice support for any claim.

3.1- THE PROTOCOL CONCERNING PROTECTED AREAS AND WILD FAUNA AND FLORA IN THE EASTERN AFRICAN REGION (A REVISED PROTOCOL)

- Attempt to ensure that States **establish these reefs protections**, with **robust and respected legal forms and concrete practices**
- **Applies** to the **waters** of the East African Region **including coastal areas and internal waters** related to the marine and coastal environment (reefs...)
- Provides that contracting parties (Fr, Mad, Seych, Somalie) **shall endeavour to protect rare or fragile ecosystems as well as rare, depleted, threatened or endangered** species of wild fauna and flora and obviously their habitats

The Annex give **A list** & includes Cnidarians as **Black coral** (*Dichotoma Antipathes*) and **Whip Coral** (*Cirrhopathes sp.*), as well as Marine Mammals as **Dugong** (*Dugong dugon*), or **green turtle** (*Chelonia Mydas*) or **Molluscs**, *linked to reef locations*...

requirement to update a list that is already too old

3.2 - THE INTEGRATED COASTAL ZONE MANAGEMENT PROTOCOL FOR THE WESTERN INDIAN OCEAN

PART III: SPECIFIC INTEGRATED COASTAL ZONE MANAGEMENT ISSUES

ADOPTED IN SEPTEMBER 2023 IS AWAITING RATIFICATION BY CONTRACTING PARTIES TO ENTER INTO FORCE

General Obligations

ARTICLE 15 Conservation and Rehabilitation of Coastal Ecosystems

Practical and procedural obligations...

1. Each Contracting Party shall ensure that the conservation and sustainable use of biodiversity is integrated into integrated coastal zone management policies, strategies, plans and programmes.
2. Each Contracting Party shall ensure the maintenance or rehabilitation of transboundary and ecological corridors that connect ecosystems to allow for species migration and transportation.
3. Each Contracting Party shall, in so far as is practicable, give priority to the restoration or rehabilitation of degraded coastal ecosystems.
4. Each Contracting Party shall ensure, through policies, legislation, planning and management, the protection of aesthetic, natural, cultural, historical, social and economic values of coastal landscapes and seascapes.
5. Each Contracting Party shall take into consideration the environmental and ecological safeguards including socio-economic value of ecological services, cost of loss and ecosystem degradation prior to undertaking development activities on the coastal zone.

e.g. Meetings of the parties to **keep under review the implementation of the Protocol...**

e.g. **“ARTICLE 10 Coastal development setback lines” set by each contracting partie...**

3.2 - THE INTEGRATED COASTAL ZONE MANAGEMENT PROTOCOL FOR THE WESTERN INDIAN OCEAN

ARTICLE 10 Coastal development setback lines

1. Each Contracting Party shall establish, in accordance with national legislation, coastal development setback lines.
2. Each Contracting Party shall determine its own coastal development setback lines taking into account the:
 - (a) vulnerability of the coastal zones to natural risks and climate change impacts;
 - (b) need to protect landscapes, seascapes, ecosystems, habitats and species within the coastal zone;
 - (c) geographical constraints of specific territories, such as small islands;
 - (d) need to protect coastal infrastructure and other existing developments, private property, and public safety;
 - (e) need to secure public access to the coastal zone;
 - (f) need to preserve the cultural and aesthetic value of the coastal zones; and



4.- Reef Law and ICZM Law, Assessment? (slide 17)



4.1 - Binding reefs Law and rules... (assessment)



Let's raise legal issues

Do reefs rules exists?

The most common situation
facing the ICMZ Protocol

- The law or policy for coral reefs is non existent
- Coral reef areas have no separate legal status
- A few laws can be activated for the protection of coral reef areas such as e.g.:
 - An Environment Protection Act..
 - A Coastal Regulation Zone Notification (e.g: India...)
 - A Wildlife Act ...
 - A fisheries Act...
- Forseeable short comings in affording protection to coral reef areas

Rare opposit cases

- For certain regulated sectors

e.g.. - *A mining Reef Act*

- For certain countries

e.g. USA: ***The Coral Reef Conservation Act (CRCA) 2000 & The Restoring Resilient Reefs Act (2021)***

e.g. Australia: ***Australia's Great Barrier Reef Marine Park Acts***

...



Do reefs rules really exists ?

❑ What Does It Mean?

- ❑ A rule of law may be one of *the concrete measures* contained in a **plan or a public policy**, but this is not always the case:
- ❑ there are management plans
- ✓ without (compulsory) legal measures
- ✓ without sufficient legal measures,
- ✓ without controlled legal measures
- ✓ without legal measures with penalties (non-compliance reported to a judge who will impose penalties as a deterrent)

however, plans are always useful tools to consider

the purposed of heighten conservation efforts involves asking simple, but tough questions :

- coral reef plans and policies are known ?
- coral reef rules are known?
- coral reef exploitation rules are enforced?
- coral reef conservation rules are enforced?
- coral reef exploitation and conservation rules are reported (and to whom)?
- Limited government commitments to support coral reef monitoring can it be modified ?



Do reefs-rules not “erased”
by others rules (for example by fisheries rules)

Depending on the country, the rules governing fishing activities and zoning play a very important role ...

• Commercial fishing

- Line fisheries
- Net fisheries
- Trap fisheries
- Dive-based harvest fisheries
- Purse seine fisheries
- **Trawl fisheries**

Trawling: undoubtedly the most feared form of fishing

sweeping the seabed in inter-reefal areas and between coral reefs and the mainland coast

• Non Commercial fishing and zoning

- Recreational fishing activities
- Special management areas

All measures (e.g. quotas allocated constantly being adjusted) to avoid the stock collapse are not equivalent to giving this coral species a protected species status under environmental law

4.2 -Integrated Coastal Management, what do you mean ?



Mentioned in the ICZM Protocol :

“Integrated coastal zone management” means a dynamic and participatory process that involves all relevant stakeholders aimed at planning, managing, conserving and protecting coastal and marine ecosystems and resources, taking into account their fragility and sensitivity, interactions, the nature of uses as well as their impacts with a view to ensuring sustainable development.



DiDEM

Dialogue Science-Decision Makers
for Integrated Management of Coastal and Marine Environment

Component : High Seas, Remote and/or Deep Seabed [HS/RS/DS] & ABNJ

Integrated Coastal Management = at least...

MSP zones, including (Phase 1) :

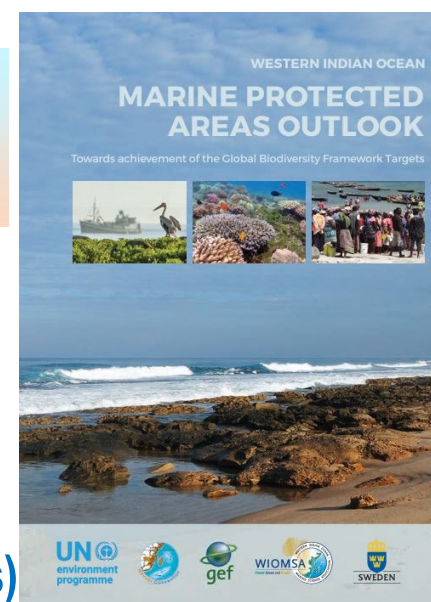
- maps
- allowable Activity Tables
- clear and temporal management considerations for them

ICZM for Reef, using legal tools (Phase 2) :

- implementing marine spatial plan using national policies and regulations
- make use of what already exists : “Environnemental Protection Acts”, “Reefs Acts” if available etc. as first option or interim
- using beyond: looking around others Coastal and Marine dedicated legislations (non environmental)
- leading entrusted to: Environment ministeries (or strongly including this department) or agriculture or blue economy ministries ? , with integration of all key Ministries

5 – Marine Integrated Management , what it would be useful

...



Going further the MPAS favorite action on matter of ecologic :

- ❑ — **legal maps** as a step forward but...(143 marine and coastal protected areas)
- ❑ — **review** the Marine Parks or others MPAs **boundaries (e.g. for connectivities issues and obligations)**
- ❑ — develop The complementary role of **other effective area-based conservation measures (OECMs)** added to MPAs

Incorporating other relevant aspects in ICMZ Law:

- ❑ — the “reef” as a **special legal asset**, with robust associated rights and strong obligations to achieve the conservation and resilience objectives
- ❑ — diversity and distribution of benthic marine species **with depth (depth dimension)**
- ❑ — the issue of **human encroachment** and **pollution from the land tenure** massively
- ❑ — the fisheries issues such as **Fisheries Aggregated Devices (FADs)** and **damages...**
- ❑ — the **carrying capacity** of the coral ecosystem & measures to reduce pressures

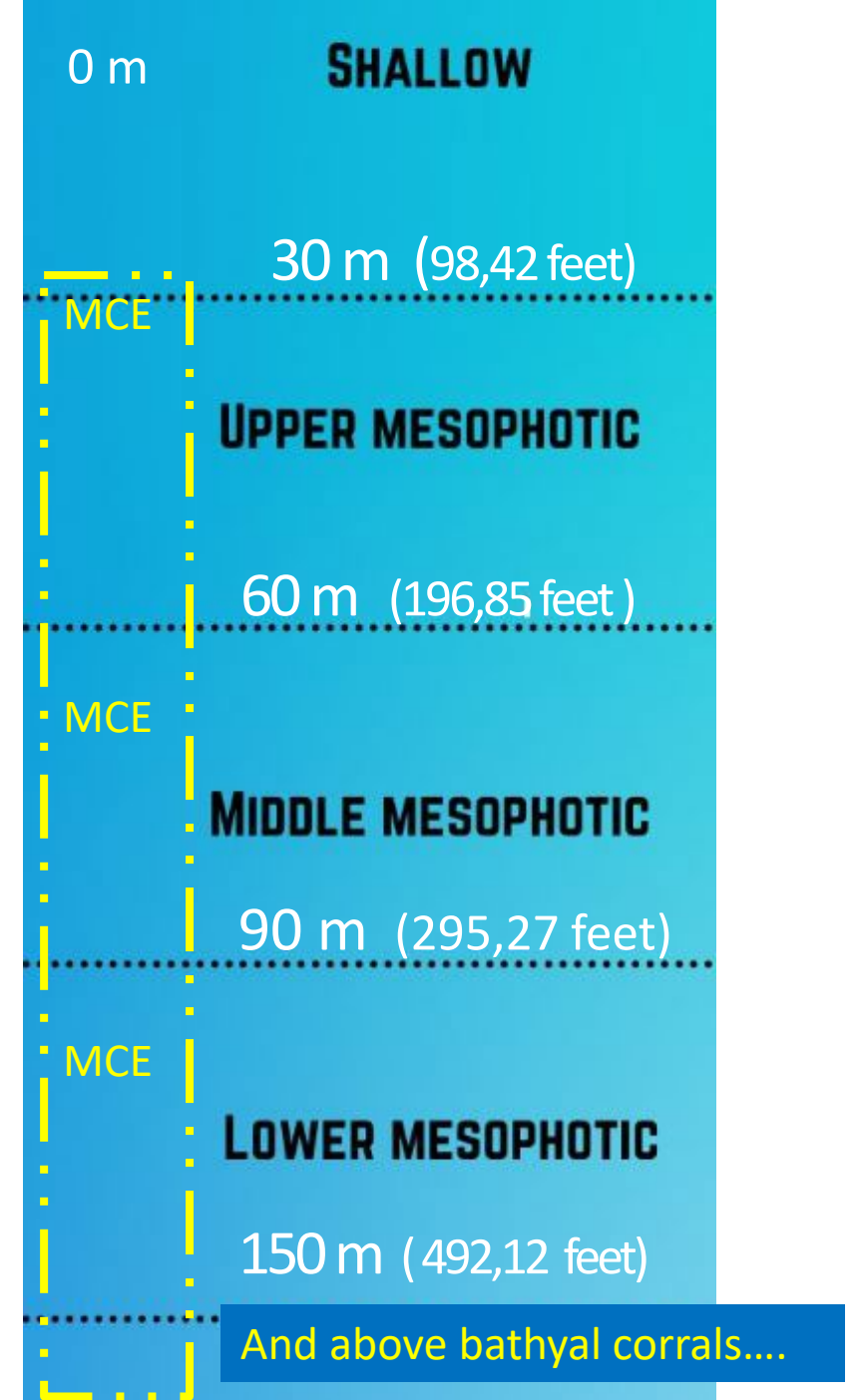
In pink color those detailed on following slides →



5 - incorporating relevant aspects in ICMZ Law ? (more in detailed)

5.1 incorporating depth in ICMZ Law...

- ❑ Considering the Coral reef landscapes diversity, with special mention of *mesophotic coral reefs (MCEs)*...
- ❑ Diversity & distribution of benthic marine species with depth : as a *Wealth national Heritage* and /or as a *Rescue* (low-temperature refuge zone, Key habitats...?)



6. 2. Incorporating Marine connectivity dimension's in ICMZ Law...

better consideration of Marine connectivity dimension's into 2024 ICZMs
more focused on coral reef conservation ?

- **Hard notion in biology...**

Marine Functional Connectivity (MFC)

Marine Structural Connectivity

- **Hard notion in physical**

(oceanic drift with the hydrodynamic currents)

Marine Functional Connectivity (MFC) characterizes : **all the flows of matter, genes and energy produced by the movements of marine organisms, both at sea and at the sea-continent interface.**

These flows define the essential response of marine species and ecosystems to global change
(I-Marco Conf, 28-31 may 2024)

Structural connectivity is:

- **the potential connectivity of organisms considering only the physical characteristics of the seascape (e.g. habitat patch size, distance among habitat patches)**
- the movement of organisms between habitat patches

WHAT MESSAGE ABOUT "MARINE CONNECTIVITY" HEARD BY A NON MARINE SCIENTIST ?

***A imprecise general key message heard:** "Maintaining Marine Functional Connectivity is vital for biodiversity and the proper functioning of the oceans, as well as for maintaining the ecosystem services they provide (food security, climate regulation, etc.)"*

A Partial Message heard:

-Marine functional connectivity describes only movement of living organisms + No one can do anything against marine current ...

Usual outcomes of this notion in terms of potential policy & law measures change:

- None...
- Number of Marine parks core to be set, distance between the Marie park Cores...
- Seabed Artificial urbanization should be limited or banned **so that it** no longer blocks (=obstructs) the paths and routes taken by marine species... **not a very complex point, but not being respected**
- Number of environmental agreements to deal with this Connectivity...

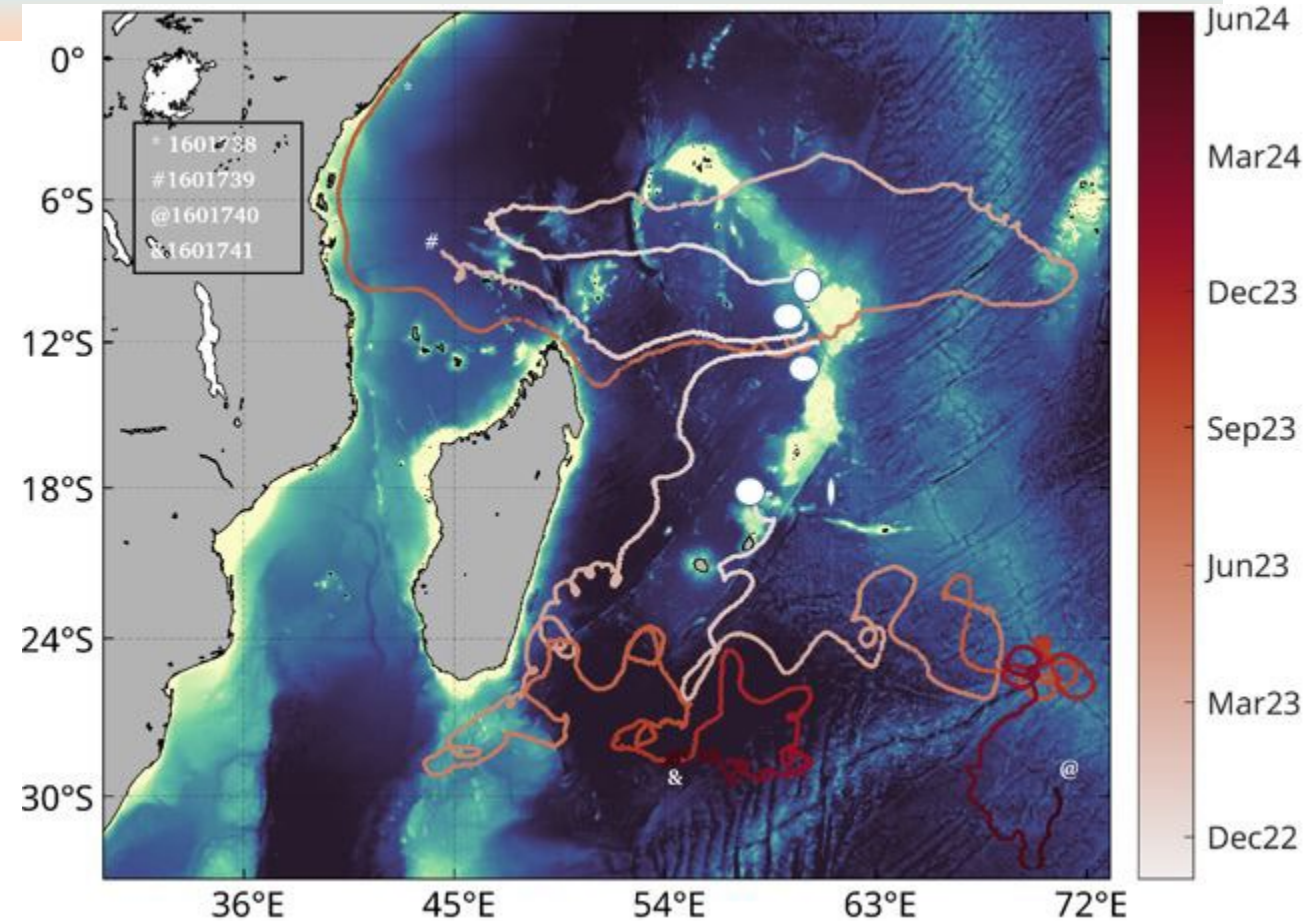
Incorporating connectivities...

a simple (not simplistic) question that could come from an administrator in a ministry for the environment, tourism or maritime fisheries?

« Could we take a closer look at where the larvae of reef species migrate to? »

« Where do things go? »

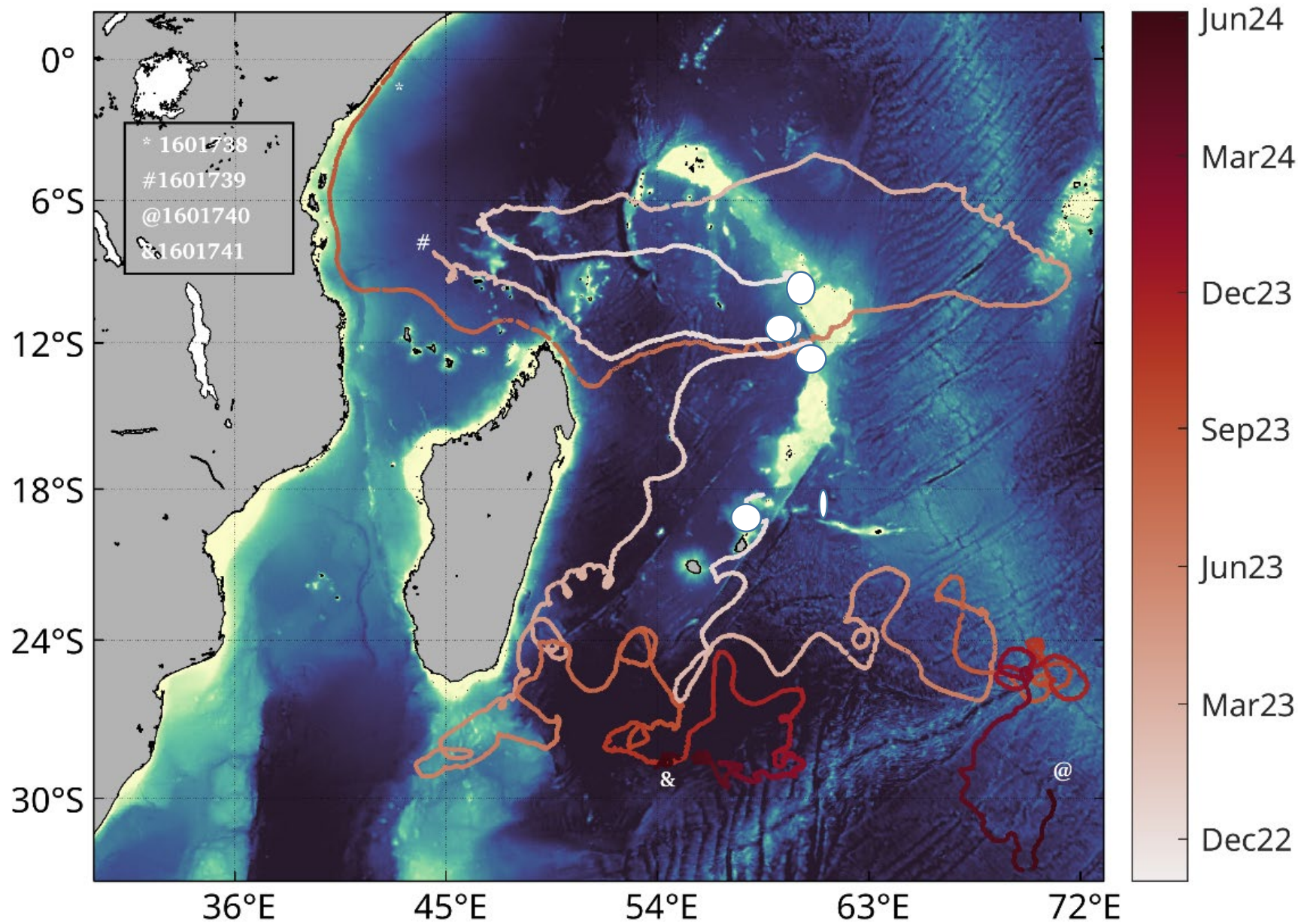
Legend: Trajectories of 4 *Surface velocity Profilers* launched in November 2022 during the **Monaco Explorations-Indian Ocean expedition**, from the Mascarene Ridge (white dots) . The color denotes the time elapsed since the launch of the drifters. Two drifters are still in operation after 19 months. The symbol indicates x the last position of the drifter.



2024 Observed trajectories (connectivities of ocean currents) from launches (november 2022) made from (oceanic vessel) on the *the Saya de Malha bank* and from the Mauritian

(source: Monaco Explorations /IRD/Meteo France) 28

Legend:
Trajectories of 4 *Surface velocity Profilers* launched in November 2022 during **the Monaco Explorations-Indian Ocean expedition**, from the Mascarene Ridge (white dots) . The color denotes the time elapsed since the launch of the drifters. Two drifters are still in operation after 19 months. The symbol indicates the last position of the drifter.
(source: Monaco Explorations /IRD/Meteo France)



5.3. Incorporating FADS Issues in ICZM Law?

Legal aspects of the use of FADs) in tropical Tunas
purse seine Fisheries (Western Indian ocean)

A technique that has become a thorny issue

- dFAD loss or abandonment by fishers can lead to marine and coastal debris and pollution and structural damage to coral reefs
- Overfishing, ghost fishing, juveniles bycatch...
- Reef associated marine megafauna and fauna entanglement (ghost fishing) or by catch can occur on dFAD's netting

Balderson & Martin, 2015; Escalle et al., 2019; Maufroy et al., 2015); (Pons et al., 2023).

for WIO, and as parties to Indian Ocean Tuna Commission IOTC (Fishery regional body)

'fish aggregating device' or 'FAD'

*“ a permanent, semi-permanent or temporary **object, structure or device of any material**, man-made or natural, which is **deployed and/or tracked** for the purpose of aggregating target tuna species for consequent capture;”*

a fishing performance tool or technique:

(Anchored FADS (AFADS) or Drifting FADS(dFADS))

Defined by a 1) specific sector (fisheries and commercial fisheries sector,
2) in isolation (FAD enclosed "in the [administrative] law of maritime fisheries")

5.3. Incorporating FADS Issues in ICZM Law?

(250-400 active DFADs tracking buoys per vessel at any time
(Kaplan David M & Imzllen T., 2024)

new limit since last 28 th CTOI meeting of the Parties (may 2024)

for CPCs with 1 or 2 purse seiners in operation: 280 buoys per vessel, rising to 255 by 1 Jan 2028 (with a maximum stock of 480 and 460 buoys)

for small developing coastal states: 270 buoys increasing to 240 in 2028 (with a maximum stock of 440 and 420)

for other CPCs: 250 buoys increasing to 225 in 2028 (with a maximum stock of 400)

5.3. Incorporating FADS Issues in ICZM Law?

Main barriers that we foresee for FADs inclusion in ICZM

- ❑ Collective décision and recommandation into the RFMO
- ❑ Some States have no anchored FADs (ex. Seychelles), so no need to manage rights on the sea bed
 - ❑ Benefits of the technical (catch a lot, efficient, prevents consensus on the ban)
- ❑ Defined by a 1) specific sector (fisheries and commercial fisheries sector, 2) **in isolation** (FAD enclosed "in the [administrative] law of maritime fisheries"

Marine Integrated Management, would be relevant...

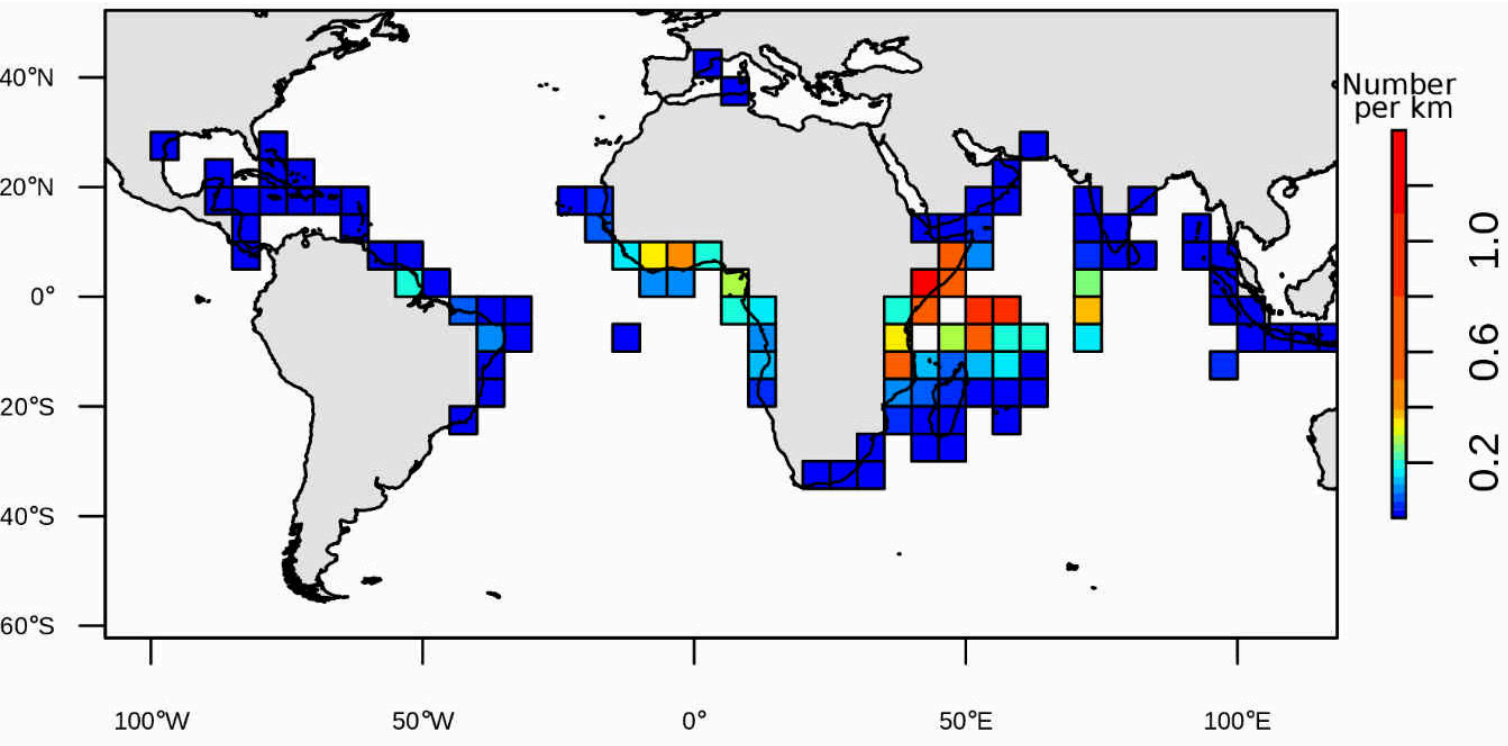
aFADs : can generate legal obligations due to its anchored nature:
anchoring in national waters **requires management of ground rights**,
preferential allocations to one or the other, etc.)

dFADS Strandings: It **leaves** zoning areas and follows its own trajectories
(non-motorized), **which lead it to enter national maritime zones**

(e.g.: support from science to know more about **dFADS Strandings...**

Where french DFADS strandings ocuring?

shows the number of fad s found stranded per km



Useful for deciding spatial deployment closures to reduce strandings

Where do strandinds originate?
Where are the strandings ocuring?

Imzillen T., Lett C., Chassot E., Kaplan D. , *Spatial management can significantly reduce dFAD beachings in Indian and Atlantic Ocean tropical tuna purse seine fisheries*, *Biological Conservation* 1 February 2021, Volume 254, Image: Imzilen et al. 2021: Page 16

support from science to know more about dFADS Strandings...?

Beaching events ? Seychelles

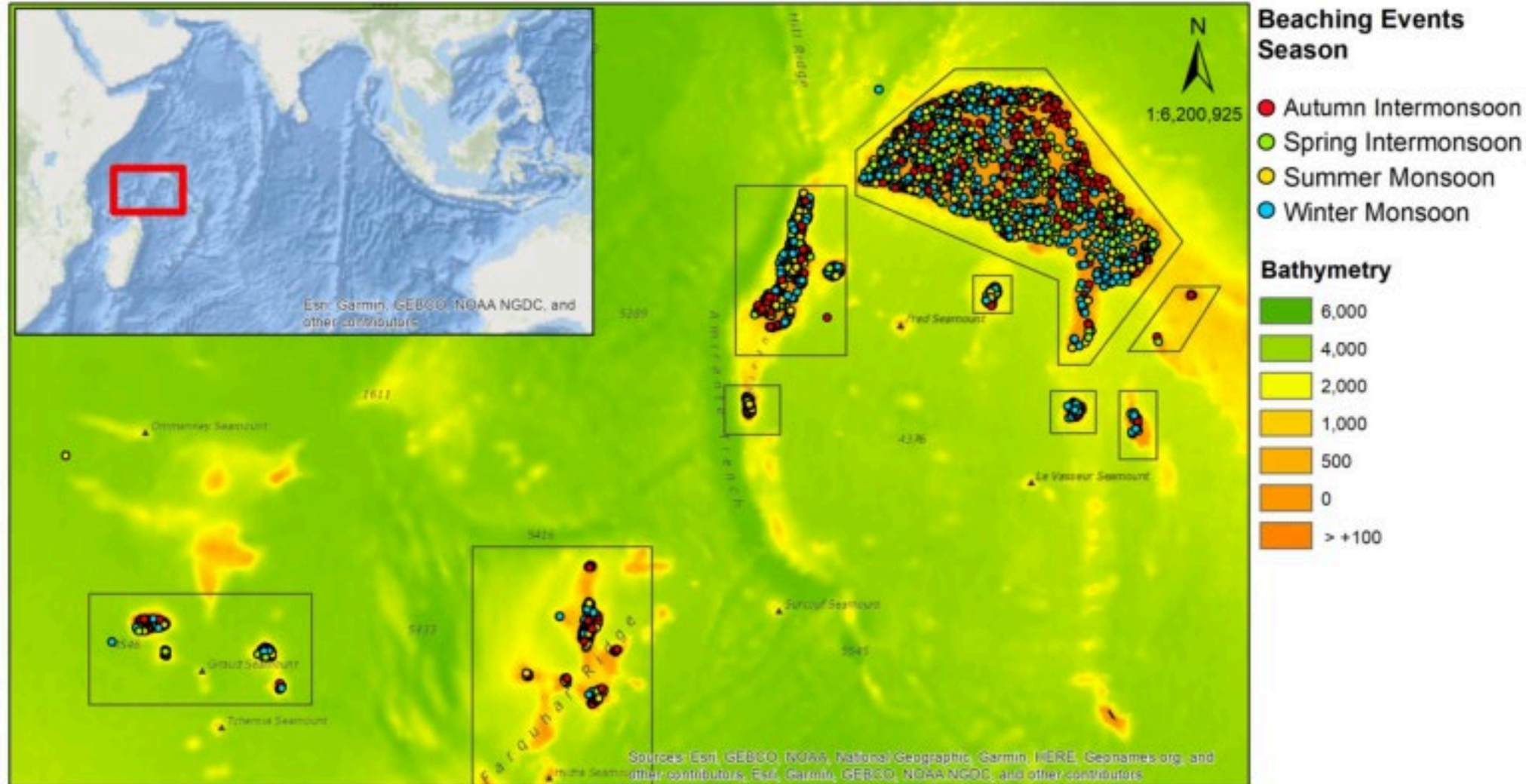


Image zoom
Seychelles
MacMillan et al.,
ICES Journal of
Marine Science,
2022, 79, 1687–
1700 DOI:
10.1093/icesjms/fs
ac091 Advance
access publication
date: 25 May 2022
2022, à.1690

Management measures implemented or discussed to be implemented to mitigate the impacts of dFADs...

Alternative to ban

seasonal and area closures ('spatio-temporal deployment closures')

prohibiting the use of netting in dFAD

limiting the number of dFAD that can be monitored

implementing fully nonentangling dFADs

dFADretrieval

transitioning to biodegradable dFADs

dFAD ban

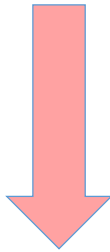
Set of rules ...
for FADs construction
and deployment

Strenght of the mesure:
suggested, binding,
prohibiting effet,
encoraging effect...

New treaty BBNJ outcomes,
warranting greater attention...

How this new BBNJ treaty may affect pollutants dispersal ?

How this BBNJ treaty may affect FADs? (DFADs)



National *land and sea* surfaces are linked by proximity and physical connectivity to international surfaces, and vice versa.

Interconnected areas : by **current drift and the intensification of meteorological phenomena.**

- by **voluntary deposition and dispersal** (by FADs depositors)

IT CREATES NEW LEGAL RELATIONSHIPS BETWEEN national and international MARINE SURFACES

treaty [Part IV]
: **Environmental Impact Assessment rules for remote and deep sea environments**

treaty [Part III]
: **Mesures such area-based management tools (ABMTs) in the international zone**

International Law will be able to **examine these dispersals of pollutants or other non-fixed objects, drifting FADs being one of them**, and their **negative effects**, about which certain States could complain (harm)

International Law authorizes the **multiplication of perimeters at sea or sites under protection** (e.g. seamounts...) where the presence of FADs or their beaching etc. would not be desirable and would even be inconsistent or illegal

5.4 Legislative, regulatory & judicial support

*...Shall appear
into...*

**Legislative, regulatory
& judicial support**



**ICZM
Strategy's
contents**

- Explicitly including coral reefs diversity, structures and depths **into legislation**, with special mention of mesophotic reefs (30 m- 150 m)
- Monitor and control compliance** with catch quotas, mapped areas, types of gear and fishing methods used, unauthorised points for discharging effluent
- compliance** with no-take zones, prohibitions on catching protected species, prohibitions on trampling, over-frequentation, etc.
- Enactment of Ecological restructuring of shore lines uses**

2) – make the ICZM strategy realistic, ambitious and direct, by adding contents

*...Shall appear
into...*

**Legislative, regulatory
& judicial support**



ICZM Strategy's contents

- Setting** an **national research and innovation capabilities**, as well as the knowledge, assessment and use of cutting-edge technologies at sea (timeliness & caution with regard to external project proposals).
- Joint work to identify measures to reduce the environmental impact of tourism businesses
- Joint working teams made up of administrators and scientists within decision-making institutions
- Promoting **access rules** to marine water and harbours and sustainable marine water management.

MAIN BARRIERS FOR INTEGRATED COASTAL MANAGEMENT ZONE EXERCISE ?

- ✓ High proportion of **environmental considerations (but displayed)**
- ✓ **deadlines** constantly pushed back by the public authorities
- ✓ persistence of **non-naturalistic industrial planning** or programming aimed at increasing or intensifying activities, such as aquaculture or hydrocarbons ...
- ✓ strong **reference** to the blue economy (and its supposed benefits)
- ✓ identification between natural elements & economic resources to be exploited and developed
- ✓ ranking of priorities in order of importance from the general interest point of view (as defined by the rulers and their administrators)
- ✓ **studies of the carrying capacity** of the ecosystem to withstand pressures are lacking

6. MAIN HOPE FOR INTEGRATED COASTAL MANAGEMENT ZONE EXERCISE ?

- ✓ High proportion of **environmental** science results shared
- ✓ inclusion of the ICZM Protocol among the legal instruments on which State concerned can form its legal and field actions
- ✓ revision and up graded protocol for flora and fauna
- ✓ A more blue economy, directed in such a way as not to be spoliatory
- ✓ An increasing awareness (Youngs) and resistance capacity against non relevant rules (if need be)

6. MAIN HOPE FOR INTEGRATED COASTAL MANAGEMENT ZONE EXERCICE ?

- ✓ Materials & scientific expertise (available or even under way in WIO) can inspire decision-makers
 - On the SMALL STRIP OF SHORELINE AND SUBTIDAL SEABED
 - about some particular interest on CONNECTIVITY'S ISSUES
 - about WIO SEAMOUNTS and sub-marine structures (into DIDEM project WIO N.O.I.S.E network)

Example:



**WESTERN
INDIAN
OCEAN
NATIONAL
OR
INTERNATIONAL
SEAMOUNTS, BANKS & SUBMARINE STRUCTURES**

membership form available to researchers & contributors
(contact: florence.galletti@ird.fr & jean-francois.ternon@ird.fr)

Multi-disciplinary network of researchers on Western Indian Ocean National or International SEamounts, banks & submarine structures
Réseau pluridisciplinaire de chercheurs sur les monts sous-marins, bancs, plateaux & autres structures sous-marines nationales et internationales

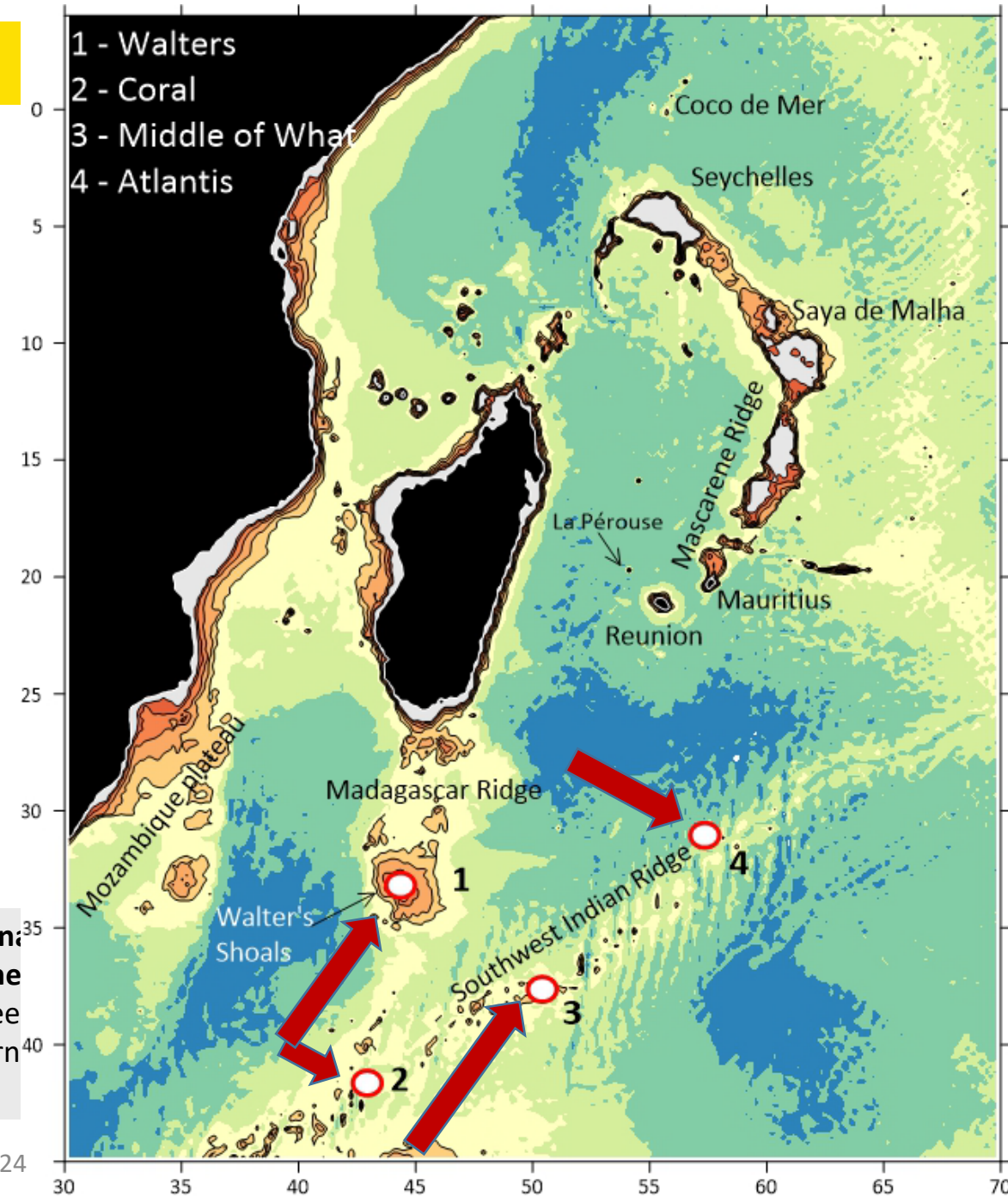
An example of usable scientific information:

→ evolution of the status of seamounts on areas beyond national jurisdiction before/after 2019

5 Officially-designated Benthic protected areas (BPAs) by the SIOFA in 2018

Red dots indicate seamounts **now partially protected** by SIOFA, some sampled during the FFEM/IUCN Project oceanic cruise "Conservation and sustainable use of seamount ecosystems and hydrothermal vents in the southwest Indian Ocean beyond areas of national jurisdiction" (2014-2018)

SOURCE: Marsac F., Galletti F., Ternon J.-F., et al 2020, "Seamounts, plateaus and governance in the southwestern Indian Ocean, with emphasis on fisheries management and marine conservation, using the Walters Shoal as a case study for implementing a protection. Deep Research II " Bio-Physical coupling around three shallow seamounts in the South Western Ocean", <https://doi.org/10.1016/j.dsr2.2019.104715>



Not to conclude, What is matter for “Blue justice”



One Explicitation of the notion...

“**Local and indigenous people** living in coastal communities are intricately connected to the ocean. While climate change, rapid development, biodiversity loss, and other changes are affecting coastal communities, so too are our efforts to address them. **Historically and structurally marginalized groups** often face **disproportionate** impacts of local and global stressors whilst being **culturally and politically excluded from political decisions affecting these areas.**”

This applies in particular to people who have been **displaced or threatened**, but who have also **been prevented from doing so.**

Related to ICZM

Considering a political and social reality: they reflects the local context in which the Law is applied

- raise legal issues
- assess the socio-economic and political barriers to rules implementation
- Thus, speak about Blue justice or Blue unfairness

ICZM Protocol : a text that doesn't say much about “justice”, but

ARTICLE 12

Information sharing, participation and access to justice

Each Contracting Party shall:

- (a) enhance, facilitate and promote within the framework of national legislation, public access to relevant information concerning integrated coastal zone management;
- (b) encourage participation of public, private sector and civil society in planning, implementation, and monitoring processes of integrated coastal zone management;
- (c) provide access to administrative and judicial proceedings, as appropriate, including redress and remedy, for members of the public who are aggrieved by failure to allow them access to information or participation in the processes provided for under paragraphs (a) and (b) of this Article; and
- (d) contribute to the sharing of information, experiences, lessons learnt and best practices.

Sum up The entrenched situation that “Blue justice” faces:

- ❑ The public authorities **at sea**: high in the hierarchy , but Law enforcement capacity of Regulatory Authorities, including Local Government Authorities (LGAs) to be increase
- ❑ Ecological orientation of MSP - to maintain the existing tropical ecosystems- **inevitably clashes** with other national maritime spatial planning formula
- ❑ **the involvement of scientific and naturalist expertise** in the process is developed and tested **especially for MPAs**, they are different and what about others sites
- ❑ **Unequal access to techniques for "measuring" *habitat or resource* degradation**
- ❑ **Lack of involvement of Financial Institutions in promoting environmental compliance**

The entrenched situation that “Blue justice” faces:

- Environmental guidance in coastal planning... : this management, rather oriented towards natural resources, offers prerequisites and instruments, which may benefit future MSPs

- wich beneficiation, — wich indebtng,
- what level of severity to adopt to follow the environmental guidance ?
- how long to do it,? what level of urgency?

- How go beyond the seaward side, upon the 200 Nautical miles marker...

Planning for (coral, reefs) remote sites & beyond will be easier if *coastal and ocean science* shows why acting on remote marine spaces helps maintain coastal benefits and services...

The dynamic situation that Blue Justice may face...

endeavour to trace in legal texts the factors that lead to

WAYS OF PRODUCING LEGAL INEQUALITY

MEANS OF REDUCING INEQUALITY

"Contributions, to protect coral reefs, of The *Integrated Coastal Zone Management (ICZM) Protocol for the Western Indian Ocean* (Nairobi Convention)

" Intérêt, pour la protection des récifs coralliens, du "*Protocole sur la gestion intégrée des zones côtières (GIZC) de l'océan indien* » (Convention de Nairobi)

thank you for your patience in listening to
and looking forward to your inputs and knowledge on the various
points mentioned, or others !

Thematic school *Reef heritage vulnerability*, Seychelles, 2024, June 10-14th

/June 11th 2024, Univ. of Seychelles, Anse royale, Mahé

DIDEM

Dialogue Science-Decision Makers
for Integrated Management of Coastal and Marine Environment

Component : High Seas, Remote and/or Deep Seabed [HS/RS/DS] & ABNJ

<https://www.didem-project.org/12/haute-mer-grands-fonds>
www.didem-project.org



The DiDEM project has received financial support from:

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L'ENVIRONNEMENT MONDIAL

