

Maritimity and habitability of large Mediterranean coastal cities

Maritimité et habitabilité des grandes villes littorales méditerranéennes



Maritimity and habitability : ecological and energy transition



Maritimité et habitabilité sous l'angle de la transition écologique et énergétique

Coordination : Sinda HAOUÈS-JOUVE, IRMC, Tunis – Tunisia – *Geography and space development*

- Dominique AMI, Aix-Marseille Université, LEST (UMR7317) – France – *Economics*
- Isabelle POITOU, Mer-Terre, Marseille – France
- Alix VARENNE, post-doctoral fellow CNRS, ESPACE (UMR7300) – France – *Marine ecology*

IRN MaritiMedSeaties

Axis 4 : Maritimity, ecological and energy transition and habitability

Objective : question the habitability of maritime cities in the future, in connection with their sea-related approach to the ecological and energy transition

➔ *What are maritime cities doing to better manage their interface with the sea, with regard to sustainable development and to transition?*

Two types of action have been so far identified :

- Initiatives **to reduce their impact on the sea** : reductions in discharges into the sea, ecological restoration operations, waste collection and soil decontamination, demarcation of protected areas at sea...
- Initiatives to **promote energy transition solutions made possible by the sea** : production of renewable energy at sea, thermal exploitation of the marine water mass, exploitation of sea breezes in urban design and architecture...

Some scientific issues

- How are these operations planned and promoted? What are their programmatic content and operating methods? What public policy instruments do they use?
- What are the systems of players involved in these initiatives ? What kinds of frame of reference and expertise do they mobilise? How do these circulate between cities via specific players (international consultancies and funding agencies, mediterranean cooperation, etc.)?
- Behind their consensual appearance and legitimacy, do these initiatives give rise to differences, controversy or even conflict? In other words, how are they appropriated at local level?
- To what extent can these initiatives transform the way cities are built and have an impact on the practices of residents and users, perhaps contributing to better habitability?

To discuss the issues and the planned work today:

- **Dominique AMI** : Professor of economics, you have worked extensively on environmental issues relating to coastal areas, in particular the evaluation of ecosystem services, willingness to pay, etc. You are now more interested in the issue of the ***commons***.
- **Alix VARENNES**: You did your PhD in environmental sciences on ecological restoration at sea, in particular artificial nurseries in port areas. You're doing a post-doctoral fellowship on *“The potential and implementation of nature-based solutions (NBS) in a highly urbanised coastal environment”* in relation to the City of Marseille's Department of the Sea.
- **Isabelle POITOU**: Doctor in marine biology, you have been involved for nearly 20 years in an association called ***MerTerre***, which looks at the issue of waste in the coastal environment, raises public awareness, organises waste collections in the field, and produces data and studies to support public policy on these issues.

Questions

- **Dominique AML :**

1. *Could you start by telling us what definition of the commons you favour and explain how it differs from the more familiar one proposed by Elinor Ostrom?*
2. *Can you give us some ideas on how this concept could be used in the context of this research on large Mediterranean coastal cities, and more specifically in the context of Axis 4?*

- **Alix VARENNES:**

1. *Could you start by explaining or reminding us what Nature-based Solutions (NBS) are? And can you please describe some of the NBS experimented in highly urbanized coastal areas?*
2. *Can you tell us how you see them as interesting alternatives to solutions based on conventional engineering? In your opinion, why are these NBSs used so little in these specific geographical contexts?*

- **Isabelle POITOU:**

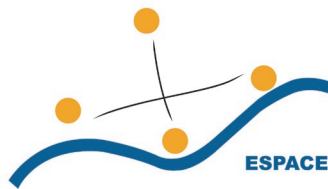
1. *Can you tell us about the association you run (MerTerre) and its various activities?*
2. *What are your strategies for raising awareness and mobilising public authorities around the issue of sea pollution? Is it simple, and does your status as a scientist help you in this process?*
3. *How do you manage to mobilise organised civil society and ordinary residents? And what about working with the private sector?*

What we plan to do in this axis

- Bring together the studies already carried out by the all partners
- Carry out internet data search to draw up an inventory of initiatives relating to the ecological and energy transition in connection with the sea
- Organise a thematic seminar (2027) in Tunis to share our research with each other and with non-academic stakeholders

Thinking maritimity through Nature-based Solutions: an ecological perspective for coastal cities

ALIX VARENNE - CNRS - ESPACE (UMR 7300)



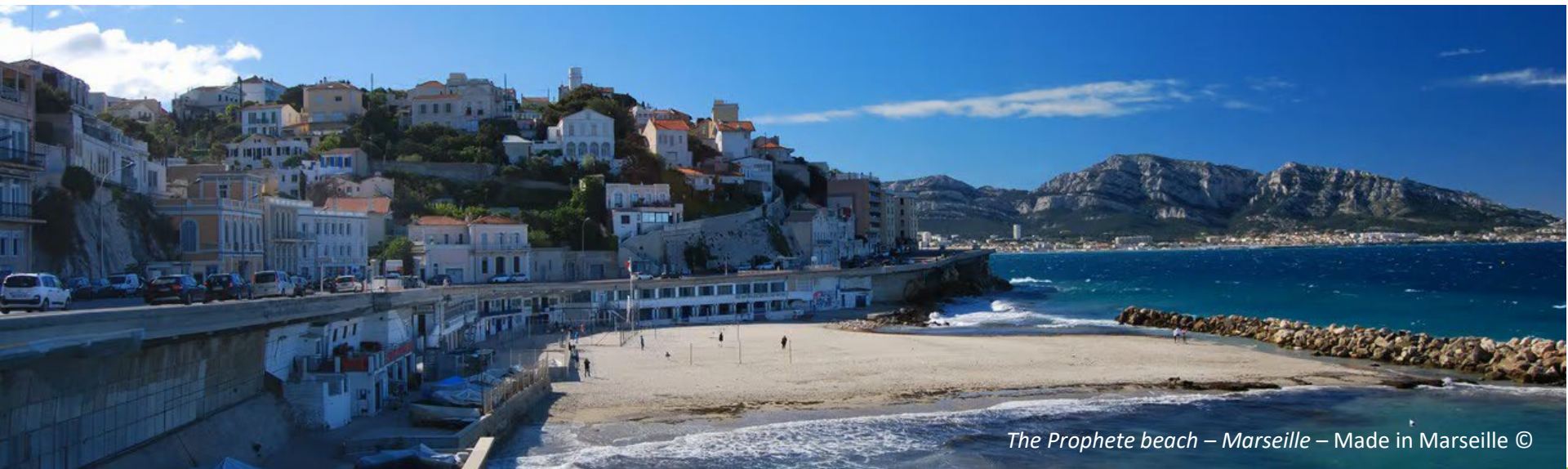
The ecological dimension of maritimity

- ▶ Coastal areas are interfaces of marine and terrestrial ecosystems
- ▶ Degradation of marine and coastal ecosystems affects long term habitability of these areas
- ▶ Ecological perspectives:
 - complement other approaches of habitability
 - help to understand how coastal environment supports, constrain or transforms the way human interact with the sea



Coastal cities: urbanised ecosystems

- ▶ Socio-ecosystems shaped by centuries of human activities
- ▶ Populated, touristic, diversity of uses, complexe gouvernance in limited space
- ▶ Financial, technical and intellectual ressources



The Prophete beach – Marseille – Made in Marseille ©

Coastal cities: urbanised ecosystems

- ▶ Coastal development mainly relies on grey infrastructures



- ▶ Consequences on coastal and marine ecosystems



Restauration, protection and conservation

- ▶ Restauration, protection and management initiatives can help to
 - support local biodiversity
 - improve environmental quality
 - reconcilise degraded area with nature
 - mitigate climate risks from the sea



Mangrove restoration
– Bali – Hislop ©



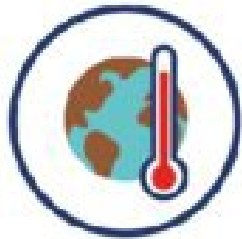
Marine Protected area
– Isola di Ustica – Gallio S.©



Posidonia oceanica banquettes

The concept of Nature-based Solutions (Nbs)

“Actions that **protect**, sustainably **manage** or **restore natural or modified ecosystems** to address major **societal challenges** while delivering **benefits** for both **biodiversity** and **human well-being**.”



Climate change
mitigation and
adaptation



Disaster risk
reduction



Economic
and social
development



Human health



Food security



Water security



Environmental
degradation and
biodiversity loss

The concept of Nature-based Solutions (Nbs)



Associated concepts

NbS categories	Examples of associated concepts
Ecosystems restauration	Ecological engineering Ecological restauration Ecological rehabilitation
Ecosystem management	Integrated coastal zone management
Ecosystem protection	Marine Protected Areas Protected species
NbS target to specific challenges	Ecosystem-based adaptation Ecosystem-based mitigation Ecosystem-based disaster risk reduction
Infrastructure	Green/Blue Eco-design infrastructure

NbS in artificialised areas

- ▶ NbS most commonly applied in less urbanised areas
- ▶ Initiatives limited in highly artificialised area
- ▶ Growing interest in NbS approaches in these areas



Consideration of NbS in MaritiMedSeaties



Rethinking maritimity as also an ecological relationship



Compare governance that enable urban ecological restoration



Sharing experiences of NbS in coastal urbanised areas

Conclusion and discussion



Ecological dimension shape long term viability of coastal cities



NbS or associated initiatives are strategic tools to reconnect urban areas and their coastal environments



How NbS can enrich our reflection on habitability and maritimity

Thank you for your attention

Alix Varenne – alix.varenne@cnr.fr





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OBJECTIF ZÉRO DÉCHET MARIN

ZéRO
DÉCHET SAUVAGE
ReMed

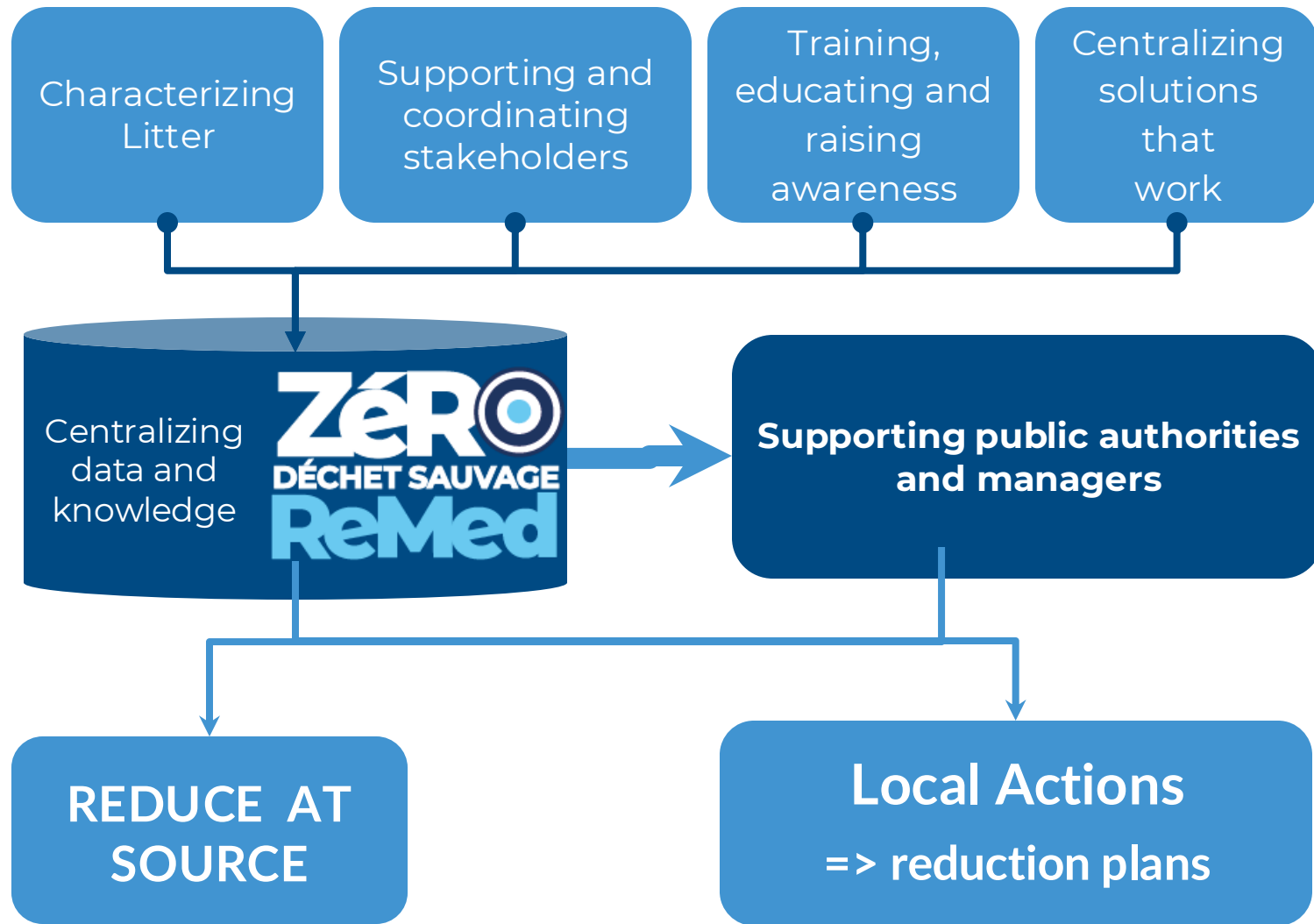
Maritime cities at the crossroads marine litter issues : A collaborative science platform as a tool for steering public action

MARSEILLE - MaritiMedSeaties - 05 19 2025

Isabelle POITOU
MerTerre Association
Founder and director



MerTerre, Zero Marine Debris!



PLATEFORMES HISTORIC



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2000

- *Increasing production of waste and plastic;*
- *Changes in regulations (MSFD, AGECE, etc.)*
- *Expertise and feedback from the field;*
- *Need for standardised, centralised data;*
- *Increased mobilisation.*

in response to the challenges

RÉGION SUD  **PROVENCE ALPES CÔTE D'AZUR**


MOSAIC
Méthodes et outils pour les sciences participatives

 **MUSÉUM NATIONAL D'HISTOIRE NATURELLE**
SORBONNE UNIVERSITÉ

 **MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE**
*Liberté
Égalité
Fraternité*

2019

ReMed
ZÉRO PLASTIQUE

2021

ZéRO 
DÉCHET SAUVAGE

2025

ZéRO 
DÉCHET SAUVAGE
ReMed

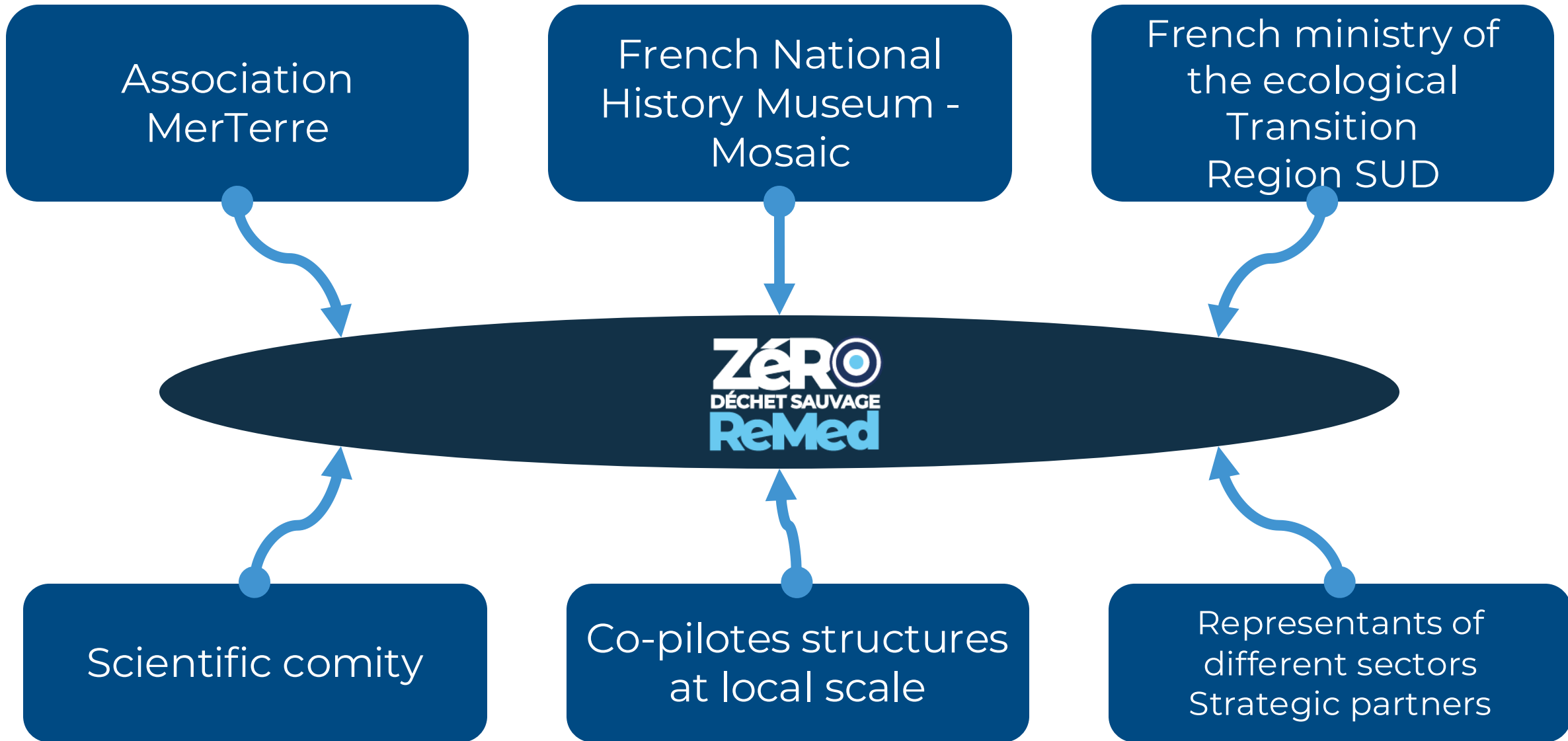
HUMAN FACTOR IS DETERMINANT

Reinforce the capacity of every organization to implement concrete and coordinated actions in their territory

Push for the implementation of a global public policy based on facts and involving all sectors of society



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OBJETIF ZÉRO DÉCHET MARIN



Zéro Déchet Sauvage, déploiement en local avec des structures de terrain



**MAISON DE
L'ESTUAIRE**
Estuaire de Seine

NATURE LIBRE
Hauts-de-France



RIEM
Bretagne

MOUNTAIN RIDERS
Auvergne-Rhône-Alpes



T.E.O.
*Charentes-
Maritimes*

MERTERRE
*Coordinateur national
Région Provence-Alpes-Côte
d'Azur*



ENVIRONAT
Gironde



BASSIN DE THAU
Entre Terre et lagune

CPIE BASSIN DE THAU
Occitanie

MARE VIVU
Corse



KNOWLEDGE IS POWER !

CHARACTERIZING THE LITTER COLLECTED AND CENTRALIZING DATA ALLOW US TO :



Get a better understanding of litter pollution and its characteristics (quantities, typology, actors and economic sectors involved)



Get to know the litter accumulation zones and the geographical origin of the litter collected



Create a dashboard for decision makers



Involve manufacturers, retailers and industrials in reduction plans, alternatives and change of process



Target and act on public policies



Evaluate action plans by observing the evolution of the litter collected (increase/decrease/changes)



Inform, involve and raise awareness amongst consumers



HOW ARE WE DOING IT?

LEVEL 1



PAR MATERIAUX



Optional :
Compter des déchets indicateurs
Compter les objets par marque

LEVEL 2



PAR MATERIAUX



4
DECHETS
INDICATEURS

Optional :
Poids des déchets volumineux
Compter d'autres déchets indicateurs
Compter les objets par marque

LEVEL 3



PAR MATERIAUX



34
DECHETS
INDICATEURS

Optional :
Compter d'autres déchets indicateurs
Compter les objets par marque

LEVEL 4



PAR MATERIAUX



215
DECHETS
DCSMM

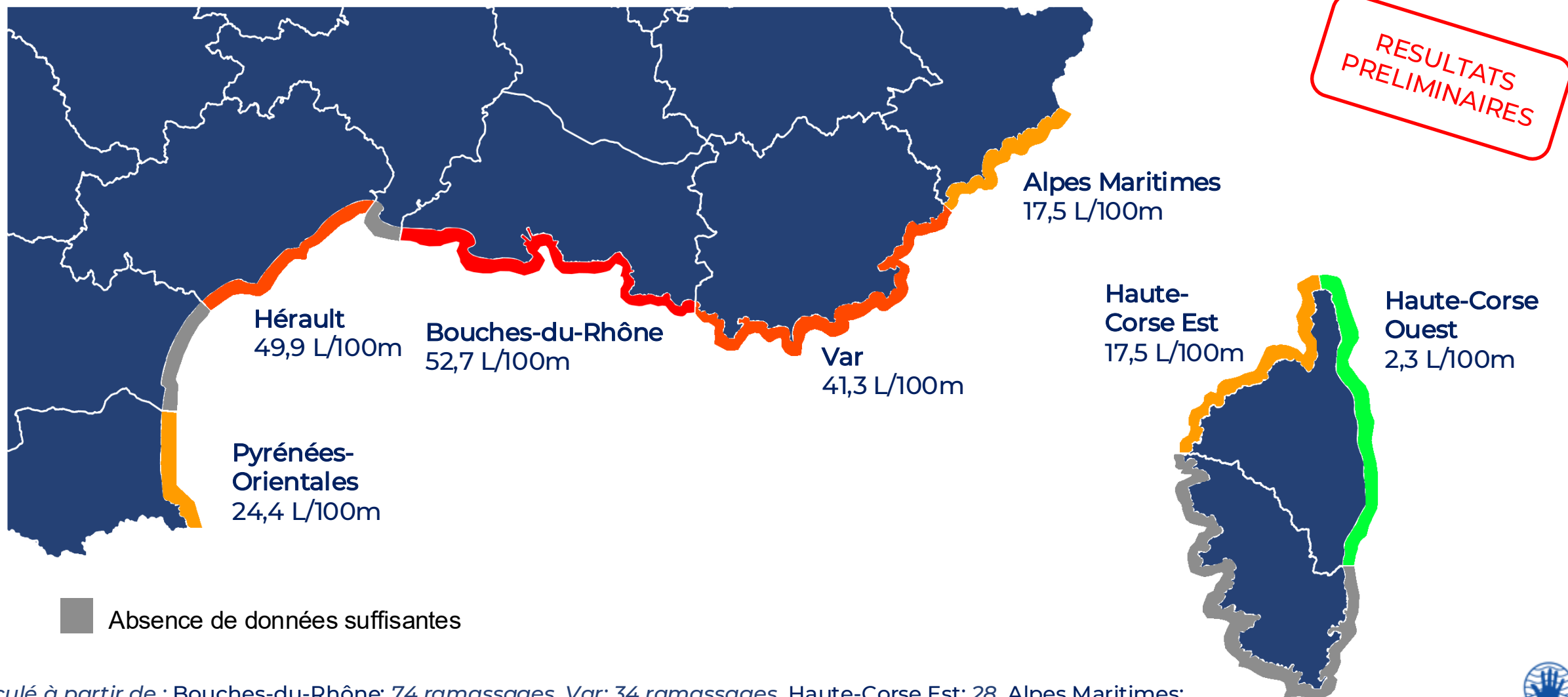
Optional :
Compter les objets par marque

**4 LEVELS OF
CHARACTERIZATION
FROM THE LESS
DETAILED TO THE
MORE DETAILED**

Pour aller plus loin...

Présence des macrodéchets sur les plages méditerranéennes

Médiane par département des volumes ramassés pour 100 mètres de plage



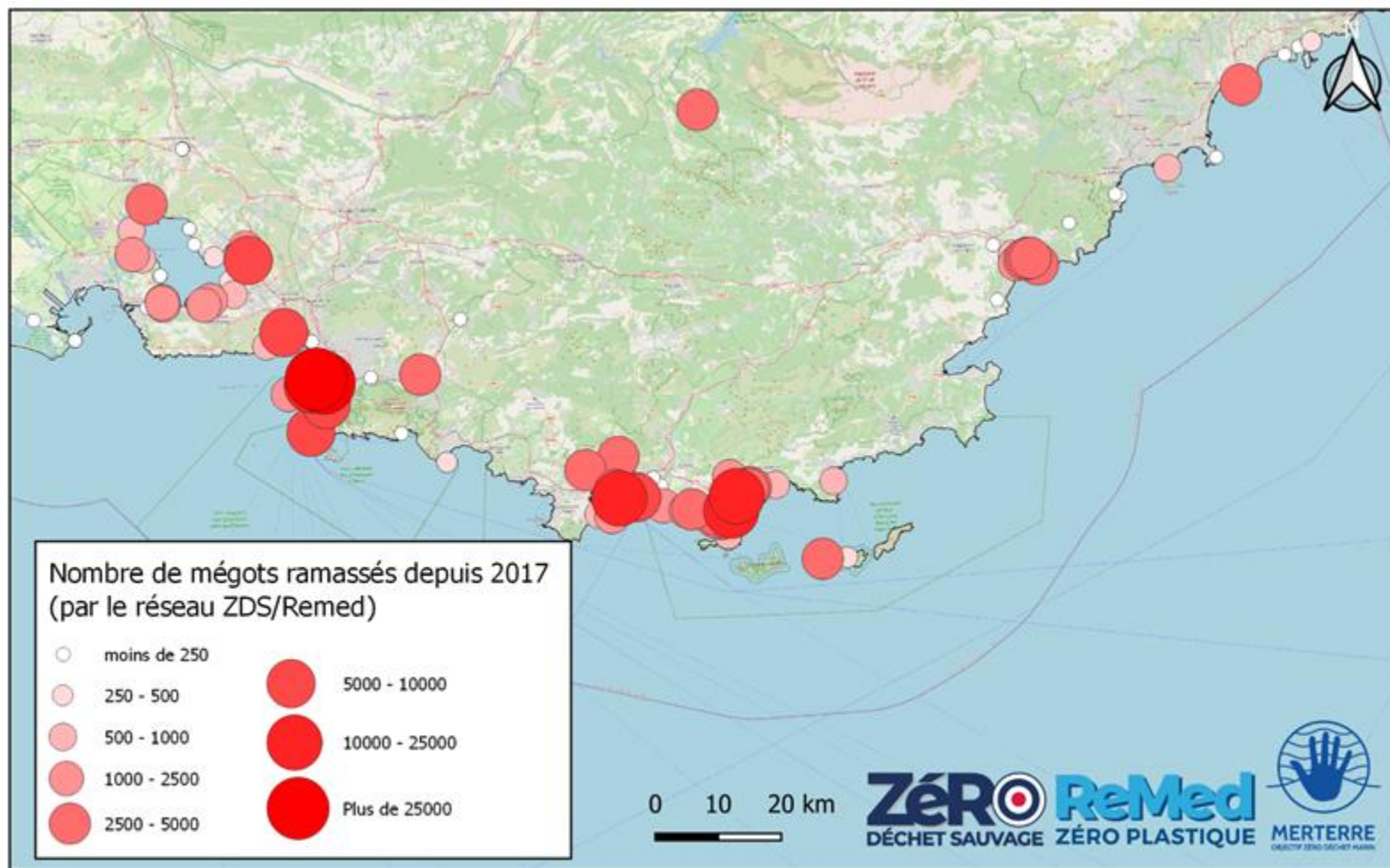
Calculé à partir de : Bouches-du-Rhône: 74 ramassages, Var: 34 ramassages, Haute-Corse Est: 28, Alpes Maritimes: 24 ramassages, Haute-Corse Ouest: 20 ramassages, Hérault; 14 ramassages et Pyrénées-Orientales: 6 ramassages



Cigarettes butts

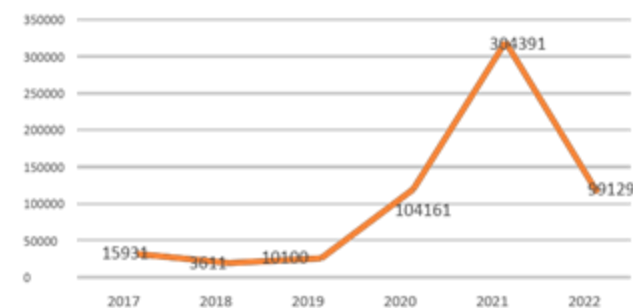
Total number of cigarette butts picked-up : 622 640

Those numbers are just concerning the clean-ups during which cigarette butts have been counted : 370 events (37%) since 2017



(Jusqu'au 31/04)

Nombre de mégots ramassés par années

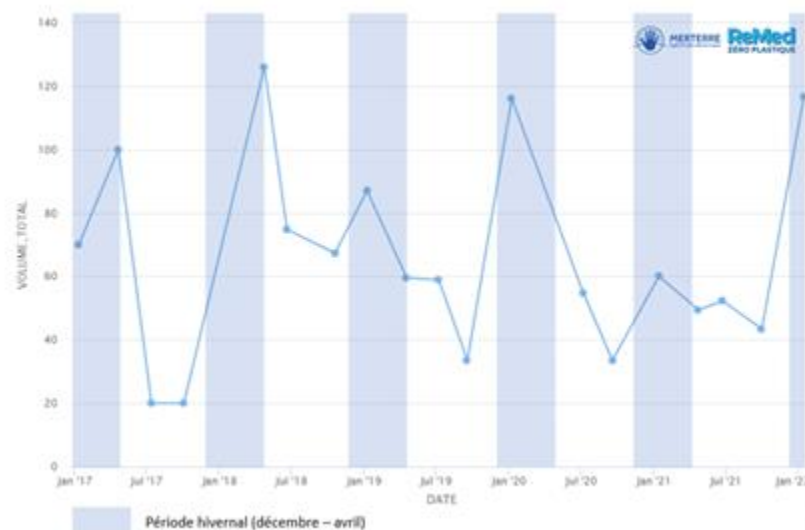




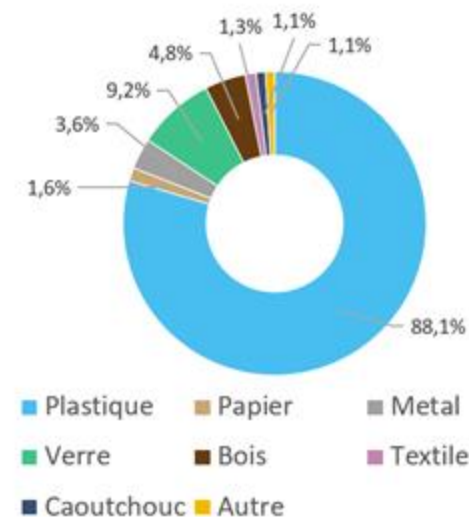
TOP Déchets ramassés depuis 2017

Fragments de plastique	14780
Cotons-Tiges	4183
Fragments de verre	4569
Fragments de polystyrène	3289
Bouchons	2110
Mégots	649
Emballage Sucrerie/Chips	612
Bâton de Sucette	533
Cartouche de chasse	506

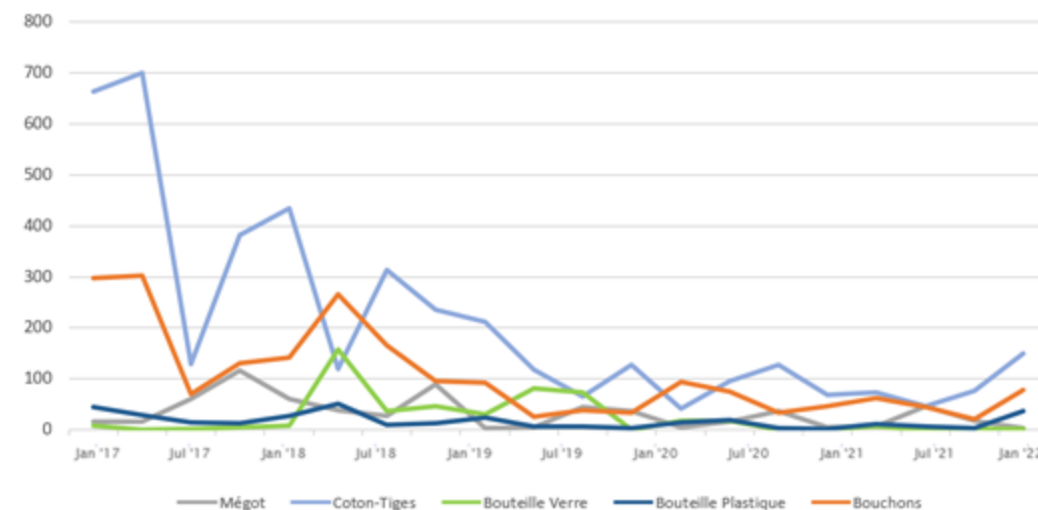
Volume total de déchets ramassés par date



% par matériau (en volume) depuis 2017



Evolution de certains déchets indicateurs depuis 2017





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association@mer-terre.org

www.mer-terre.org

09 86 78 79 02

68 rue de Rome

13006 Marseille

