

# SAYA DE MALHA DAILY

A Newsletter by Dominique and François



N°16, 17<sup>th</sup> November 2022

## Where are we ?

South-West of Saya de Malha, Box 5  
12.16° South 61.00° East  
Some Clouds, light Seas, Wind 12.4 Knots  
Air Temperature 26°3  
Water Temperature 27°4



## What's on ?

### USV

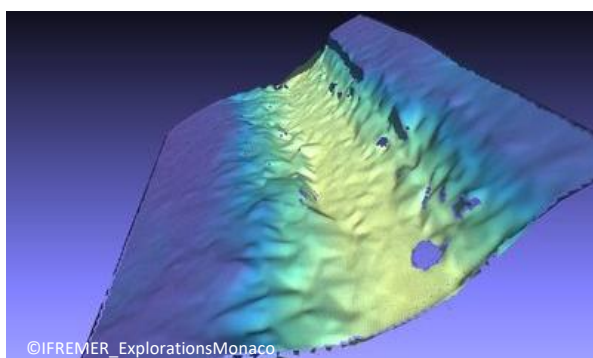
Operated by Matteo and Mervyn, the two USV (Unmanned Surface Vehicle) are boards, called Mario and Paola. They are semi-automatic and equipped with an echosounder which measures bathymetry and a camera which allow image analyses of the seafloor biodiversity, using machine learning and artificial intelligence. The technology is open source and hence available to all. Images collected are analyzed by biologists to identify the species present, which the machine will recognize in the future when encountered. The more images, the more accurate the species recognition. All images are stored into a database accessible online to all users who can entered images, similar to the Wikipedia principle. The database is still being developed and will be ready next year.



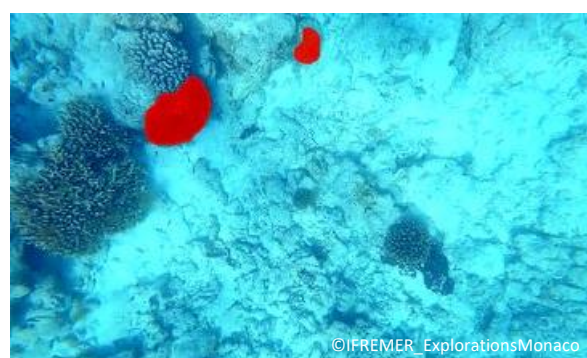
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For optimal performance the boards need to be launched in relatively calm seas which was the case only four times during the Saya de Malha leg of the expedition.

## The Portrait



### Florence Galletti, Lawyer, IRD

Born in Paris in 1974, Florence grew up in Senegal. At university, she wanted to study oceanography but not good at math, instead studied international law. She joined IRD thanks to her specialization in comparative law and Africa. Her interest is the interaction between the Law of the Sea and marine sciences and the evolution of the Law of the Sea. "Being a lawyer amongst scientists can be challenging, but so interesting". She cooperates with the Nairobi Convention on the development of the 2023 Indian Ocean Regional Ocean Governance Strategy and its relationship with the new treaty on Biodiversity in the high seas (BBNJ), soon to be finalized. "Scientific expeditions such as the Saya de Malha are influential and can lead to creative legal solutions to manage the regional space".

## Didyou know ?

### Soft Sea Urchins

The *Asthenosoma* are sea urchins characterised by a soft exoskeleton. Found at depth, they fill with water to equalise pressure to maintain their balloon shape. When brought to the surface, they deflate and are flat. They are called « leather sea urchin or « French berets».



## The Catch of the Day

### Palaeontology

During one dredge, strange « stones » were brought up. They might be lithified whale bones (turned into stone).



With another, *Megalodon* teeth were found! A giant shark living millions of years ago.

