

Memo on the « SAYA DE MALHA » mission in the framework of the “Indian Ocean 2022” expedition of the Monaco Explorations

The *Société des Explorations de Monaco*/Monaco Explorations, sponsored by the Prince Albert II de Monaco Foundation, will undertake an expedition in the Indian Ocean (*Indian Ocean 2022*) from 11 October to 23 November 2022. This expedition will describe a large loop starting in Mauritius, with stopovers in La Réunion, then Aldabra and Mahé in Seychelles (leg 1), before starting a second leg focusing on the Joint Management Area (JMA) of Saya de Malha, then will reach Mauritius where the mission will terminate (leg 2).

This multidisciplinary expedition aims to **assess the ecosystemic status** of the explored areas, **advise stakeholders** through a holistic scientific approach (sustainability science), share the issues and knowledge with the greatest number of people through an ambitious **outreach programme**, and make available information and analyses to **support the sustainable management** of maritime areas.

The scientific programme includes a **major structuring project on Saya de Maha**, and eight other projects addressing specific themes (megafauna, mesophotic reefs, plastic pollution, genetics and environmental DNA studies). Research activities will take place in the EEZ of Mauritius, Seychelles and in the Saya de Malha JMA. It is understood that the knowledge generated during the Saya de Malha mission will greatly assist the setting of a shared spatial planning for this area.

The section of the expedition dedicated to Saya de Malha rests on a research project focusing on the **benthic ecosystem**, i.e. the biological resources associated to the seabed, thus resources placed under the competence of the JMA. This project initially submitted by the Department of the Blue Economy of Seychelles, with the scientific assistance of the Institute of Research for Sustainable Development (IRD), has passed around the Department for Continental Shelf of Mauritius and other scientific partners. A MoU is entering its last phase of approval between Monaco Explorations and the Designated Authority of the JMA, and an application for consent to conduct Marine Scientific research, detailing all aspects of the field work to be undertaken, has been submitted to the JMA in February 2022. The operations on Saya de Malha will be deployed in five sectors that have been selected from their sedimentology and a range of potential habitats (see figure).

Support vessel and participants

For the expedition, Monaco Explorations will charter the South African *R/V Agulhas II*, a 134 m-long ship based in Cape Town, owned by the Department of Environment, Forestry and Fisheries. This vessel can accommodate a scientific crew of 100, allowing a large participation of regional scientists and students for training purpose. About 45 berths will be secured for the work on Saya de Malha during the second leg of the mission. The crew will include researchers in physical oceanography, marine biogeochemistry and biology. There will be ~22 berths available for researchers and students from Mauritius and Seychelles. The rest of the crew will include scientists involved in the other projects of the expedition.

Data generation and delivery

Data produced by oceanographic instruments, bathymetric sounders, acoustic (fish) and video surveys will be made available at the end of the mission. Advanced processing and consolidated interpretation of these data will be undertaken during the 6 following months and will be

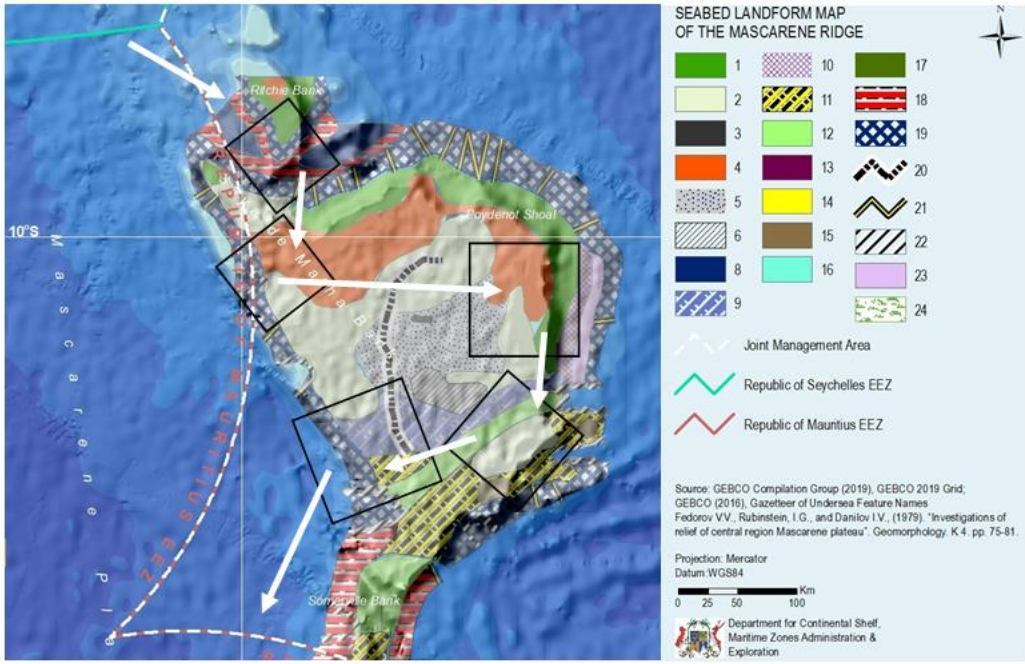
delivered to the relevant authorities of Mauritius and Seychelles. The biological information will include (i) **a set of specimens** sorted and preserved by large zoological and georeferenced groups (ii) **underwater photos** to document habitats (iii) **unique photos of freshly collected organisms** to assist in the taxonomic identification of specimens; and (iv) **tissue samples** for rapid integration into molecular systematics studies. The French *Museum National d'Histoire Naturelle* (MNHN) will take care of these tasks, which require a thorough expertise on taxonomic determination. A reference collection will be handed over to Seychelles and Mauritius, including emblematic specimens and batches representative of the diversity of the area, once determinations are achieved. In terms of impacts of the biological surveys and collection on the benthic ecosystem, it is estimated that the total impacted area will be less than 1 km² whereas the whole Saya de Malha Bank has an area of 40 000 km². Thus the impact is minimal.

Proposed recommendations to the Joint Commission of the JMA:

- Multibeam depth measurements of the Saya de Malha seabed were collected during two recent cruises (R/V Fridtjof Nansen in 2018, R/V Sonne in 2019). Mauritian scientists have been involved in the data treatment in cooperation with European researchers. It is recommended that the Joint Commission agrees that the **3D bathymetric charts thus produced be shared with Seychelles** as they are critical information to better plan the field work on Saya de Malha;
- Provisions on the taxonomic determination of biological samples by expert teams, to be done outside the region, as briefly described earlier. It is important that the Joint Commission endorses such a procedure **to ensure that a comprehensive analysis of the benthic ecosystem features** be produced by the project;

Relations with SIOFA

- Notwithstanding the fact that SIOFA has expressed scientific interest on this expedition, it has drawn attention on its conservation and management measures that are in place to regulate fishing activities in its area of competence. It seems **necessary to communicate directly with SIOFA** on the nature and the objectives of the biological collection to be undertaken on Saya de Malha. Although Mauritius and Seychelles exercise their sovereignty on the living and non-living resources of the
- continental shelf extension, it is suggested that the **Saya de Malha research project be presented at the upcoming Scientific Committee of the SIOFA** by Seychelles and Mauritius, to avoid any misunderstanding with the SIOFA.





SEYCHELLES –



MAURITIUS

SUSTAINABLE FISHERIES AGREEMENT NEGOTIATION

DATE: 04 to 09 February 2022

LOCATION: Seychelles

MEETING VENUE: Ministry of Fisheries and the Blue Economy

2nd Floor Maison Collet

PROGRAMME

Programme (03-09 February 2022)

| | |
|---|--|
| Day 1- Thursday 04 February 2022 | |
| 03:35 | Departure from Mauritius to Seychelles via Flight Air Seychelles HM 048 |
| 04:10 | Arrival to Seychelles International Airport / Check-in in Hotel |
| Day 2- Friday 04 February 2022 | |
| 10 30- 11 00 | Courtesy visit to the Minister of Fisheries Seychelles |
| 11 00- 12 00 | Negotiations for the Agreements - Seychelles - Mauritius |
| 13 00 -16 00 | Negotiations for the Agreements - Seychelles - Mauritius |
| 19 00 | Dinner hosted by Minister of Fisheries, Seychelles |
| Day 3- Saturday 05 February 2022 | |
| 09 30 – 12 00 | Seychelles Fishing Authority Site |
| Day 4 – Sunday 06 February 2022 | |
| | Free |
| Day 5 – Monday 07 February 2022 | |
| 10 30-12 00 | JMA: Monaco Expedition Research MOU Sea Cucumber exploratory fishing Cooperation in IOTC |
| 13 00- 16 00 | Negotiations for the Agreements – Mauritius - Seychelles |
| Day 6 – Tuesday 08 February 2022 | |
| 09 00- 09 30 | Courtesy visit to the President |
| 09 30- 11 00 | Meetings: <ul style="list-style-type: none"> • IOTC – (MFBE) • Fisheries Transparency Initiative (FiTI) – (Providence) |
| 11 00– 12 00 | Finalization of both Agreements – Protocol |
| 13 00 | Lunch hosted by Hon. S. Maudhoo, Minister |
| Day 7 – Wednesday 09 February 2022 | |
| 10 00- 12 35 | Flight to Mauritius (Check-out at Hotel around 9 :30) |