



DÉPARTEMENT  
DES ALPES-MARITIMES

# SAIL AWAY TO THE CARIBBEAN

With The Famous  
Project



illustré par M.P.

# SAIL AWAY TO THE CARIBBEAN

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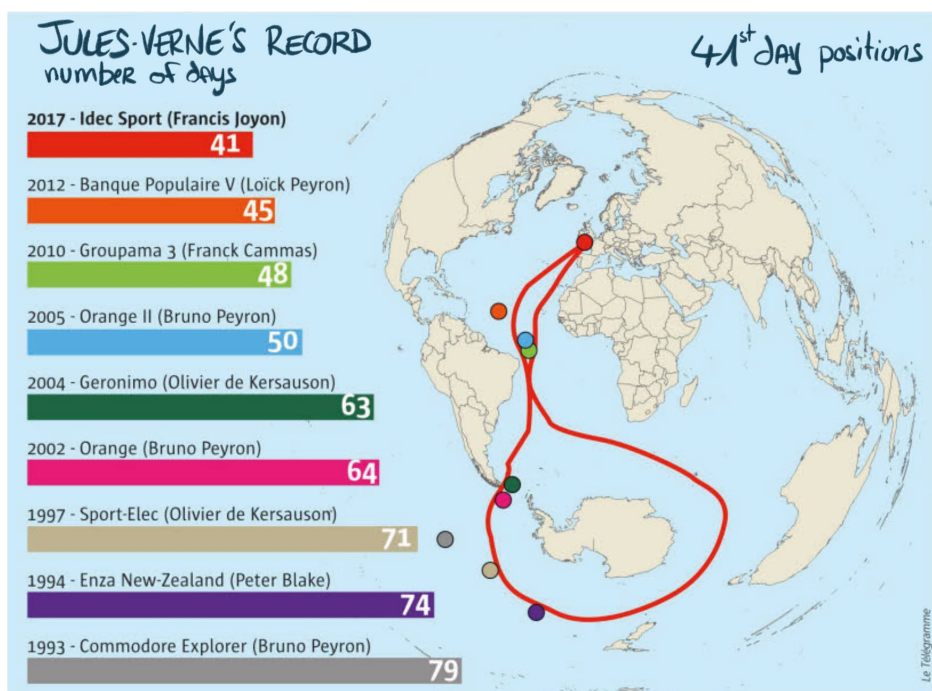
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# HELLO KIDS !

Excited to embark on a new adventure with you.  
As you may already know, I have taken on new challenges:

- 1. SAILING A MULTIHULL.** Professional sailor for twenty years, I have skippered only monohulls until now.
- 2. CHOOSING A MAXI-TRIMARAN.** (with an overall length between 23 and 32 meters). If I am going to sail a multihull, I might as well go for a really big one!
- 3. ATTEMPTING THE JULES VERNE TROPHY.** Initially, I would like to establish a new reference time...
- 4. ... WITH A 100% FEMALE CREW.**

[Opening a parenthesis: The Jules Verne Trophy is a sailing challenge rewarding the fastest crewed non-stop and unassisted circumnavigation. The current record is held by Francis Joyon and his crew on the Maxi-Trimaran Idec Sport.



So far, the **Jules Verne Trophy** has only been won by men. Few women have attempted it<sup>1</sup>, often due to financial constraints. Ironically, a woman, Florence Arthaud, initiated it. In 1998, Tracy Edwards from the UK set out on this world tour with an all-female crew. Unfortunately, a dismasting off the coast of Chile ended the adventure.

In 2003, Ellen MacArthur<sup>2</sup> took her chance with a crew of thirteen sailors (all men). She, too, suffered a mast failure after twenty-six days at sea, near Kerguelen. In 2015, Swiss sailor Dona Bertarelli, part of the Spindrift 2 crew, completed the race in 47 days, 10 hours, and 49 minutes. This stands as the female reference time for this global journey.

Closing the parenthesis.]

1. On January 29, 1991, Florence Arthaud and Titouan Lamazou created «Around the World in 80 Days», non-profit association, bearer of the Jules Verne Trophy.  
2. Two years later (2005) she broke the solo round the world record in 71 days on a similar road.



### 5. I ALSO WANT TO SHAKE THINGS UP.

Meaning, empowering all women and little girls to believe in their dreams, do everything to achieve them, and feel supported in doing so.

And that is why I have imagined  
**THE FAMOUS PROJECT.**



And you, what's your wildest dream?



I have been working on this project since my return from the Vendée Globe in 2021, and it is just starting to take shape. I have found highly experienced professional sailors ready to join me on this adventure. I have acquired a training Trimaran: the MOD70 LIMOSA, with which we have already claimed line honors<sup>3</sup> in the last Rolex Middle Sea Race.

And great news, we will be loaned the Maxi-Trimaran IDEC SPORT, the same one Francis Joyon used to set the Jules Verne record in 2017! Let's just say we are stacking the odds in our favor.

3. To claim line honors = to pass the line first (or to be the winner of multihulls)!



Before attempting the Jules Verne, we need to train.

Hence, we will try to participate in as many races as possible. Since IDEC SPORT is currently in the Multiplast shipyard in Vannes (Morbihan), The Famous Project team is sailing on the MOD70 Limosa.



As for the RORC CARIBBEAN 600, we will have a mixed crew with Dee Caffari (UK), Marie Riou (France), Elodie-Jane Mettraux (Switzerland), Tom Dawson (UK), Miles Seddon (UK), Jack Boutell (Australia AND UK), and myself as the skipper.

Alright, I'll stop here and wish you happy reading!

*Alexia*



# THE RORC CARIBBEAN 600 – HISTORY AND ROUTE

The RORC Caribbean 600 is part of the Royal Ocean Racing Club's (RORC) championship<sup>4</sup>, the world's largest offshore racing series, which also includes the Rolex Middle Sea Race (where Alexia's Limosa claimed line honors last October) and the RORC Transatlantic Race (which Alexia is currently participating in as we finalize this magazine). This race has been organized by RORC in association with the Antigua Yacht Club since 2009.

On February 19, 2024, Alexia and her FAMOUS team will take part in the

**15th edition of the RORC Caribbean 600.**

600 stands for six hundred nautical miles! That's the distance covered in this race.

I'll let you calculate how much that is in kilometers, considering that one nautical mile equals 1.852 kilometers.



The course circumnavigates eleven Caribbean islands, starting and finishing at the English Harbour port on Antigua (heading north first, then south).



Can you geolocate this group of islands on a world map?

One might think a race in the tropics is an easy one... Well, think again! Subjected to ocean currents, trade winds<sup>5</sup>, and significant wind disturbances (especially due to proximity to islands), this offshore course is one of the most challenging in the world. Perhaps that's why it attracts a wide range of boats and sailors.

Amateur and professional sailors can participate, as long as their boat follows the rules of their class (Class40 or IRC<sup>6</sup> for monohulls and MOCRA<sup>7</sup> for multihulls).

Yachts, schooners, Class40, Volvo 70, trimarans, or catamarans... There is something for everyone! Since the participating boats are all different, IRC and MOCRA rules ensure fair competition. A coefficient is assigned to each boat based on its physical measurements (length, weight, draft, keel shape, sail area, and plan...). **The resulting time corrector**, the boat's "TCC," is its rating.

The higher the TCC, the higher the boat's potential speed.

After a race, each boat's actual race time (the time it took to complete the course) is multiplied by its TCC to calculate its corrected time.

The boat with the lowest corrected time is the race winner, earning points for the championship (all RORC races of the year) and, of course, a golden trophy!



Following British tradition, the ultimate victory is reserved for a monohull, with the first multihull winning "line honors"! This year, there will be 57 boats at the start of the RORC Caribbean 600... Care to place your bets?



**At the finish, can you calculate the rating of at least one boat?**  
**Hint: You need to know its actual race time and corrected time.**

5. The trade winds are permanent winds that blow from the east to the equator.  
6. IRC = International Rule Club  
7. MOCRA = Multihull Offshore Cruising and Racing Association

# “Fun” fact



Fujin returns to top gear in the 2019 Caribbean 600.  
Photo credit: Tim Wright

In 2018, during the first night of the race, the Fujin, a carbon catamaran, capsized near the island of Saba. Surprised by strong gusts, the crew had not reefed the sails quickly enough. Luckily, no one was injured. A fisherman from the small island of Saba heard the distress call on his VHF radio and initiated the rescue. He towed the Fujin to Fort Bay in Saba, covering just 5 nautical miles in over ten hours (the catamaran still upside down)!

Once in the harbor, the community of Saba rallied to help upright the boat, renting a crane while local divers prepared underwater, and the fisherman's wife baked cakes at 4 in the morning for the hungry crew.

Once righted, the Fujin was towed to North Sound Marina in Antigua, where it was repaired just in time to participate in the following year's Caribbean 600.





# MARINE ECOSYSTEMS OF THE CARIBBEAN

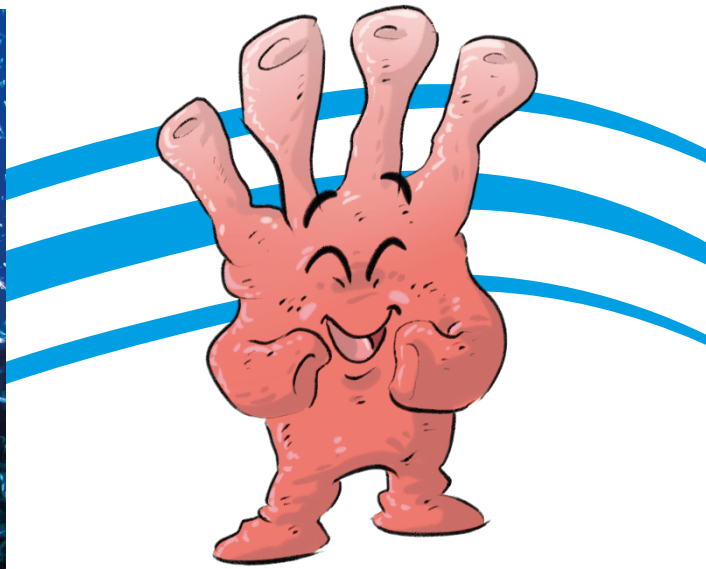
## Coral Reefs, nurturers and protectors

### Formation of Coral Reefs

Coral reefs are robust limestone structures found in tropical regions, uniquely constructed by living organisms known as corals.

These marine animals have an external skeleton (exoskeleton). As they grow, closely attached to their coral companions, their skeletons fuse together to create a collective, rigid structure, as if there were a single skeleton.

This process takes thousands of years, eventually accumulating to thicknesses of several meters. This superstructure remains highly porous and riddled with countless cavities —a perfect shelter for small fish and invertebrates.



### Presence of Coral Reefs in the Caribbean

In the Caribbean, coral reefs are found on all rocky seabeds, ranging from the surface to about sixty meters deep.

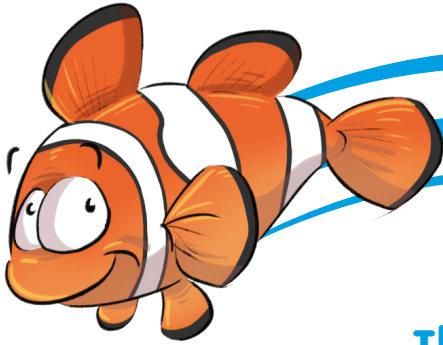
**Explanation:** Corals thrive in warm waters (average annual minimum above 20°C), clear and well-lit. They poorly tolerate low-salinity and muddy waters (explaining the absence of coral reefs along the entire Amazonian coast). Additionally, they need a hard substrate to attach to.

The coastlines of the Caribbean check all the boxes, making it an ideal location!



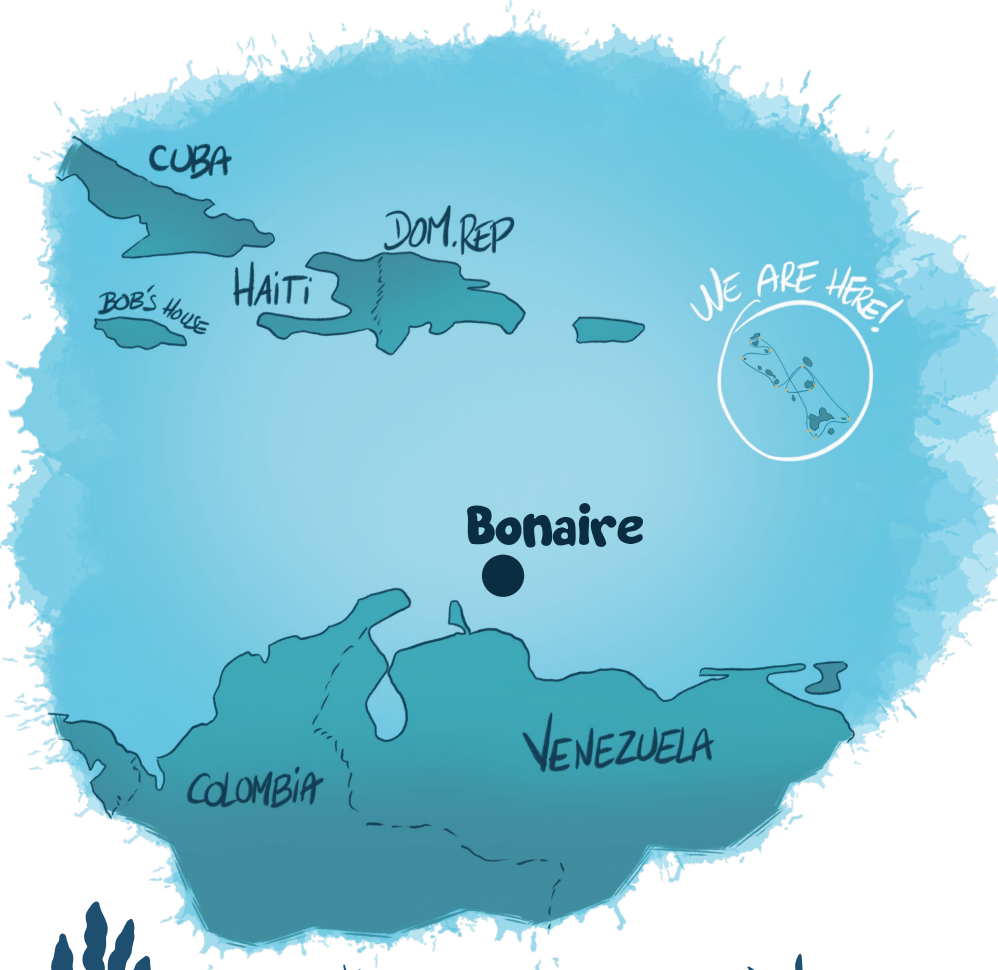
## The crucial role of Coral Reefs

- > To grow their skeletons, corals absorb dissolved calcium carbonate from the water... and indirectly, atmospheric CO<sub>2</sub>.
- > Erosion by the sea produces vast amounts of sand, settling in lagoons and forming coastal beaches.
  - > Acting as a barrier, it mechanically protects coastlines from waves.
- > By sheltering the coast, it allows other ecosystems like mangroves and seagrasses to thrive.
  - > It serves as a refuge and a food source for numerous marine animals.
- > It is also a significant source of income for local populations (fishing, tourism for scuba diving, etc.)



## Threats and solutions

You have probably heard of **coral bleaching**, a sign of poor health. These animals lose their color and become more vulnerable. Bleaching is caused by various factors, often related to human activities and climate change.



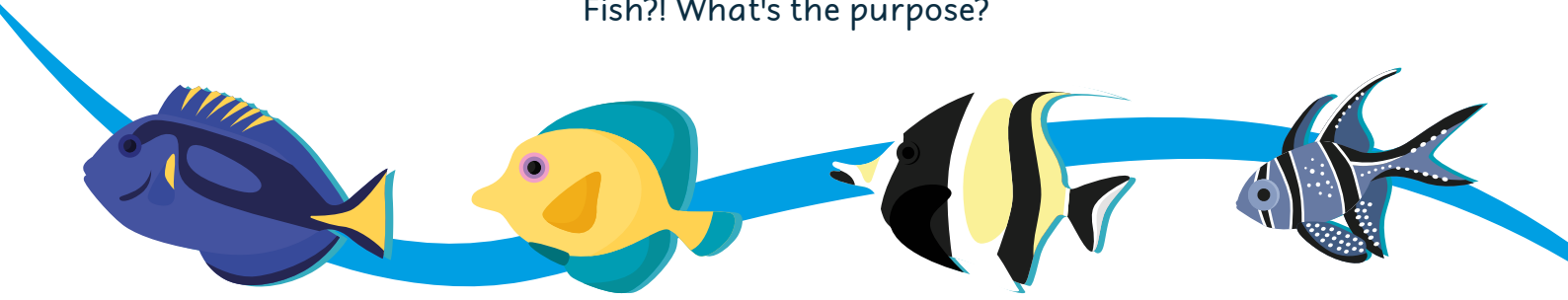
To address this, Marine Protected Areas are established, where human intervention and resource exploitation are heavily regulated (e.g., fishing quotas or even complete fishing bans).

Not far from the CARIBBEAN 600 is the world's oldest marine reserve: the Bonaire National Marine Park.



Scientists from the Rotterdam Zoo (Netherlands) are working on a revolutionary idea to help reef recovery: **a floating system for breeding marine fish larvae.**

Fish?! What's the purpose?



The concept is to raise fish to heal ailing reefs.

For example, the blue tang (*Paracanthurus hepatus*) feeds on algae abundantly, curbing their proliferation. This role as a gardener is crucial to neutralize creeping algae that tend to overrun corals, leading to their suffocation.

Other reef fish like gobies, damselfish, butterflyfish, or parrotfish regularly "graze" on coral, prompting it to regenerate slowly but surely, at a rate of just a few centimeters per year (similar to trimming split ends at the hairdresser). The technique seems to work in aquariums; the question is whether it will be effective *in situ*, in the Bonaire Marine Park.

Can you draw me a lovely reef fish?



# Mangroves, an "amphibious" ecosystem between land and sea

## The tree that lives with its feet in the mud

The mangrove, a coastal forest between land and sea, thrives in the intertidal<sup>10</sup> zone, a challenging environment for plants. High salinity, submerged roots, low soil oxygenation due to mud, unstable soil, warm waters... **The mangrove tree** adapts to these constraints.

In the **coastal mangrove**, where the water is deepest, the Red Mangrove (*Rhizophora mangle*) with its stilt roots is predominant. Its extensive roots begin above water, allowing it to extract oxygen from the atmosphere for the lower parts, somewhat "suffocated" by the mud.



In the **higher mangrove**, a shrubby zone with shallower water hosts the Black Mangrove (*Avicennia germinans*). A drier zone accommodates a mix of Grey Mangroves (*Avicennia marina*) and White Mangroves (*Laguncularia Racemosa*).

The Black and White Mangroves have developed a root system with protruding structures called pneumatophores<sup>11</sup>.

These allow the trees to breathe, similar to using a snorkel.

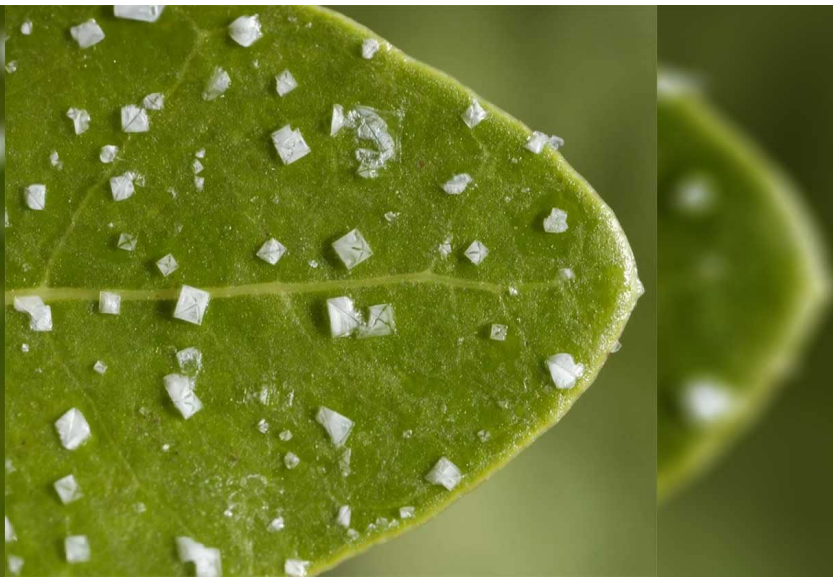
9. Mangroves are considered as coastal flood forests (able to withstand daily tidal flooding).

10. The intertidal zone is the area where the ocean meets the land between high and low tides.

11. A pneumatophore is a part of an aquatic plant or animal that is specially designed to interact with the atmosphere.



The Grey Mangrove lacks stilt roots or pneumatophores but possesses glands at the base of the leaves, aiding in expelling excess salt absorbed from brackish coastal waters. These "salt glands" are also present in White Mangroves, with visible salt crystals on the leaves.



### Unique Adaptations and Reproduction :

Notably, mangroves don't disperse seeds like most plants; instead, they release seedlings directly, which grow on the tree and fall into the water to find a suitable substrate for growth.

How do you Say 'mangrove tree' in French?



## Mangroves filter water and mitigate waves

Just as coral reefs protect coastlines, facilitating mangrove development, the reverse also holds true. Regular rainfall on tropical islands washes soil into the sea during floods, bringing substantial suspended matter.

As mentioned earlier ("Presence of Coral Reefs in the Caribbean"), CORALS DISLIKE TURBID WATERS! The stilt root system of mangroves allows them to trap organic and mineral matter, even certain pollutants, maintaining clear water in nearby lagoons.

HURRAH shout the corals!



Additionally, mangroves, like coral reefs, provide protection. They reduce<sup>12</sup> wave impact, limiting coastal erosion, as demonstrated in this filmed experiment: [How mangroves protect the coast](#). They also act as sponges during floods, minimizing damage and releasing water during dry periods.

THANK YOU, mangrove tree!

## Bustling life in the mangrove!

This nutrient-rich coastal forest attracts a plethora of fish and invertebrates.

Even manatees (see "Fauna of the Caribbean") graze on the algae present. Larvae of various kinds cling to the mangrove roots, attracting crustaceans, fish, birds, and more to make their homes there (including nests of various bird species and even bats).

Preserving this vibrant ecosystem is crucial. Extreme weather events and tourist developments are genuine threats to mangrove ecosystems.

Various projects (CORESCAM<sup>13</sup>, SWAMP<sup>14</sup>) and research centers (CIFOR-ICRAF<sup>15</sup>) collaborate to monitor these environments and work to guide effective mangrove management policies.

As they say, there is a lot of work to be done!

**SWAMP**



**CORESCAM**  
Coastal Biodiversity Resilience to Increasing  
Extreme Events in Central America



12. Mangroves could decrease wave height by more than 66%.

13. CORESCAM = Coastal Biodiversity Resilience to Increasing Extreme Events in Central America.

14. SWAMP = Sustainable Wetlands Adaptation and Mitigation Program.

15. Center for International Forestry Research (CIFOR) and World Agroforestry (ICRAF).

# Seagrass beds, underwater meadows

## No, not algae... We said PLANTS!!!

Seagrass beds are true underwater meadows composed of flowering plants (phanerogams).

You might have thought that underwater plants were called algae, right?

Well, no. Unlike algae, these plants have real stems, roots, leaves, flowers, and fruits. For reproduction, they release their pollen into the water, carried by marine currents



In Guadeloupe, scientists have identified seven different species of phanerogamic plants in seagrass beds, including two remarkable ones:

Turtle grass (*Thalassia testudinum*), found up to ten meters deep.

Manatee grass (*Syringodium filiforme*), found up to thirty meters deep.

Since seagrass beds are located between the surface and 30 meters deep (they need light), we can observe them from space! Satellite observations have estimated that

**the Caribbean region houses nearly half of the world's seagrass beds...**

That is enormous!

By the way, could you name an emblematic plant of the Mediterranean Sea?



## A lively and dynamic meadow

Seagrass beds also play a fundamental ecological role:

- They contribute to **water oxygenation**, **carbon storage**, and **organic matter production** through photosynthesis (basically, when plants breathe in the sunlight).
- With their root systems, they **stabilize the seabed**, and the clustered stems help reduce current speed, limiting coastal erosion.
- They serve as a crucial **food source** for various animals, such as the Caribbean manatee, which grazes on 40 to 50 kg of plants per day (see "Fauna of the Caribbean"), as well as for Green Turtles and black and white Sea Urchins.
- They provide an ideal refuge and spawning ground for many organisms, including conch shells!

Scientists from the University of Michigan estimate that **Caribbean seagrass beds provide the equivalent of 255 billion US dollars in services to contemporary society**, including 88.3 billion in carbon storage. This is the first time we have been able to estimate the monetary value of a service provided by nature. Valuable information, isn't it?



## Seagrass beds in danger

The United Nations Environment Programme (UNEP) estimates that the area occupied by seagrass beds is decreasing by 7% per year. This ecosystem faces two main types of threats:

- **Climate change** (increased water temperature, rising sea levels, and increased cyclone intensity) exposes seagrass beds to risks of eutrophication (algae invasion), uprooting, and excessive sedimentation (no light => no photosynthesis => habitat degradation).
- **Human activities have a significant impact**: coastal constructions, pollution (especially plastic waste), sports and leisure activities (boat anchors that uproot plants), lack of understanding of the environment and its fragility.

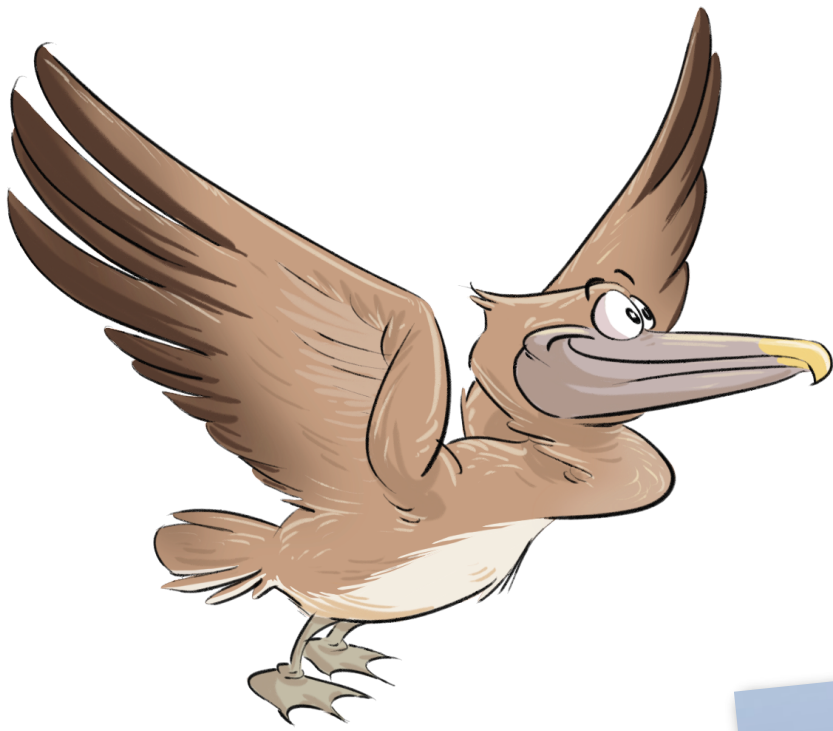
According to a study, the construction of artificial reefs in the Caribbean could address these issues.





# THE CARIBBEAN WILDLIFE

## The Brown Pelican (*Pelecanus occidentalis*), a well-equipped fisher



Carrying its fishing net everywhere, the lower part of the pelican's beak is equipped with an expandable pouch allowing it to catch fish (and everything that comes with it).

Sometimes, the seabird may overeat, hindering its takeoff. It must then regurgitate some undigested food to soar again.

Each pelican species has its fishing technique, with the Brown Pelican known for its straight dives onto its prey. It plunges headfirst from heights of up to 7 meters.

Impressive, isn't it?

Another remarkable behavior is its courtship display (or flirting technique, if you prefer). Not much of a talker, it prefers to dance, stomping the ground with its webbed feet, drawing circles around the coveted female.



Régine Le Courtois Nivart  
www.oiseaux.net



# The Roseate Tern (*Sterna dougallii*), the pirate of the Caribbean



With its black mask, two slender tail feathers, and light flight, you might call it the "Zorro of the seas," don't you think? It even manages - if we can say so - to "fly" underwater! It chases its prey in flight, then dives (it can make dives from 12 meters high) and continues to pursue its future meal underwater (up to 75 centimeters below the surface) by propelling itself with its wings over a short distance. Herring, mackerel, hake, and whiting better watch out. In bad weather, the Roseate Tern sometimes steals food from other seabirds like common terns. This behavior is called kleptoparasitism.

Another spectacular behavior to observe is its courtship display (again!!). Males, often carrying a fish in their beaks, spiral high into the air (from 30 to 200 meters high), closely followed by one or more females, then descend in pairs in long intertwined gliding flights.

A "WOW" effect guaranteed!

**Do you know the etymology of the word 'kleptoparasite'?**



# The Magnificent Frigatebird (*Fregata magnificens*), the eagle of the Caribbean



As its plumage is not waterproof like most seabirds, the frigatebird has invested everything in gliding flight. Unable to swim or dive, it spends long hours in the air, observing. Then, either it uses its long hooked beak to catch fish or other squids on the surface—or even better, to catch flying fish (which is no small feat). Or, it also opts for kleptoparasitism, preferring to wait until another bird has caught a beautiful fish and then rushing behind it to force it to regurgitate its prey. Nice, isn't it?

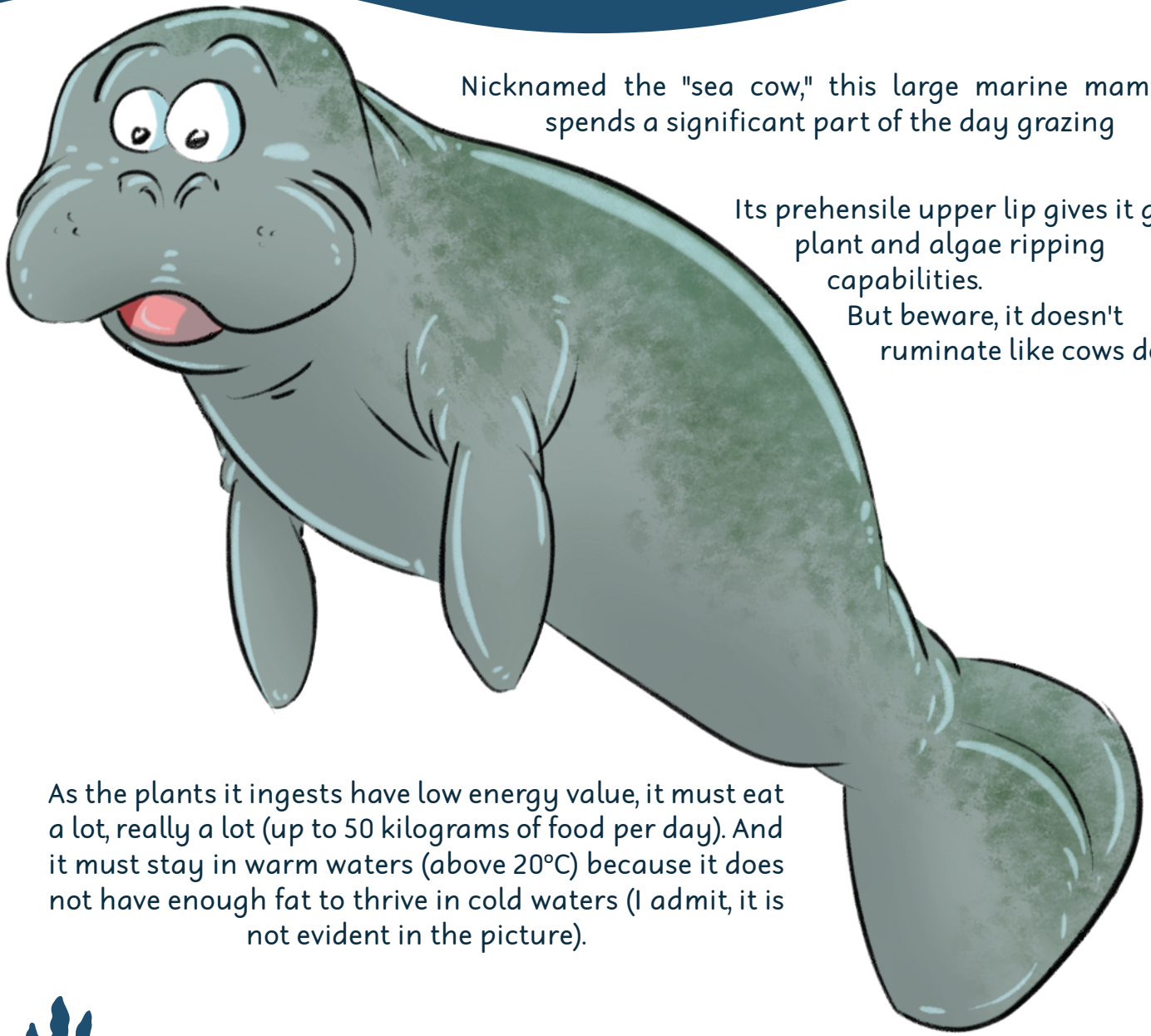
Regarding the mating season (since we are talking about it again and again), the male Magnificent Frigatebird wants to deserve its adjective (magnificent)... The orange pouch under its throat turns bright red; it inflates it like a balloon and makes drumming sounds with its beak. In one word, **MAGNIFICENT!**

Can you also name three species of seabirds that I might encounter in the Caribbean Sea?

- 
- 
- 



# The West Indian Manatee (*Trichechus manatus*), a Sea cow



Nicknamed the "sea cow," this large marine mammal spends a significant part of the day grazing

Its prehensile upper lip gives it good plant and algae ripping capabilities.

But beware, it doesn't ruminate like cows do!

As the plants it ingests have low energy value, it must eat a lot, really a lot (up to 50 kilograms of food per day). And it must stay in warm waters (above 20°C) because it does not have enough fat to thrive in cold waters (I admit, it is not evident in the picture).

**Fun fact:** It is likely that hearing the plaintive songs of manatees and quickly seeing the animal, with teats on each side and a fish-like tail, led the sailors of Christopher Columbus's time to start believing in mermaids.

# The Caribbean Monk Seal (*Monachus tropicalis*), a ghost?

I heard that its streamlined body allows it to swim very fast, but it is quite clumsy on land. It is thinner than other seal species because in warm waters, the insulating layer of fat is not really necessary.



But truth be told, I do not know much more because the Caribbean Monk Seal has completely disappeared.

It was so heavily hunted in the first half of the 20th century—for its meat and oil<sup>16</sup>—that it has not been seen since the 1950s.

Its cousins, the Mediterranean Monk Seal and the Hawaiian Monk Seal, are also critically endangered, with only about 600 and 1200 individuals left, respectively.

I do not want to sadden you too much, but I just want to convey that currently, **25% of marine mammals are facing extinction**<sup>17</sup>. Being aware that we would not see them again is a first step toward preserving those still here.

And it is also for this awareness that I created the 4myplanet association.

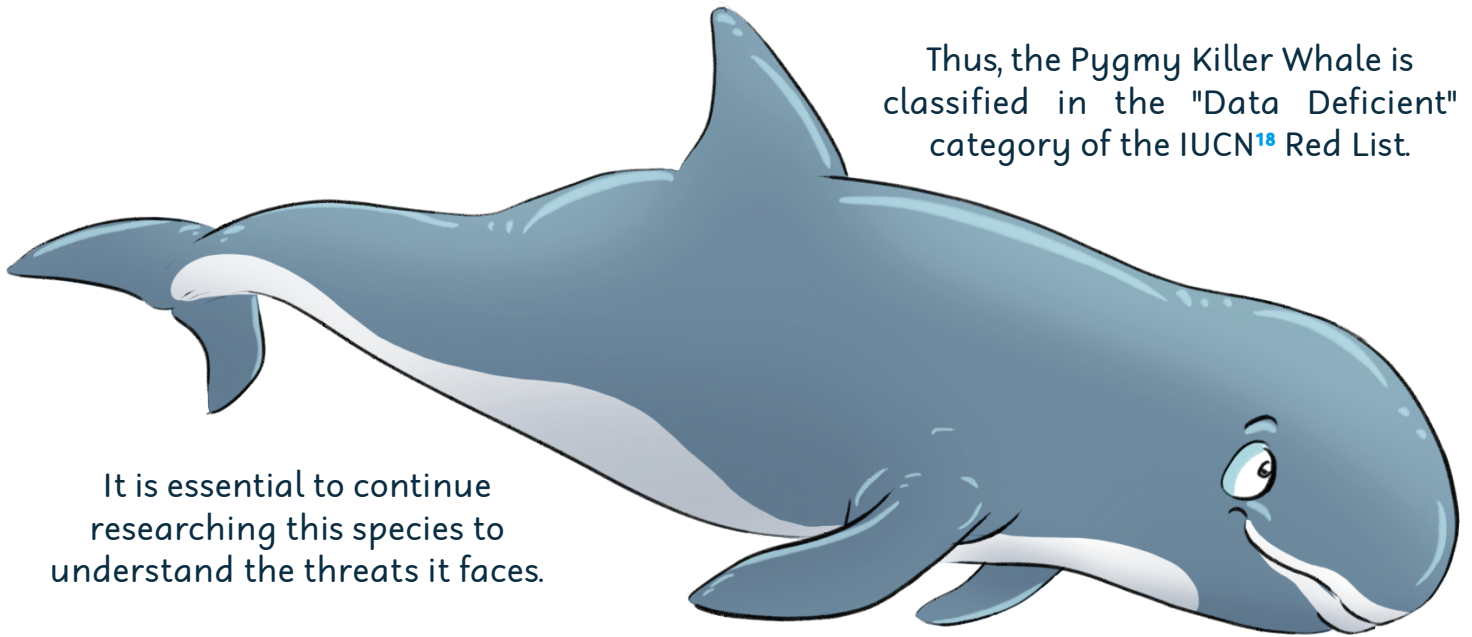
16. Seal oil was used to operate the oil lamps (and therefore to light).

17. The most likely causes are climate change, fishing, bycatch, pollution and maritime development.

# The Pygmy Killer Whale (*Feresa attenuata*), Small and mysterious

Unlike its large cousin, the orca, the Pygmy Killer Whale is poorly known because it is rarely observed. We know it eats squid or tuna without precisely knowing its diet. We know it can reasonably have offspring from the age of 7, without knowing the duration of its gestation. There is also no very precise idea of the current number of individuals (estimated at around a thousand worldwide).

Thus, the Pygmy Killer Whale is classified in the "Data Deficient" category of the IUCN<sup>18</sup> Red List.



It is essential to continue researching this species to understand the threats it faces.

In 2020, two Caribbean researchers founded an association to better understand the diversity of cetaceans<sup>19</sup> in their region, study them, and thus better protect them:

## the Caribbean Cetacean Society (CCS).

Through cooperation between different institutions (nature conservation organizations, scientists, volunteer observers, and government representatives), the CCS significantly improves current knowledge about Caribbean marine mammals. They hope to be able to implement appropriate protection measures.



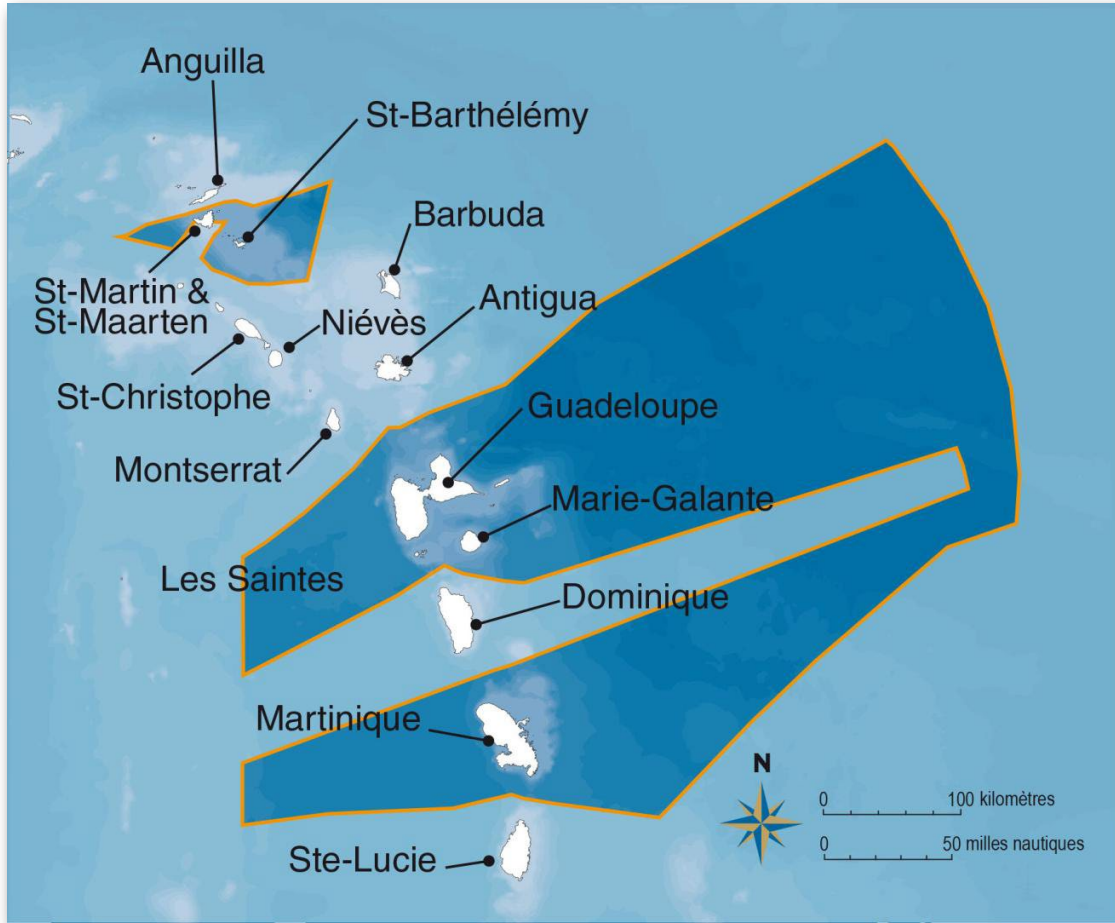
CARIBBEAN CETACEAN SOCIETY

**Note: At least one-third of the diversity of cetaceans worldwide has been observed in the Caribbean (around 30 species out of 90 in total).**

<sup>18</sup>. The International Union for the Conservation of Nature is the largest and oldest global environmental organization in the world. Website : <http://www.iucn.org/>

<sup>19</sup>. Cetaceans are the group of marine mammals that include whales, dolphins and porpoises.

In the Caribbean Sea, there is also a French marine protected area (the largest and the first internationally protected marine area) managed by the French Office for Biodiversity (OFB): **the AGOA Sanctuary**. Its total area is 143,256 km<sup>2</sup>.



**Its objective is to ensure a favorable conservation status for marine mammals by protecting them, as well as their habitats, from the direct or indirect negative impacts, proven or potential, of human activities.**

**Could you give me the names of three cetacean species that enjoy the warm waters of the Caribbean?**

- 
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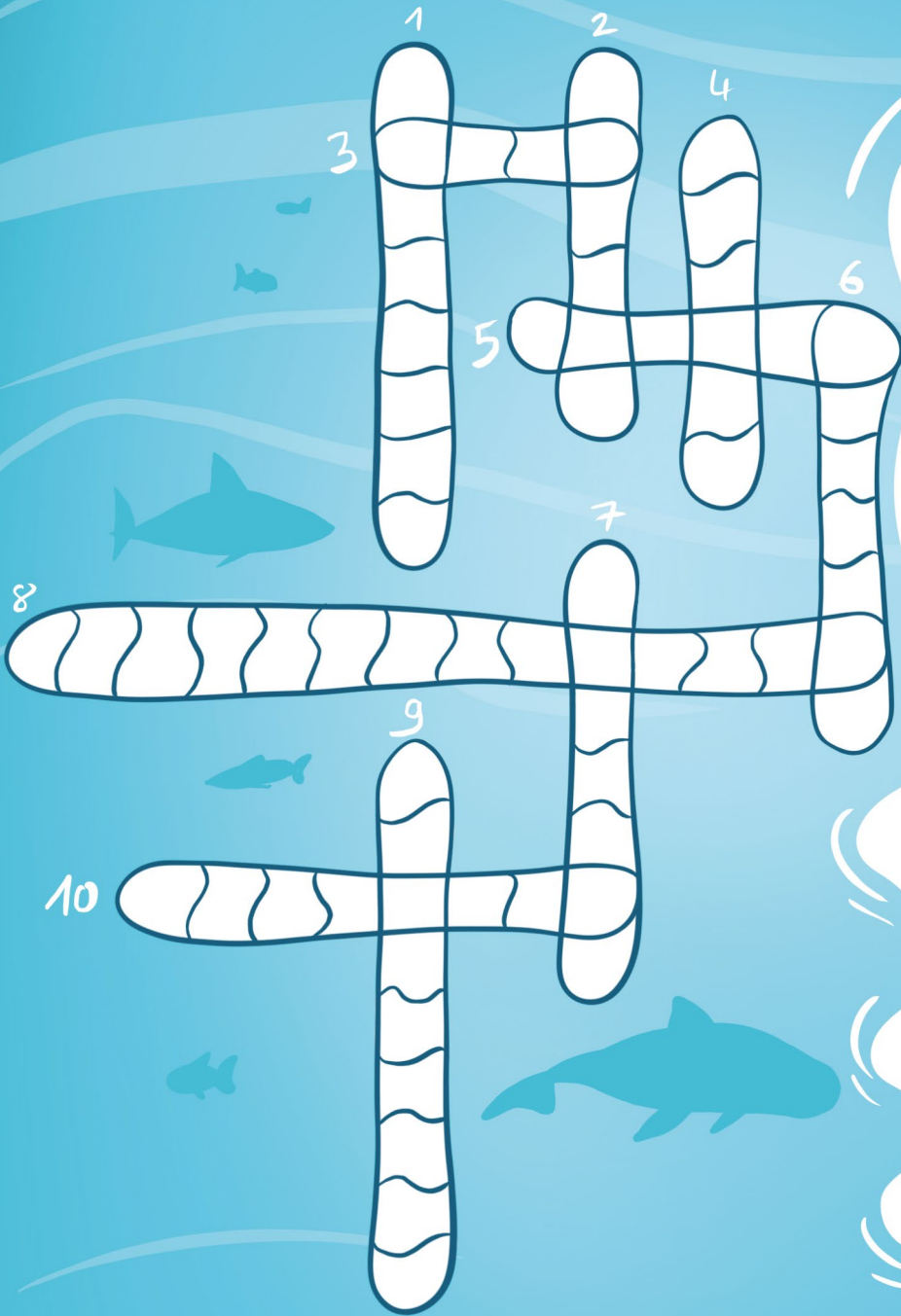
# SAILOR GAMES

## Horizontal

- 3. The largest marine mammal sanctuary.
- 5. Adjective in the name of Alexia's new project.
- 8. Said of a sea bird thief.
- 10. Name of a French woman who founded the Jules Verne Trophy.

## Vertical

- 1. The favorite environment of trees that love water.
- 2. Means 'boat' in French.
- 4. Name of Alexia's training boat.
- 6. To breathe underwater.
- 7. A cow from the Caribbean Sea.
- 9. When corals lose their color.



## CARIBBEAN REBUS





# SAIL AWAY TO THE CARIBBEAN

This magazine has been brought to you by 4myplanet, an association aiming to support, develop, and promote initiatives that encourage sports engagement and raise awareness about environmental preservation.

4myplanet carries out various educational activities for children and initiates diverse sports projects contributing to advancing scientific research on climate studies.

We hope you enjoyed this magazine!



**4myplanet**

**Latest updates:** To follow the race in real-time, visit the RORC Caribbean 600 race website (just a reminder, the race starts on Monday, February 19, 2024).

For all your questions, letters, drawings, or other contributions, send them via email to

[lise.4myplanet@gmail.com](mailto:lise.4myplanet@gmail.com)

See you soon.

