

Consulting



#5

# OUR CHALLENGE

Combining biodiversity preservation with economic activity in Martinique thanks to mangroves



## If mangroves could talk... what would they say?

Probably that they are unseen heroes, essential for the preservation of our ecosystems.

Day and night, the impenetrable mangrove forest works to protect us, nestled between land and sea. With the allies it shelters – fish, crustaceans and molluscs – the mangrove forest provides a refuge for small fish that can develop far away from predators, absorbs CO<sub>2</sub> to limit global warming and acts as a larder to feed all its wildlife. Even humans are provided for, with oysters, mussels, prawns, crabs...



In Martinique, at Pointe des Sables near the Étang Z'Abriquets marina, mangroves play a very specific role in protecting against climate change.



**Find out how the mangroves protect the coast against the devastating effects of flooding and hurricanes!**

# GOAL

Warming ocean waters are increasing the frequency and strength of these climatic phenomena.

**18** cyclones have hit Martinique since **1950**  
with 7 affecting directly the island

⇒ Reducing the port's vulnerability to rising sea levels and the increased intensity and frequency of storms\*.

\* This trial is part of the *LIFE Integrated Project ARTISAN*, "Achieving Resiliency by Triggering Implementation of nature-based Solutions for climate Adaptation at a National scale", supported by the European Union and coordinated by the French Office for Biodiversity.

- ⇒ Working with the local metropolitan authorities, Communauté d'Agglomération du Centre de la Martinique (CACEM) and scientists, SUEZ Consulting teams are designing a resilient solution aiming to sustainably reduce the Étang Z'Abricots marina's vulnerability to climate change. Limiting the agitation of water in the marina protects the safety and comfort of the boat owners and ensures that boating activities can continue.
- ⇒ A shared goal: **demonstrate that solutions based on nature can combine biodiversity preservation with economic activity.**



# SOLUTION

⇒ **EXTENDING** the mangroves along a sandy point at the entrance to the port.

To achieve this, we are developing a three-stage approach:

- Installing a lightweight, reversible and environmentally friendly structure consisting largely of wooden piles
- Natural deposit of sediment, raising the level of the sea floor
- Free development of the mangroves already present at the site

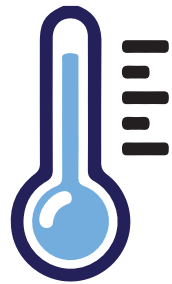
Once the mangroves are well established, they will provide a resilient natural barrier to protect the marina.

# DID YOU KNOW

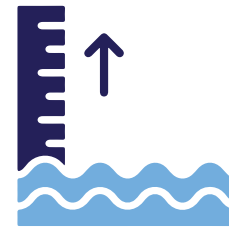


**5,172 HECTARES**  
OF MANGROVES  
IN THE FRENCH WEST INDES

*Source: ROM, 2020*



**18°C**, THE MINIMUM  
AIR TEMPERATURE FOR  
MANGROVES TO THRIVE



**+30 to 110 CM**, THE PREDICTED RISE IN  
SEA LEVEL BY THE END OF THE 21<sup>ST</sup> CENTURY

*Source: IPCC, 2021*

«**HURRICANE HOLE**»,  
A NATURAL SHELTER AMONG  
THE MANGROVES WHERE  
BOATS TAKE REFUGE WHEN A  
CYCLONE IS ANNOUNCED



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solutions to address  
climate change?



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