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Ninth Meeting of the Scientific and Technical Advisory
Committee (STAC) to the Protocol Concerning Specially
Protected Areas and Wildlife (SPAW) in the Wider
Caribbean Region

Virtual Meeting, from the 17th – 19th of March 2021

CARIB-COAST: AN INTERIM REPORT

(January 2019 – December 2020)





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ACRONYMS

BRGM	Geological and Mining Research Bureau
CARIB'COAST	Caribbean network for coastal risks prevention related with climate change
CARICOOS	The Caribbean Regional Association for Coastal Ocean Observing
CNRS	National Center for Scientific Research
IFREMER	French Research Institute for Exploitation of the Sea
IMA	Institute of Marine Affairs
ONF	National Office for Forests
RAC	Regional Activities Center
SPAW	Specially Protected Areas and Wildlife
STAC	Scientific and Technical Committee
UNEP	United Nations Environment Programme
UWI	University of West Indies

1. INTRODUCTION

1.1 Definition

As presented during the last Scientific and Technical Advisory Committee (Panama, December 2018) and the last Conference of the Parties to the Protocol concerning Specially Protected Areas and Wildlife (Roatan, June 2019), the three (3) years project “Caribbean network for coastal risks prevention related with climate change” (Carib-Coast) (2018-2021) is funded by the EU (€3,021,890.59, of which €482,551.63 are allocated to SPAW-RAC). The project is led by the French Geological Survey (BRGM) which closely works with 10 other Caribbean partners. Six Caribbean territories are directly involved in the project.

1.2 Partners

The partners are the following : BRGM, the French National Forest Office (ONF) and the SPAW-RAC in Guadeloupe, the French Marine Research Institute (IFREMER) in Martinique, the French Development Research Institute (IRD) and the French National Centre for Scientific Research (CNRS), the University from the West Indies (UWI) in Trinidad and Tobago, and its Mona GeoInformatics Institute in Jamaica, the Institute of Marine Affairs (IMA) and the Coastal Protection Unit (CPU) both from Trinidad and Tobago, the Caribbean Regional Association for Coastal Ocean Observing (CARICOOS) in Puerto Rico, and the Association of Caribbean States (ACS) whose secretariat is hosted in Trinidad and Tobago.

1.3 Objectives

Carib-Coast aims to pool, co-build and disseminate knowledge about monitoring methods, coastal risks prevention and adaptation to climate change in the Caribbean. SPAW-RAC is a key partner involved in the tasks dealing with marine and coastal ecosystems as well as training and communication actions.

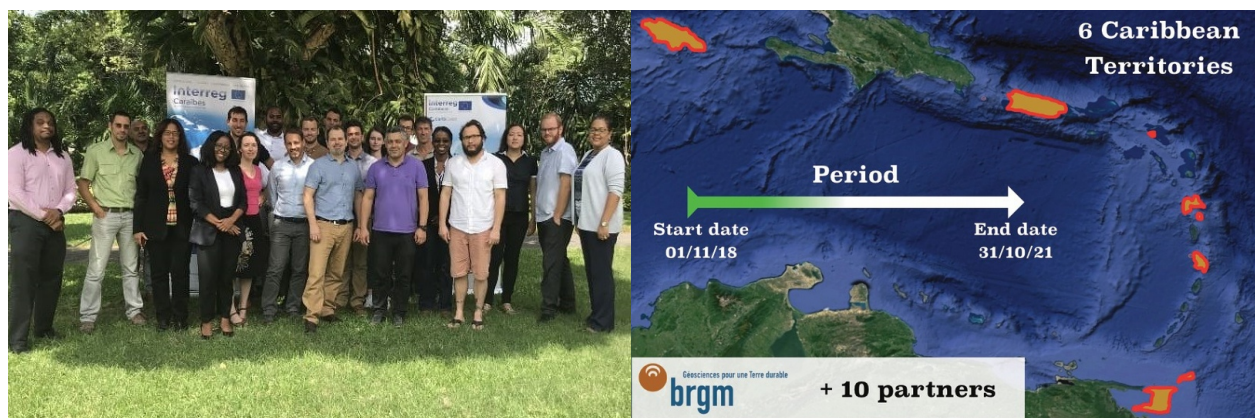


Figure 1. The CARIB-COAST network at its first steering committee meeting (Jamaica, 2019)

Figure 2. Territories involved in the project

2. METHOD

Carib-Coast is composed of four (4) work packages.

WP 1. Coordination and Management of the Project

WP 2. Coastal Hydrodynamics Observation and Modeling

WP 3. Coastal Erosion Monitoring

WP 4. Decision Support Tools

Each of them is led by one of the Carib-Coast project partners. SPAW-RAC is taking the lead on the work package n°4 and is also strongly involved in the work package n°3.

3. RESULTS 2019 - 2020

<p>WP 1. Coordination and Management of the Project</p>	<ul style="list-style-type: none"> • Participation in the 1st Steering Committee meeting which officially launched the project (January 2019, Guadeloupe). • Recruitment of the Carib-Coast Project officer (Mike Héliion, July 2019 to November 2020, then Marine Didier, since December 2020). • Participation in the 2nd Steering Committee meeting (October 2019, Jamaica). All the partners were gathered and presented their achievements and ongoing activities. • Involvement in the website building (writing of articles, sharing of photos, review and comments). The website has been translated in English and released (https://www.carib-coast.com/en/). • Recruitment of an intern (Julia Bos) who was in charge of the production of communication tools. • Budget modification to reallocate funds for training workshops, internships and communication actions. • Extension of the project implementation deadline until December 2022. • Participation in the 3rd Steering Committee meeting (November 2020, virtual).
<p>WP 2. Coastal Hydrodynamics Observation and Modeling</p>	<ul style="list-style-type: none"> • SPAW-RAC is not part of this work package.
<p>WP 3. Coastal Erosion Monitoring</p>	<ul style="list-style-type: none"> • Syntheses were written about the three targeted ecosystems (coral reefs, seagrasses and mangroves). Each synthesis gathers a description of the ecosystem in the Caribbean context, the main services provided towards coastal protection and/or erosion mitigation, the major threats, various solutions to

	<p>tackle these threats and a list of regional initiatives. This is still an ongoing work since there is always new information to incorporate. The review and comment made for the CLME+ “Status of Nearshore Habitats” were mainly based on what has been gathered for the syntheses.</p> <ul style="list-style-type: none"> • Work with ONF and BRGM to identify pilot sites in the French Antilles. This mainly concerns the coastline monitoring and upper beach vegetation restoration. Pre-identification of pilot sites for protection and/or restoration of reefs, seagrasses and mangroves in non-french territories, and preparation of the consultancies for public contracts. • Different tasks were performed regarding the Global Coral Reef Monitoring Network (GCRMN, both Global and the Caribbean node). Help for the “call of data” in the Caribbean to contribute to the “Status and Trends of the Coral Reefs in the World” report. Participation in the Global GCRMN meeting (February 2020, Bangkok). Co-organization and co-funding of the GCRMN-Caribbean Steering Committee meeting (January 2020, Bonaire). • Organization of the “Coral Reef and Human Dimensions Monitoring in the Mesoamerican Reef Socio-economic Assessment Workshop” (Honduras, December 2019). • Participation in a workshop on mangrove restoration (November 2019, Guadeloupe). This event gathered French mangrove experts from the region. • Through the call for proposals launched by SPAW RAC in 2020, support of the organization of an upcoming training workshop on mangrove restoration to be held in Bonaire in 2021. • Involvement in the SPAW STAC Working Groups dedicated to “Species” and “Sargassum”.
<p>WP 4. Decision Support Tools</p>	<ul style="list-style-type: none"> • Presentation of the project during the 4th Caribbean Initiative Conference (May 2019, Dominican Republic) and the GCFI 72 (November 2019, Dominican Republic) • Training workshop implemented during the 2nd Carib-Coast Steering Committee meeting (October 2019, Jamaica). It focused on the GCRMN-Caribbean guidelines for coral reef monitoring and on seagrass monitoring guidelines as developed by some partners. • Starting work with the intern concerning the production of communication tools in three languages, mainly posters and short videos targeting the general public. The objective is to disseminate knowledge about coastal protection services delivered by marine and coastal ecosystems, threats to them and how it is possible to participate in their protection in the daily life.

4. CONCLUSION



Carib-Coast is an active and operational transboundary network.

Carib-Coast generates a lot of interest each time it is presented because it illustrates the link between nature conservation and the safety and well-being of populations.

ANNEX: Communication during GCFI 72

Caribbean network for the prevention of coastal risks related with climate change

6 Caribbean Territories

Start date: 01/11/18 | End date: 31/10/18

BRGM + 10 partners

BUDGET
Total cost: 3 021 890,59€ | FEDER (25%): 2 240 782,41€ | SPAW-RAC: 482 551,63€

The Wider Caribbean Region is susceptible to many natural threats among which hurricanes are one of the most important. Due to climate change these events will become a bit less frequent. However their strength should increase. Combine with sea level rise, our coasts will face an accelerated erosion as well as more submersion risks. In this context, the Carib'Coast project, lead by the BRGM, has been launched late 2018. It aims to pool, co-build and disseminate knowledge and surveillance approaches, coastal risk prevention and adaptation to climate change in the Caribbean.

In 1983, the Caribbean nations adopted the **Carthage Convention**, the only regional and legally binding agreement on environment. Among the three protocols stemming from the Convention, the **Specially Protected Areas and Wildlife (SPAW)** protocol is the one dedicated specifically to biodiversity conservation. It supplies a unique legal framework for the conservation of the region's biodiversity. This Protocol has been ratified by 17 countries. The **SPAW-RAC** (Regional Activity Center) is in charge of the implementation of SPAW protocol's activities.

Carthage Convention
Adopted in 1983
28 States

- Oil spill pollution**
Adopted in 1983
25 States
- Specially Protected Areas and Wildlife**
Adopted in 1983
17 States
- Land-Based pollution**
Adopted in 1983
13 States

Caribbean States Region map presenting SPAW ratified States and State-related activities areas

MPAs listing

Endangered species listing

MPAs and species management

Ecosystems protection and sustainable use

Regional Cooperation

WP1
Project management and coordination

WP2
Coastal hydrodynamics observation and modelling

WP3
Coastal erosion monitoring

WP4
Decision support tools

Results

WP3

> **Synthesis on coastal and marine ecosystems : Focus on their roles for coastal protection**

Coral Reefs

Coastal protection +++

- 21% Caribbean coasts
- 97% of wave energy absorbed
- Up to 2 billions \$ of economy per year

Best is :
High living coral cover
Key herbivores

Erosion mitigation ++

- Sediment precipitation
- Sediments stabilization
- Sand production

Climate regulation +

- Carbon sink

Erosion mitigation +++

- Sediments precipitation
- Sediments stabilization

Climate regulation ++

- Huge carbon sinks

Seagrasses

Best is :
Biggest species
Thalassia testudinum

Coastal protection +

- Small waves and currents attenuation

Best practices :

- Protect / Restore
- Ecosystem Based Management
- Engage small pilot project
- Monitoring / Lesson learnt
- Go on bigger project

Upper Beach vegetation

Coastal protection ++

- Natural barrier against extreme climatic events

Best is :
Diversity / Density
Width

Climate regulation ++

- Huge carbon sink

Erosion mitigation ++

- Sand trap and stabilization
- Rain erosion mitigation

Climate regulation +++

- Huge carbon sink
- Coastal water alkalinizing

Erosion mitigation ++

- Up to 80% land sediments uptake
- Sediments stabilization
- Soil vertical and horizontal growth
- Sea level adaptation

Mangroves

Best is :
High density

Coastal protection ++

- 15 to 65% of wave energy absorbed
- Wind absorption
- Flood mitigation

Next steps

WP3

- Pilot sites implementation
- Ecosystem syntheses : translation and sharing
- Soft solutions guide production
- Ecosystems satellite imagery

WP4

- Website release
- Training workshops : Mangrove restoration
- Coral reefs monitoring
- Communication tools
- Communication actions

Pilot sites

WP3

- Regeneration enclosure
- Sargassum video tracking
- Topo-bathymetric survey
- Public channeling

Undefined yet

- Wave data collection
- Video coastal monitoring
- Water levels
- Wave data collection
- Hydro-morphodynamic numerical modelling

Undefined yet

- Mangrove restoration
- Hydrodynamic modeling

Undefined yet

- Video coastal monitoring
- Reefs & seagrass imagery
- Solid waste management & mangrove restoration

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BRGM | Interreg | European Union | UN environment | CAR-SPAW-RAC