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

Panama City, Panama, 5 - 7 December 2018

Addendum 1

Summary of Project accomplishments January to December 2017

For reasons of economy and the environment, Delegates are kindly requested to bring their copies of the Working and Information documents to the Meeting, and not to request additional copies.

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Biodiversity for Sustainable Development in the Caribbean Through Ecosystem Based Management (EBM Project)

Summary of Project accomplishments
January to December 2017

R1. Regional MPA Database improved

With the implementation of the project the CaMPAM Regional Database of Marine Protected Areas (MPA) has been evaluated by looking at four main topics: a) structure, user friendliness and usefulness to different users, b) relevance for Decision Support System (DSS) & Marine Spatial Planning (MSP) with Ecosystem Based Approach (EBM), c) potential contribution to the development of regional reports on the status of MPAs across the Wider Caribbean Region, and d) utilization for UN Environment-CEP's capacity building efforts regionally and globally

Three questionnaires were designed to reach the general public, the MPA managers, planer/technicians which sere posted online through the application Survey Monkey, circulated to the GCFI and CaMPAM e-mail listings, and also sent by email to more than 150 key stakeholders. Questionnaires were available in English and Spanish. In addition nine interviews were conducted for in depth analysis (Table 1). A total of 27 responses were received either through the online application or by e-mail, 16 in Spanish and 11 in English.

Table 1. List of people interviewed for the MPA database evaluation.

No.	Name	Organization	Date
1	John Knowles	TNC-CaribNode http://www.caribnode.org	May 26/2017
2	Robert Glazer	GCFI – Executive director https://www.gcfi.org/	May 30/2017
3	Pamela Fletcher	University of Florida, Institute of Food and Agricultural Sciences Extension Sea Grant liaison at AOML http://www.aoml.noaa.gov/ocd/ocdweb/mares.html	Jun 13/2017
4	Emma Doyle	MPA Connect https://www.gcfi.org/initiatives/mpa-capacity-program/	Jun 7/2017
5	Hyacinth Armstrong Vaughn	Protected Areas Officer, BIOPAMA Programme of the IUCN Regional Office for Mexico, Central America and the Caribbean (IUCN/BIOPAMA) http://biopama.org/	Jun 13/2017
6	Georgina Bustamante	UN Environment CEP/SPAW CaMPAM coordinator http://campam.gcfi.org/CaribbeanMPA/CaribbeanMPA.php	Jun 14/2017

7	Mimi D'Iorio	NOAA MPA Center https://marineprotectedareas.noaa.gov/aboutmpas/mpacenter/	Jun 26/2017
8	Edward Lewis	UNEP - World Conservation Monitoring Centre https://www.protectedplanet.net/c/world-database-on-protected-areas	Jun 27/2017
9	Leonardo Arias & Carolina García	INVEMAR http://www.invemar.org.co/	Jul 05/2017

The following were the evaluation main conclusions and recommendations:

- The CaMPAM MPA database is currently the most comprehensive source of information for MPAs in the Caribbean Region, however is not well known nor frequently utilized. Several strategies are needed to connect this information to existing similar data sets, including a stronger promotion and ownership. Definitively, migrating the MPA database from its current location to UNEP-CEP/SPAW-RAC location is a first step in this direction.

- By being under the UN Environment Program umbrella is also the only MPA database that is not completely dependent or associated to a particular project, thus have the potential to include detailed information from MPAs across the all Caribbean countries and territories, overcoming present limitations affecting most regional sets of information. Nonetheless, still its operation, maintenance and improvement needs to be integrated into the organization long-term agenda and funding strategies.

- It was a consensus for having a more user friendly interface and to simplify the database structure. The current MPA information will increase its usefulness for marine spatial planning or decision support system by adding quantitative information not only on bio-physical but also on socioeconomic and cultural aspects. The possibility of having information on special indices/indicators, technical reports, thematic maps with a built-in reference system were all perceived important assets in a re-design MPA database.

- The CaMPAM MPA database needs to be linked to similar regional or global databases and this require a team dedicated to the day-to-day operations, including work on improvement of its diffusion, update and completion. Stronger collaborative multilateral and international efforts will be developed in this process, which in return shall contribute in better and robust MPA planning and implementation.

The following recommendations will serve to accomplish the database goals and objectives:

a) Have the entire CaMPAM program Web page, including the MPA database, hosted at UN Environmental office,
b) Simplify the database structure, with only two or three modules: general information, in-depth information and a functional link for a mapping application,
c) Establish linkages with other regional/global database in order to have a functional mapping linkages with MPA external boundaries,

d) Create a more user-friendly interface opening for the possibility of having quantitative data, covering bio-physical, socio-economic and cultural aspects. This information will be part of the in-depth information module,
e) Include the possibility to have access to monitoring or other MPA technical reports useful for MPA planning and management, with a built-in reference system,
f) Progressively develop a mapping tool to generate thematic maps, other than external MPA boundaries,
g) Develop and implement a strategy for increase promotion and use of the MPA database, including its connectivity with similar regional or global databases,
h) Create a committee within SPAW that can dedicate time for the operation, modification, update and develop alliances need for the MPA database,
i) Allocate funding for the operation of the CaMPAM program on the long-term.

In the following three months it is expected that 40 MPAs, including the 32 ones listed as priorities under SPAW will have updated information.

In addition, a diagnostic of the availability and quality of additional databases on coastal and marine resources will be conducted with the support of the recently established EBM/DSS regional nodes. In this process, advice and support from La Sapienza University database experts is expected to be arranged.

R2. Site specific DSS is established

Two selected areas (Puerto Plata & Montecristi) in the northern section of Dominican Republic have been selected as the EBM/DSS pilot sites (Figures 1). These two sites are briefly characterized below.

Puerto Plata Province

The Puerto Plata province covers an area of 1,811 km2, and limits with the Atlantic Ocean on the north, the Espaillat province on the east, the Santiago and Valverde provinces on the south; and with Monte Cristi on the west. Accordingly with the 2010 census, inhabitants were estimated around 321,597, from which only 9% have completed their university studies.

Wetlands (*Coccoloba uvifera*, *C. diversifolia*, *Capparis ferruginea)* and mangroves (*Conocarpus erectus, Rhizophora mangle, Laguncularia racemosa, Avicennia germinans*) are important on the coastal zone. They includes for instance the Estero Hondo, an area recognized by its abundant and associated marine mammals' populations, which are part of a protected area of the same name. Well-developed mangroves can also be found in Laguna Cabarete and Goleta. These wetlands are near to a healthily coastal dry forest (*Acacia farnesiana*, *Guaiacum officinale* and *G. sanctum*, among others) most of them protected by La Hispaniola National Park. This dry forest transition to a humid forest as the altitude increases (*Coco nucifera, Coccoloba uvifera, Bursera simaruba, Bucida buceras, Terminalia catappa, Chrysobalanus icaco, Calophylum calaba,* and *Roystonea hispaniola* among others).

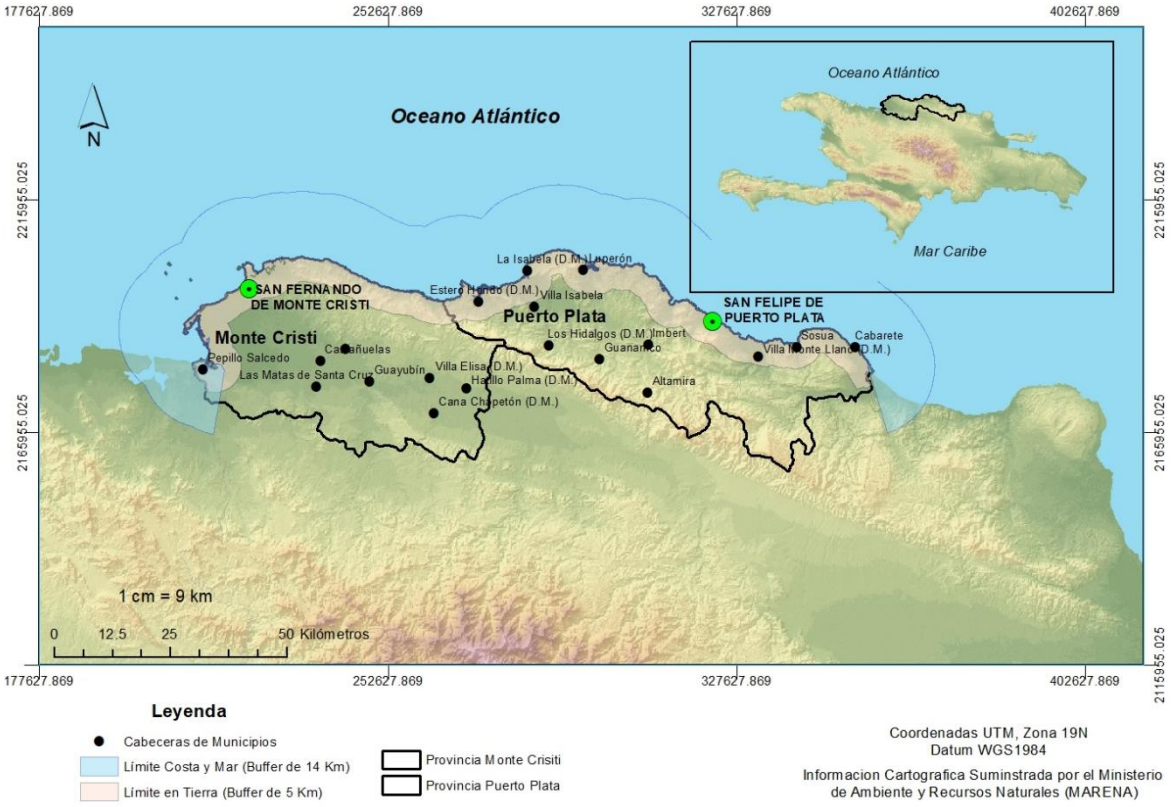

Figure 1. Location of the Montecristi and Puerto Plata selected sites for pilot application of the EBM/DSS in Dominican Republic.

Protected areas boundaries and main habitats are identified. Map generated by Luis Omar Martinez, Ministry of Environment and Natural Resources.

On the marine environment, the area contains the famous and oceanic Marine Mammal Sanctuary of La Plata and La Navidad banks utilized mainly by the humpback whales (*Megaptera novaeangliae*) and by other whales (*Physeter macrocephalus* and *Globicephala macrorhynchus*), dolphins (*Stenella attenuata* and *Tursiops truncatus*), and manatees (*Trichechus manatus*).

Marine ecosystems can also be found within the Sosua Recreational Area, a highly visited place given its coral patches (*Acropora palmata, Agaricia agaracites, A. lamarckiana, Madracis mirabilis, Diploria strigosa, Porites porites, P. divaricata* and others), and turtle grass (*Thalassia testudinum*) and manatee grass (*Syringodium filiforme*) meadows.

Common reef fishes are among others the following: *Acanthurus coeruleus, Sphyraena guachancho, Selene vomer, Dasyatis americana, Gymnothotax funebris, Epinephelus guttatus, Cephalopholis fulva, Abudefduf saxatilis, Haemulon flavolineatum, Lutjanus apodus, Aetobatus narinari* and some *Ginglymostoma cirratum* and *Carcharhinus* sharks.

Crustaceans are presented by species such as *Callinectes sapidus, Ucides cordatus, Cardisoma guanhumi* and *Coenobita clypeatus*. On the other hand amphibians and reptiles are represented for instance by the boa (*Epicrates striatus*). The beaches of Estero Hondo and Sosua host every year dozens of nesting sea turtles (*Chelonia mydas* and *Eretmochelys imbricata*).

Coastal and marine rich and abundant birds' populations consist of resident and migrant species, including: *Buteo jaimaicensis, Plegadis falcinellus*, *Fregata magnificens, Wudocimus albus, Palecanus occidentalis, Tyto glaucops, Malanespes striatus, Platalea ajaja, Nomonyx dominicus, Anas bahamensis, Porphirula martinica, Butorides virescens, Ardea alba, Bubulcus ibis, Aramus guarauna*. Some of them are even considered native birds such as *Cathartes aura, Athene cunicularia, Saurothera longirostris, Anthracothorax dominicus, Mellisuga minima, Todus subulatus, Chordeilis gundlachii, Zenaida macroura, Numida meleagri.*

Protected areas consist of one shared park (Montecristi National Submarine Park, II.B.1) plus the following: La Hispaniola National Park (II.A.18), Estero Hondo Marine Mammal Refuge (I.B.2), Bahía de Luperón Wildlife refuge (IV.A.3); La Plata y La Navidad Marine Mammal Refuge; Espaillat, María Trinidad Sánchez and Samaná marine areas (I.B.1). In addition, they have Laguna Cabarete y Goleta Natural Monument (III.A.6), Loma Isabel de Torres Natural Monument (III.A.7), Saltos de la Damajagua Natural Monument (III.A.10), Pico Diego de Ocampo Natural Monument (III.A.8). With the recent road construction, the Scenic Route named Santiago-La Cumbre-Puerto Plata (VI.A.5) was created.

Puerto Plata has several economic activities. On one hand is considered a tourist pole, known as a famous sun and beach destination, mainly around with Sosua, Cabarete, Playa Dorada, and San Felipe de Puerto Plata. On the other hand, it has cultural attractions (Brugal Factory) and is an important agricultural region. In fact, agribusiness there are dedicated to production of tobacco, cocoa, sugar cane, oriental vegetables, citrus, coffee, cassava, banana and its products. Similarly, it is possible to find cattle, swine and goat raising. Fishing is considered the most industrialized in the country. There is export of processed conch and lobster.

Logistic sector has the International Airport Gregorio Luperon allowing for an important flow of tourists in the country, as well as the Puerto Plata seaport which serves both cargo and tourism cruises.

Figure 2 illustrates the spatial location of the main coastal and marine resources that has led to the protection strategies in the Puerto Plata working area.

Montecristi Province

Montecristi province is located in the northwest region of the country in the coastal lowland, and it confines to the Atlantic Ocean on the North, to Valverde and Puerto Plata provinces on the East, to Santiago Rodríguez and Dajabón provinces (South), and to Atlantic Ocean and Haiti Republic (West). The total surface is 1,880.34 km^2, with a population of 135,710 inhabitants, which 46.8% is urban and 53.2% rural population. In 2010, almost 80 thousand people, (70.8% of the population) had completed primary or high school, and only 6% have a bachelor's degree (Figure 2).

With an area of 7,044 km^2, the watershed of Yaque del Norte is the largest of the Dominican Republic, and the second largest of the island. The water of the river is used for irrigation, mainly in the valley that goes from Santiago to Montecristi, the Yaque del Norte Valley. There are several dams along the river to generate electricity, store the water for irrigation, and prevent flooding. Other provincial rivers are: Chaquey River, Masacre River, Guayajal River.

The flora component consists of 203 species of vascular plants, which 25 are endemic and 159 are native.

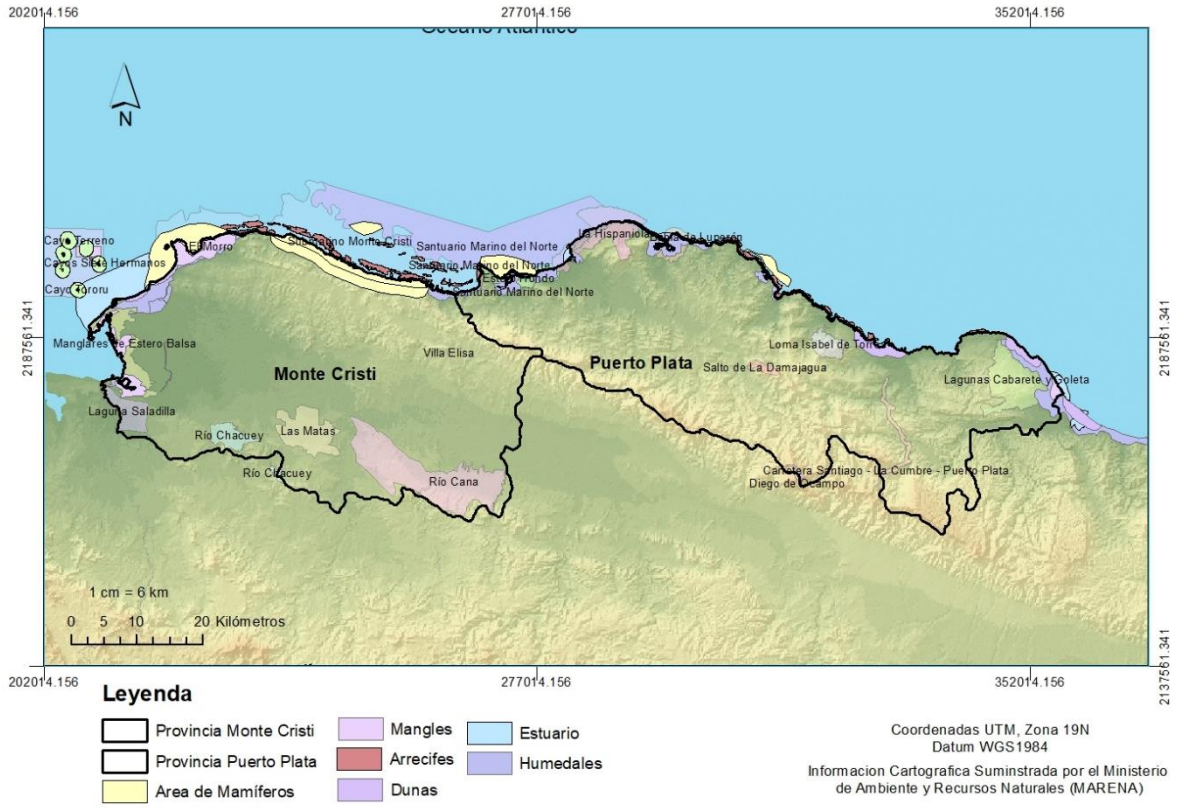

Figure 2 illustrates the spatial location of the main coastal and marine resources that has led to the protection strategies in the Puerto Plata working area.

Map generated by Luis Omar Martinez, Ministry of Environment and Natural Resources.

The province biodiversity consists of coastal dry forest, dry forest on limestone, and wet forest and mangroves, thus the vegetation and flora are adapted to changes in humidity, salinity and high and low temperatures and a great diversity of plants. The transitional dune ecosystem, is also great variety of species, because of the direct relationship with the different ecosystems present in the coastal area. From the 161 species of flora reported in the zone, 17 are endemic, 139 native, and five naturalized. Despite that invasive vegetation dominated by exotic species, some of them already naturalized, do not cover large areas, its presence could potentially cause a negative impact on the local vegetation.

Terrestrial animals are comprised by six local amphibian species, plus one endemic and two introduced species. Another four reptiles species are frequently observed, not including the marine turtles.

On the marine environment, coral reefs occupy a significant extension, and considered of enormous importance for the country because are the island first barrier of protection against strong currents

commonly experienced in the Atlantic Ocean. Coral reefs are interconnected with other neritic ecosystems such as seagrasses, mangroves and sandy beaches, which in conjunction offer essential for many species included those of commercial of ecological importance. It therefore common, that these reefs are targeted for artisanal fishing.

The increasing use of legal and illegal fishing gears are resulting in overfishing and probably are generating an ecological imbalance for the entire marine biota.

Figure 2 illustrates the spatial location of the main coastal and marine resources that has led to the protection strategies in the Montecristi working area.

In general terms, the province marine biodiversity is represented by at least 111 families, 198 genera and 336 species reported species. In addition, another 127 of reef-associated fish species have been reported. Monitoring indicates that the reef is characterized by the low abundance of large organisms (herbivorous fish, sharks, turtles), coral reef diseases and on average dominance of small fishes. All indicators of the suspected overexploitation of the reef resources.

Around the protected area of El Morro 28 species of birds are reported, which include resident, migratory, terrestrial, coastal marine and aquatic environment species. Similarly, the Siete Hermanos Keys are the most favourable natural environment for nesting in colonies of several species of seagulls (Onychopriun fuscatus, Sterna anaethetus, Anous stolidus and Sterna antillarum), along with the Saladilla lagoon where 24 species of birds have been also reported.

The area biodiversity in completed with at least 6 subpopulations of manatees (Trichechus manatus) and humpback whales (Megaptera novaeangleae) and dolphins (Tursiops truncatus) are frequently sighted.

Within the Montecristi province there are the following protected areas: El Morro National Park (II.A.12), Manglares de Estero Balsa National Park (II.A.15), Montecristi Submarine National Park (IV.B.1), Cayos Siete Hermanos Wildlife Refuge (IV.A.5), and Laguna Saladilla Wildlife Refuge (IV.A.6).

The area economic income comes from the agricultural sector and includes for instance bananas (organic and conventional), mangoes (organic and conventional) and rice crops. In minor proportions are cocoa, garlic and peppers crops. In addition, the salt production has become a reference in the province, utilizing extensive coastal plains which facilitates that formation of terraces built for salt storage. The salt production consists in more than 300 artisanal production traded mostly at national level.

The tourism is incipient and some infrastructure has been built for its promotion such as the national airport Osvaldo Virgil and the port El Morro. Indeed the tourism sector is progressively increasing, taken the advantage of the rich biodiversity and the husbandry culture.

Figure 3 illustrates pictures of the entire working area biodiversity.

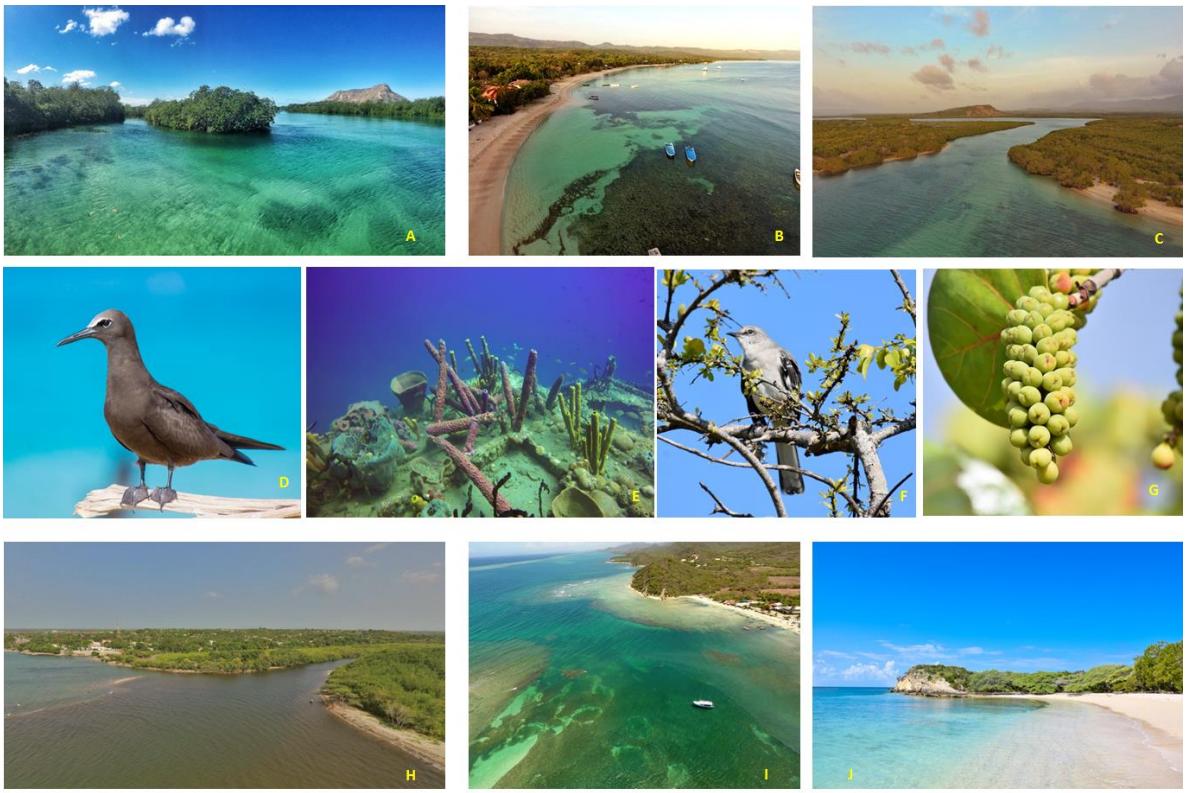

Figure 3. Photographs of the of the Montecristi and Puerto Plata biodiversity. Pictures taken by Jonathan Delance, UNDP Biodiversity and Tourism project coordinator.

A. Mangrove on EL Morro National Park, B. Seagrasses at Punta Rucia, C. Coastal vegetation at Estero Hondo, D. Brown noddy (*Anous stolidus)*, E. Coral reefs at Montecristi, F. Mockingbird at El Morro, G. Seagrape (*Coccoloba uvifera*), H. Massacre river estuary, I. Seagrasses and coastal environments at Buen Hombre, I. Cabra Island near Montecristi

The EBM/DSS process

An interdisciplinary working group in Dominican Republic was established during PROGES first visit to Santo Domingo, Puerto Plata, Cabarete, Montecristi, Manzanillo, Punta Rucia, and Buen Hombre (June 16th to July 5th 2016). This group is currently comprised by approximately 60 people in representation of nine governmental institutions and eight private and community organizations/groups (ANNEX 1). However there have been some changes as the government changed back in August, 2016. In general over a 70 stakeholders in Dominican Republic have been trained in the use of the Integrated Spatial Planning (ISP) developed by PROGES, and so they have been enrolled in the development of these two EBM/DSS pilots projects.

The interdisciplinary group actively participated during the first (10-14 October, 2016) and the second (27 November to 2 December 2016) project workshops led by PROGES and focused in understanding its socio-ecosystems context of the two selected areas. As a result of this work a set of 8 matrices were collectively constructed for Puerto Plata and 10 for Montecristi Boxes as follow:

For Puerto Plata: Coastal and marine ecosystems, watersheds, flora, fauna, coastal infrastructure, tourism, other economic activities, and cultural areas.

For Montecristi: Coastal and marine ecosystems, watersheds, flora, fauna, climate change, tourism, other economic activities, coastal infrastructure, natural/cultural protected areas, and bi-national topics

Those matrices have served as the basis for generation of boxes and arrows diagrams which facilitates the visualization of the relationships among ecosystem components and subcomponents (Figure 4). PROGES provided in depth training to the MARENA database manager, thus he can populate each of the databases and create the interconnections among them.

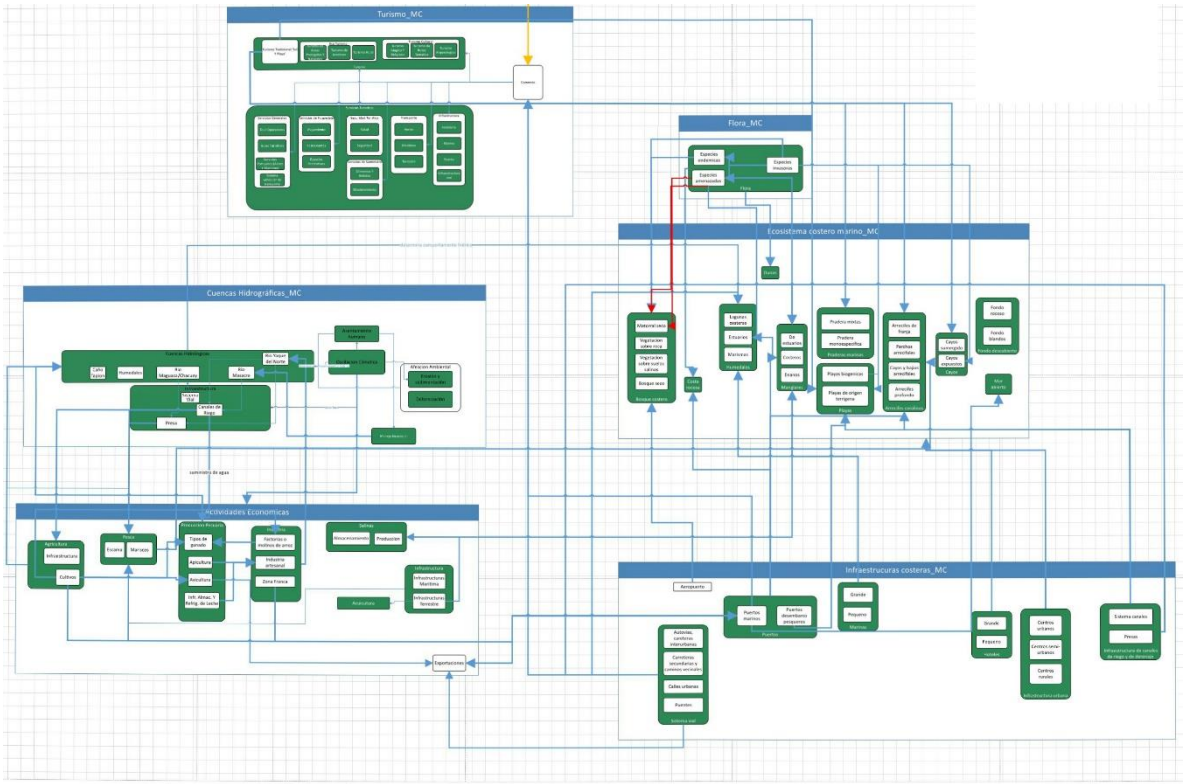

Figure 4. Example of boxes and arrows diagrams developed for the Dominican Republic pilot sites

The process continued with the third workshop (20-21 & 26-27 June, 2017) aimed to identified indictors for each of the above mentioned ecosystem components, which were entered into the ISP system. Experts identified a total of 60 indicators for Puerto Plata from which data was considered available from 45 of them. In the case of Montecristi, 22 out of the 48 indicators identified were considered with data available.

The data consists of geo-referenced imagery as well as tabular data, expected to be collected from stakeholders inside or outside of the interdisciplinary group. This phase has been a challenge because the specific information in many cases needed to be extracted from technical reports, various databases, or searched through intensively on the internet. Other data has not yet digitized or institutions do not have the personnel nor the timing to located the requested information. This

is because appearz that multiple Dominican government agencies do not have functional databases, depend on the memory of their technical people, or does not have geographic coordinates necessarily to be correlated to particular area, which in turn have limited the progress of the pilot database expert. To counteract this limitation, MARENA is planning to work in developing special agreements in order to keep the broad institutional support achieved so far.

With the project four workshop (30 November – 1 December 2017 & 7-8 December 2017), the inter-disciplinary group led by PROGES was able to conduct systemic quantitative analyze based on information collected for sub-components mangroves, wetlands, watershed, agriculture, coral reefs, fishing, tourism, ports and irrigation channels in the Montecristi area. In the case of Puerto Plata, the group worked on sub-components watersheds, natural and planted forests, mines, karstic system, tourism, fishing and commerce were also analyzed. For each sub-component mentioned, priority sustainable development and management activities have been identified.

The pilot project in Dominican Republic were key in the update of the software ISP from version 4.0 to version 5.0. PROGES is currently working in updating the correspondent user manual.

R3. Systemic management plans and priority activities prepared and implemented for each selected pilot areas

As presented above, the selected areas contains a series of protected areas (at least 10 under the national park system) from which six already have advanced (not legally adopted) management plans. It is expected that a result of this project two new technical documents will be generated, one for each pilot site, that would be compile the identified priority actions resulting from the application of the EBM/DSS developed process. These technical documents shall be a special management proposal that would be presented at special planning mechanisms for its information and adoption once in depth dialogue process take place. MARENA is informing that those priority actions would also be integrated into their internal planning instances. The two step process is needed because not all activities fall under the Ministry responsibility. This would be the last step in the pilot implementation and it is expected to be completed by April, 2018.

R4. Skills MPA practitioners WCR developed to provide to handle and update the GIS and datasets required for DSS

XII edition of the Trainers of Trainers (ToT) in the Management of Marine Protected Areas in the Caribbean were conducted at the Sunscape Puerto Plata, Puerto Plata, Dominican Republic from 26 September to 7 October 2016, under the coordination of Reef Check Dominican Republic. The course were completed by 24 participants from eight Spanish speaking countries including Colombia, Venezuela, Panama, Cuba, Puerto Rico, Belize, Haiti and the Dominican Republic and benefited from the knowledge and experience of 11 instructors/ speakers. At the conclusion of the training, a WhatsApp group and a Facebook page were created allowing for interactive communication, exchange of ideas and search for new opportunities in their learning curve (Figure 5).

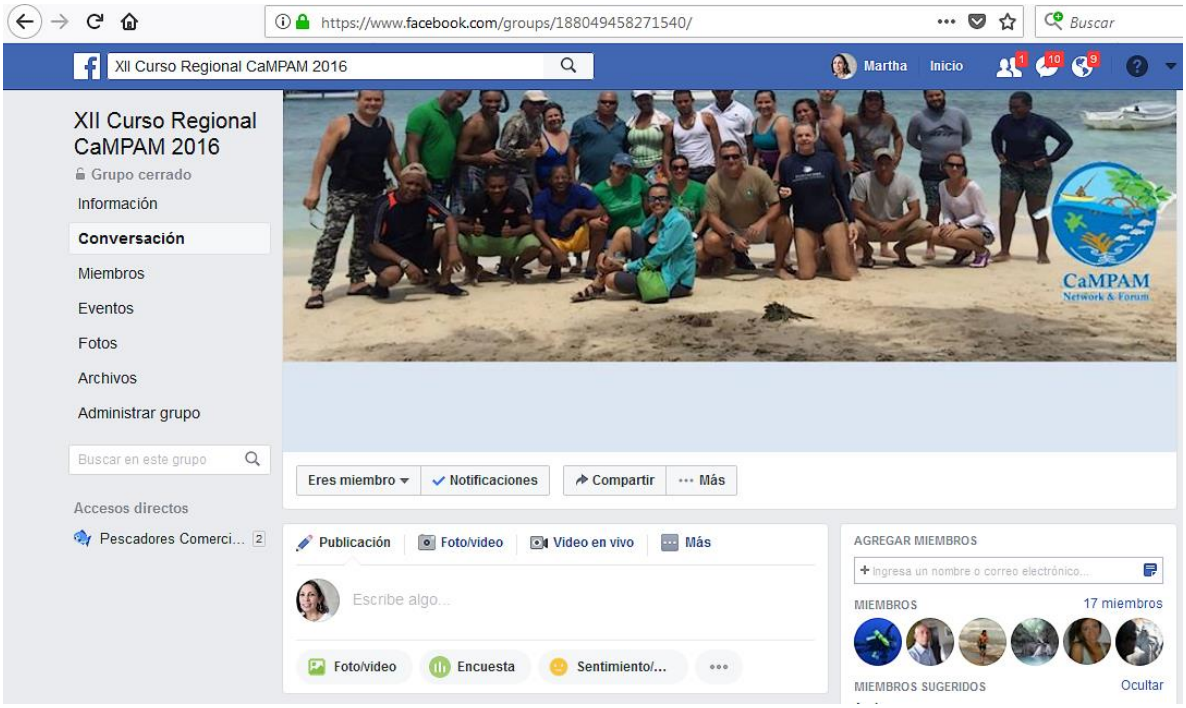

Figure 5. Illustration of the course Facebook page.

Upon the completion of the theoretical course phase, participants participated in a total of six follow-up activities which were completed in May 2017, with the exception of Belize that completed theirs by mid-December, 2017. Seven agreements between Reef Check Dominican Republic and in-country organizations were signed given funds for up to $ USD 4,000 to conduct the course follow-up activities (Table x). These follow-up course activities benefitted a total of 716 participants.

Table 1. Summary of the XII edition ToT course follow-up activities

Organization / Country	Date	Places, sites	No. participants	Main achievements / benefits
Centro Nacional Áreas Protegidas Ciénaga de Zapata Biosphere Rseseve, Cuba	28/20/2017 to 03/03/2017	Hotel Playa Giron Coastal zone and nearby caves	30 participants 23 MPAs managers 6 instructors, including 3 ToT participants	Training on ecosystem services, economic valuation of coastal and marine resources. Standardization of monitoring protocols.
INPARQUES Parque Nacional	14/02/2017 to 16/02/2017	Posada La Esmeralda	14 participants,	Strengthening skills and knowledge of INPARQUES personnel in recognition of ecosystem services,

Organization / Country	Date	Places, sites	No. participants	Main achievements / benefits
Morrocoy, Venezuela		Playa Mero, Bahía de Tucacas	100% INPARQUES rangers 4 instructors, including 1 ToT participant	monitoring and planning protocols. Integration and communication strategies were promoted.
HJR Reefscaping & Departamento Recursos Naturales, Puerto Rico	21/02/2017 y 28/02/2017	Rincón (NW) & Fajardo (NE)	28 participants 5 instructors, including 2 ToT participants	Increased knowledge of coral reef ecosystems, and understanding the protected species regulatory framework. Improvement of communication strategies.
Fundación Omacha, CORALINA, Parques Nacionales, Colombia	15/02/2017 to 24/03/2017	Distrito Manejo Integrado Cispatá y Tinajones, Ensenada Rionegro, bajos aledaños & ciénagas Urabá, y Seaflower Biosphere Reserve	489 participants en 18 local and national mini-workshops 3 ToT participants	Improved education and communication strategies, and disseminate knowledge acquired in the ToT course. All participants obtain documentation in digital format contained in specially generated USB memory for training.
Universidad de Panamá, Áreas Protegidas – MiAmbiente, Fundación MarViva, Panamá	14/02/2017 to 17/02/2017	Hotel Mikonos Centro Innovación, Desarrollo Tecnológico y Emprendimiento, Universidad Panamá, Santiago	24 participants 5 instructors, including 2 ToT participantes	Exchange experiences among parks rangers (Pacific and Caribbean). Greater understanding of oceanographic processes, monitoring protocols & research processes.
Belize Fisheries Department	07/12/2016	Fisheries Department building	14 participants 4 instructors, including 1 ToT participant	Improving communication skills and strategies, and strengthen ecosystem understanding among six park rangers and its main office. In depth training in using handheld VHS radios
MARENA & Fundación Punta Cana, Dominican Republic	23/02/2017, 09/03/2017, & 30/03/2017	Sosua, Puerto Plata (North-west)	117 participants 6 instructors, including 6	Preparation of a special presentation for different groups of fishermen,.

Organization / Country	Date	Places, sites	No. participants	Main achievements / benefits
		San Fernando, Montecristi (North-west) Punta Cana (Southeast)	ToT participants	Better understanding of marine ecosystems dynamics, analysis of fishing threats, including illegal fishing. Better communication strategies.

The XIII edition of the ToT will take place in Barbados, from 16-26 April, 2018, and will be offered to participants from English speaking countries. For this edition of the program, the UNEP-CEP has partnered with IUCN-ORMACC and the Centre for Resource Management and Environmental Studies of the University of West Indies (UWI-CERMES) as part of the CaMPAM, BIOPAMA and SocMon programs. UWI-CERMES will be the local coordinating organization. In this occasion, it is expected an attendance of 25 participants from about 12 countries and US and European Caribbean territories.

R5. A regional DSS is established supporting strategic lines and planning measures for conservation/sustainable management coastal and marine resources WCR

The PROGES team began the introduction of their EBM/DSS application by presenting and illustrating with examples the potentiality of this tool to the Gulf and Caribbean Fisheries Institute executive director (Robert Glazer) and the GCFI science Program Coordinator (Alejandro Acosta) in Marathon Cay, Florida, US last 17-18 June 2016. GCFI is expected to help in the promotion of the EBM/DSS at the regional level, along with two regional EBM/DSS nodes.

The first regional node established will be led by the Centre for Resource Management and Environmental Studies (CERMES) from The University of the West Indies, Cave Hill Campus and will be working with the Caribbean English speaking countries. The second on will be led by the "Instituto de Investigaciones Marinas y Costeras José Benito Vives de Andréis (INVEMAR)" attending those Caribbean Spanish speaking countries.

In addition to the promotion of the use of the EBM/DSS tools, the regional nodes will receive and provide in depth training to interested stakeholders, act as depositary of available data/software and elaborate a sub-regional diagnose about the current conditions needed for identification and development of best alternatives to strengthen a future network of EBM/DSS applications. Expanding uses of the application includes for instance cases built for specific areas, or for solving specific problems in response to the countries demands.

One day special workshop to gather information on existing and possible new collaborations on marine spatial planning and EBM/DSS at the regional basis were conducted in association with the CLME+ project, Waitt Institute, WWF-Guianas, TNC –Caribbean and GCFI. The meeting was conducted prior to the 70th GCFI annual meeting last 5 November 2017 in Merida, Mexico (ANNEX 2).

In addition, a regional workshop for provide further EBM/DSS training and analyze of the potential use throughout of the Wider Caribbean Region was conducted in Panama, at the Crown Plaza, Panama, on December 4-6, 2017 (ANNEX 3). The workshop participants considered the following

as the main steps to advance the project activities at the regional level, scaling up lessons and experiences gathered from the pilot projects and other complementarily activities:

a) Utilize the momentum created during the workshop for the establishment of an EBM/DSS Working Group. This working group can communicate internally and work through the Teamwork Platform which is being offered by UN Environment – CEP. Through this online platform the Working Group can communicate and share different countries strategies and information as needed
b) Strengthen this EBM/DSS Working Group by engaging, consulting and seeking feedback with countries stakeholder and other existing platforms via recently created EBM/DSS Regional Nodes. The role for the regional nodes would be to provide technical support or assist countries in need of capacity.
c) Increase capacity building for implementation of conservation activities or sustainable use of marine and coastal resources in the Wider Caribbean Region by developing new pilot projects. Still to be defined additional where, the specific objectives and tangibles and realistic outcomes, recognizing the need to work across the various sectors and ecosystems to more effectively guide the decision making process. The presented methodology can be used to incorporate data from numerous institutions and enhance connectivity as a new way of thinking and helping to update management plans.
d) Disseminate the value that EBM/DSS application can add to existing projects/processes. For instance, UN Environment – CEP is encouraged to illustrate the project results with the SPAW Protocol focal points/countries.
e) Desire to be considered as new potential sites for applying this EBM/DSS methodology are for instance: a) Bonaire because of their interest in updating MPA management plans and are asking for assistance, b) Colombia, Cienaga Grande de Santa Marta, because of current processes that are taken place in that area, and availability of trained personnel, c) Antigua and Barbuda and St. Maarten looking for s simplified method to guide decision taken process after catastrophic events such as hurricane devastation.
f) In the selection of new EBM/DSS pilot sites it would be important to evaluate the data availability, the local capacities to use this data at all levels, the potential for an immediate application of recommended priority actions, and the possibility of work collaboratively among institutions at national and regional levels.

Considering the six points mentioned above it would be necessary to have additional time in order to accomplish these goals. It is envisioned that at least 6 to seven months would be needed.

R6. A technical, operational and financial proposal template is prepared

The collaboratively work developed by the regional nodes in association with additional partnerships developed by UN Environment would generate a proposal containing the agreed future steps. Both the Merida and the Panama workshops have been key to begin this regional approach in the route to broaden the EBM/DSS at the regional level. Preliminary ideas needs to be further developed and to complete this objective.

A special technical document summarizing all the project experiences and lessons learnt, in the three main Caribbean languages (English, Spanish, and French) for distribution to the GLISPA (Global Island Partnership.

To be able to achieve the goals included in this item additional time is required, since in many ways contemplated activities are inter-related with the strengthening of the regional nodes.

R7. Project outcomes consolidated, and integrated into relevant UNEP EBM Program which & shared among WCR and globally

- Miami, Florida, US (19-21 May 2015): Four relevant experts and project partners (two Italian experts from PROGES, the CaMPAM coordinator based in Miami and the SPAW-RAC director based in Guadeloupe) received financial support to participate at a TNC regional workshop "Developing a Shared Vision for Improved Access for Information in Marine Protected Areas Management".
- Panama City, Panama (9 - 13 November 2015): For the 68th Annual GCFI Conference, there was support for the thematic CaMPAM MPA Session on Marine Spatial Planning (MSP) towards promoting linkages with the EBM project.
- Rome, Italy (7 - 9 March 2016): At the invitation of the Italian Government, UN Environment-CEP representatives participated in the *10x20 Initiative- Conference on Marine Protected Areas* towards strengthening the partnership with the project donor.
- San Juan, Puerto Rico (19 – 22 April 2016): UN Environment-CEP participated in the Coastal-Marine Ecosystem Based Management (EBM) Tools Training Workshop aimed at advancing work on coastal and marine EBM in the Wider Caribbean through presentation of UN Environment's guide on marine and coastal ecosystem-based management and its application among Caribbean stakeholders.
- Miami, Florida, US (1-4 November 2016): At the SPAW STAC7 Meeting, the CaMPAM coordinator presented the CaMPAM evaluation done in collaboration with Dr. Ligia Collado Vides during July –August, 2016.
- Grand Cayman, Cayman Islands (7 - 11 November 2016): Participation at the MPA Session which focused on EBM/DSS (8 November 2016) at the 69th GCFI Annual Meeting.
- Merida, Mexico (6 - 10 November 2017): Participation at the MPA Session which focused on EBM/DSS (7 November 2017) at the 70th GCFI Annual Meeting (ANNEX 2).

ANNEX 1. Interdisciplinary group participating in the Dominican Republic pilot sites

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