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# Cartographic Journal of Oceans and Coasts

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Its ambition is to produce and share a constantly updated scientific portrait of the world's seas and coastal areas – remarkable spaces, but ones that are more vulnerable and under pressure than ever.

## Banco Chinchorro (Caribbean Sea, Mexico): underwater cultural heritage and environmental protection

By Laura CARRILLO MÁRQUEZ and Loïc MÉNANTEAU

### Résumé

L'exemple du Banco Chinchorro (Mexique) illustre le problème de la protection et de la gestion des sites maritimes au patrimoine à la fois naturel et culturel. La grande biodiversité de cet atoll a justifié sa protection environnementale, au niveau national et international. Cependant, son patrimoine archéologique sous-marin en a été exclu. Cela pose la question de l'intégration des éléments naturels et culturels dans un même plan de gestion et la déclaration du Banco Chinchorro comme bien mixte par l'UNESCO.

### Mots-clés

Atoll, site naturel, épaves de navires, gestion intégrée, Mer des Caraïbes, Mexique.

### Abstract

The case of Banco Chinchorro (Mexico) illustrates the problems of the protection and management of maritime sites boasting a natural and cultural heritage. The biodiversity of this atoll justifies its environmental protection at national and international level and yet, its underwater archaeological heritage has been excluded. We discuss the importance of integrating nature and culture in a single management plan and wonder why it was not declared a mixed UNESCO site.

### Keywords

Atoll, natural site, shipwrecks, integrated management, Caribbean Sea, Mexico.

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# Banco Chinchorro (Caribbean Sea, Mexico): underwater cultural heritage and environmental protection

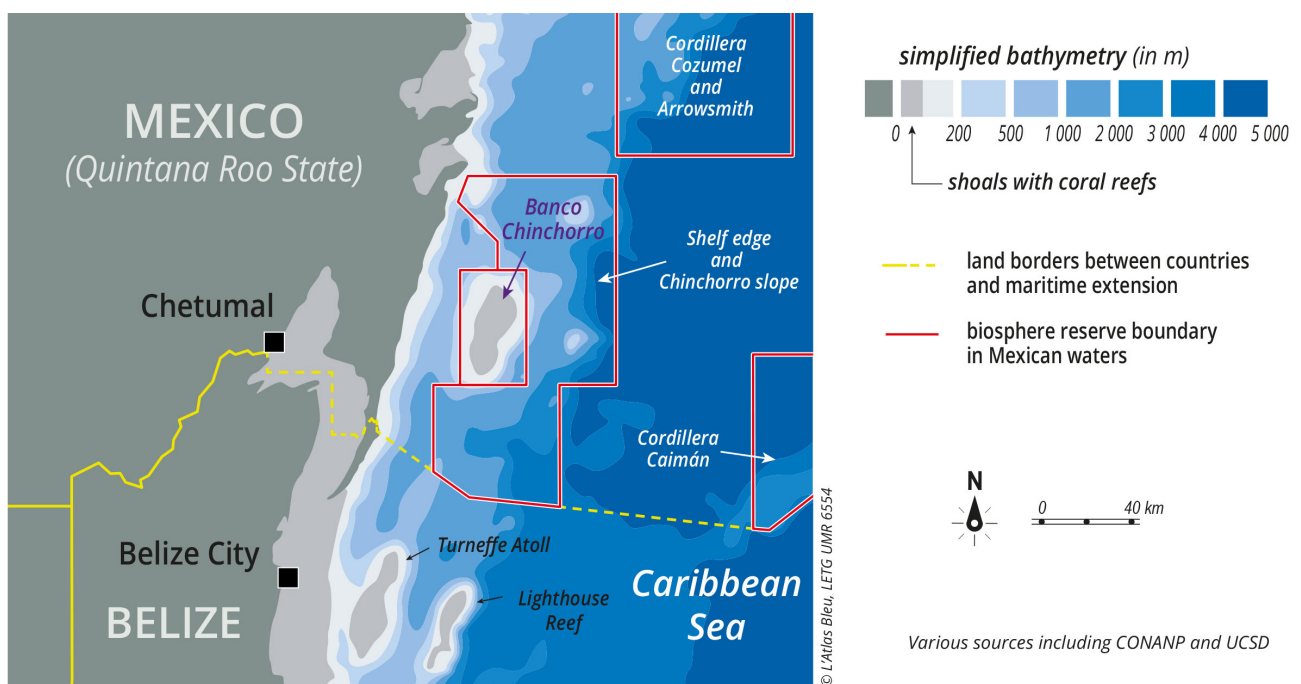
By Laura CARRILLO MÁRQUEZ and Loïc MÉNANTEAU

## Banco Chinchorro, general context

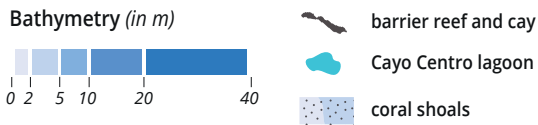
Lying some thirty kilometres off the South East coast of the Yucatan Peninsula (Quintana Roo State, Mexico) Banco Chinchorro is part of the second coral barrier reef in the world (Mesoamerican reef system; CONAMP, 2018). Given its geographical importance and biodiversity (INAH, 2012), in 1996, after UNESCO's designation of Man and Biosphere Program, the Mexican government declared it a Biosphere Reserve (1,443.60 km<sup>2</sup> including its buffer zone). In 2003, it was put on the RAMSAR list to protect migrating birds and wetlands. Later, as a result of the decree of 17th of April 2017 it is surrounded by a vast area (5 754 055.3 ha, i.e.57 540.553 km<sup>2</sup>) of the Caribe Mexicano (Mexican Caribbean) declared an underwater Protected



Natural Area which acts as a biosphere reserve (Carrillo Márquez et Ménanteau, 2012).



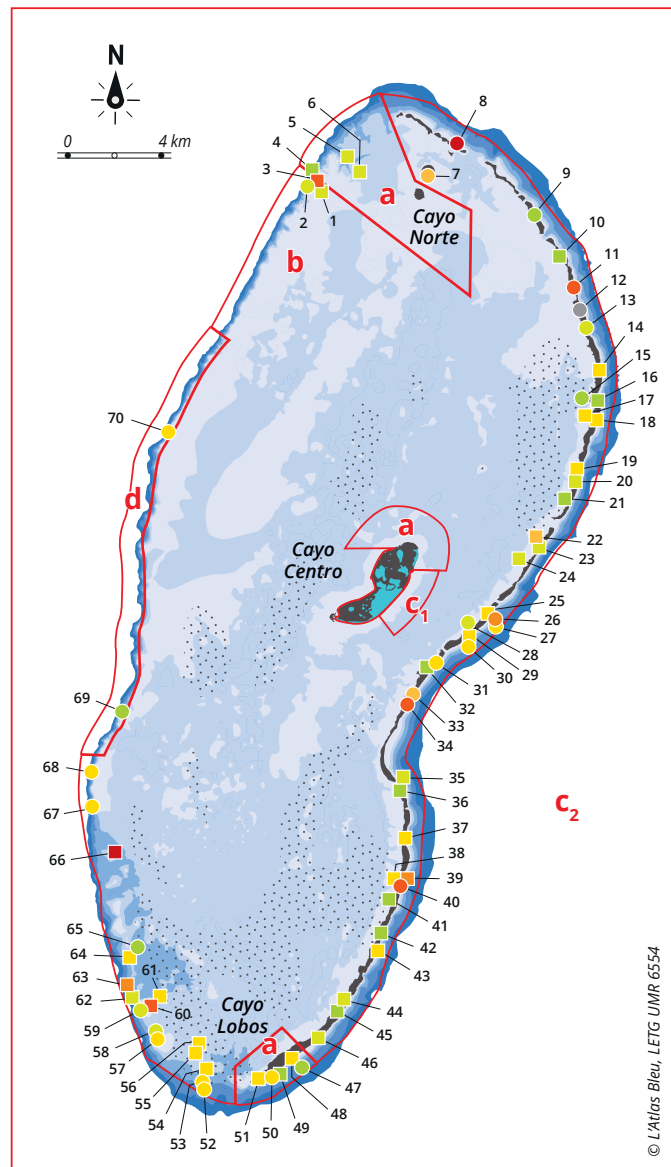
# Inventory of archaeological heritage and Banco Chinchorro Biosphere Reserve



## Inventory of underwater archaeological heritage



- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| 1 - Chandez                       | 36 - Cassel                         |
| 2 - Elementos dispersos del Norte | 37 - Tres Anclas                    |
| 3 - 40 Cañones                    | 38 - Emily I                        |
| 4 - Tiradero del Norte            | 39 - Emily II                       |
| 5 - Caldera                       | 40 - Ancla Solitaria                |
| 6 - Tres Ruedas                   | 41 - Emily Ceramic                  |
| 7 - Ancla José                    | 42 - Tropic Trader                  |
| 8 - Anclas y Artillería S. XVI    | 43 - Manuel Polanco                 |
| 9 - Timón Langosta                | 44 - El Olvidado                    |
| 10 - <b>Penélope</b>              | 45 - MV Huba                        |
| 11 - Anclas Aleta Perdida         | 46 - El Mástil                      |
| 12 - Ancla Árbol                  | 47 - Winche                         |
| 13 - Gran Curvatón                | 48 - El Molocote                    |
| 14 - Maceta                       | 49 - Far Star                       |
| 15 - Tanque Obi                   | 50 - Ocho Almas bajo el Mar         |
| 16 - Inger Skou                   | 51 - Anclas Milépora                |
| 17 - Anclas Malacate              | 52 - Ancla Atorón                   |
| 18 - Ancla Primo                  | 53 - Ancla Coral                    |
| 19 - Pernos                       | 54 - Lingotes II                    |
| 20 - Escuadras                    | 55 - Anclita                        |
| 21 - SS Glenview                  | 56 - El Ángel                       |
| 22 - Ladrillos                    | 57 - Ancla Quebrada                 |
| 23 - Obi                          | 58 - Anclita Byers                  |
| 24 - Puntas                       | 59 - Ancla Despistada               |
| 25 - Lingotes I                   | 60 - Aracely                        |
| 26 - Ancla Fuego                  | 61 - Clavazones del Sur             |
| 27 - Ancla Sospechosa             | 62 - El Imposible                   |
| 28 - Ancla Boris                  | 63 - Clavazones                     |
| 29 - Pecio Boris                  | 64 - Armazón de Dariel              |
| 30 - Un Ancla                     | 65 - Casi Ancla                     |
| 31 - Ancla Doblada                | 66 - Falconete Escorpionidae        |
| 32 - San Andrés                   | 67 - Ancla Peces                    |
| 33 - Tres Cañones                 | 68 - Ancla Abismo                   |
| 34 - Ancla Rafal                  | 69 - La Botella del Apóstol Francés |
| 35 - El Vapor de las Anclas       | 70 - Ancla Delfines                 |



## Biosphere Reserve



Various sources including the SEMARNAT, Programa de Manejo Reserva de la Biosfera Banco Chinchorro

Also referred to as Quitasueños (Sleep stealer) until the 18<sup>th</sup> century, Banco Chinchorro was not on the official maritime routes for sailing and steam ships in the Caribbean Sea. Nevertheless, from 1638 an important route for the English

Campeche wood (*Haematoxylum campechianum*) trade crossed the sea from Cape Catoche (Northeast of Yucatán Peninsula) to the Walix and Hondo rivers (now Belize) with Jamaica as the central hub and distribution centre.

This reef platform or atoll, surrounded by turquoise waters which has a very irregular topography is almost entirely under water (99.6 %). The brusque changes in depth constitute a significant obstacle on the ships route. Its orientation also disturbs coastal and open sea currents and the swell. Passes along the reef barrier allow ships to seek shelter in the lagoon although even then a steering fault, a misinterpretation of the charts or adverse climatic conditions could easily lead to a shipwreck.

The remnants of the numerous shipwrecks along the contour of the bank have turned Banco Chinchorro into one of the key places of the Mexican maritime heritage (Carrillo Márquez, 2010 ; Carrillo Márquez et Zuccolotto Villalobos, 2017).

These underwater cultural treasures have been and continue to be studied by the Subdirección de Arqueología Subacuática (SAS) of the Instituto Nacional de Antropología e Historia (INAH) of the Mexican federal government. So far 70 sites have been recorded 42 of which correspond to wrecked ships (Carrillo Márquez et al., 2023).

Among these we include 29 sailing ships, four steam ships including the British *Mallard*, the *Inger Skou*, a German cargo vessel of the *Hansa A*

type belonging to the Danish company *Ove Skou* on 15-09-1882, the Belgian S.S. *Glenview* belonging to the Liberian company *Theo Inc.* on 03-06-1952 and *Monrovia* on 24-01-1964. Six merchant vessels like the Dutch *MV Huba* on 27-04-1960, the *Tropic Trader* on 09-03-1968 and the tug *Emily Cheramie*, which sank on 08-05-1998.

Apart from ships there are 28 isolated objects regarded as part of naval archaeological importance (anchors, canons, helices, boilers). In the case of several ships it has been impossible to correlate the data regarding their maritime accidents provided by the archives with other underwater materials.

Underwater cultural and natural heritage are complementary. So far the site has not been included in the UNESCO world heritage list as a mixed site (cultural and natural) as it is thought that it ought to be part of a much larger area including *Sian Ka'an* (Yucatán, Mexico) and the Belize keys. Nevertheless, declaring the area as a *Refugio Pesquero Total Temporal* in 2018 (for a five year period) has led to improved sustainable development by joining environmental and human activities.,

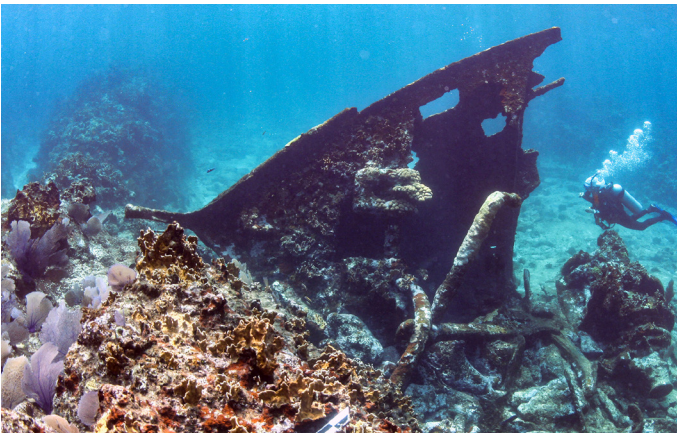


**Cayo Lobos island** – Panoramic view looking South from Cayo Lobos, to the South-East of Banco Chinchorro. The three lighthouses can be seen on this key, the furthest to the right has been partially eroded by the sea. Covering an area of two hectares, with dune sands partly fixed by vegetation, it is one of the few emerged places on the coral reef. Photo taken by Jerónimo Avilés Olguín, 21-06-2011. @ INAH-SAS



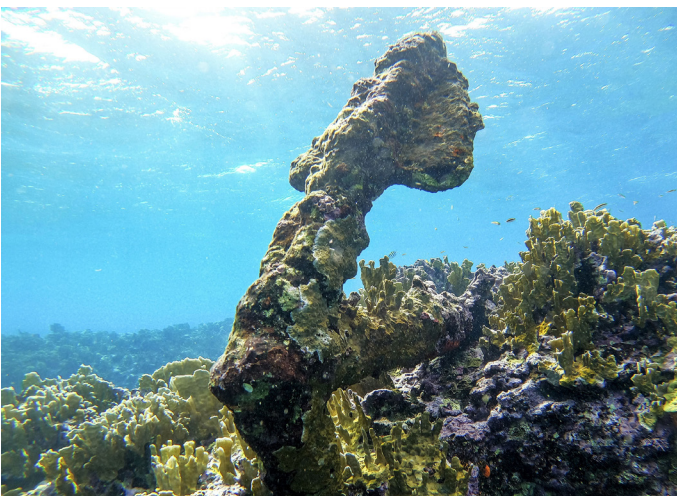
**Caldera** – Beyond and to the North-North-West of the lagoon, in relatively shallow waters, under 3 metres. The remains of a steam ship (late 19<sup>th</sup>-early 20<sup>th</sup> century?) were named *Caldera* by the locals. Its triple-expansion steam engine can be seen. The boiler (caldera), made in Scotland, is submerged next to it. We can see Cayo Norte on the horizon.

Photo taken by Alberto Soto, 26-11-2022. @ INAH-SAS



**El Olvidado** – The bow of the ship *El Olvidado*, at a depth of 10-12 metres. Its wreck is being transformed into an artificial reef, enriching the biodiversity of the natural underwater site.

Underwater photo taken by Eugenio Aceves Núñez, 20-05-2007. @ INAH-SAS



**Manuel Polanco** – On a coral bed, an iron anchor from the *Manuel Polanco* ship, named after the fisherman who discovered it, in its coral gangue, integrating it into the natural underwater environment.

Underwater photo taken by Alberto Soto, 26-11-2022. INAH-SAS



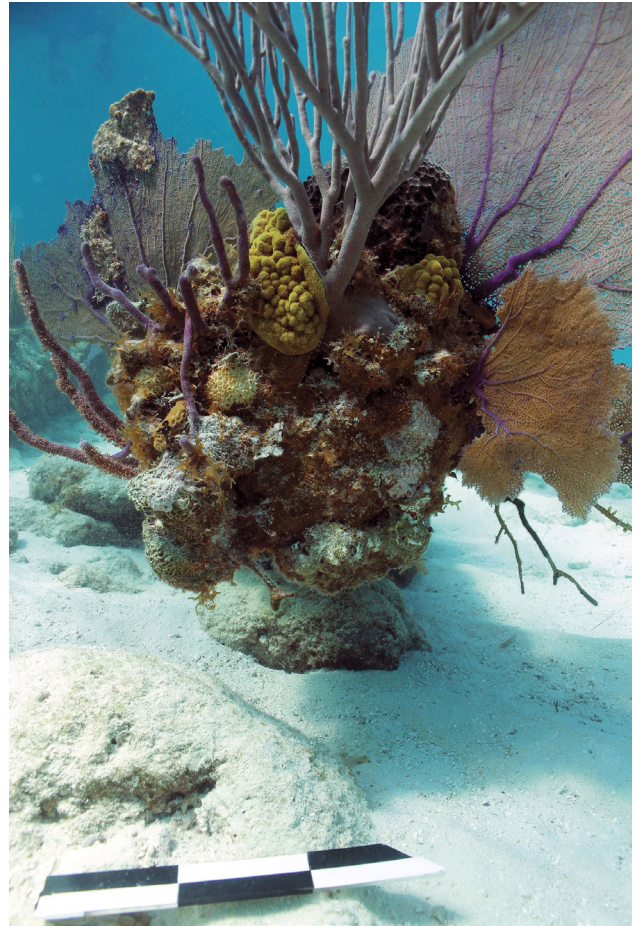
**40 Cañones** – To the North-West of Banco Chichorro, several of the 36 iron cannons inventoried from the wreck of the 18<sup>th</sup>-century ship called *40 Cañones* lie at a depth of 6 m on the lagoon floor. They are trapped in the coral gangue that has formed on their surface, contributing to biodiversity.

Underwater photo taken by Carlos Castillo, 12-09-2015. @ INAH-SAS



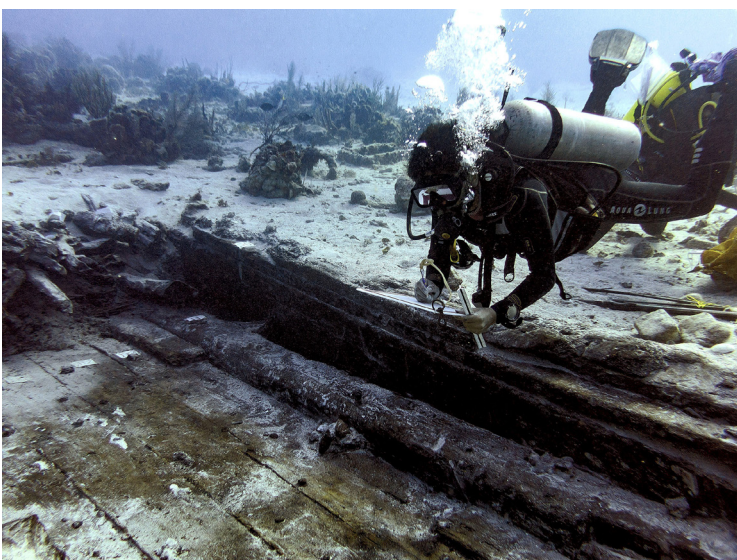
**40 Cañones** – Plan of one of the iron cannons from the wreck of the ship called *40 Cañones*, with its breech and knob in the foreground.

Underwater photo taken by Carlos Castillo, 10-05-2007. @ INAH-SAS



**40 Cañones** – The mouth of an iron cannon on which various types of coral, sea sponges and other marine organisms have developed, making the archaeological object almost invisible.

Photo taken by Laura Carrillo, 26-11-2011. @ INAH-SAS



**El Ángel** – Survey by INAH-SAS archaeologists of the bottom structures of the hull, its covering and the cabin of the wreck of the brigantine *El Ángel*, approximately 30 m long and 9 m wide.

Underwater photo taken by Michel Segura, 24-11-2018. @ INAH-SAS



**Cayo Centro** – View towards the west of Cayo Centro. We can see the lagoon which occupies the middle of the key and, on the right, a pier and the facilities of the CONANP station to house rangers and groups of researchers who have come to carry out various studies in the reserve. To the left, to the south, are the *palafitos* of the three fishing cooperatives operating in the area. Oblique aerial photo taken by Paris Palacios, 18-09-2014. @ INAH-SAS



**Palafitos** – To the south-west of Cayo Centro there are wooden houses on stilts (*palafitos*) belonging to the fishermen's cooperatives. Photo taken by Octavio González, 20-12-2023. @ INAH-SAS

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