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**WESTERN CENTRAL ATLANTIC FISHERY COMMISSION (WECAFC)**

**WECAFC/CRFM/OSPESCA joint Fisheries Data and Statistics Working Group  
(FDS WG)**

**12 - 16 October 2020 - Virtual Meeting**

**Proposals for the WECAFC sub-area and divisional boundaries**

**Executive summary:**

The document provides an overview of proposals to build the sub-area and sub-area divisional boundaries within the WECAFC area of competence, in the context of the WECAFC Data Collection Reference Framework and with the aim to streamline the reporting of fisheries data and statistics, and the reporting and dissemination on stocks and fisheries status within WECAFC.

**Disclaimer:** The boundaries of the proposed statistical areas are based primarily on considerations from a scientific and ecosystem viewpoint. The boundaries, names, and designations used in the paper do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

**Suggested Action by the Session**

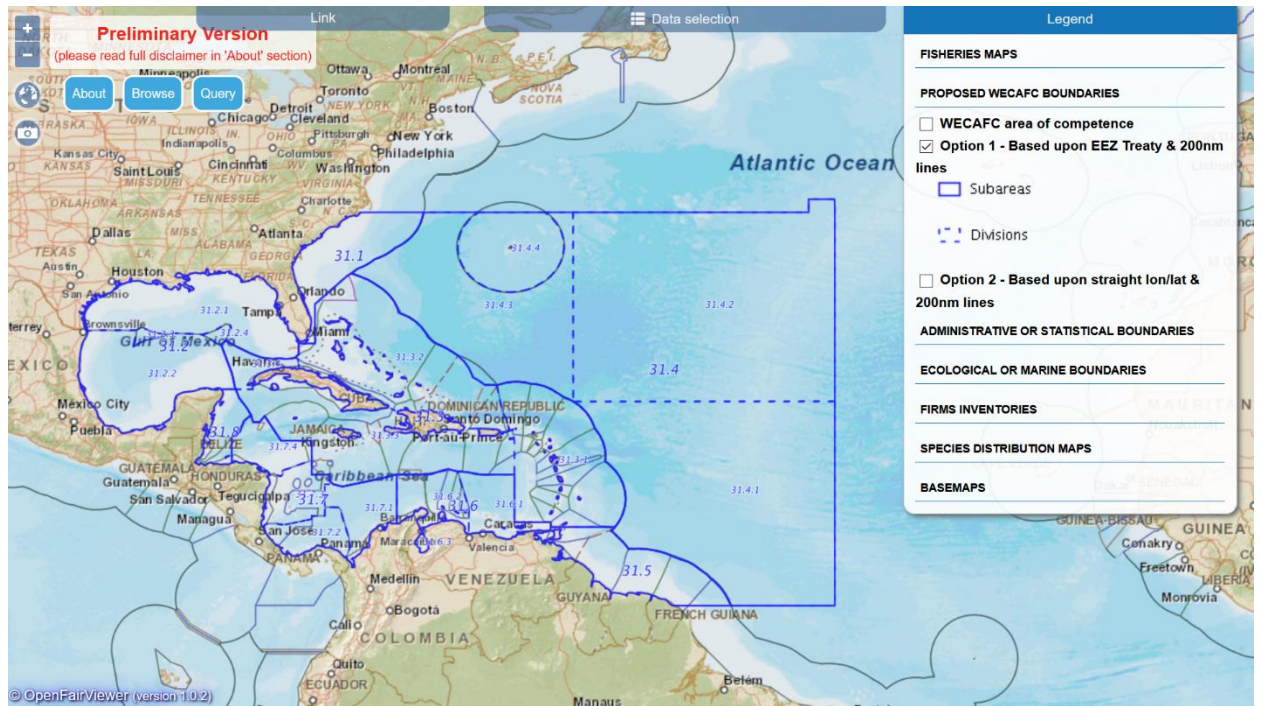
Review the proposals for drafting of WECAFC Sub-areas and divisions and formulate advice on suitability of proposed options as one of the expected outcomes of the 2<sup>nd</sup> meeting of the joint WECAFC/ CRFM / OSPESCA / IFREMER Fisheries Data and Statistics Working Group.

For ease of references an outline of each Option is summarized below. In both cases, the primary objective is to reproduce ecosystem regions as close as possible:

- **Option 1:** The approach used for Option 1 is to base the statistical limits on officially recognized treaty lines and 200 nautical mile boundary lines. In places where no treaties exist, the statistical boundaries have been delimited according to simple longitudinal or latitudinal straight lines (Option 1 map).
- **Option 2:** The approach used is to avoid basing statistical divisions on treaty lines, strictly speaking, and instead (i.) propose simple longitudinal/latitudinal statistical limits as close as

possible to these treaty lines in addition to (ii.) the 200 nautical mile outer boundaries (Option 2 map).

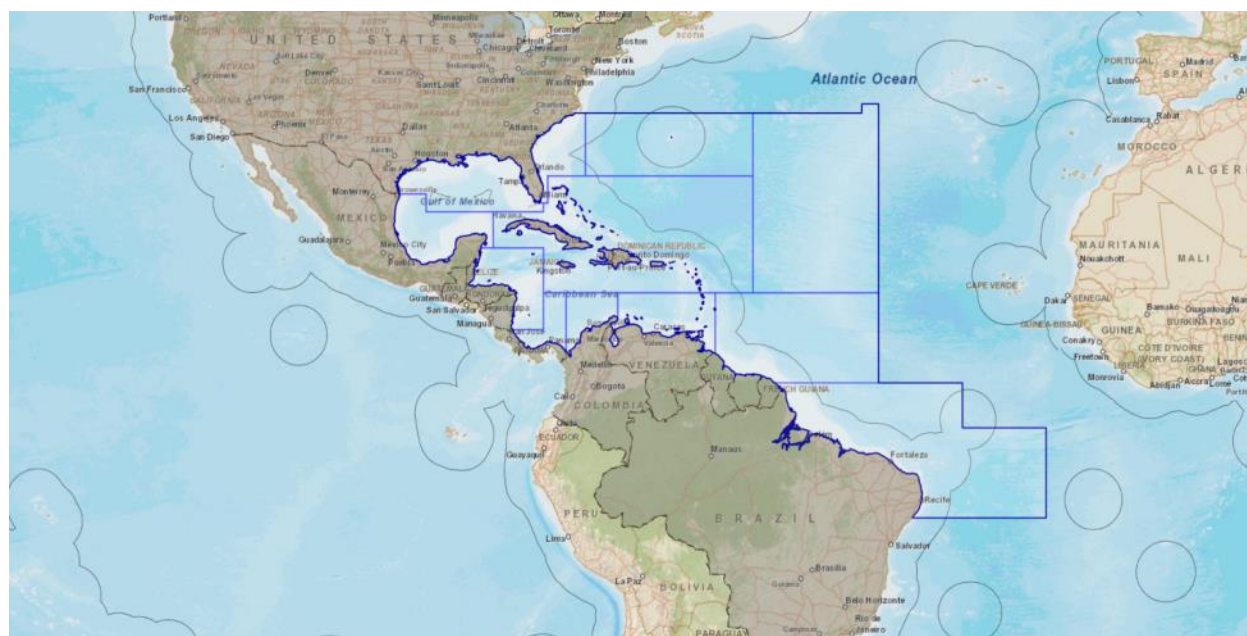
Both options, in addition to other administrative, ecological and marine-related boundaries can be viewed interactively by [clicking here or on the map below](#):



## 1.1 Background

The WECAFC area covers nearly 15 million km<sup>2</sup> of marine area extending from Cape Hatteras in North Carolina, United States of America (35°N) to south of Cape Recife, Brazil (10°S), including the south-east coast of the United States, the Gulf of Mexico, the Caribbean Sea and the north-east coast of South America.

Fig 1. WECAFC 1978 legacy proposal for sub-area boundary lines



Approximately 51% of the WECAFC mandate area is located in areas beyond national jurisdiction (ABNJ), and around 81% corresponds to waters with depths greater than 400 m. Except for Northern Brazil, which is included in FAO Area 41, the rest of the management area corresponds to FAO Area 31 (Fig. 1).

The definition of the draft WECAFC legacy boundaries are detailed in the Report of the first session of the Western Central Atlantic Fishery Commission Working Party on Fishery Statistics, Panama, 1978, which adopted the principle of national jurisdictions as the basic subdivisions, and that national zones of the larger countries be further subdivided as appropriate. Area 31 sub-area definitions (WECAFC, 1990) were further refined and proposed by the Working Party on Assessment of Marine Fishery Resources (6<sup>th</sup> session, 15-19 May 1989)<sup>1</sup> on the basis of the eco-faunal boundary zones.

Further details of the definition of the draft WECAFC legacy boundary lines can be found in [Annex 1](#).

## 1.2 Rationale for proposing sub-area and sub-area divisions in the WECAFC Area of Competence

The Caribbean region faces data deficiencies and limited statistical information which hampers national policy-making and fishery management in the regional context of shared marine resources. With the increasing need for improved information and statistical data, it is important more than ever that WECAFC acquires the necessary instruments to better monitor fisheries activities, including by providing proper ways to define and locate stocks and fisheries.

<sup>1</sup> <http://www.fao.org/3/an139b/an139b.pdf>

The capacity of allocating catches by relevant spatial units, i.e., per ecosystems, is a common tool in the Regional Fisheries Bodies (RFBs) and Regional Fisheries Management Organizations (RFMOs). The minimum requirement is to have standard sub-areas and, possibly divisions, within the area of competence.

During the 1<sup>st</sup> WECAFC Working Party on Fishery Statistics, Panama, 1978, boundaries for sub-areas and divisions were proposed. However, the proposals were never endorsed officially by WECAFC. With the creation of a joint WECAFC / CRFM / OSPECA Fisheries Data and Statistics Working Group (FDS-WG) during WECAFC-16, and its operationalization made possible with EU funds, the WECAFC now has an instrument to address the data, statistics and information deficiencies in the region.

One key activity was to define a standard Data Collection Reference Framework (DCRF) for data and statistics in support to fisheries management and stocks assessment. An interim DCRF was endorsed during WECAFC-17. One pending action is the proposed definitions of sub-areas and possibly sub-area divisions, in alignment with the diversity of ecosystems and species of economic importance in the region.

The remainder of the paper provides a description of two options (and three associated variants) related to proposals for sub-area and divisional boundaries within the WECAFC area of competence, and in the context of the WECAFC Data Collection Reference Framework.

The two options build upon the groundwork of the 1978 legacy boundaries, while also taking into account other considerations, primarily from a scientific and ecosystem viewpoint. The boundaries, names, and designations used in the paper do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

## **2. Principles for the 2020 sub-areas/divisional proposed boundary lines**

The proposals for the WECAFC sub-areas and divisional boundaries detailed below were drafted in accordance with the following common principles:

- i. Regional scope: the FAO Area 31 part of WECAFC area of competence. The northern Brazil part of Area 41 is not in the scope of this proposal as sub-areas have already been defined for this part of WECAFC area of competence. If deemed useful or necessary, e.g., for alignment purpose, WECAFC members might request modifications for this Area 41 sub-part. Also the existing outer limits of Area 31 are not deemed modifiable, as this would entail discussions with other neighbouring RFBs such as CECAF (Area 34) or NAFO (Area 21).
- ii. Implement the UNGA-FSA<sup>2</sup> recommendations<sup>3</sup> and follow-up the CWP<sup>4</sup> initiative to obtain and maintain distinct separate data between catches taken inside and outside the exclusive economic zones (EEZs) of coastal States. Towards this objective and under the CWP umbrella, FAO has collaborated with regional fishery bodies (RFBs) on the modification of statistical based divisions and boundaries. Such modifications were successfully implemented in FAO Areas 27 (North East Atlantic) and 47 (South East Atlantic). Complementary to this work, it should be noted that CWP 26 (May 2019)<sup>5</sup> decided to develop an international coding system for national jurisdictions that can

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<sup>2</sup> United Nations General Assembly on Fish Stocks Agreement.

<sup>3</sup> See COFI 32 meeting document “FAO’s considerations regarding UNFSA’s issue of reporting distinctly catches inside and outside the EEZs” at <http://www.fao.org/3/a-mq951e.pdf>

<sup>4</sup> Coordinating Working Party on Fishery Statistics (CWP).

<sup>5</sup> [http://www.fao.org/fi/static-media/MeetingDocuments/cwp/cwp\\_26/default.htm](http://www.fao.org/fi/static-media/MeetingDocuments/cwp/cwp_26/default.htm)

eventually be used in statistical databases for geo-referencing fishing activity and catches.

- iii. Maintaining consistency of boundaries with marine ecosystems: sub-areas and divisions should be delineated to best accommodate the boundaries of major ecosystems, and minor ecosystems (wherever feasible).
- iv. Enable the facilitation of reporting of spatially disaggregated data by WECAFC members, by taking into account national jurisdiction boundaries (in particular treaty lines, 200 n miles), high seas definitions, and/or simple regular statistical definition practices.
- v. Accounting for references to previous work on FAO areas and discussions for draft WECAFC sub-areas – including the possible alignment with oceanic sub-areas of Area 34 Central Eastern Atlantic – albeit as a secondary priority and with efforts to reduce the number of subareas/divisions (26 in the WECAFC legacy proposal).
- vi. Finally, accounting for consistency with the concentrations of main fishing activity (as identified in the Global Atlas of AIS-based fishing activity for Area 31. See <http://www.fao.org/documents/card/fr/c/ca7012en/>).

### 3. Overview of proposed sub-areas and divisions

The proposal maintains, as far as possible, consistency with the divisions of the major ecosystems in the region. The WWF Maritime ecoregions<sup>6</sup> database was used as a reference in combination with digital maps of the Large Marine Ecosystems (LMEs)<sup>7</sup> and the continental shelf. Specific attention was given to defining the main sub-areas according to the major ecosystems (*e.g.*, *Southeast U.S. Continental Shelf, Gulf of Mexico, Caribbean Sea, High Seas Western Atlantic, West Caribbean, South West Caribbean, North Brazil Shelf*); as well as defining sub-divisions according to secondary ecoregions, as far as possible.

In addition to the above considerations, the proposal of sub-areas and divisions accommodates, as far as possible, existing national jurisdiction boundaries; in particular treaties lines and other default limits such as 200 nautical miles, using the maritime boundaries database<sup>8</sup> as a reference.

The precedent cases (endorsed by the CWP) for Area 27 (North East Atlantic) and Area 47 (South-East Atlantic) were utilized, where the 200 nautical miles outer limits with the High Seas are used as boundaries for statistical sub-areas or divisions, and where high seas pockets constitute statistical divisions.

Two options are proposed for defining the WECAFC boundary lines. A summary of each option is presented below, with [Figure 1](#) and [Figure 2](#) presenting the sub-areas and divisions together with ecoregions and maritime boundaries, while [Annex 2](#) provides a detailed description of each sub-area and divisional boundary. In the case of some sub-areas, three variants are also suggested in relation to the options presented.

#### Option 1

The approach used for Option 1 proposes to base the statistical limits on officially recognized treaty lines and 200 nautical mile boundary lines. In areas where no treaties exist, the statistical

<sup>6</sup> <https://www.worldwildlife.org/publications/marine-ecoregions-of-the-world-a-bioregionalization-of-coastal-and-shelf-areas>

<sup>7</sup> <https://www.thegef.org/topics/large-marine-ecosystems>

<sup>8</sup> <http://www.marineregions.org/>

boundaries have been delimited according to simple longitudinal or latitudinal straight lines, drawn according to the priority criteria described in [section 2](#) above.

### **Option 2**

The approach used for Option 2 is to avoid constructing statistical divisions based on treaty lines, strictly speaking, and instead (i.) propose simple longitudinal/latitudinal statistical limits as close as possible to these treaty lines, in addition to (ii.) the 200 nautical mile boundaries. Here also, the straight lines were drawn according to the priority criteria described in section 2 above.

For both options it should be noted that:

- WECAFC members will be able to add the CWP National Jurisdiction coding system in their databases once approved by CWP, which implicitly will allow the distinction of national jurisdictions in geo-referencing;
- complementary to the sub-areas and divisions, coastal states may advise on adding other divisions, should these be required, e.g., within EEZs.

### **Suggested actions by the Session:**

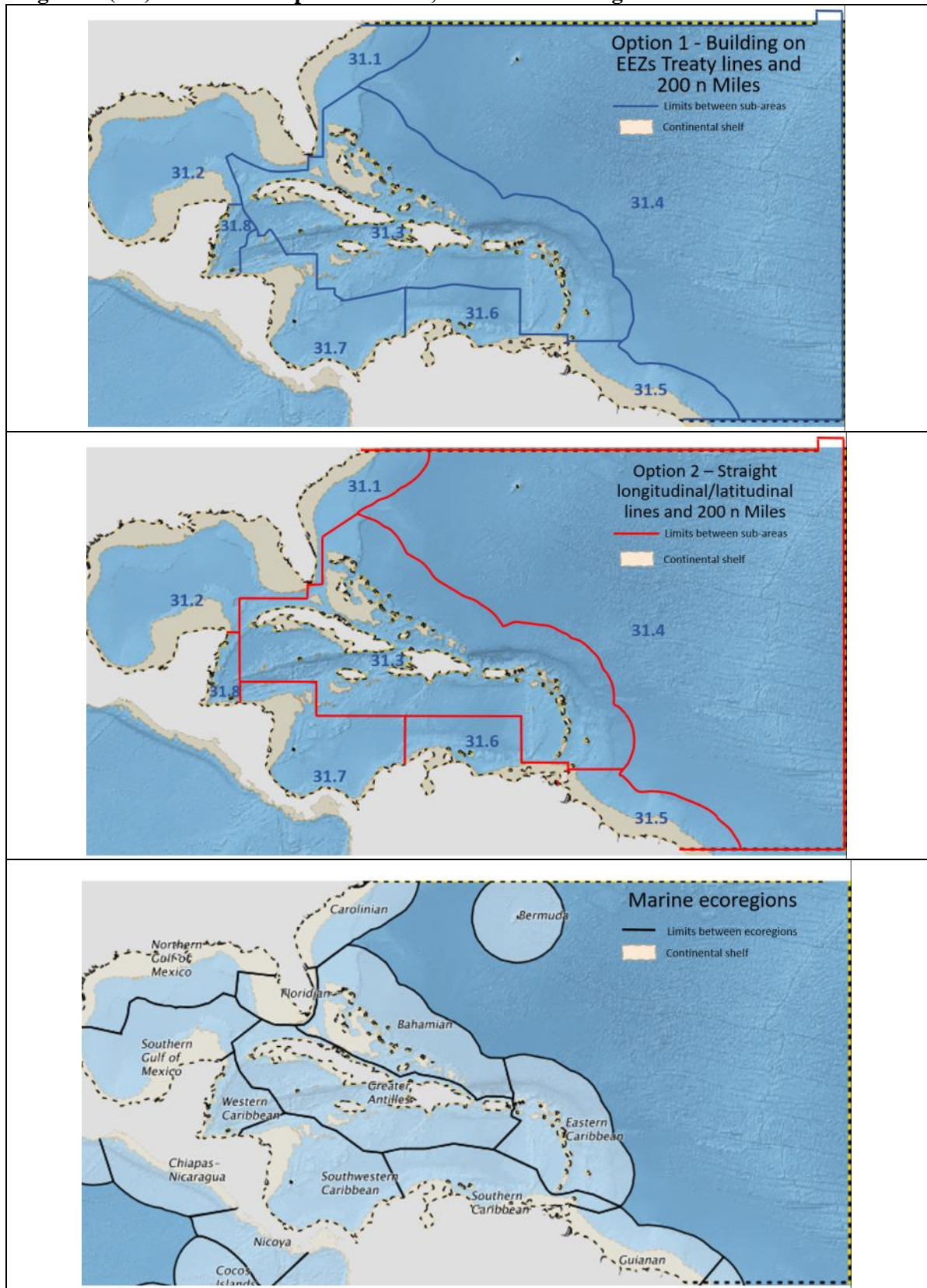
Review the proposals for drafting of WECAFC Sub-areas and divisions and formulate advice on suitability of the proposed options, as one of the expected outcomes of the up-coming joint WECAFC / CRFM / OSPESCA / IFREMER Fisheries Data and Statistics Working Group.

**References**

Report of the first meeting of the Regional Fisheries Data and Statistics Working Group, Barbados, 14-16 May 2018, [www.fao.org/documents/card/en/c/ca5695b](http://www.fao.org/documents/card/en/c/ca5695b)

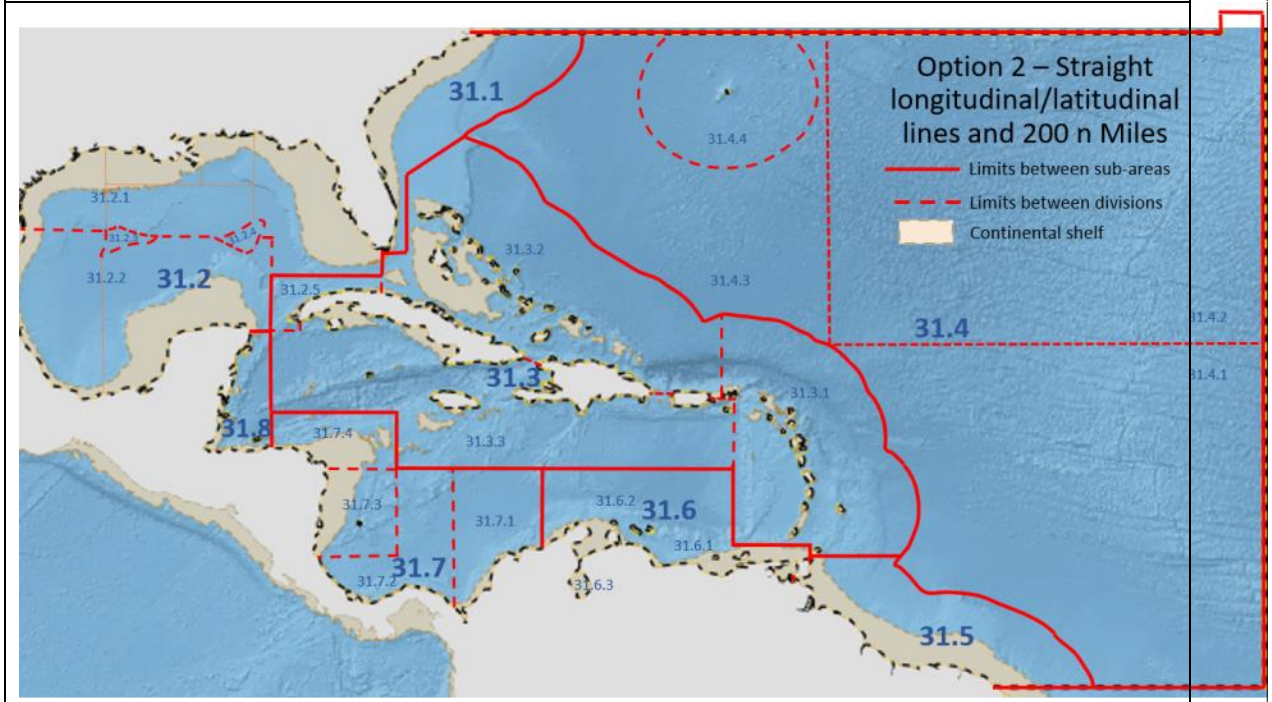
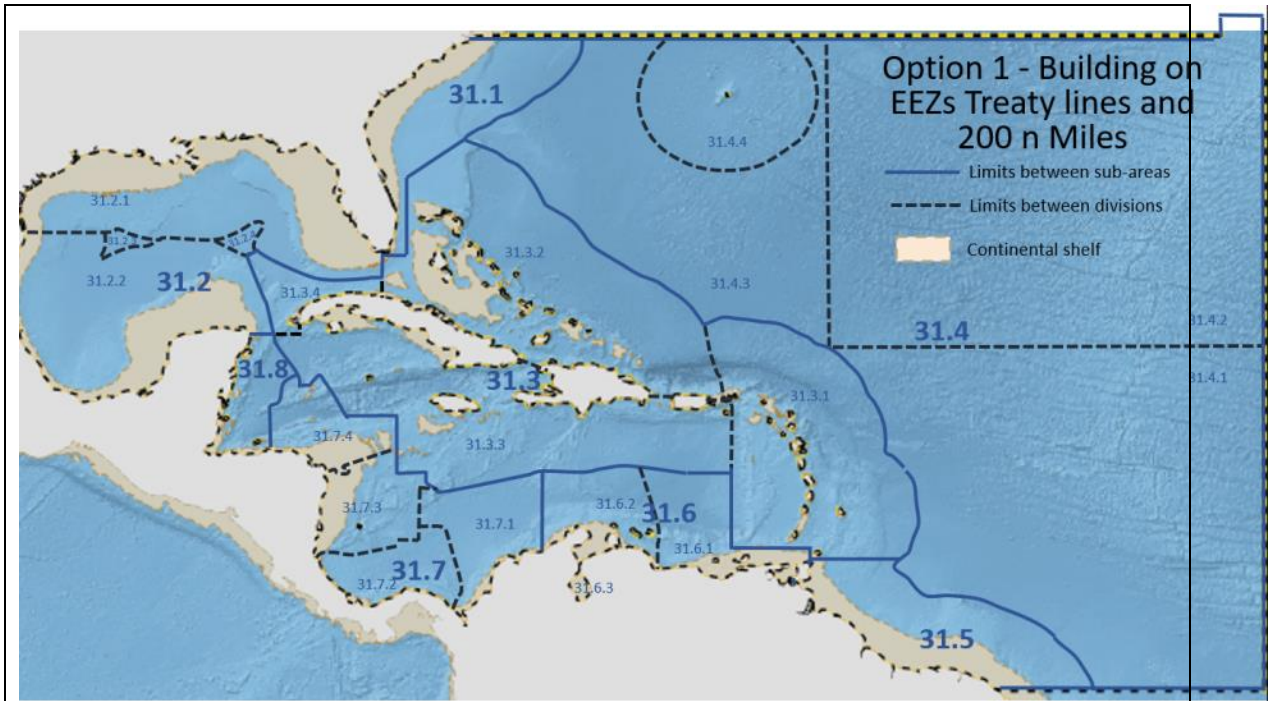
Report of the sixth session of the Working Party on Assessment of Marine Fishery Resources, Grenada, 15-19 May 1989, <http://www.fao.org/3/an139b/an139b.pdf>

Figures 1(a-c): Sub-areas: Options 1 and 2, and marine ecoregions and continental shelf.

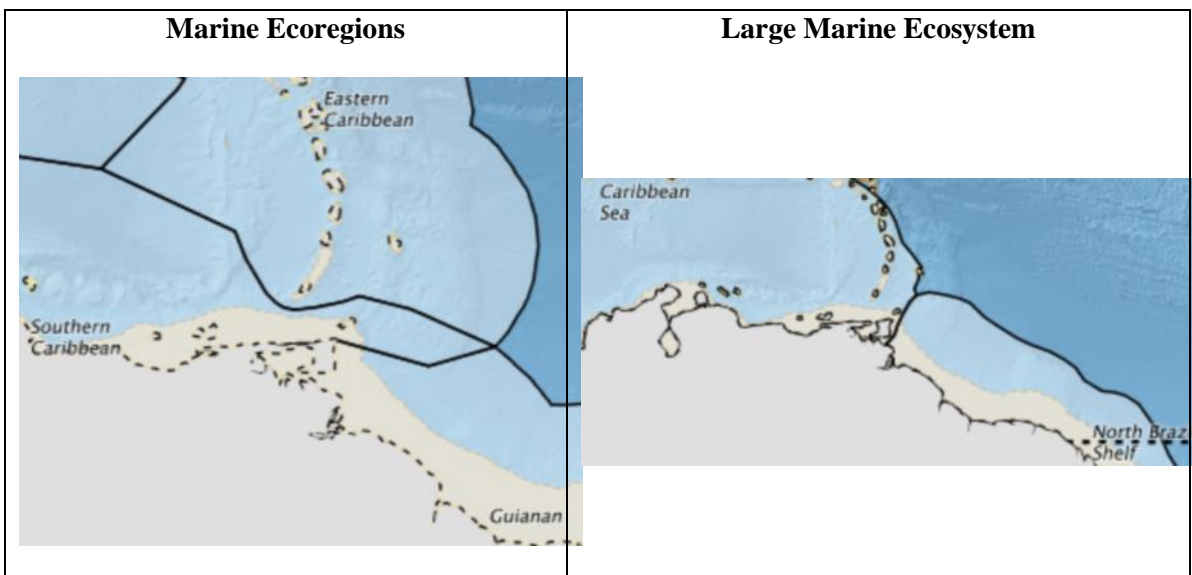
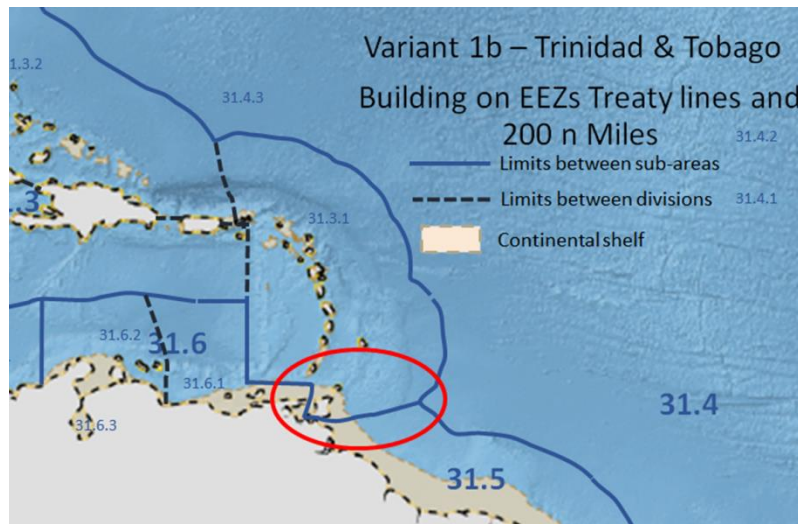
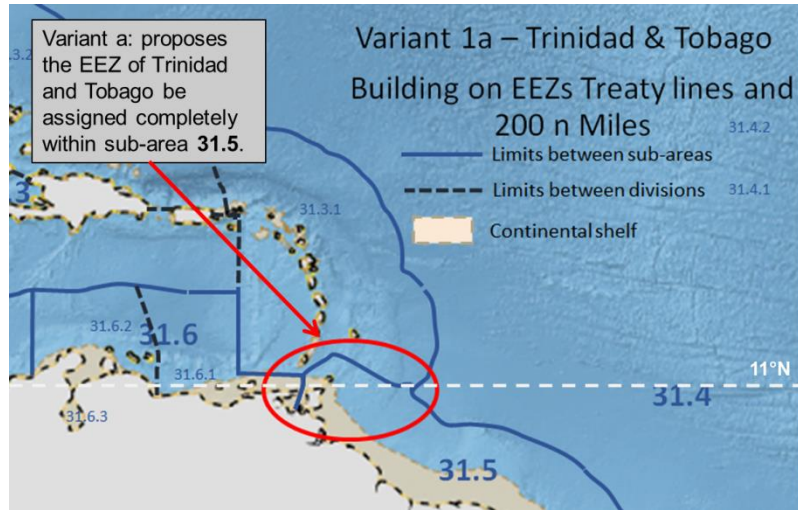


Figures 2(a-b): Sub-areas and divisions: Options 1 and 2

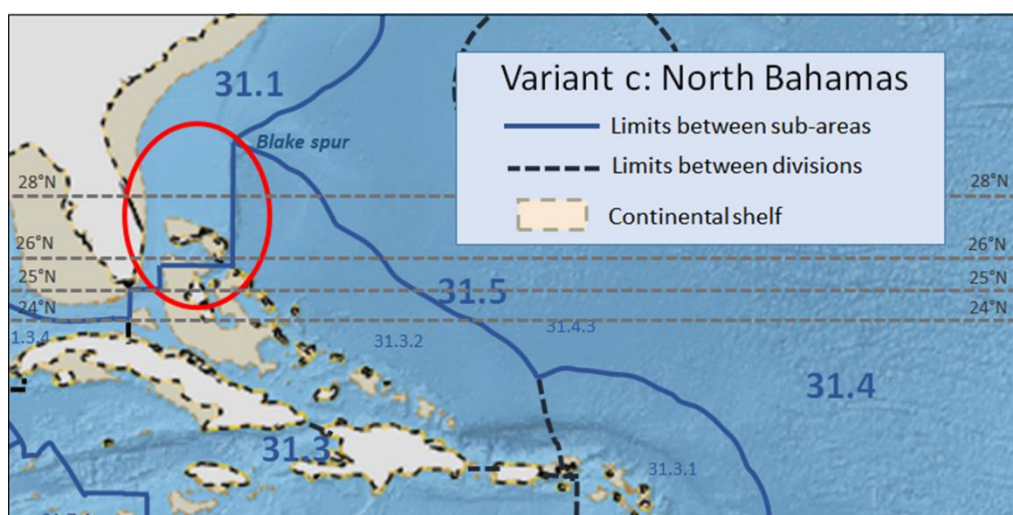
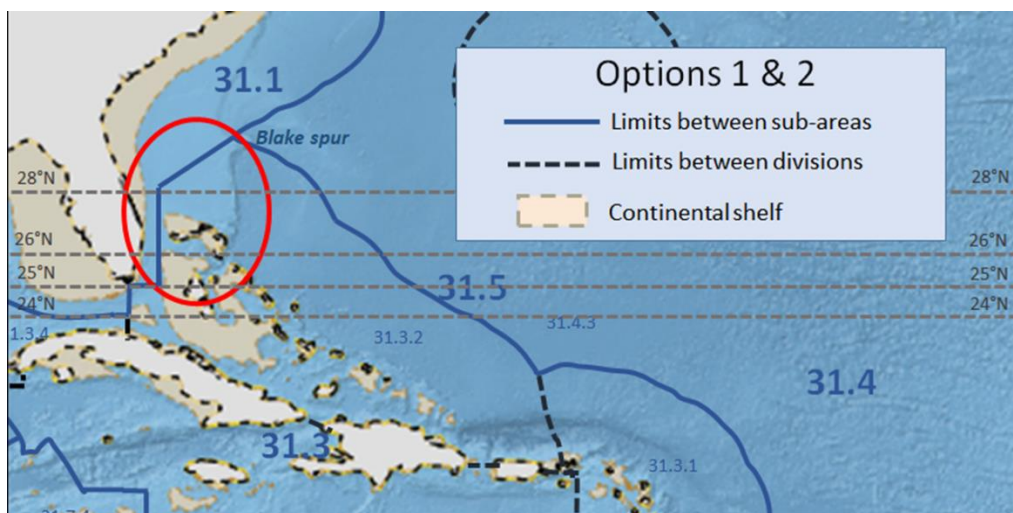




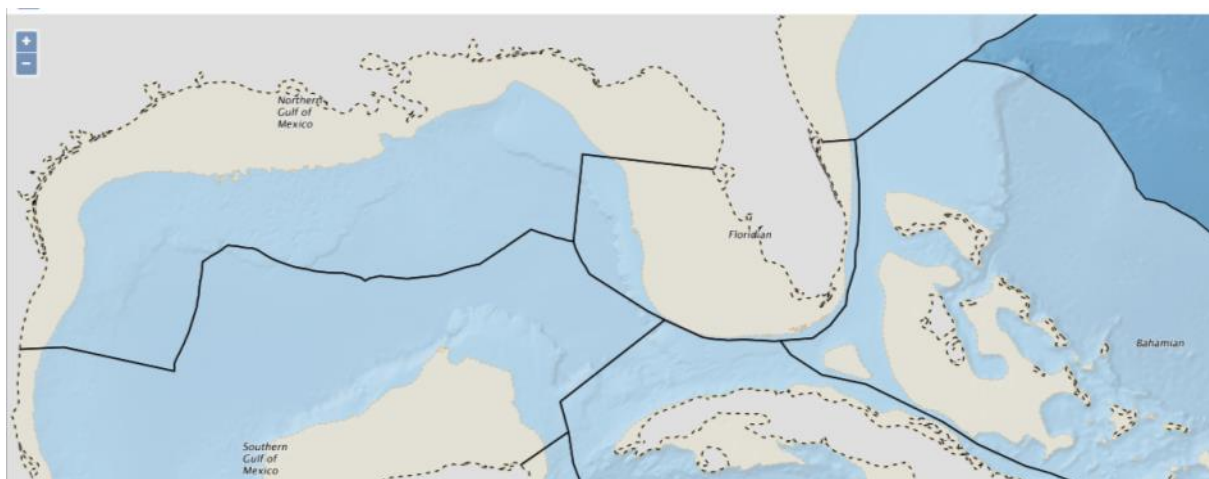
**Variants a, b: Trinidad and Tobago boundary variants based on treaty lines (circled in red)**



**Variant c: North Bahamas compared to Options 1 & 2;**



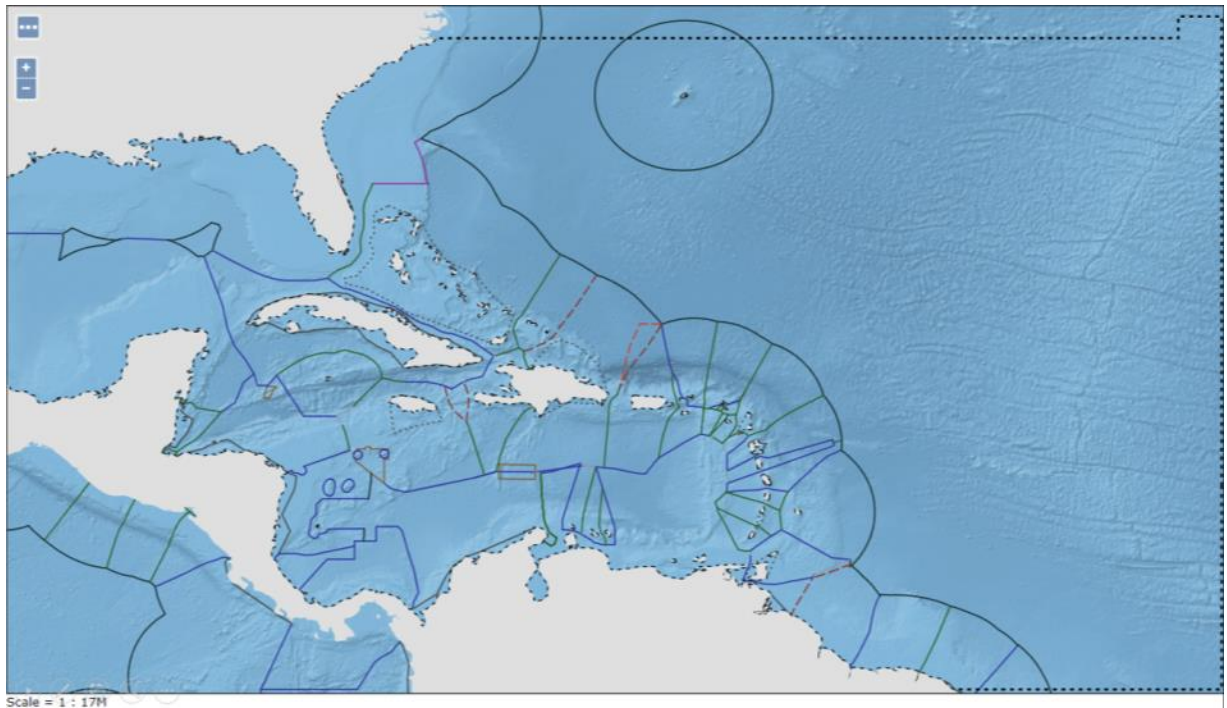
**Ecoregions**



## ANNEX 1. DESCRIPTION OF MARITIME BOUNDARIES IN THE CARIBBEAN REGION AND COMPARISON WITH FAO AREA 31 SUB AREAS 1978 LEGACY PROPOSAL

### Description of maritime boundaries in the Caribbean region

The maritime boundaries showing the delineation of national jurisdiction areas in the Caribbean region are available through the [Marine Regions](#) portal as part of the Maritime Boundaries database, produced and maintained by [VLIZ Flanders Marine Institute](#). The current status of these boundaries for the Caribbean region is shown below and accessible online [here](#) (for a zoom on FAO major area 31 see [here](#)).



The FAO Major area 31 is represented as a strong dashed black line, and the WECAFC competence area as the yellow line.

### Boundary type definitions:

- The **baseline**, as defined by the United Nations Convention on the Law of the Sea (UNCLOS), is the line along the coast from which the seaward limits of state territorial sea and other water jurisdiction areas. In the Maritime boundaries database, it is drawn from the coastline used as a proxy for the low-water line (as described baseline in UNCLOS) and straight or archipelagic baselines. Straight baselines definitions emanate from [UN DOALOS](#).
- **Treaties and Joint Regimes** refer to bilateral agreements between two countries to define limits between water jurisdiction areas. Joint Regimes delineate areas where the two countries involved can jointly operate. All treaties referenced in this database are referenced in [UN DOALOS](#).
- When no treaty has been set, the limit of water jurisdiction areas is defined as **median line** derived using a GIS that connects points which are located at equal distance from both coastal states' baselines.

- When a mismatch between lines defined by treaties and median lines prevents “closing” the water area jurisdiction areas (polygons), **connection lines** are added by means of a GIS method.
- When the coast and the maritime borders do not meet adjacent or opposite coastal states, 200 nautical miles (NM) arcs are defined from the baseline. In such cases water jurisdiction areas are adjacent to the areas defined as **Areas Beyond National Jurisdictions (ABNJ)**, also referred to “**high-seas**”
- Finally, other boundaries which delimitation is not resolved are categorized as **unsettled**. Such categorization does not necessarily mean a dispute is taking place. There are two sub cases:
  - **Unsettled lines**, that can be used:
    - (1) when a maritime boundary is being claimed by one country by means of a map or coordinates in an official document, but the matter is being disputed by its neighbor/contradictory to claims made by its neighbors/unresolved in any other way;
    - (2) as the boundary between an overlapping claim and the high sea.
  - **Unsettled median lines**, are calculated by VLIZ where no map or coordinates are provided by countries.

Excluding the baselines (straight or archipelagic), the number of boundaries per boundary type are as follow:

<b>Boundary (line) type</b>	<b>Number of lines</b>
200 NM	21
Treaty	47
Connection line	50
Median line	50
Joint regime	4
Unilateral claim (undisputed)	1
Unsettled	1
Unsettled median line	6

The ABNJ / high-seas cover the extent of the FAO major area 31 with main part on the Central Atlantic Ocean, around the Bermudian EEZ, and two triangle-shaped areas in the Gulf of Mexico, with limits based on a distance of 200 nautical miles from the baseline.

Treaties (in blue on the map) refer to bilateral treaties between member states. It is worth mentioning the special case of Colombia that has jurisdiction rights on maritime enclaves, two of them in Jamaican Exclusive Economic Zone (with an area under joint regime with Colombia), and two others in Nicaraguan Exclusive Economic Zone.

Connection and median lines are lines drawn by VLIZ GIS team as per methodology of the Maritime Boundaries database available at <http://www.marineregions.org/eezmethodology.php>. The substantial number of connection/median lines indicates that many boundaries do not emanate from legal agreements between member states.

Four joint regimes are operated in the region, i.e.:

- **Cayman Islands (United Kingdom) – Honduras:** *Treaty between the Government of the Republic of Honduras and the Government of the United Kingdom of Great Britain and Northern Ireland concerning the delimitation of the maritime areas between the Cayman Islands and the Republic of Honduras 4 December 2001.* Accessible at: <http://www.marineregions.org/documents/HND-GBR2001MA.PDF>
- **Dominican Republic – Colombia:** *Agreement on Delimitation of Marine and Submarine Areas and Maritime Cooperation between the Republic of Colombia and the Dominican Republic (13 January 1978).* Accessible at <http://www.marineregions.org/documents/COL-DOM1978MC.PDF>
- **Jamaica – Colombia:** Maritime delimitation treaty between Jamaica and the Republic of Colombia, 12 November 1993. Accessible at <http://www.marineregions.org/documents/JAM-COL1993MD.PDF>
- **Barbados – Guyana:** Exclusive Economic Zone Cooperation Treaty between the State of Barbados and the Republic of Guyana concerning the exercise of jurisdiction in their exclusive economic zones in the area of bilateral overlap within each of their outer limits and beyond the outer limits of the exclusive economic zones of other States (with annex and figure). London, 2 December 2003. Accessible at <http://www.marineregions.org/documents/v2277.pdf> (page 201)

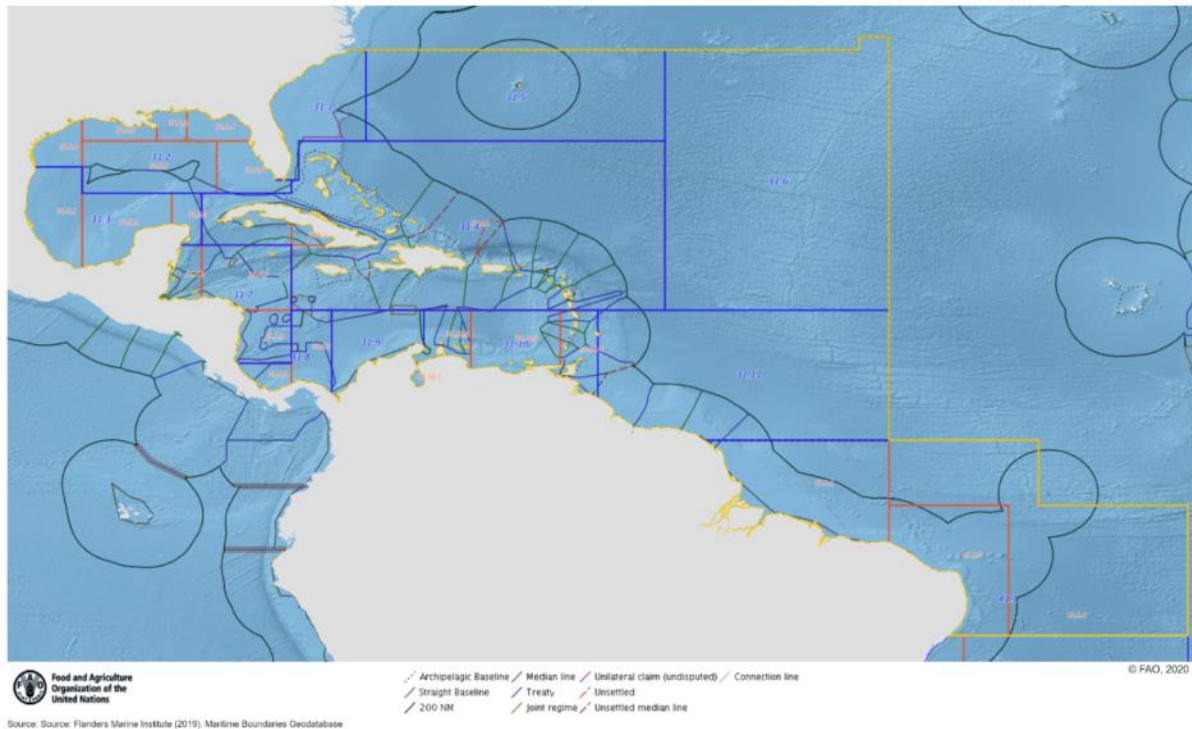
Seven boundaries remain unsettled in the region (dashed red lines):

- The overlapping claim between Dominican Republic and Puerto Rico (as unsettled line),
- Unsettled median lines (calculated by VLIZ) including between:
  - Guyana, Venezuela and Trinidad and Tobago. A highlight map is available at <http://www.marineregions.org/eezdetails.php?mrgid=33185&zone=eez>
  - Guyana - Venezuela median line (no coordinates provided by countries)
  - Dominican Republic - Puerto Rico
  - Dominican Republic - Turks and Caicos Islands (United Kingdom)
  - Navassa Island (US) - Haiti
  - Navassa Island (US) - Jamaica

Finally the region counts with one unilateral claim (undisputed) from the US with respect to Bahamian EEZ.

### **Comparison with FAO area 31 subareas/divisions with the 1978 legacy proposal**

The 1978 legacy proposal suggests delineation of subareas/divisions for the FAO area 31. Note: part of the WECAFC area is covered by FAO major area 41 at South. This FAO major area 41 does already include subareas/divisions endorsed by CWP. A map overlay between the maritime boundaries and the WECAFC 1978 proposal of subareas/divisions is available below and accessible online [here](#) (for a zoom on FAO major 31 see [here](#)).



Upon first viewing, it should be noted that the WECAFC 1978 legacy proposal of subareas and divisions do not correspond very well to the delineation of water jurisdiction areas in the Caribbean region. This is due to the fact that the proposal, formulated before the new UN Convention on the Law of the Seas enacted the principle of EEZs in 1982, relies only on straight lines. The legacy proposal includes eleven sub-areas (sometimes with a division breakdown) as listed below, and annotated with maritime boundaries currently intersected:

**31.1 – USA Atlantic Coast:** This area overlaps both US and Bahamian EEZs and a small area of high seas. On the US coast it extends from Cedar Island on the North (upper limit of FAO area 31) to Florida’s Key Largo on the south.

**31.2 – Northern Gulf of Mexico:** This area covers mainly US, Mexican EEZs, but also parts of Bahamian and Cuban EEZs as well as two maritime enclaves of high-sea in the middle of the Gulf of Mexico. This sub-area includes a proposal of divisions, mainly aligned on US states boundaries, described in 1978 report:

- 31.2.1 – Texas Division**
- 31.2.2 – Louisiana Division**
- 31.2.3 – Mobile Division**
- 31.2.4 – Apalachicola division**
- 31.2.5 – Central division**
- 31.2.6 – Sanibel division**

**31.3 – Southern Gulf of Mexico:** This area mainly focuses on Mexican EEZ, and a small part of Cuban EEZ on the west. This sub-area includes a proposal of divisions aligned with coastlines of Mexican states, described in 1978 report:

- 31.3.1 – Tampico division**
- 31.3.2 – Campeche division**
- 31.3.3 – Contoy division**

**31.4 – West Indies:** This area encompasses most of West Indies including the Greater Antilles and most of Lesser Antilles in the west. This sub-area includes a proposal of divisions including:

**31.4.1 – Cuba, southeast shelf division:** that matches the continental shelf of the Ana María and Guacanayabo Gulfs, which correspond to the main shrimp fishing zones of Cuban fishery sector.

**31.4.2 – West Indies division**

**31.5 – Bermuda:** This area mainly includes high-sea areas, the major part of Bermuda EEZ (a small part being in FAO Major area 21 at North), and a part of US EEZ in the West.

**31.6 – Oceania:** This area only targets high-seas in the Central Atlantic Ocean.

**31.7 – Yucatan / Nicaragua:** Although its name only refers to Yucatan (Mexico) and Nicaragua, this area covers more EEZs including Belize, Colombia (including maritime enclaves within the Nicaraguan EEZ), Cayman Islands (UK), and in a less extent Cuba, Jamaica, Costa Rica and Panama.

**31.8 – Costa Rica/Panama:** This area mainly covers Panama and Costa Rica EEZs but also in a significant extent other EEZs such as Colombia, Nicaragua and Jamaica.

**31.9 – Colombia:** This area covers the major part of Colombian EEZ and in lesser extent overlaps with neighboring EEZs (Panama, Jamaica, Haiti, and Venezuela)

**31.10 – Venezuela:** This area covers the major part of Venezuelan EEZ, Netherlands Antilles (Aruba, Curaçao, Bonaire) and extends to the southern part of lesser Antilles not covered of sub area 31.4, including Antilles such as Guadeloupe, Saint Lucia, Saint Vincent and the Grenadines, Grenada, Trinidad and Tobago and Barbados

This sub-area proposal includes a set of divisions splitting among the western part (Lake Maracaibo & Netherlands Antilles), the central part (Venezuelan EEZ), and the eastern part (Lesser Antilles, Guyana/Suriname/French Guiana/Brazil), as follows:

**31.10.1 – Gulf of Venezuela division**

**31.10.2 – Lake Maracaibo division**

**31.10.3 – Venezuelan, east coast division**

**31.11 – Guyana:** This main covers a large area of high-seas and cuts EEZs from Barbados, Trinidad and Tobago, Guyana, Suriname, French Guiana and Brazil.



## ANNEX 2: NEW STATISTICAL SUBAREAS FOR THE MAJOR FISHING AREA 31

The general principles for Options 1 and 2 are detailed earlier in [section 2](#) of the paper.

- Option 1: The approach used for Option 1 is to base the statistical limits on officially recognized treaty lines and 200 nautical mile boundary lines. In places where no treaties exist, the statistical boundaries have been delimited according to simple longitudinal or latitudinal straight lines.
- Option 2: The approach used for Option 2 is to avoid basing statistical divisions based on treaty lines, strictly speaking, and instead (i.) propose simple longitudinal/latitudinal statistical limits as close as possible to these treaty lines in addition to (ii.) the 200 nautical mile boundaries.

In some areas, variants are suggested in one or both of the Options, as follows:

### 31.1 – USA Atlantic Coast:

- Description: This area overlaps both US and Bahamian EEZs and a small area of high seas. On the US coast it extends from Cedar Island in the north (upper limit of FAO area 31) to Florida's Key Largo in the south.
- Options 1 & 2 both propose a straight line following the 25°N latitude (inherited from the 1978 proposal) towards the median line between US and Bahamian EEZ, followed by a straight longitudinal line following this median line up to latitude 28°N (around *Cape Canaveral*) from which an oblique “statistical” line is drawn towards [Blake spur](#).

#### Variant proposal:

- A variant that follows the LME boundaries more clearly could be to extend the 25° N latitude eastwards at the upper latitude of 25.7° N, with a straight latitudinal line towards the North of Bahamian Andros Island, followed with a straight longitudinal line following the [Blake escarpment](#) northwards up to [Blake Spur](#) and the 200 miles limit. This sub-area proposal then encompasses Grand Bahama and Great Abaco islands.

### 31.2 – Gulf of Mexico:

- Description: This area covers mainly US, Mexican EEZ, a small part of Bahamian EEZ in the west, as well as two maritime enclaves of high-sea in the middle of the Gulf of Mexico, encompassing the Gulf of Mexico and overlapping partly with the Strait of Florida. Hence, this sub-area proposal covers two sub-areas drafted in the 1978 proposal.

Two options are proposed, as follows:

- Option 1: exclude the north-western part of Cuban EEZ (from *Guanahacabibes* peninsula in the west to *Sagua la Grande / Isabela de Sagua* in the west) – to be included as part of 31.3 West Indies subarea proposal, as follows:
  - East: a straight line following 80°W longitude down to latitude of median between Cuban and US EEZs (*Strait of Florida*).
  - South: a straight line from Yucatán Mexican state (around 21°N latitude - *Isla Contoy*) towards the limit between Mexican and Cuban EEZs (around 86°W longitude).
- Option 2: encompassing the North-western part of Cuban EEZ (from *Guanahacabibes* peninsula on West to *Sagua la Grande / Isabela de Sagua* on East), as follows:

- East: a straight line following 80°W longitude, but extended towards Cuban coast (around the bay of Sagua la Grande).
  - South: a straight line from Yucatan Mexican state (around 21°N latitude - Isla Contoy) up to longitude ~ 84.5°W, towards East side cape of the Cuban Guanahacabibes.
- The new proposal suggests a set of sub-area divisions, different from the 1978 proposal, as follows:

(Option 1 and 2):

31.2.1 – Northern Gulf of Mexico (delimited west by the international boundary between US and Mexico).

31.2.2 – Southern Gulf of Mexico (delimited west by the international boundary between US and Mexico, and east at Yucatán).

31.2.3 – Gulf of Mexico High-seas western triangle.

31.2.4 – Gulf of Mexico High-seas eastern triangle.

### 31.3 – West Indies:

- Description: This area encompasses the West Indies including the Greater Antilles, Hispaniola, the Lucayan archipelago (Bahamas, Turks and Caicos), and Lesser Antilles in the west. The proposal suggests the following delineations:
    - North and east: based on the 200 nautical miles outer limit drawn from the Caribbean countries' baseline of the region, with a possibility of variant between US and Bahamian EEZ (see 31.1 variant encompassing Grand Bahama and Great Abaco islands).
    - South – two options:
      - Option 1: the limits of national jurisdiction areas (as defined essentially on bilateral treaties).
      - Option 2: a straight line on 15°N latitude as given in the 1978 proposal.Both option lines extend towards a longitude of ~ 64.5°W, from which a straight line is drawn towards south at a latitude defined by south of Grenade EEZ / North of Tobago Island; and extending towards to the 200 nautical miles limit of Barbadian EEZ.
  - West – the limits of the Cuban EEZ, encompassing the latter in the 31.3 proposal. In the south-west, the limits of treaty lines between Central American countries and Cuban / Cayman Island EEZ.
- This sub-area includes a proposal for the following divisions (for both Options 1 and 2):
    - 31.3.1 – Lesser Antilles
    - 31.3.2 – Greater Antilles - Lucayan Archipelago, North Hispaniola / Puerto Rico
    - 31.3.3 – Greater Antilles - Caribbean Sea
    - 31.3.4 – Greater Antilles - North-western Cuba

#### Variant proposals:

- Trinidad & Tobago: In the present proposal (both Options 1 and 2), a straight line cuts the Trinidad & Tobago EEZ in two, to the north of Trinidad island at around 11°N (i.e., following the continent shelf limit). Two variants are proposed to decide whether the Trinidad & Tobago EEZ should be assigned completely to the division 31.3.1 Lesser Antilles ([variant 1a](#)), or alternatively to the sub-area 31.5 instead ([variant 1b](#)28).
- Cuba / Gulf of Guacanayabo: If needed, the draft 1978 legacy proposal to design a specific division for Ana María and Guacanayabo Gulfs may be retained in the present proposal.
- US and Mexico: Additional divisions may be kept as suggested in the 1978 legacy proposal.

#### **31.4 – Main High-seas / Bermuda:**

- Description: The proposal includes high-sea areas, the major part of Bermuda EEZ (a small part being in FAO Major Area 21 at North), and a part of US EEZ in the West. Compared to the 1978 legacy proposal (as initially defined as 31.5 with straight lines), the present proposal suggests aligning boundaries on the 200 nautical miles outer limit drawn from the countries' baseline of the region (including US, Bermuda, greater and lesser Antilles), in order to distinguish National jurisdiction areas from Areas Beyond national Jurisdiction (ABNJ).

Note: For this subarea and breakdown, there is no difference between Option 1 and Option 2.

- The proposal suggests the following divisions:

**31.4.1 – High-seas / Southern Central Atlantic** (delimited by FAO Major Area 31 limit on South and East, the 200 nautical miles outer limits on West, and a straight line on 20°N Latitude joining the 200 nautical miles of northern Lesser Antilles).

**31.4.2 – High-seas / Central Atlantic** (delimited by FAO Major Area 31 limit on North and East, and straight lines on 20°N towards the 200 nautical miles and a straight line around 60°W up to the upper limit of FAO Major Area 31).

**31.4.3 – High-seas / Western Central Atlantic** (delimited by 200 nautical miles drawn from Caribbean countries' baselines, the upper limit of FAO Major Area 31 on North and a straight line around 60°W on East).

**31.4.4 – Bermuda** covering the Bermudan EEZ area covered by the FAO Major Area 31.

#### **31.5 – Guyana - Suriname - Brazil.**

- Description: From north to south, this sub-area covers EEZs from Barbados, Trinidad and Tobago, Guyana, Suriname, French Guiana and Brazil.

#### **31.6 – Venezuela - Netherlands Antilles:**

- Description: This area covers the major part of the Colombian / Venezuelan EEZ, Netherlands Antilles (Aruba, Curaçao, Bonaire). Contrary to the 1978 legacy proposal which extends to the southern part of southern Lesser Antilles (Guadeloupe, Saint Lucia, Saint Vincent and the Grenadines, Grenada, Trinidad and Tobago and Barbados), this new proposal excludes the Lesser Antilles waters. Hence this sub-area would extend from 73.5°W longitude to *Paria Peninsula* in the east.

- The two options are distinguished as follows:

- Option 1: the limits of national jurisdiction areas (defined essentially on bilateral treaties).
- Option 2: a straight line on 15°N latitude as given in the 1978 legacy proposal.
- The boundary lines in both options extend towards a longitude of ~ 64.5°W, from which a straight line is drawn towards south at a latitude defined by south of Grenade EEZ / North of Tobago, and extending towards to the 200 nautical miles limit of Barbadian EEZ.
- This sub-area proposal includes two divisions splitting among the western part (Lake Maracaibo & Netherlands Antilles), the central part (Venezuelan EEZ), and the eastern part (Lesser Antilles, Guyana/Suriname/French Guiana/Brazil), as follows:
  - 31.6.1 – Gulf of Venezuela*
  - 31.6.2 – Netherlands Antilles*
  - 31.6.3 – Lake Maracaibo*
- The two different options suggest either following the Netherlands Antilles EEZ boundary (Bonaire EEZ) in Option 1 or alternatively following a straight line north along the western boundary limit of Bonaire (68° W) until 15°N (Option 2).

For the south-west part of the Caribbean, the new proposal suggests two sub-areas in both options. A variant (described later in the document) suggests splitting this region in three subareas, as in the 1978 legacy proposal.

#### **Southwestern Caribbean - Main proposal:**

##### **31.7 – Southwestern Caribbean:**

- Description: This sub-area proposal extends from Honduran EEZ to the limit of suggested 31.6 sub-area (straight line on 73.5°W), encompassing the two options as follows:
  - Option 1: use treaty lines with northern countries (Cayman Islands, Jamaica, Haiti).
  - Option 2: use straight lines as follows: on West, a straight line around ~ 17.8°N latitude corresponding to the intersection between Mexican, Belize and Honduran EEZs) towards longitude 80°W, followed by a straight longitudinal line towards latitude 15°N.
- The proposal suggests four divisions:
  - 31.7.1 – Colombia*
  - 31.7.2 – Panama - Costa Rica*
  - 31.7.3 – Nicaragua*
  - 31.7.4 – Honduras*

As for other subareas / divisions, Option 1 suggests the boundary line be aligned on treaty lines that delimit countries' EEZs, while Option 2 suggests the use of simplified longitudinal / latitudinal straight lines.

##### **31.8 – Gulf of Honduras:**

- Description: The proposal for this sub-area boundary extends from Yucatán (around 21°N latitude - *Isla Contoy*) towards the Northern part of Honduran EEZ, encompassing Belize and Guatemala EEZs.
- In the east, the two options for delineating the area are as follows:

- 
- Option 1: use the treaty lines between countries, including Mexico and Cuba. On south, a statistical line is drawn from the eastern limit of Belize EEZ following a straight line on 86°W longitude towards Honduran coast (around *Puerto Castilla*).
  - Option 2: use the straight line on 86°W longitude from North to South.

No further division is suggested here.

South-western Caribbean - variants:

Two variants are suggested, aligned on Option 1 (i.e., use of treaty lines) and Option 2 (use of straight lines), that both include the design of three sub-areas as per the 1978 legacy proposal, instead of two:

31.7 - Venezuela (aligning with Venezuela)

31.8 - Panama - Costa Rica

31.9 - Nicaragua - Gulf of Honduras (encompassing the entire Honduran EEZ) with three divisions:

*31.9.1. Nicaragua*

*31.9.2 Honduras*

*31.9.3. Gulf of Honduras*

*Other maps of interests for the discussion*

Given the complexity of the maritime boundaries in the Caribbean and its legal and jurisdictional nature, it may be appropriate to extend the comparison to other characteristics of the Caribbean region that could be better proxies or drivers of statistical areas for fishery stock assessment.

The links below provide comparison maps that may be relevant to feed the FDS-WG discussions:

**With FAO major area 31 geographic extent:**

[FAO sub areas / divisions legacy proposal + Ecoregions](#)

[FAO sub areas / legacy divisions proposal + Continental Shelf](#)

**With WECAFC competence area geographic extent:**

[With WECAFC competence area + FAO major area 31 + Shelf](#)

[With WECAFC competence area + FAO major area 31 + Shelf + LMEs](#)

[WECAFC competence area + FAO major area 31 + Shelf + maritime boundaries](#)

[WECAFC competence area + FAO major area 31 + LMEs](#)

[WECAFC competence area + FAO major area 31 + LMEs + Shelf](#)

[WECAFC competence area + FAO major area 31 + LMEs + maritime boundaries](#)

[WECAFC competence area + FAO major area 31 + LMEs + mar. boundaries + shelf](#)

[WECAFC competence area + FAO major area 31 + Ecoregions](#)

[WECAFC competence area + FAO major area 31 + Ecoregions + Shelf](#)

[WECAFC competence area + FAO major area 31 + Ecoregions + maritime boundaries](#)

[WECAFC competence area + FAO major area 31 + Ecoregions + mar. boundaries + shelf](#)

**Zoom areas**

- **South Eastern Caribbean (Trinidad & Tobago variant):**

[TTO + Shelf + LMEs](#)

[TTO + Shelf + LMEs + maritime boundaries](#)

[TTO + Shelf + Ecoregions](#)

[TTO + Shelf + Ecoregions + mar. boundaries](#)

- **South Western Caribbean (from Yucatán to Venezuela):**

[SW-Caribbean + Shelf + LMEs](#)

[SW-Caribbean + Shelf + LMEs + maritime boundaries](#)

[SW-Caribbean + Shelf + Ecoregions](#)

[SW-Caribbean + Shelf + Ecoregions + maritime boundaries](#)

- **North Florida - US - Bahamian median line**

[US/BHA + Shelf + LMEs](#)

[US/BHA + Shelf + LMEs + maritime boundaries](#)

[US/BHA + Shelf + Ecoregions](#)

[US/BHA + Shelf + Ecoregions + maritime boundaries](#)