

**25<sup>th</sup> MEETING OF THE MESO AMERICAN – CARIBBEAN SEA HYDROGRAPHIC COMMISSION (MACHC25)**

**NATIONAL REPORT FROM THE NETHERLANDS**

Executive summary

- Satisfactory status for surveying in the MACHC area.
- Satisfactory status for nautical charting in the MACHC area, especially the new HD ENC's for Aruba and Bonaire.
- Submission of the 1996 deep water survey for the North Atlantic and Caribbean to the IHO DCDB for inclusion in GEBCO/NF Seabed2030, with more to follow.
- Maritime boundary treaty with Saint Kitts and Nevis signed.

1. Hydrographic Office / Service:

a) Name of the institution: Hydrographic Service of the Royal Netherlands Navy

b) Description:

Areas of responsibility are the waters of the Kingdom of the Netherlands in the Caribbean. These are the Leeward Islands (Aruba, Curaçao, Bonaire) and the Windward Islands (Sint Maarten, Saba, Sint Eustatius). Ref. Annex A.

c) Submitted by: Leendert Dorst, LL.Dorst@mindef.nl.

2. Surveys:

The deep water echo sounder o/b HNLMS Pelikaan is operational for speeds limited to 10 Kts in Dutch and American waters. Data recorded are added to our database and will become available in our web services, and subsequently for Seabed2030.

3. New charts & updates:

a) ENC coverage, gaps and overlaps

- Full ENC coverage for all appropriate usage bands. UK and FR are producer nations for the overview and general usage bands.
- A rescheming of ENC's is in progress. There will be less similarity between the paper chart scheme and the ENC scheme.

b) National paper charts: New editions of charts NL2020 and NL2110 to be released.

c) Challenges and achievements: HD-ENCs (in accordance with S65 Annex A) covering Aruba and Bonaire released. More HD ENC's to follow.

4. New publications & updates:

List Of Lights HP2B (Caribbean Sea), freely available via web site<sup>1</sup>, is regularly updated.

5. MSI: Ref. Annex C.

6. C-55: Ref. Annex B.

7. Capacity Building, offered:

Practical traineeship on board NL survey vessels.

8. Oceanographic activities:

During the Caribbean ESB deployment a GNSS-based tide gauge campaign has been executed by the crew to model the Ellipsoidal Referenced Survey (ERS) separations for Curaçao. Results are expected to be available by Q1 of 2025.

9. Spatial data infrastructures

a) IHO DCDB

- Submission of the 1996 deep water survey of HNLMS Tydeman for the North Atlantic and Caribbean to the IHO DCDB for inclusion in GEBCO/NF Seabed2030.
- More 20<sup>th</sup> century GEBCO plotting sheets of the North Atlantic and Caribbean are available in our archives, originating from Netherlands and foreign ships. We are planning to digitize these using existing software tooling, and are open to recommendations on process efficiency from the membership.

b) EMODnet

- Our Caribbean survey data and metadata are available for download in the EMODNet portal at a 20 m resolution.
- Our Caribbean survey data are also available within the EMODnet Bathymetry grid of 2022, which includes a part of the Caribbean Sea.

c) INSPIRE

NL offers web services for its geographic names and gridded bathymetric data of the Caribbean Sea. The bathymetry services are shown in the DCDB Viewer.

data set	type	URL
Geographic names at sea	WMS	<a href="https://inspire.caris.nl/server/services/ows/view/map/namen-carib_IVS">https://inspire.caris.nl/server/services/ows/view/map/namen-carib_IVS</a>
	WFS	<a href="https://inspire.caris.nl/server/services/ows/download/feature/namen-carib_IDS">https://inspire.caris.nl/server/services/ows/download/feature/namen-carib_IDS</a>
Bathymetry	WMS	<a href="https://inspire.caris.nl/gs5/carib_noord/wms">https://inspire.caris.nl/gs5/carib_noord/wms</a> (Sint Maarten, Saba, Sint Eustatius)
		<a href="https://inspire.caris.nl/gs5/carib_zuid/wms">https://inspire.caris.nl/gs5/carib_zuid/wms</a> (Aruba, Curaçao, Bonaire)
	WCS:	<a href="https://inspire.caris.nl/gs5/carib_noord/wcs">https://inspire.caris.nl/gs5/carib_noord/wcs</a> (Sint Maarten, Saba, Sint Eustatius)
		<a href="https://inspire.caris.nl/gs5/carib_zuid/wcs">https://inspire.caris.nl/gs5/carib_zuid/wcs</a> (Aruba, Curaçao, Bonaire)

Table: URLs for the Caribbean web services of RNLN

<sup>1</sup> <https://www.defensie.nl/onderwerpen/hydrografie/downloads/publicaties/2022/07/27/hp2b>

## d) other

The Netherlands ENC's for the Caribbean Sea are available for online viewing in MACHC ENC Online. This tool is used to improve the two-way communication with local data providers.

## 10. Innovation

## a) Use of new technologies

NL developed Caribbean test data sets for S-102 (Gridded Bathymetry), S-122 (Marine protected Areas), S-123 (Marine radio services) and S-128 (Catalogue of Nautical Products). At present, the sets are in GML format (no formal exchange set yet) and can be viewed through an in-house developed Windows viewer.

## b) Risk assessment

The total NL responsibility area is divided in four categories. The Cat. 1 and Cat. 2 areas are surveyed using a MBES, a SSS, a SV profiler, and Fugro Marinestar position augmentation services for horizontal and vertical positioning.

Cat. 1	0-40 m	Harbours and approaches	every 4 years
Cat. 2	0-40 m	Other coastal areas on South and West coasts	every 12 years
Cat. 3	0-200 m	Other areas up to 200 m	every 24 years
Cat. 4	> 200 m	All areas deeper than 200 m	every 50 years

Table: Categories for hydrographic surveys in the Caribbean waters of the Kingdom of the Netherlands

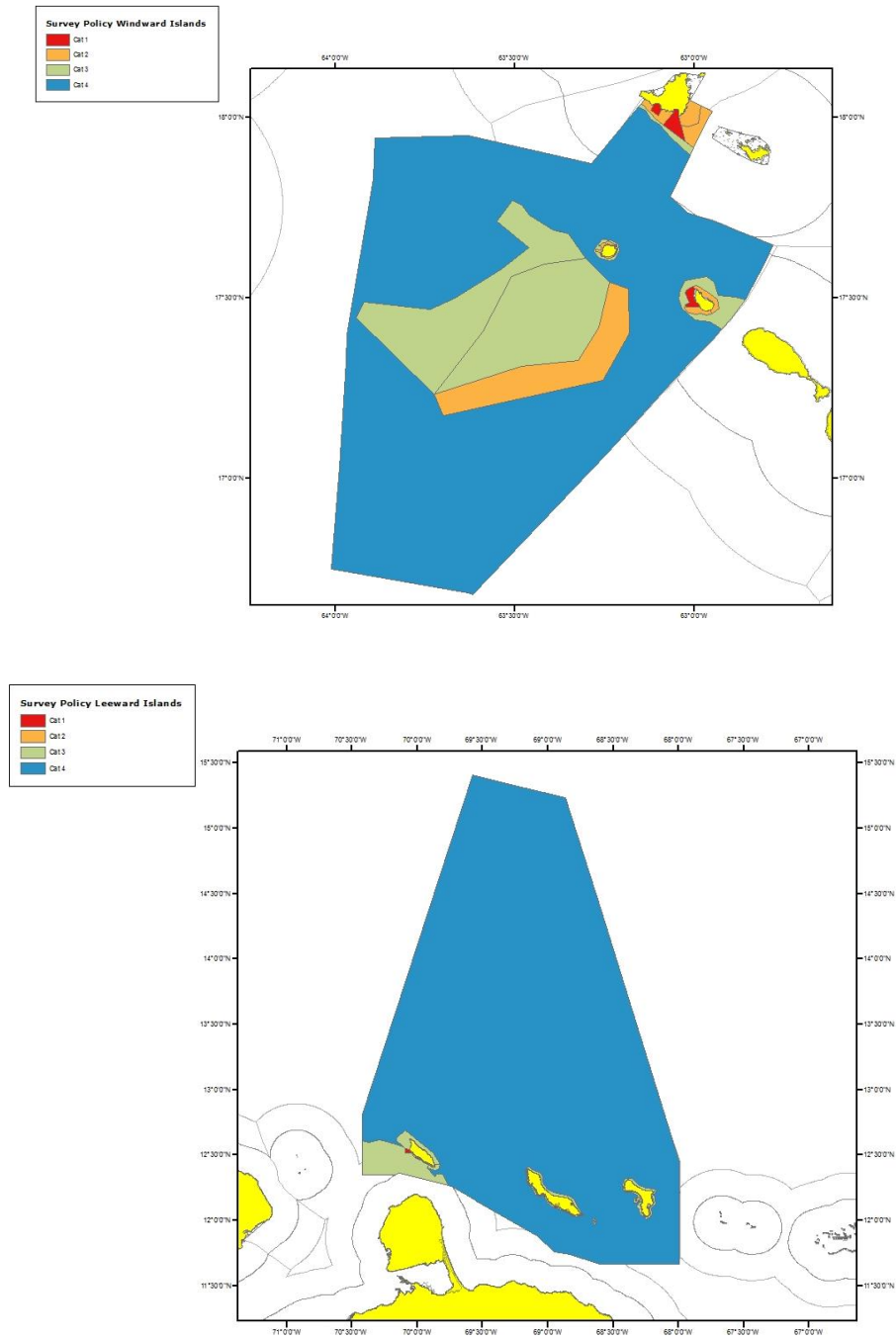


Figure: Survey Policy for the Windward Islands (upper) and Leeward Islands (lower).

c) Policy matters

- Active participation in the IHO Council.
- Licences for ENC data for non-ECDIS navigation and online viewing are available through UKHO and IC-ENC.

## 11. Other activities

### a) Participation in IHO meetings

- Continued active participation in several groups.
- Vice chair of IC-ENC Steering Committee.
- Member of the Meso-American and Caribbean Hydrographic Commission (MACHC), North Sea Hydrographic Commission (NSHC) and Hydrographic Commission on Antarctica (HCA).

### b) Preparation for responses to disasters:

RNLN Hydrographic seariders and their Mobile Hydrographic Package (MHP) are on 5 day notice during the Caribbean hurricane season.

### c) Engagement with the Maritime Administration

Visit to all relevant local authorities as part of the Kingdom Maritime Administration (KMA) delegation between 6 and 16 October, in order to maintain good mutual relations.

### d) International engagements:

Active engagement led by our Ministry of Foreign Affairs to establish our Caribbean international boundaries continues. The present situation is illustrated in the Figures on the next page.

The Treaty on the maritime boundary between the Kingdom of the Netherlands and the Federation of Saint Kitts and Nevis has been signed on the island of Saint Kitts on April 4<sup>th</sup>. The signing ceremony is shown below.



Figure: signing ceremony for the Treaty on the land border between the Kingdom of the Netherlands and the Federation of Saint Kitts and Nevis.

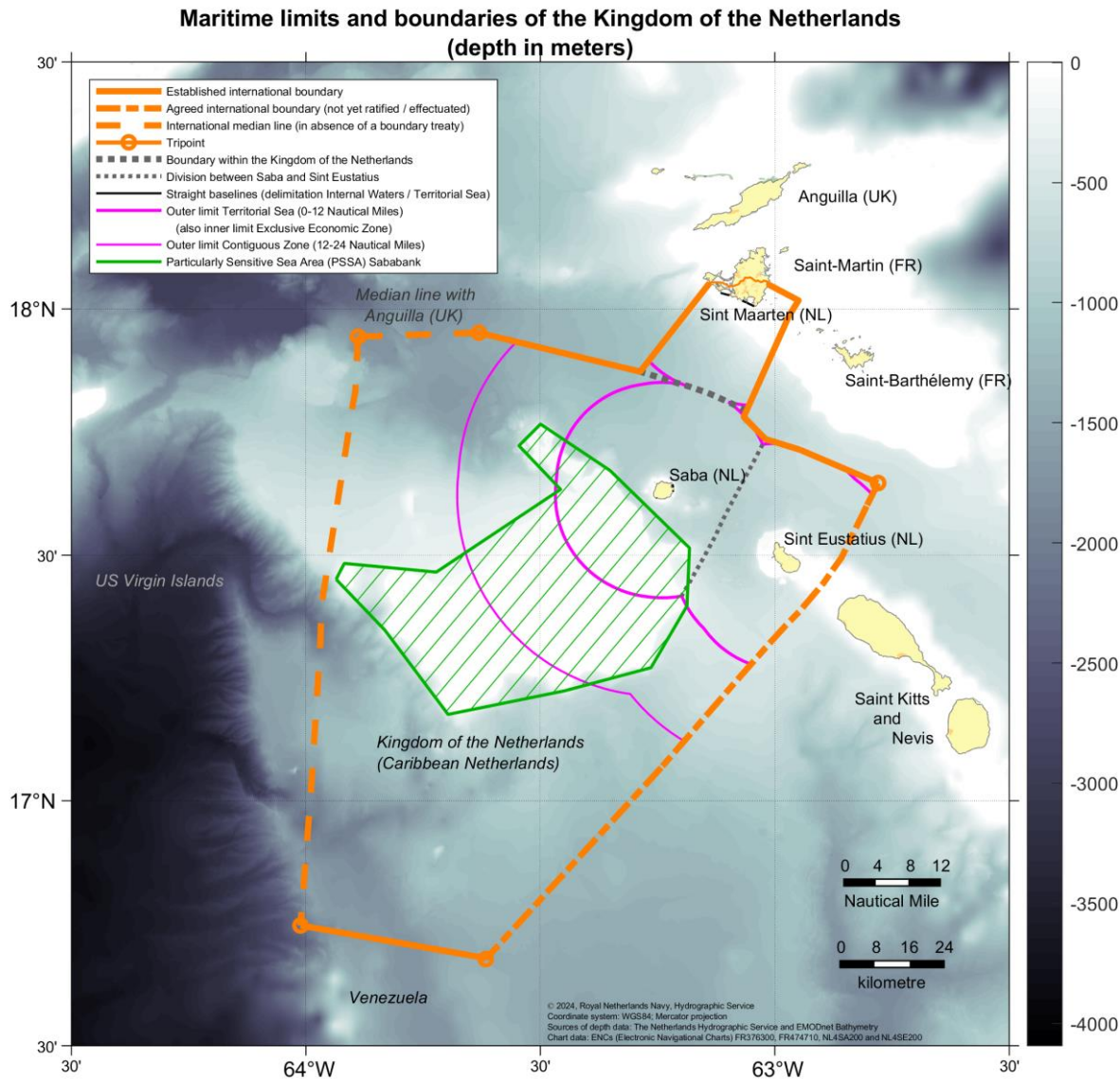


Figure: Maritime limits and boundaries for the Windward Islands. Note that the 2022 EMODnet bathymetric grid is used as a background.

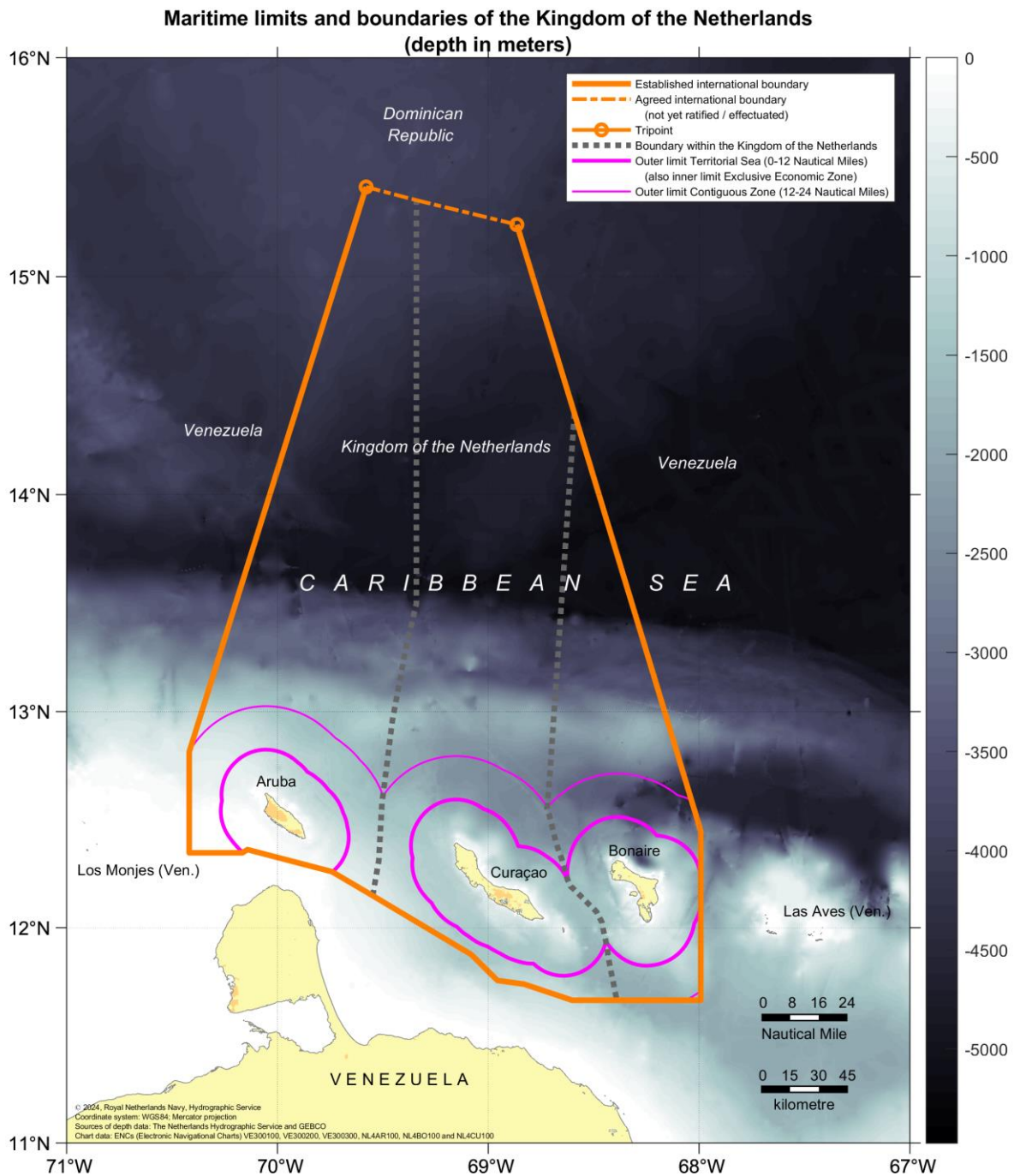


Figure: Maritime limits and boundaries for the Leeward Islands. Note that the 2023 GEBCO bathymetric grid is used as a background.

## 12. Conclusions

- Satisfactory status for surveying in the MACHC area.
- Satisfactory status for nautical charting in the MACHC area, especially the new HD ENC's for Aruba and Bonaire.
- Submission of the 1996 deep water survey for the North Atlantic and Caribbean to the IHO DCDB for inclusion in GEBCO/NF Seabed2030, with more to follow.
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**Annex A: Input to the IHO Publication P-5, Yearbook**

*Last update submitted 28 September 2022*

No change.



**Annex B: Input to the IHO Publication C-55, Status of Hydrographic Surveying and Charting Worldwide**

*Last update submitted 2 October 2022, reproduced here under for completeness.*

	% Adequate		% Resurvey needed		% Never surveyed	
	<200m	>200m	<200m	>200m	<200m	>200m
Leeward Islands (Aruba, Bonaire, Curaçao)	89	28	11	72	0	0
Windward islands (Saba, Sint Eustatius, Sint Maarten)	100	97	0	3	0	0

## Annex C: National MSI Self-Assessment Dutch Caribbean Coast Guard

### 1. Maritime area

The TTW and EEZ of the Dutch Caribbean islands Aruba, Curacao, Bonaire (ABC) and Saba, St Eustatius and St Maarten (SSS) as well as the SRR in the middle of the Caribbean Sea. GMDSS region classified as A2 area and under coverage of Inmarsat satellite for communication, distress and safety messages like EGC (enhanced Group Call).

### 2. Operational Points of Contact for the National Coordinator

INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
JRCC	0059994637700		<a href="mailto:rcc.curacao@mindef.nl">rcc.curacao@mindef.nl</a>

### 3. GMDSS Master Plan

All required GMDSS up to date and weekly checked. INMARSAT-C (AOR-W + E), NAVTEX, VHF/UHF/HF radio telephony (including Emergency and shipping international channels), DSC VHF/MF, Satellite communication/iridium, telephone alarm number 913, COSPAS/SARSAT local user terminal via US MCC to JRCC Curacao, all equipment 24/7 monitored. Additionally SAROPS search and rescue planning and prediction program.

Equipment Type for Ports and Local Area	Software Version	Date of Up-date
VHF ABC and SSS islands port/ATC authorities		2015

Year Y-2		Year Y-1		Year Y	
Total	Average elapsed time	Total	Average elapsed time	Total	Average elapsed time
0	-	0	-	0	-

Above table cannot be filled accordingly due to still not having an official agreement with local maritime authorities regarding MSI responsibility. JRCC Curaçao still broadcasts MSI via SafetyNet when needed.

### 4. NAVTEX Coverage:

AREA H (IV) – VHF/UHF/MF – Navigational, Meteo and all desired urgency broadcasts. MMSI 003061000

### 5. Operational Issues:

NAVTEX station is operational. INMARSAT C station needs to be reinstalled by local company, at the moment all messages are being redirected to email adres: [rcc.curacao@mindef.nl](mailto:rcc.curacao@mindef.nl).

### 6. Contingency Planning

New VHF/UHF radiotelephony network still in trials on Windward Caribbean islands. A VHF 16 station has been installed on Saba but is not working properly yet.

## 7. Capacity Building

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## 8. Other Activities

JRCC Curaçao is using the Satellite version of Marine Traffic for satellite AIS. This is very useful when contacting and identifying AIS vessels in our SRR due to the distance from a VHF shore AIS system. Furthermore JRCC Curaçao is in the process of acquiring a subscription for the website windy.com, this will enable us to receive more data on weather conditions in our SRR. JRCC Curaçao has also an account for the EMSA/CleanSeaNet website which reports oil spills in the Caribbean. All above mentioned websites are used to give a better view in our area of responsibility.

## 9. National Maritime Website

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## 10. Recommendations

Fax machine has been discontinued in the RCC. USMCC has been informed to send 406 alerts via email.

Email has been sent to NAVAREA IV to change the National Coordinator for MSI. Response has been received that this will be updated prior to the MACHC meeting and will be changed in the NAVAREA IV/XII self assessment.

## 11. Summary

JRCC Curacao

INMARSAT C 424402072

DSC VHF/MF MMSI 003061000

Telnr 0059994637700

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24/7 monitor all GMDSS including all shipping&aircraft related COSPAS/SARSAT