

21ST MEETING OF THE MESO AMERICAN – CARIBBEAN SEA HYDROGRAPHIC COMMISSION (MACHC21)

NATIONAL REPORTS FROM THE NETHERLANDS

Executive summary

Satisfactory status for surveying and nautical charting in the MACHC area.
Continuation of efforts to contribute to a Caribbean SDI, reusing the experiences gained for the North Sea.

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).

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

2. Surveys:

- The MBES/SSS survey for the Cat.1 and 2 areas of the Windward and Leeward islands is being processed.
- Also, the land/sea LIDAR survey for Sint Maarten, in cooperation with local government and the World Bank, was awarded and has started on 14 November. This LIDAR survey follows a similar French LIDAR survey for Saint Martin and Saint Barthélemy.

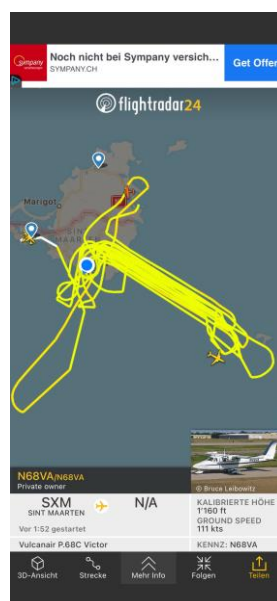


Figure: flight tracks of LIDAR survey in progress

- HNLMS Pelikaan is a RNLN ship that goes back and forth frequently between our Windward Islands and Leeward Islands, crossing the central Caribbean basin. Its equipment has recently been updated in NL, and it has returned to the Caribbean. We have outfitted it with a deep water echo sounder. The data that it will produce will be added to our database and that way becomes available in our web services too, and subsequently for Seabed2030.



Figure: HNLMS Pelikaan (archived image)

- NOAA deep water SBES and MBES surveys were downloaded through the MACHC Seabed2030 portal. The data is being evaluated for inclusion in our database.
- On the 19th of July a Royal Netherlands Navy NH90 helicopter crashed West of Aruba. Beginning of September, two major parts of the helicopter were located and recovered by a civil military team. The parts were discovered through a hydrographic survey with an ROV by a contracted party, with a representative of the Hydrographic Service on board. The recovered parts were sent to the Netherlands for formal investigation.



Figure: NH-90 helicopter (archived image)

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 paper charts and ENCs is in progress. There will be less similarity between the paper chart scheme and the ENC scheme.

b) National paper charts

A rescheming of paper charts and ENCs is in progress. There will be less similarity between the paper chart scheme and the ENC scheme. The new paper charts for the Leeward Islands are coproduced with UKHO. The first Caribbean coproduction chart (780, Bonaire) has been published. For the Windward Islands, this is under discussion.

c) Challenges and achievements

The two-way data flow with local data providers is improved with visits to the Leeward Islands (2018) and Windward islands (2019), as well as by promoting MACHC ENC Online as a tool for local data providers to check the current status of the chart.

4. New publications & updates: no significant developments

5. MSI: A representative of the Caribbean Coast Guard actively participated in the MSI training in the Dominican Republic. The national self-assessment of MSI is submitted in Annex C.

6. C-55: Ref. Annex B.

7. Capacity Building, offered: practical traineeship on board NL survey vessels

8. Oceanographic activities: no significant developments

9. Spatial data infrastructures

- NL offers web services for its geographic names and gridded bathymetric data of the Caribbean Sea. The view services have already been included in the DCDB Viewer, and the download services will be included in the DCDB for the next GEBCO release. Also, Teledyne CARIS has updated our bathymetry web services to newer technology.
- The Netherlands ENCs for the Caribbean Sea are available for online viewing in the MACHC ENC Online application. This tool is used to improve the two-way communication with local data providers.

data set	type	URL
Geographic names at sea	WMS	https://inspire.caris.nl/server/services/ows/view/map/namen-carib_IVS
	WFS	https://inspire.caris.nl/server/services/ows/download/feature/namen-carib_IDS
Bathymetry	WMS	https://inspire.caris.nl/g5/carib_noord/wms (Sint Maarten, Saba, Sint Eustatius)
	WMS	https://inspire.caris.nl/g5/carib_zuid/wms (Aruba, Curaçao, Bonaire)
	WCS:	https://inspire.caris.nl/g5/carib_noord/wcs (Sint Maarten, Saba, Sint Eustatius)
		https://inspire.caris.nl/g5/carib_zuid/wcs (Aruba, Curaçao, Bonaire)

URLs for web services in the Caribbean waters of the Kingdom of the Netherlands

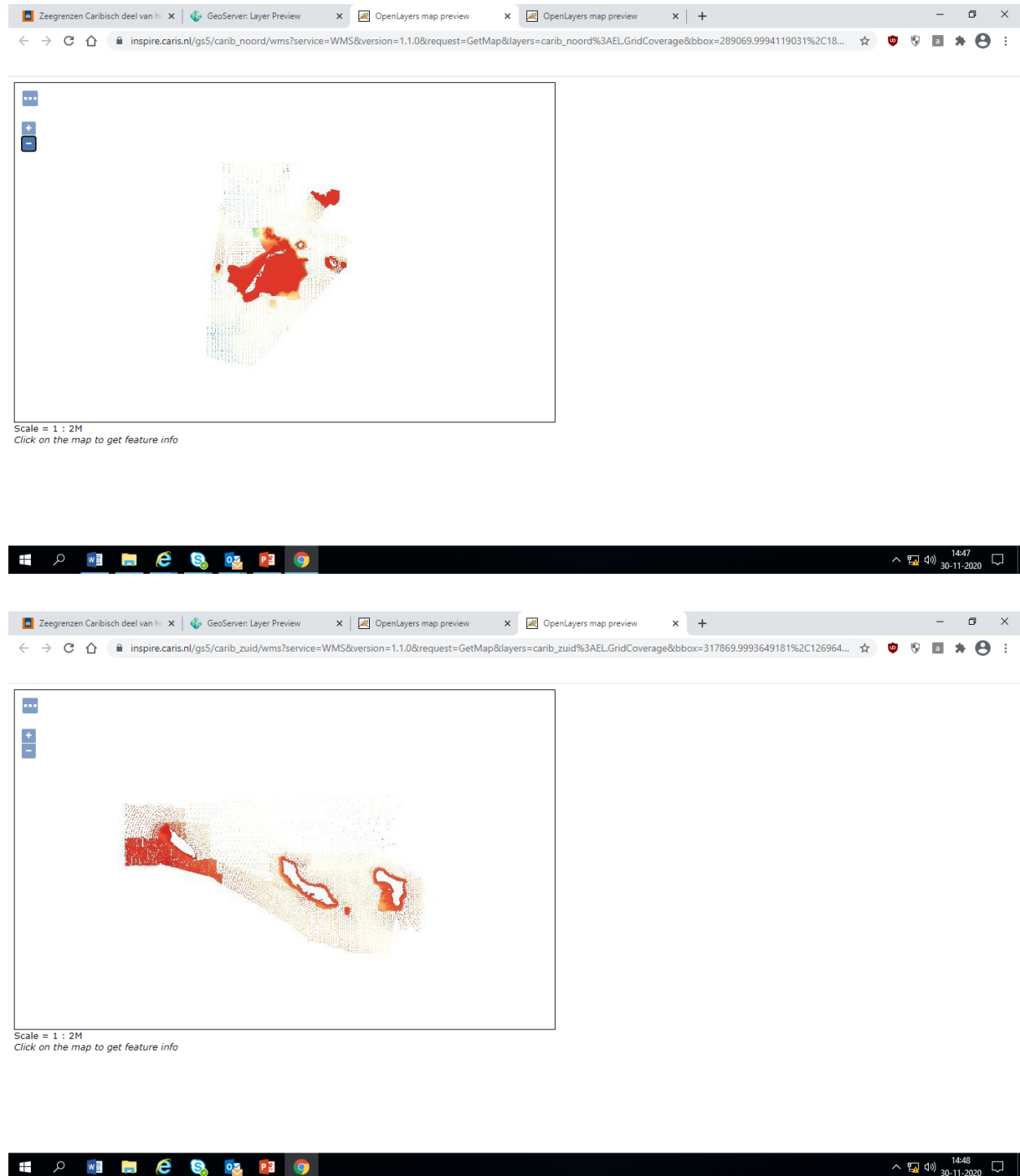


Figure: web mapping services for bathymetry around the Caribbean waters of the Kingdom of the Netherlands

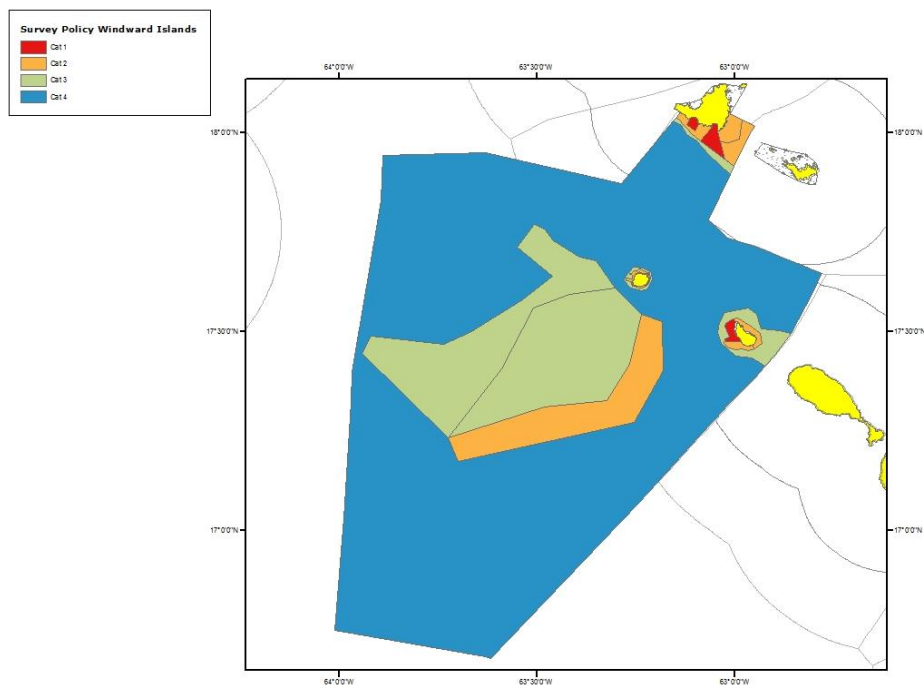
10. Innovation

- a) Use of new technologies: First experiences with LIDAR
- 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 ERS 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



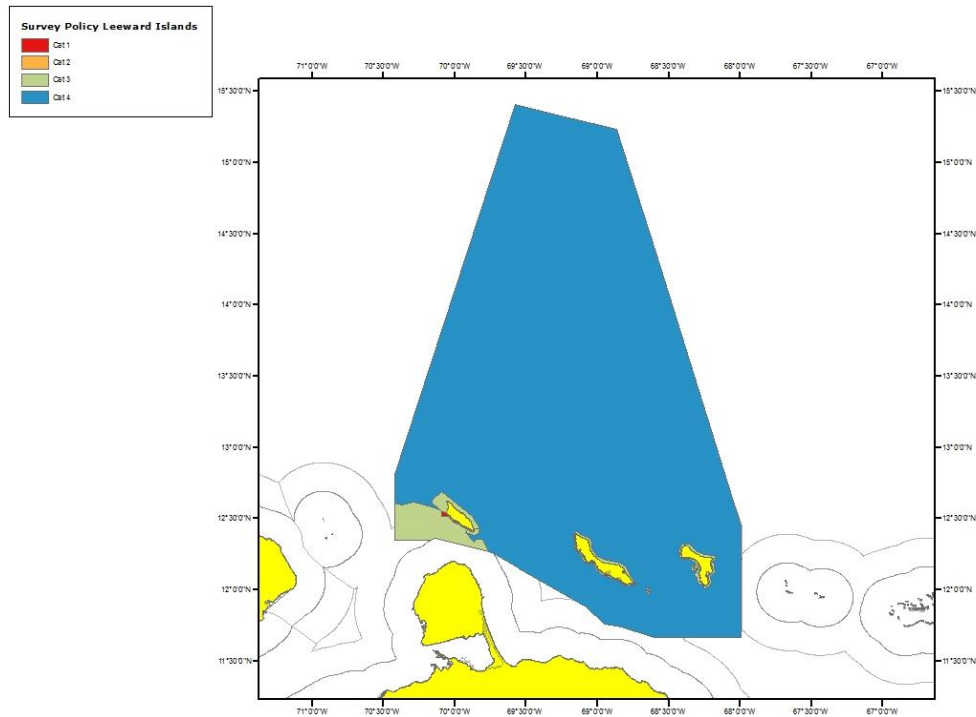


Figure: Survey Policy for the Windward Islands (upper) and Leeward Islands (lower).

c) Policy matters

- Active participation in the IHO Council.
- Active participation in the UN-GGIM Marine Geographic Information Working Group (MGIWG);
- Active participation to improve the availability of ENC data through IC-ENC for non-ECDIS use (besides the current availability through UKHO).
- Active participation in IHO EU Network Working Group, related to the List of High Value Data Sets of the European Directive on Open Data and Public Sector Information. The obligations following from the List will also be applied for the Caribbean region.

11. Other activities

a) Participation in IHO meetings

Active participation in several groups, participation in DQWG as chair.

b) Preparation for responses to disasters: no significant developments

c) Engagement with the Maritime Administration

The Kingdom of the Netherlands is preparing itself for an IMO Member State Audit Scheme (IMSAS) audit in 2021, with a focus on its two flag states: the Netherlands and Curaçao. To this end, there is an active engagement with the Netherlands Directorate for Maritime Affairs and the Maritime Authority Curaçao (MAC).

- d) International engagements: Work on our undelimited maritime boundaries continues.

12. Conclusions

Satisfactory status for surveying and nautical charting in the MACHC area.
Continuation of efforts to contribute to a Caribbean SDI, reusing the experiences gained for the North Sea.

Input to the IHO Publication P-5 (*Yearbook*)

Country: the Netherlands

Organization: Hydrographic Service of the Royal Netherlands Navy

no change

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)

Country: the Netherlands

	% 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

National MSI Self-Assessment

Country: *Kingdom of the Netherlands*
 Organization: *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 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	0059994637950	rcc.curacao@mindef.nl

3. GMDSS Master Plan

All required GMDSS up to date and daily 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	-

4. NAVTEX Coverage:

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

5. Operational Issues:

Last year's operational issue was: "New Inmarsat C terminal has been installed Awaiting registration of email address." This year, the email address has been registered as

rcc.curacao@mindef.nl. Currently all operators can send and receive Inmarsat emails from their stations. Inmarsat C terminal is currently used for EGC messages only.

6. Contingency Planning

New VHF/UHF radiotelephony network installed on Leeward Caribbean islands.
New VHF/UHF radiotelephony network planned on Windward Caribbean islands.

7. Capacity Building

-

8. Other Activities

-

9. National Maritime Website

-

10. Recommendations

Request USMCC to possibly send Distress alerts also via email. This issue has already been brought forward at USMCC. At that time, it was not possible and they could only send messages via fax. In our opinion, fax machine/system is not always reliable.

11. Summary

JRCC Curacao
INMARSAT C 422202072
DSC VHF/MF MMSI 003061000
Telnr 0059994637700
rcc.curacao@mindef.nl
24/7 monitor all GMDSS including all shipping&aircraft related COSPAS/SARSAT