

	<p><b>MACHC-IOCARIBE</b>  <b>Seabed 2030</b>  <b>Work Plan for 2022</b>  <b>STATUS UPDATES</b></p>	
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**Goal 1: Contribute Existing Non-Public Bathymetric Data to the IHO DCDB and GEBCO Grid**

**Objective 1.1. Identify existing non-public bathymetric data and create/share polygons delineating the extent of data coverage for integration into the Seabed 2030 - MACHC Web App**

#	Action Item	Contribution so far	Observations
001	Assemble information (polygons) about existing non-public bathymetric data falling under its remit not yet identified on the MACHC Web App to identify gaps.	NLD, UK	<p><b>NLD RNLN:</b> The historic non-digital fair sheets of the Caribbean Islands of the Kingdom of the Netherlands and Suriname concerns 937 records. The sheets between 1775 and 1950 are at our National Archives, and the sheets between 1950 and 2000 at the Geological Survey of the Netherlands. We are working on improving the registration. Subsequently, we will decide on scanning and/or digitization. We are actively engaging with the Proteus project, which executed a Seabed2030 Map the Gaps bathymetric survey on the South-West coast of Curaçao. Data will be added to our database and become available to Seabed2030, as part of our delivery to EMODnet Bathymetry.</p> <p><b>UK:</b> Polygons provided for latest data</p>
002	Broadly communicate the steps to submit polygons showing data coverage of existing data to both the RDACC and the IHO DCDB.	HND, GTM, DOM, CRI	Virtual meetings with some POCs for technical advice 2021.

**Objective 1.2. Share existing bathymetric data in the MACHC region for inclusion in the GEBCO Grid and long- term preservation and public accessibility via the IHO DCDB.**

#	Action Item	Contribution so far	Observations
003	Look at existing regulatory requirements, legislation, bilateral, contractual or other arrangements for surveying within national waters of jurisdiction to reassess what bathymetric data can be made publicly available and at what resolution is acceptable to the government and to the data owner. Share examples on the MACHC Initiative Seabed 2030 webpage.	NLD, UK, BRA	<p><b>NLD RNLN:</b> National survey requirements available at <a href="https://iho.int/en/csbgw">https://iho.int/en/csbgw</a> . Data owners are encouraged to share their data actively, either directly to us, through the EMODnet Ingestion portal (<a href="https://www.emodnet-ingestion.eu/">https://www.emodnet-ingestion.eu/</a> ), or through the IHO DCDB CSB page (<a href="https://www.ngdc.noaa.gov/iho/">https://www.ngdc.noaa.gov/iho/</a> ).</p> <p><b>UK:</b> Have provided all available Caribbean data holdings where data has been collected under the UK Overseas Territories Programme. For seabed2030 data sets have been released in the region at 100m resolution.</p> <p><b>BRA:</b> The Open Data Policy of the Brazilian Hydrographic Office is being updated to include bathymetric data. Brazil allows CSB in the Brazilian EEZ</p>
004	Broadly communicate the steps to submit data to the IHO DCDB and the RDACC.	Seabed2030 Coordinator	Webinar 2020, 2021 and 2022.
005	Contribute multibeam, single-beam and ENC data to the IHO DCDB, wherever possible, for long-term archive and data access.	NLD, UK, BRA	<p><b>NLD RNLN:</b> Our digital Caribbean multibeam and singlebeam survey data are available through the EMODnet Bathymetry CDI Data Discovery and Access Service at <a href="https://www.emodnet-bathymetry.eu/">https://www.emodnet-bathymetry.eu/</a> .</p> <p>Our Caribbean ENC data is available for viewing only in the MACHC ENC Online service at <a href="https://www.iho-machc.org/MACHC-ENCOOnline/">https://www.iho-machc.org/MACHC-ENCOOnline/</a> .</p> <p><b>UK:</b> Have shared data to seabed2030 for the specific use for seabed2030 and data is pulled into the IHO DCDB from the RDACC.</p> <p><b>BRA:</b> Bathymetric data from five surveys conducted at NAVAREA V (offshore Brazilian coast)</p>

			were submitted to IHO DCDB in March 2021.
006	Contribute national bathymetric data products to the RDACC at the appropriate resolution approved by the national authorities for integration into the GEBCO grid.	NLD, UK, BRA	<p><b>NLD RNLN:</b> Our digital Caribbean bathymetric data products are available through the EMODnet Bathymetry CDI Data Discovery and Access Service at <a href="https://www.emodnet-bathymetry.eu/">https://www.emodnet-bathymetry.eu/</a>. Our digital Caribbean bathymetric data products are available through our Caribbean bathymetry web services, updated twice year. More details at <a href="https://english.defensie.nl/topics/hydrography/documents/publications/2021/09/30/online-availability-of-data-from-the-hydrographic-service">https://english.defensie.nl/topics/hydrography/documents/publications/2021/09/30/online-availability-of-data-from-the-hydrographic-service</a>.</p> <p><b>UK:</b> Have shared data to seabed2030 for the specific use for seabed2030 and data is pulled into the IHO DCDB from the RDACC.</p> <p><b>BRA:</b> Bathymetric grid with 1 km resolution covering NAVAREA V was submitted in March 2021.</p>

**Objective 1.3. Advise stakeholders and partners to seek access to existing and future non-public bathymetric data sets acquired and managed by scientific investigators, private industry, and public organizations.**

#	Action Item	Contribution so far	Observations
007	Identify ways to promote or to support bathymetric data sharing.	NLD, UK, BRA	<p><b>NLD RNLN:</b> Active communication with all relevant scientific institutes and public bodies.</p> <p><b>UK:</b> Have developed the UK Centre for Seabed Mapping (CSM) to enable the UK's world-leading marine geospatial community to collaborate in the collection of better quantity, quality, and availability of seabed mapping data.</p> <p><b>BRA:</b> Technical and Informative Notes on the GEBCO program and Seabed 2030 project were issued to Brazilian Marine Geology and Geophysics</p>

			Program, Brazilian Oceanography Association and Brazilian Hydrographic Society.
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## Goal 2: Increase Data Coverage

### Objective 2.1. Design, implement, and resource coordinated mapping campaigns based on identified data gaps.

#	Action Item	Contribution so far	Observations
008	Assemble information and polygons about upcoming surveys and data acquisition opportunities in national waters of jurisdiction to integrate into the WebApp to define data gaps and plan coordinated mapping campaigns.	NLD, UK, BRA	<p><b>NLD RNLN:</b>The Sint Maarten LIDAR survey has been fully processed and will be offered through our Caribbean bathymetric web services.</p> <p>The deep water echo sounder o/b HNLMS Pelikaan has been installed and she has returned to the Caribbean Sea. Still dealing with some technical issues.</p> <p><b>UK:</b> Development of UK CSM will enable coordinated survey program development.</p> <p><b>BRA:</b> Is working on the gap areas provided by the Seabed 2030 Coordinator in order to plan upcoming surveys in the Brazilian waters of jurisdictional.</p>
009	Identify gap areas in the MACHC region without any kind of bathymetric data (distances greater than 1,000 m) providing the polygons to the respective Coastal States.	Seabed2030 Coordinator	An updated .shp file was sent with data from 2021 provided by the head of the RDACC (Dr. Vicki Ferrini).

### Objective 2.2. Encourage the acquisition of mapping data by academic and industry survey vessels during transits through the region to fill gaps in data coverage.

#	Action Item	Contribution so far	Observations
010	Explore with national authorities expanded permissions for opportunistic data acquisition via research and survey vessels during transits, consistent with national policy.	NLD, UK, BRA	<b>NLD RNLN:</b> The deep water echo sounder o/b HNLMS Pelikaan has been installed and she has returned to the Caribbean Sea. Still dealing with some technical issues.

			<p><b>UK:</b> Developing a CSB policy working with other Government depts. And central Govt to develop a policy on Crowd Sourced Bathymetry.</p> <p><b>BRA:</b> Under request from research institutions and private hydrographic surveyors, the Brazilian Hydrographic Office will support data acquisition in the Brazilian waters of jurisdiction.</p>
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**Objective 2.3. Encourage the collection and contribution of crowdsourced bathymetry (CSB) data among volunteer commercial and non-commercial vessels.**

#	Action Item	Contribution so far	Observations
011	Provide information webinar on how to respond to IRCC CL 1/2020 or IHO CL 21/2020 to allow for the provision of CSB data from ships within waters subject to their national jurisdiction into the public domain, according to national policy, or update it.	CRI, COL, BRA, NLD, USA, GBR	<b>NLD RNLN:</b> We responded to IHO CL 1/2020 in 2020.
012	Provide informational webinar on how to carryout CSB field trials with designated “trusted nodes” (data liaisons) and data collectors (mariners) in the region to provide data to the IHO DCDB.	NLD, UK	<p><b>NLD RNLN:</b> none.</p> <p><b>UK:</b> Developing a CSB policy working with other Government depts. And central Govt to develop a policy on Crowd Sourced Bathymetry.</p>

### Goal 3: Build Capacity for mapping contributions

**Objective 3.1. Expand and enhance the suite of IHO DCDB and Seabed 2030 RDACC tools available to support and assist data contributors through the packaging and provision of data at any resolution or access level.**

#	Action Item	Contribution so far	Observations
013	Identify technical and other challenges to data collection, assembly and sharing and look for solutions.	NLD	NLD RNLN: none

**Objective 3.2. Simplify data submission workflows and user interfaces for data entry.**

#	Action Item	Contribution so far	Observations
014	Conduct an annual review process to resolve challenges to data collection and sharing.	Seabed2030 Coordinator	This action will be informed by the responses from action 13.
015	Provide technical support and data submission guidelines for data and accompanying metadata and Type Identifier (TID) information.	Seabed2030 Coordinator	Webinar 2021.