



UK Hydrographic
Office

UNITED KINGDOM NATIONAL REPORT

to the

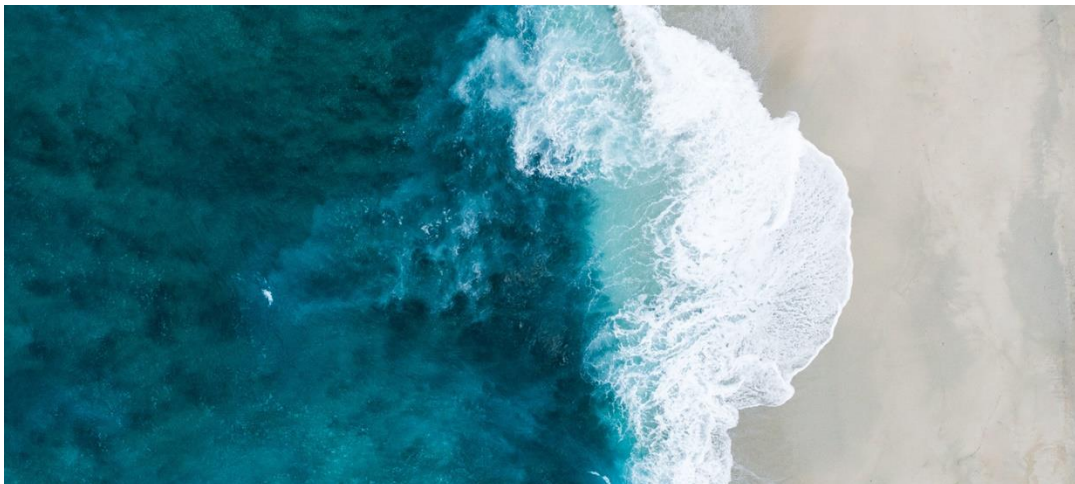
24TH MEETING OF THE
MESO AMERICAN & CARIBBEAN SEA
HYDROGRAPHIC COMMISSION
(MACHC24)

from

12 to 15 Dec 2023

in

Paramaribo, Suriname



This Report supplements the UKHO Generic National Report, available on the UKHO website

Table of Contents:

Para	Title	Page
1	The UKHO	3
2	Regional Activity	3
3	Charts	5
4	Publications	12
5	Maritime Safety Information	13
6	C-55 Latest Update	13
7	Capacity Building	13
8	Oceanographic Activities	15
9	Seabed 2030	16
10	Spatial Data Infrastructures	17
11	Autonomous Navigation	18
12	Other Activities	18
13	Conclusion	22
	UKHO Points of Contact	21
	Annex A-UK Input to P-5	24
	Annex B - C-55 Inputs	27

1. THE UK HYDROGRAPHIC OFFICE (UKHO):

UK Delivery of Hydrographic Services:

1.1. The UK delivery of hydrographic services is described in the UKHO's Generic National Report ; it is worth highlighting, however, the close liaison which exists between the UKHO and UK's maritime administration, the Maritime and Coastguard Agency (MCA), in providing a coordinated approach to hydrographic and maritime safety representation both nationally and internationally.

UKHO Governance and Targets:

1.2. This is described in the UKHO's Generic National Report to the International Hydrographic Organisation (IHO).

UKHO Organisation:

1.3. Details of the UKHO's organisation are provided in the UKHO's Generic National Report (Section 1) together with general contact details. Specific contact details relevant to the MACHC region are included at the end of this Report.

Production Systems:

1.4. This is described in the UKHO's Generic National Report.

Cooperation and Partnerships:

1.5. The UK is committed to bilateral arrangements, developed in co-operation with other international government hydrographic authorities and data providers, covering a range of topics, including the use/re-use of data protected by copyright and intellectual property rights of those authorities. These also promote other forms of co-operation between the participants, helping to enhance international maritime safety and protection of the environment.

2. REGIONAL ACTIVITY:

UK Overseas Territories Programme:

2.1. The UKHO continues to run the Overseas Territories Seabed Mapping Programme (OTSMP), which is reviewing the status of hydrography within the UK Overseas Territories (OTs). The OTSMP continues to highlight the importance and utility, both locally and within UK government, of Hydrography and the wider blue economy within the context of the UK OTs. The UKHO is continuing to plan and deliver a range of Programme activity in several UK OTs through to 2024, to improve their compliance with the Hydrographic elements of Safety of Life at Sea (SOLAS).

2.2. The UKHO fulfils the Primary Charting Authority (PCA) responsibilities on behalf of the following Countries within the MACHC region (UK OTs are shown with an *):

Anguilla*	Cayman Islands*
Antigua and Barbuda	Dominica
Bahamas	Grenada
Barbados	Guyana
Belize	Jamaica
Bermuda* (falls within USCHC region, but has more in common with the MACHC region)	Montserrat*
British Virgin Islands*	Panama
	St. Kitts & Nevis
	St. Lucia

Commonwealth Marine Economies Programme:

2.3. The Commonwealth Marine Economies (CME) Programme has now come to an end and the UKHO is working with partners to develop a follow-on programme of activities under a new programme in due course. In the final year of the programme, the UKHO supported capacity building activities in Antigua and Barbuda, Guyana and Jamaica, building upon training previously provided to operate multibeam survey equipment which had previously been supplied. In addition to this, the UKHO also undertook a survey of Belize's southern waters using Satellite Derived Bathymetry to assist with future seabed mapping activity and provide baseline data for environmental purposes.

2.4. The UK Government's CME Programme was designed to support the sustainable economic growth of partner countries by maximising the potential of their marine resources, helping to improve their resilience to climate change and natural disasters, protect their environment and food security, and ultimately improve the livelihood of local communities.

Surveys and Capacity Building:

2.5. Details of the management of civil hydrographic surveys in UK Home Waters are provided in the UKHO's Generic National Report and on the UKHO's website. The UK's National Hydrographic Committee (known as the Civil Hydrography Working Group (CHWG)) meets on an annual basis and provides the necessary breadth of interests to ensure that all surveying requirements are considered when prioritising the work of the Civil Hydrography Programme (CHP). This is now also being coordinated more widely through the new UK Centre for Seabed Mapping (UK CSM)(Para 12.3 refers).

2.6. In total, international UKHO survey operations under the OTSMP and CME Programme have covered a combined area of around 21,000KM² around the world. The UKHO has also been working with UK OTs in the MACHC region to improve their hydrographic governance through the implementation of Hydrographic Action Plans (HAPs). During 2023, HAP visits were delivered for Anguilla, British Virgin Islands and Bermuda. These plans provide a roadmap towards hydrographic compliance with international maritime obligations.

2.7. The UKHO continues to explore how we can strengthen the relationship with countries for which it is the PCA. We have increased our level of engagement to better understand prioritised requirements in the MACHC region and are currently updating our strategy to reflect this. Recent support to PCA partners within the region includes the delivery of Multibeam surveys in Guyana and the provision of software licenses for PCA countries where the UKHO has previously provided equipment under the CME Programme. UKHO has also supported an IHO Technical Assessment Visit to Belize, as well as conducting a visit to the Bahamas to raise awareness of the importance of hydrography. In addition, the UKHO is working closely with the Dominican Republic to improve their hydrographic capability by providing cartographic training and software licences.

2.8. The UKHO were delighted to participate in the 2nd IMO Regional Meeting of Directors and Heads of Maritime Administrations and Hydrographic Seminar (DIHMAR2) in Antigua, holding a hydrographic seminar titled 'Improving safety of navigation in the Caribbean'.

As DIHMAR2 was attended by 19 PCA countries, the hydrographic seminar initially focused on the Future of Navigation, which explored the latest developments in hydrography, including the UKHO's plans to continue managing its paper chart portfolio until there are compliant, digital alternatives available to all user groups, improving the quality and availability of digital charts for smaller vessels navigating in the Caribbean. The hydrographic seminar also covered practical training on hydrographic governance best practice, including the importance of sharing data with the PCA, data collection methods, hydrographic survey standards and the important role of national hydrographic committees.

The seminar and discussions held during DIHMAR 2 provided UKHO with a valuable opportunity to engage directly with a wide range of important stakeholders, including many regional heads of maritime administration. The discussions and feedback gathered will be invaluable in shaping the UKHO's future of navigation strategy and will ensure that the needs of the Caribbean region continue to be represented.

2.9. Any requests for survey assistance from nations within the MACHC region will be considered. The UKHO has a dedicated team of specialists that manage the portfolio of survey and hydrographic development programmes. In addition to survey advice, the team are configured to provide support and advice in the development of hydrographic governance and identifying funding. Further information can be obtained by emailing hydrographicprogrammes@UKHO.gov.uk.

3. CHARTS:

3.1. The UKHO's guiding principle is the provision of trusted, official navigation solutions that support the safety of life at sea. It is clear that the future of navigation is digital, as shown by the rapidly shrinking demand for paper products. Digital solutions offer significant advantages, including the ability for digital charts to be updated in near real-time, greatly enhancing safe navigation and ease of use. To this end, in Jul 2022 the UKHO announced its strategic decision to withdraw from paper chart production and implement a fully digital chart solution. Whilst our strategy is to exit from paper charting, we know that access to regulated official digital charting remains a problem for many mariners. Therefore, we are working with the IHO to understand the gaps in access and to recommend updated standards for data and systems. These recommendations may then go to the International Maritime Organization (IMO) to consider regulatory changes, with the end goal of bringing the benefits of a regulated and official digital chart solution for all mariners. As of Feb 2023, our exit from paper charting is now based on all mariners having access to official regulated digital charting, supporting safe and compliant navigation for all vessels. The UKHO will need to respond to the continuing challenge of providing paper charts as demand falls and we will continue to look at how to focus on providing the mariner with access to the charting they need to navigate safely. The UKHO's [Generic National Report](#) provides information on UK's portfolio of chart products and services.



Paper Charts:

3.2. Information on the UK's chart portfolio is provided on the ADMIRALTY website. Within the MACHC region, the UKHO has published 1 New Paper Chart, 7 New Paper Editions and 1 New INT Editions since the last MACHC meeting (Dec 2022). The breakdown is as follows:

GB Chart Number	Title	Published
396	Approaches to Tampico and Altamira	2 Feb 2023
1043	Baie de Fort-de-France	7 Sep 2023
2195	Northern Martinique	2 Feb 2023
1450	Approaches to Veracruz	4 May 2023
364	Barranquilla to Miskito Bank	2 Nov 2023
369	Saint Lucia to Grenada and Barbados	23 Mar 2023
375	Turks Island Passage and Mouchoir Passage	25 May 2023

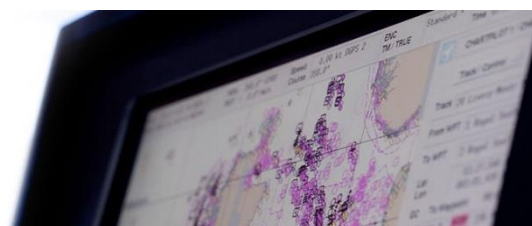
GB Chart Number	Title	Published
368	Punta Gallinas to Bahia de Santa Marta	2 Feb 2023
1449	Approaches to Providenciales	12 Oct 2023

The following charts are scheduled for publication in the next six months:

GB Chart Number	Title
331	Approaches to Porto de Belem and Porto de Vila do Conde
363	Tampico
1521	A Maracaibo to La Salina
2765	Suriname River Entrance to Toevlucht

Digital Charts:

3.3. As noted in Section 3.1, the UKHO's Generic National Report provides information on UK's portfolio of chart products and services. The following paragraphs provide information specifically relevant to the MACHC region.



UKHO Digital Only Charting/Sub ECDIS:

3.4. As noted at Para 3.1, the UKHO made the initial announcement in July 2022 with an intention to remove paper charting by the end of 2026. The feedback received has shown that changes to international regulation are required, which will significantly extend our withdrawal timeline. As highlighted at the IHO Assembly in May 2023, the UKHO will work with standards and regulatory bodies to make the case for a recognised standard for digital navigational data to be used by vessels which are below the SOLAS Chapter V threshold to carry ECDIS. It is important that there is international cooperation in creating these standards to allow mariners to be able to plan and conduct navigation using a consistent, internationally recognised digital chart.

ENCs:

3.5. Within the MACHC region, the UKHO has produced and manages a total of 223 ENC cells. The breakdown by usage band is shown in the table below:

MACHC Region Released Cells	
ENC Usage Band	Number of GB ENC's
Usage Band 1	9
Usage Band 2	16
Usage Band 3	35
Usage Band 4	67
Usage Band 5	82
Usage Band 6	14
Total Number of ENCs	223

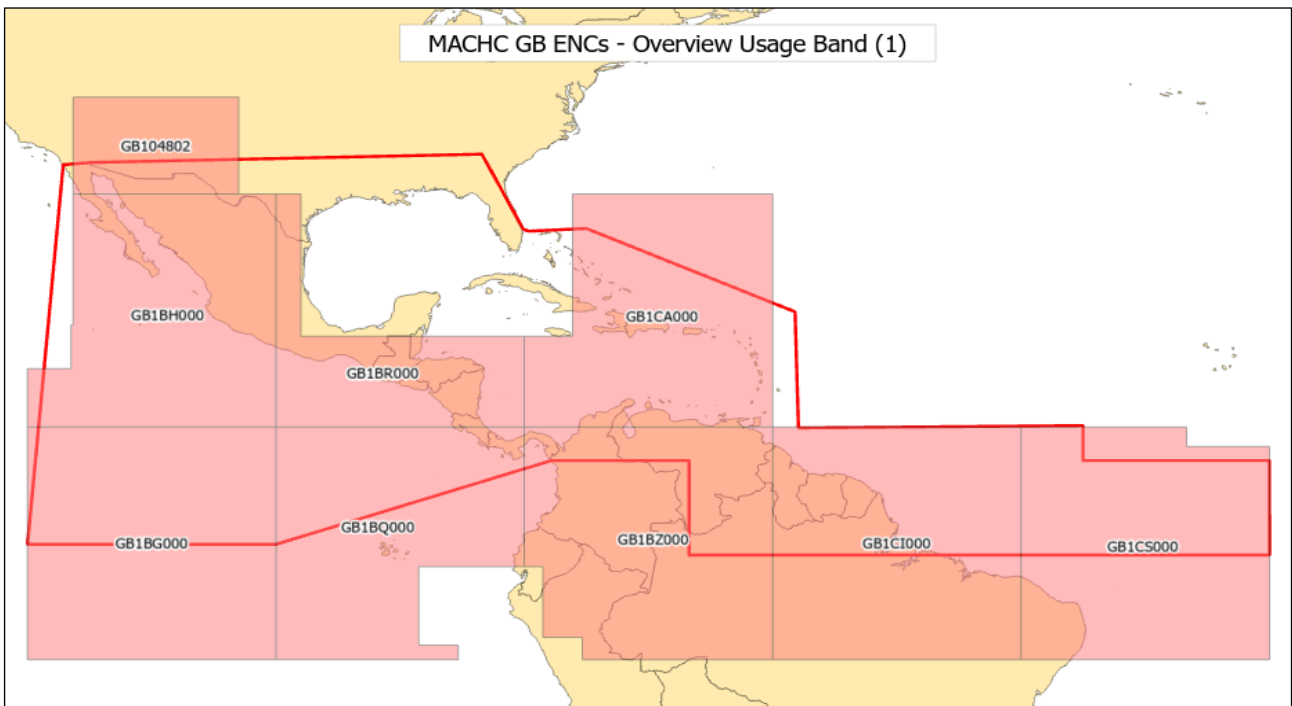
ENC totals by usage band as produced by UKHO

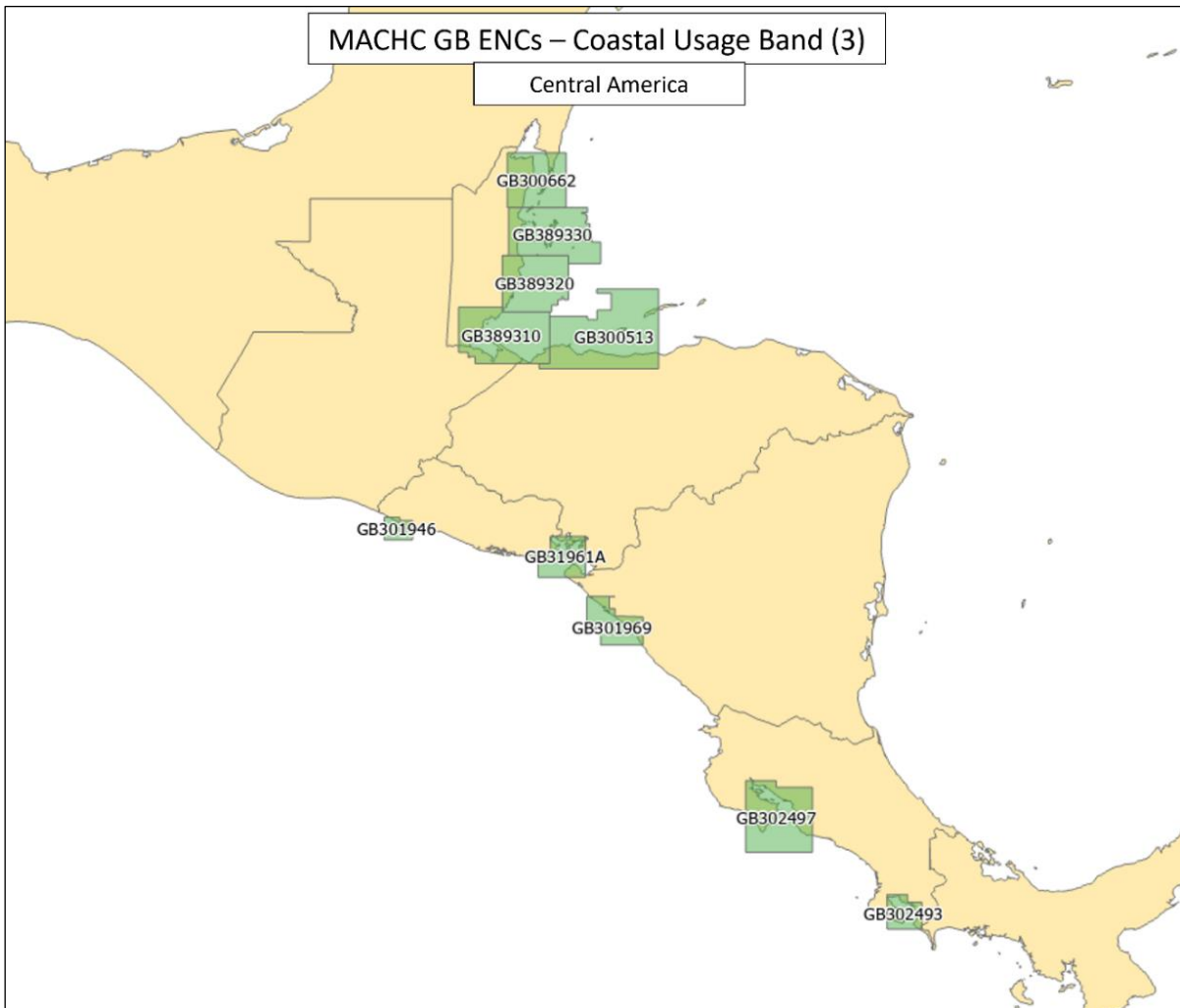
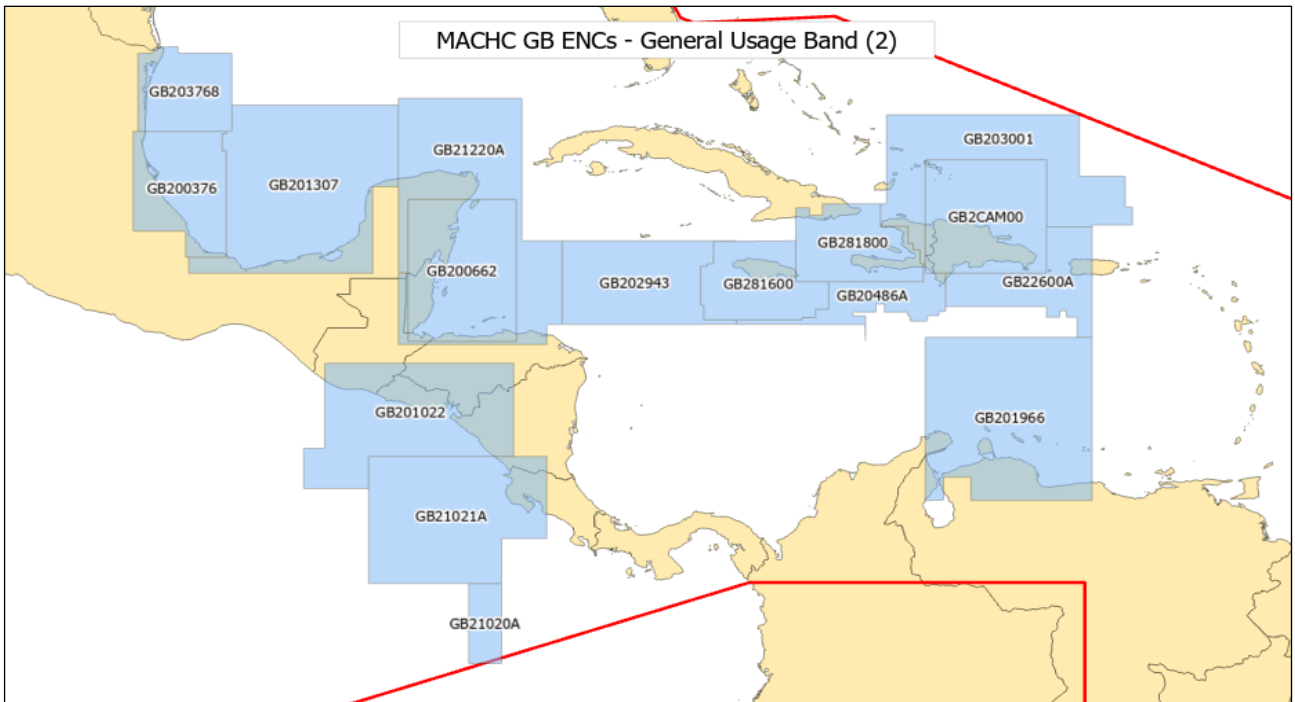
The tables below show revisions to GB ENC coverage for the MACHC Region during 2022/23. The subsequent figures illustrate the current coverage of GB ENCs within the MACHC Region.

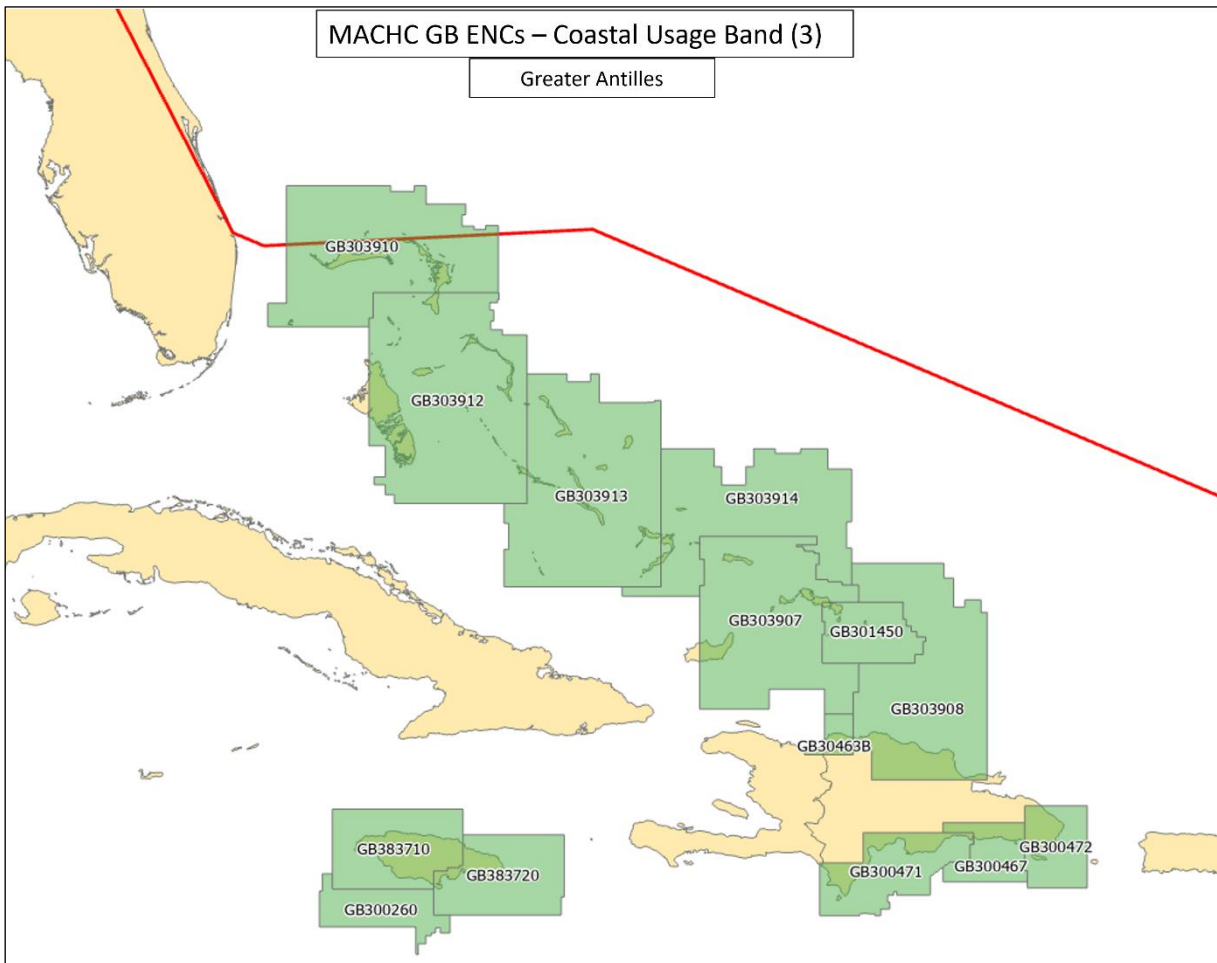
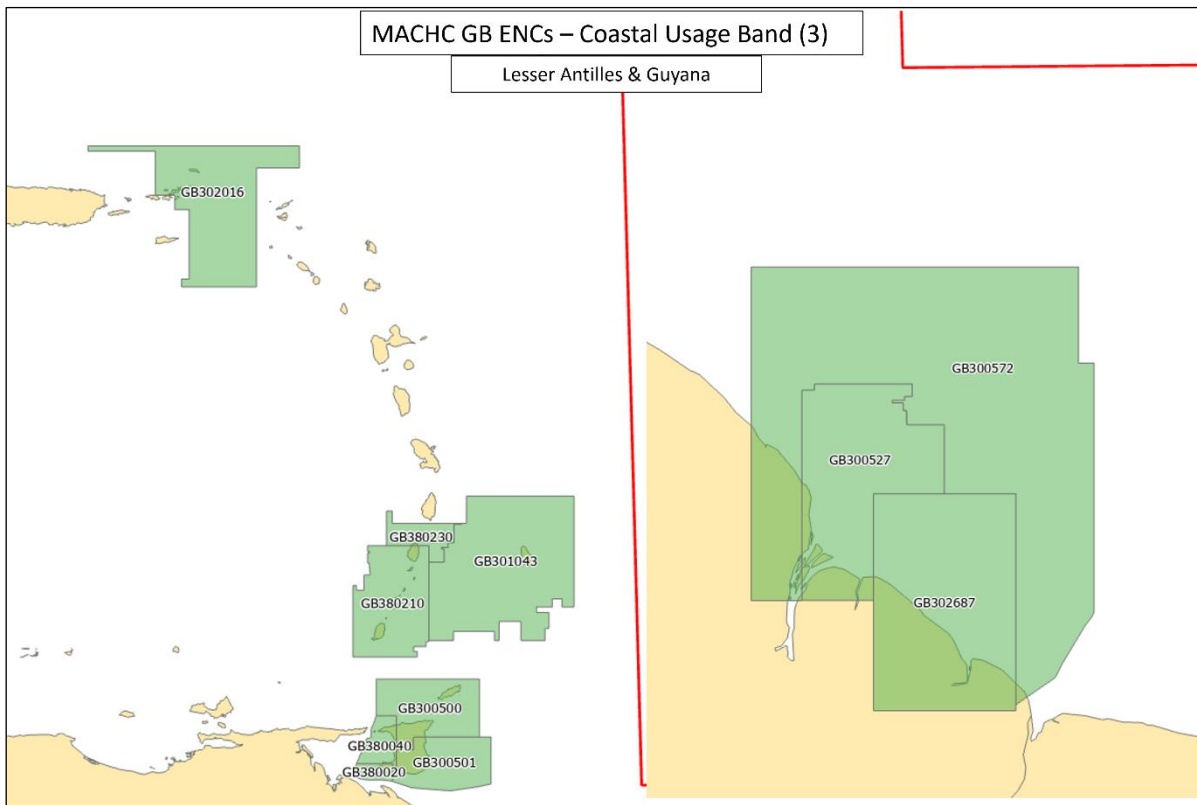
New Cells Oct 22 - Oct 23	Week Number
GB1BZ000	14_23

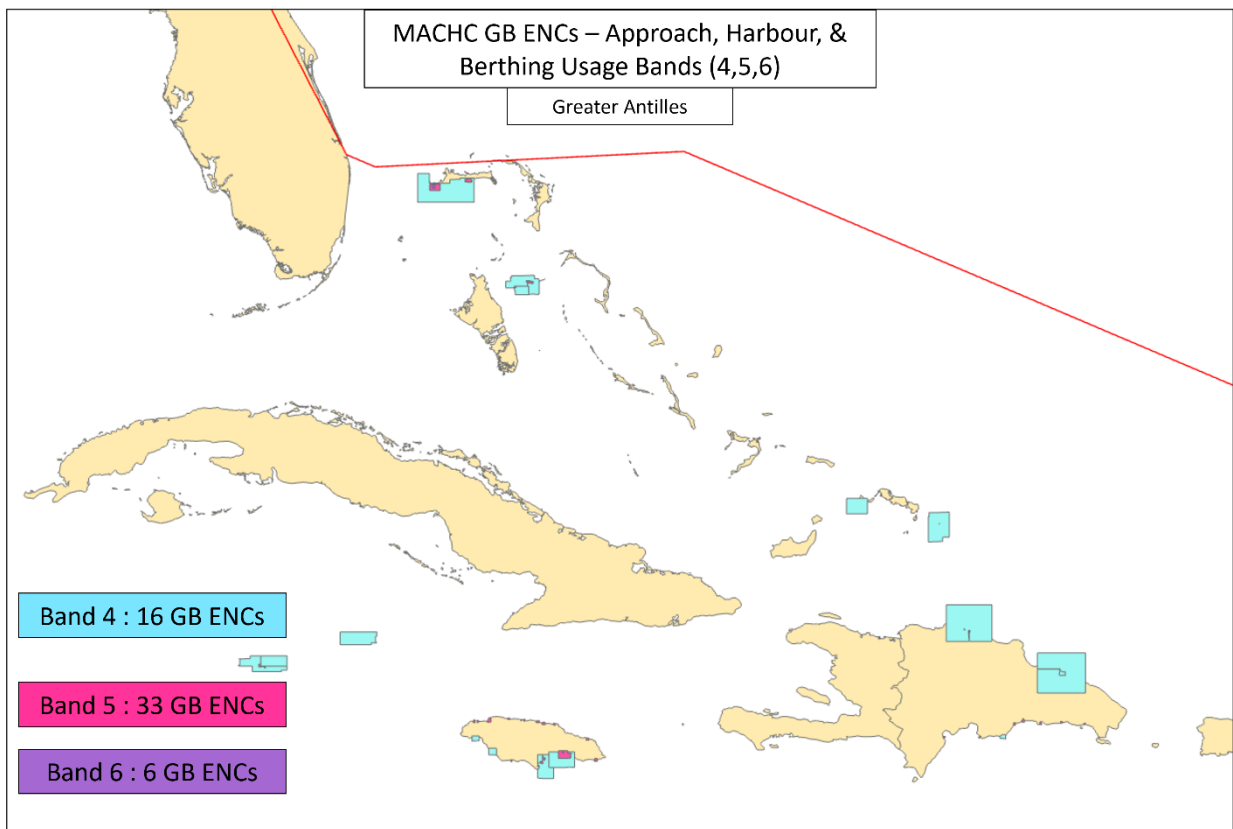
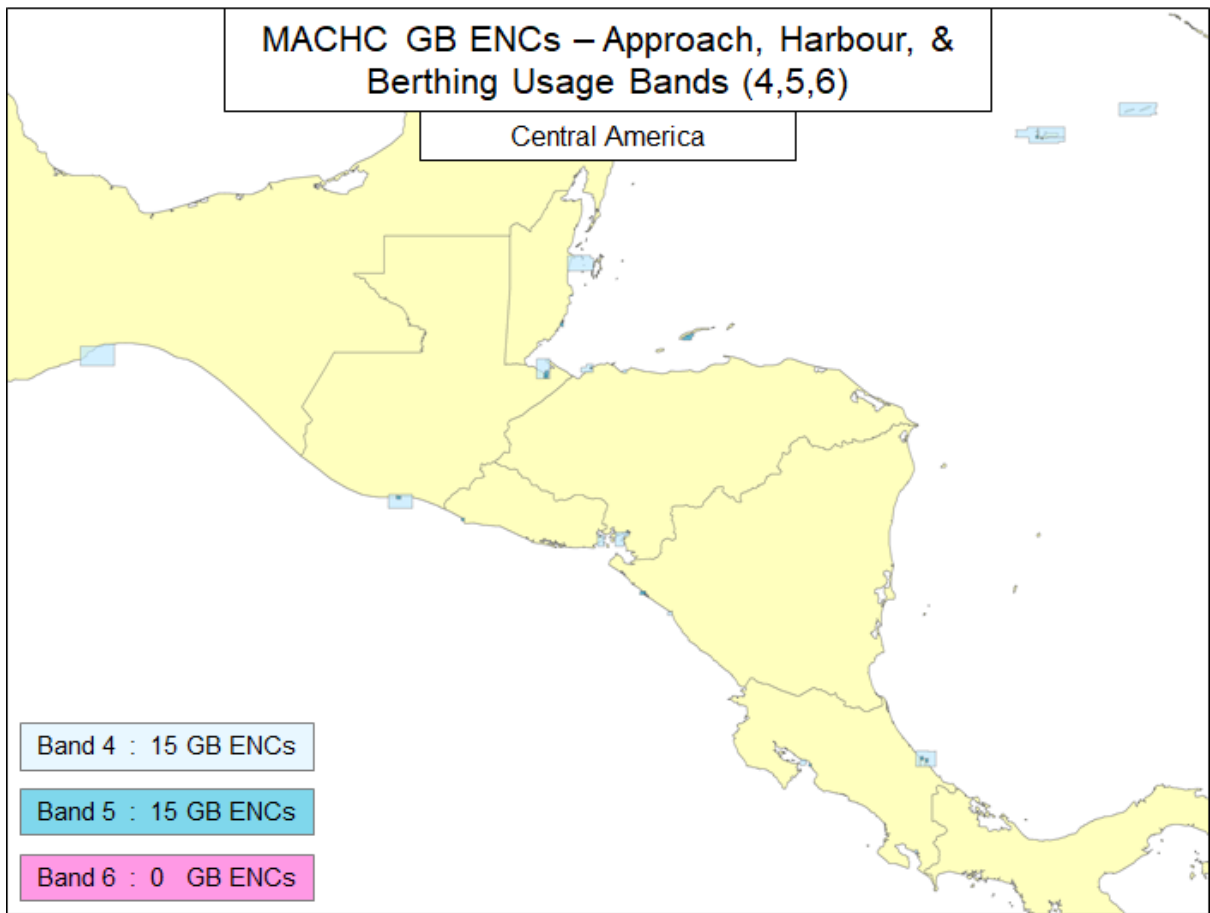
GB1CS000	14_23
GB1CA000	14_23
GB2CAM00	14_23

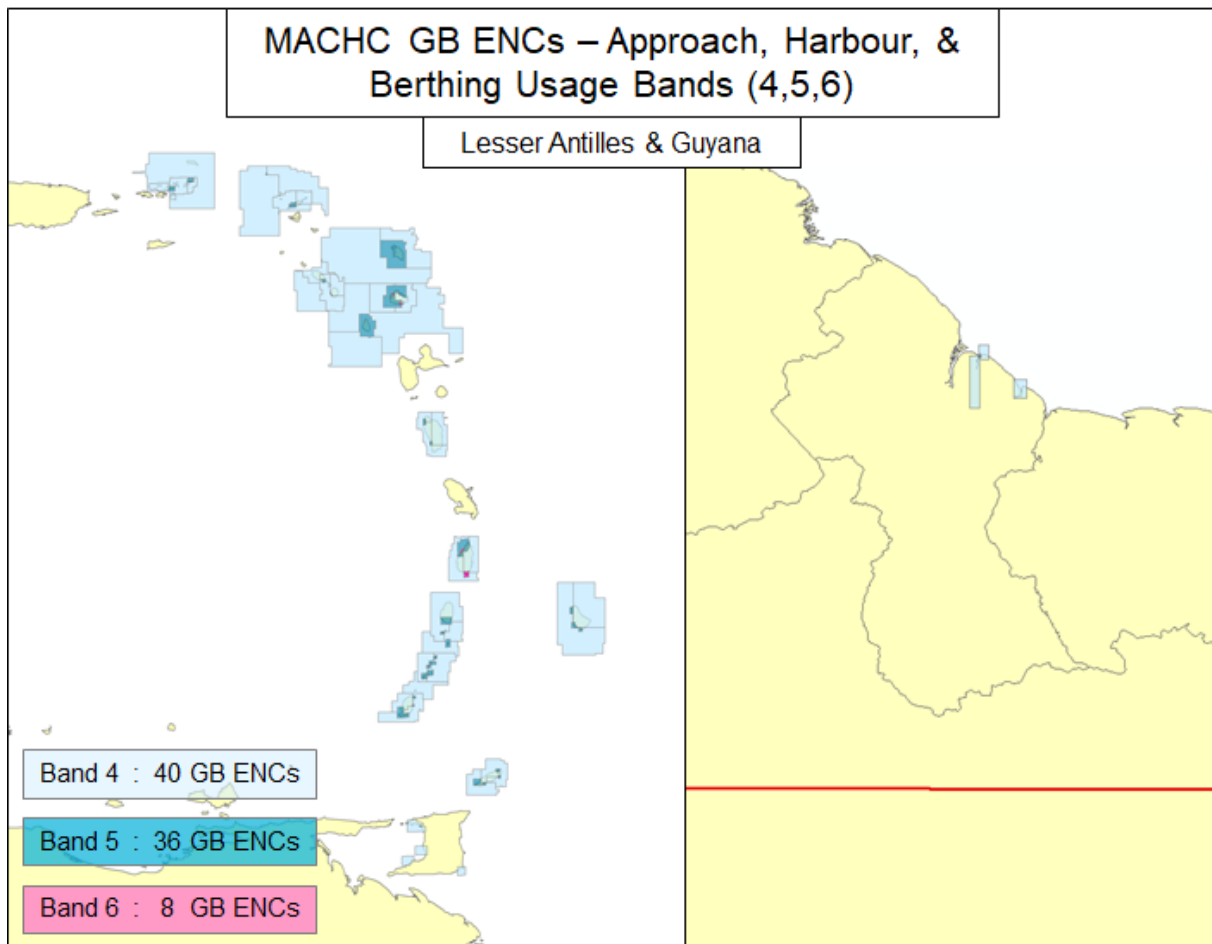
Cancelled Cells Oct 22 - Oct 23	Week Number	Replacement Cells
GB104401	14_23	GB104403, GB1BR000, GB1CA000
GB104402	14_23	GB1BQ000, GB1BR000, GB1BZ000, GB1CA000, GB1CI000, GB1CJ000
GB104618	14_23	GB104615, GB1BG000, GB1BH000, GB1BQ000
GB104811	14_23	GB1BH000, GB1BQ000, GB1BR000, GB1BZ000
GB104216	14_23	GB1BZ000, GB1CI000, GB1CJ000, GB1CS000, GB1CT000











ENC Distribution:

3.6. The UKHO, along with other hydrographic offices, was a founder member of the International Centre for ENCs (IC-ENC) Regional ENC Coordination Centre (RENC). IC-ENC concentrates its efforts on the validation and consistency of ENC data and leaves the marketing of ENCs to the shipping industry to its value-added resellers (VAR) and chart agents. Additional details can be found on the IC-ENC website (www.ic-enc.org). The UKHO also acts as a VAR in its own right, particularly promoting a global range of ENCs under the ADMIRALTY Vector Chart Service (AVCS) brand alongside its successful ADMIRALTY range of digital and paper charts and publications. Additional details can be found on the ADMIRALTY website (www.admiralty.co.uk).

The S-1XX Era:

3.7. The UKHO is amongst those at the forefront of developing S-100 based products and services; we are doing this by working in collaboration and actively engaging with other National Hydrographic Offices (NHOs) and industry partners. We are sharing our knowledge and experiences with others as we go on this journey. With regard to S-100 based products and services, the UKHO is focusing on the detailed development of S-101 (Electronic Navigational Chart (ENC), S-102 (Bathymetric Surface), S-104 (Water Level Information for Surface Navigation) S-111 (Surface Currents), S-124 (Navigation Warnings) and S-128 (Catalogue of Nautical Products). This largely aligns with the IHO Prioritisation of S-100 datasets. The IMO’s Maritime Safety Committee (MSC106 Nov 2022) endorsed the proposal from the Navigation, Communications and Search & Rescue (NCSR) sub-committee on the timeline for implementing the S-100 ECDIS Performance Standard. Therefore, we are planning to be in a position to support the use of S-100 ECDIS with S-100 products from 1 Jan 2026.

Data Improvement including Rescheming:

3.8. The UKHO has chosen the parameters of a gridded ENC scheme for S-57 and S-101 which is applicable to all GB ENCs across the globe at all scale bands. The UKHO has engaged with many NHOs and RHCs to explain the chosen scheme and is keen to share the parameters, our experience and offer any guidance to HOs who would wish to align their ENC scheme with the UK grid. Several NHOs have already shown an interest in using the UKHO scheme and aligning their data limits with GB ENC coverage. At MACHC23, the commission chose to adopt the UK grid for regional Band 1 scale coverage. The GB ENC rescheme is the foundation of the UKHO's future strategy to deliver an interactive portfolio of S-100 products and services to the mariner. The GB ENC rescheme is also part of a wider Data Improvement Programme of work which specifically aims to improve the usability of GB ENCs, resolve user pain-points, and enhance safety for the mariner. The UKHO has already successfully delivered several areas of reschemed GB ENC coverage, including High Density contouring, which is generating very positive feedback from the users. Within the MACHC region during 2023, this included upgrading the ENC for the Port of Kingston to include High Density contours.

4. PUBLICATIONS:

Paper Publications:

4.1. The ADMIRALTY Sailing Directions in the MACHC region are as follows:

NP5	South America Pilot Vol 1
NP7	South America Pilot Vol 3
NP7A	South America Pilot Vol 4
NP8	Pacific Coasts of Central America & United States Pilot
NP69A	East Coasts of Central America & Gulf of Mexico Pilot
NP70	West Indies Pilot Vol 1
NP71	West Indies Pilot Vol 2



No new editions of the above are planned for Q4 of 2023 or 2024. The UKHO is currently in the process of developing an improved digital Sailing Directions product - ADMIRALTY Digital Sailing Directions (ADSD). Initially, this new product will be launched alongside the existing e-NP Sailing Directions, but the expectation is that in time it will eventually replace our existing e-NP SD product. The project responsible for delivering this new SD product is making strong progress on developing an improved Sailing Directions viewer which has been designed with user needs and insight at its heart. Alongside this, the UKHO is also developing an improved internal production tool which will allow for more efficient provision of better structured data to users. In Mar 2024, the UKHO will begin to trial this new ADSD product with limited vessels navigating in UK Waters. Over the course of the following 12 months, this will allow the UKHO to iteratively develop the product based on user feedback gathered during the trial. Further details will be available in the months to come - including the expected launch date and further insight into the new and improved functionality of this product.

Digital Publications:

4.2. The UKHO produces a range of ADMIRALTY Digital Publications which are digital versions of ADMIRALTY paper Nautical Publications to support the IMO mandate of ECDIS. These publications provide mariners with additional functionality, are subscription-based and automate the task of updating through Notice to Mariners.

- **ADMIRALTY e-Nautical Publications (AENP):** e-Book versions of ADMIRALTY Sailing Directions and reference publications.

- **ADMIRALTY Digital List of Lights (ADLL):** Digital versions of ADMIRALTY lights publications.

- **ADMIRALTY TotalTide (ATT):** Digital versions of ADMIRALTY tidal publications.

- **ADMIRALTY Digital Radio Signals (ADRS):** Digital versions of ADMIRALTY radio signal publications.



4.3. The **ADMIRALTY Digital Catalogue (ADC)** can be downloaded free from the ADMIRALTY website (www.admiralty.co.uk). It includes details of all paper and digital charts and publications and is updated weekly. It is a useful tool to check chart coverage within the region, and to show the latest edition dates of both charts and publications.

5. **MARITIME SAFETY INFORMATION:**

5.1. **Responsibilities:** The UK's principal responsibility within the MACHC region is for its UK OTs along with those countries where it is the producer of primary charting.

5.2. Maritime Safety Information (MSI) is provided through the IHO World-Wide Navigation Warning System (WWNWS) on behalf of IMO. The UKHO, on behalf of IMO, chairs the IMO NAVTEX Coordination Panel. The UK maintains close liaison with the NAVAREA Co-ordinators for NAVAREAs IV and XII which cover the MACHC area. Any information received at the UKHO which may require urgent promulgation is passed to NAVAREA IV or XII Co-ordinators for consideration.

5.3. **GMDSS:** The NAVTEX Coordination panel works with the IMO Secretariat and all NAVAREA Coordinators to ensure their GMDSS status is updated on the GMDSS Master plan within Global Integrated Shipping Information System (GISIS) and that any changes in status are reflected accordingly within GISIS. The UK contributes at international forums that consider MSI matters, including IHO World-Wide Navigational Warning Service Sub-Committee and numerous IMO Committees and Sub Committees. UK currently provides the Chair and Secretary of the IMO International NAVTEX Co-ordinating Panel.

5.4. **Notices to Mariners:** The current ADMIRALTY weekly Notices to Mariners are now supplemented by daily updates; available on the UKHO website. Assistance with promulgating Notices to Mariners and other paper and electronic chart correcting material should also be encouraged through co-operation with other hydrographic offices in the region if required.

6. **C-55 LATEST UPDATE:**

6.1. As described in the [UK Generic National Report](#), the UKHO is committed to providing regular updates to the C-55 entries for UK Home Waters and its OTs. The latest status is correctly depicted within C-55, as shown in Annex B.

6.2. The UKHO has also provided assistance to update C-55 entries for countries where it provides primary charting, recognising that local input remains critical to the maintenance of C-55 as an up-to-date and authoritative reference document. This assistance has been provided for Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Panama, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and The Grenadines, Suriname and Trinidad and Tobago.

7. CAPACITY BUILDING:

7.1 The UK fully supports the IHO Capacity Building Sub-Committee (CBSC) strategy, particularly its emphasis on getting Phase 1 and appropriate Phase 2 capacity in place to enable coastal states to meet their obligations under SOLAS Chapter V Regulations 4 and 9. The UK will continue to contribute resources to both CBSC initiatives and to providing bilateral assistance.

7.2. The UKHO has a post dedicated to International Capacity Building. Its key aims are to ensure that capacity building is properly considered in the UKHO activity and that the UKHO's capacity building activities are fully coordinated. It acts as the initial point of contact for the UKHO involvement in IHO capacity building activities, including UK involvement in regional hydrographic commission initiatives and IHO CBSC activities.



15th Category B Nippon GEOMAC Course - Delivered by the UKHO International Training Team in Jul 2023

Training provided by the UKHO - International Training Academy (ITA):

7.3. The International Training Team continues to offer our global network of NHOs and data partners world class training, driving forward the development of seabed mapping skills and knowledge development. Details of all UKHO awarded training opportunities currently offered by the ITA are provided on the UKHO website or by contacting internationaltraining@ukho.gov.uk

7.4. The UKHO recognises the importance of continued training and enables this to continue globally by providing courses through its online Learning Management System (LMS). The LMS acts as the learning portal for training for both UK and overseas delivery. This offering ensures all delegates experience ease of access to online seminars and interactive learning material across multiple time zones Further details are described in the UKHO's [Generic National Report](#).

7.5. The 15th Nippon Funded GeoMAC CAT-B Course commenced on 17 July 2023 and will complete in December 2023. This is the first cohort to study in the new bespoke training environment at the UKHO HQ. This course includes candidates from Cuba and Jamaica within the MACHC region.

Royal Navy Training in Hydrography, Meteorology and Oceanography:

7.6. The Royal Navy's Maritime Warfare School (MWS), through a dedicated HM Training Unit in Plymouth delivers courses which are nationally and internationally certified, with accreditation provided by the International Hydrographic Organization (IHO), the World Meteorological Organization (WMO), The University of Plymouth, the National Vocational Qualification (NVQ) Council, and the Institute of Marine Engineers, Scientists and Technicians (IMarEST). Courses include the 14-week FIG/IHO Category B hydrographic course that is an element of RN Officers' combined HM training. After four years' experience, of which a minimum of two years on a platform conducting hydrographic surveys, the Cat B graduates wishing to become specialists in surveying return for the 22 weeks HM Advanced Survey Course (HMAS). This course diverged from the IHO Category A accreditation in 2021 as previous Cat B knowledge cannot be considered in attaining Category A status. The course was reviewed in 2020 to encompass modern survey and defence requirements retaining its University of Plymouth Post Graduate Diploma accreditation and meets UK defence requirements for military data gathering and exploiting collected information. Both courses outline above are open to attendance by overseas personnel (military and civilian) and applications are encouraged.

7.7. There is also scope to deliver customised training for overseas naval and civilian students in Hydrographic Survey Planning, Data Gathering and Data Processing as well as initial Data Management to meet the needs of developed and developing Hydrographic Offices. Such courses can, by mutual agreement, involve both training at the UKHO and at MWS HM in HMS DRAKE.

8. OCEANOGRAPHIC ACTIVITIES:

8.1. The UKHO's Ocean Environment Team maintains databases of oceanographic information collected by the Royal Navy or obtained during exchange with other nations. Data exchange is an important source of data and so the UKHO is always keen to discuss new exchanges. The UKHO has participated in the Argo project and in the UN's International Oceanographic Data Exchange (IODE), to work with the international oceanographic community. On behalf of the Royal Navy, the UKHO has made periodic releases of data to international data centres including US NODC, for inclusion in the World Ocean Database and the British Oceanographic Data Centre (BODC).

8.2. The UK national repository for oceanographic data collected for scientific purposes is the British Oceanographic Data Centre (BODC) (<https://www.bodc.ac.uk/>) which includes data from UK-sponsored research cruises anywhere in the world. BODC is funded by the Natural Environment Research Council (NERC) and located in Liverpool, UK. The UK's main centre for scientific oceanography is the National Oceanography Centre (NOC) in Southampton (<https://www.noc.soton.ac.uk/>).

8.3. Global sea levels are monitored as part of the GLOSS project, by the Permanent Service for Mean Sea Level (PSMSL). This operation is based at the NOC in Liverpool.

8.4. The UKHO participates in and Chairs the IHO Tides, Water Levels and Surface Currents Working Group (TWCWG). Part of the WG activities involve Member States activities and experiences with long-term [permanent] 'National' Tide Gauge Networks. The UKHO is not directly tasked with owning and operating these at the UK national level - this is the remit of the National Tidal and Sea Level Facility (NTSLF, www.ntsfl.org) previously operated by the UK Environment Agency with a recent (summer 2021) contract to maintain and upgrade the National Tide gauge Network (NTGN) awarded to the commercial company OceanWise (<https://www.oceanwise.eu/>).

8.5. Under the auspices of the OTSMP, the UKHO has been working with external contractors to establish and maintain permanently installed tide gauges in UK OTs, including, to date, Anguilla, Bermuda, Cayman Islands, Montserrat and the Turks and Caicos Islands. As well as being an essential part of the OTSMP work, they form an integral and important contribution to global sea-level monitoring networks. These gauges now feed into the NOAA GOES (Geostationary Operation Environmental Satellites) Collection System and are linked into the IOC Sea-level Monitoring System. Such permanent installations are instrumental for the scientific study of long-term sea-level rise. In addition, they are now also integrated into regional tsunami warning systems and provide essential observations for use in coastal inundation (storm surge) modelling studies.



8.6. Building on this initial work, the UKHO has also recently awarded a five-year contract framework to Oceanwise to further expand the network with the installation of Marine Environmental Monitoring Stations (MEMS), which consist of a range of equipment including tide gauges, meteorological stations, Automatic Identification System (AIS), and Continuously Operating Reference Systems (CORS) for GNSS observations. The first installations under the new framework have been completed this year in Montserrat and Anguilla.

9.0. SEABED 2030:

9.1. Following the signing of a data sharing MoU between the UKHO and the Seabed 2030 (SB2030) Project, and a successful data sharing trial with the Southern Ocean Regional Centre, the UKHO are delighted to announce that they are supplying bathymetric survey data for non-UK waters to the General Bathymetric Chart of the Oceans (GEBCO). Data shared by UKHO with GEBCO now totals over 70,000 km², and includes data in the Southern Ocean, Atlantic and Caribbean.

9.2. The data UKHO have contributed within the Caribbean region includes 13 countries, covering a total area of 13,680 km². This includes data for Anguilla, Antigua and Barbuda, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Lucia, Saint Vincent and the Grenadines and Turks and Caicos Islands.

9.3. Where the UKHO is PCA and have the appropriate permissions, the UKHO will continue to share (100m) gridded bathymetry data with SB2030 to help improve the GEBCO grid product. The UKHO is also supportive of other global bathymetry initiatives, such as EMODNET, where we intend to contribute data using the same rules as SB2030.

9.4. In 2022, we entered a technical cooperation agreement with Teledyne Caris and Seabed 2030 which will allow the SB2030 Regional and Global Centres to use the ADMIRALTY GAM service. The ADMIRALTY GAM Service was developed by the UKHO and is a tool that cleans noise in single track bathymetry survey data. This tool will help to improve the speed and human effort associated with processing of bathymetry data. The Admiralty GAM service was released at Ocean Business 2021 and is now also available commercially.

9.5. The UKHO will also continue to actively engage with associated SB2030 working groups at the IHO and Regional Hydrographic Commissions. Further details are described in the UKHO's [Generic National Report](#).

Crowd Sourced Bathymetry:

9.6. Noting the UKs support for the SB2030 project, the UKHO has now finished facilitating a series of discussions with the various government department stakeholders in order to inform discussions about an agreed UK position of the matter of Crowd Sourced Bathymetric data

provisions into the public domain. The UKHO is now awaiting approval of the developed UK positions at ministerial level, which, once gained, will allow the UKHO to respond formally to the IHO Circular Letter 21/20. To be clear, the UK supports, in principle, the collection of Crowd Sourced Bathymetric data as it realises that there are benefits, particularly in areas where there have been no formal hydrographic programmes, or where the quality of existing hydrographic data held is poor or coverage is sparse. Pending Ministerial approval, the UKHO will support by collating data collected in UK waters, process and deconflict this data and then share onwards to the IHO DCDB, GEBCO and other mapping initiatives. The UK will also continue to actively engage with and support the IHO Crowd Sources Bathymetry Working Group. The UKHO supplies data into the DCDB via third parties for the UK home waters. Elsewhere in the world where UKHO is a data custodian, we are working on how we can make this data more publicly available as part of our Seabed 2030 contributions as detailed above.

10. SPATIAL DATA INFRASTRUCTURES:

10.1. The UKHO is actively developing the concept of Marine Spatial Data Infrastructure (MSDI) in line with the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Integrated Geospatial Information Framework (IGIF).

10.2, The UK does not yet have a recognised National Spatial Data Infrastructure (NSDI); however, a UK Geospatial Commission was established in 2017 with partner bodies consisting of several national geospatial agencies, including the UKHO. This Commission is focused on unlocking the value of geospatial data within the UK and published the [UK Geospatial Strategy 2030](#) in Jun 2023.

10.3. The UKHO is an active member of the UN-GGIM Working Group on Marine Geospatial Information (WG-MGI) and Open Geospatial Consortium (OGC) Marine Domain Working Group (DWG), contributing towards Federated MSDI development and methodologies. The UKHO has recently upgraded its membership of the OGC from Technical to Strategic, bringing additional marine and maritime focus to the development of emerging technology and standards. The UKHO is also a member of the IHO MSDI Working Group and Chairs the SWPHC MSDI WG, SAIHC MSDI WG, and is represented on the BNSHC MSDI WG. The UKHO has also provided briefings on MSDI to other RHCs which do not yet have MSDI WGs, including half-day training and awareness workshops with a particular focus on MSDI Governance.

10.4. The UKHO leads UK input into the UN-GGIM Americas Caribbean Geospatial Development Initiative (CARIGEO). We are actively working at creating the appropriate standards to support national and international MSDIs, most notably through our co-sponsorship of the OGC's Federated MSDI Pilot. Examples of sponsored projects include an S-121 pilot study to develop a standard for the exchange of maritime limits and boundaries, and most recently a study into marine data integration challenges in the Caribbean.

10.5. A first version of an IGIF- aligned [MSDI Maturity Roadmap](#) was published this year by the OGC. This publication was sponsored by the UKHO with contributions from the World Bank Group, UN-GGIM and the Chairs of the WG-MGI (United States NOAA). The roadmap provides a simplified "quick start" guide for nations seeking to implement an IGIF-aligned MSDI using OGC standards. This output seeks to avoid duplication and complexity, serving as an optional stepping-stone until interested nations decide to fully engage with the extensive range of IGIF and MSDI resources.

10.6. The UKHO is a lead sponsor of the Marine Environment Data Information Network (MEDIN) which coordinates the delivery of Infrastructure for Spatial Information in Europe (INSPIRE) obligations to Findable, Accessible, Interoperable and Reusable (FAIR) standards. The UKHO is actively engaged with projects directed by the UK Geospatial Commission to improve the handling and publication of Government datasets. This work involves improving the

discoverability of data as well as working towards a set of shared principles within UK Government.

10.7. The UKHO has a [Marine Data Portal](#) provider that continues to grow and develop. As the organised gateway to our non-navigation data and services, it gives people easy and timely access to marine location-based information from seabed to surface to help them with sustainable marine decision making. The Portal allows users access to several free of charge datasets and services mainly covering UK territorial waters. The Portal also provides access to premium data sets which can be purchased. The underlying Marine Data Portal technology has the capability to host other agencies,' or even other nation's datasets.

10.8. Under the OTSMP, the UKHO has provided every UK OT in the MACHC region with their own bespoke MSDI Data Portal. This provides local maritime stakeholders with instant access to wide range of datasets through a single online data management portal.

11. **AUTONOMOUS NAVIGATION:**

11.1 The UKHO has been engaging with several industry experts and project initiatives surrounding Maritime Autonomous Surface Ships (MASS) to try and understand the navigation data needs as momentum gathers in this area. The UKHO has proactively sought out several organisations such as Thales, Atlas Elektronik, TGP Polaris and Marine AI (the team behind the historic Mayflower Project) and discussed the issues with current products and services. To this end, we have provided data to stimulate discussions about what our industry partners see as gaps in the current offering and identify the new products going forward. In our work with industry operators, UKHO has supplied data to facilitate discussions and allow operators to explore what the future navigation services might look like.

11.2. The establishment of the Maritime Autonomous Surface Ships (MASS) Navigation Project Team (MASS PT) was approved at HSSC13 following a proposal by the UK, Norway and Singapore to address MASS requirements on navigation data and services; the UK is Chair. Within the initial two-year remit, the project team has conducted an extensive gap analysis of the S-100 standards and has made several recommendations to address these gaps to the relevant Working Group and Project Team chairs to ensure S-100 is fit for purpose for both manned and unmanned navigation. HSSC15 extended the MASS Project Team for a further 12 months to further engage with industry representatives. The intention is to propose the project team becomes a permanent Working Group at HSSC 16.

12. **OTHER ACTIVITIES:**

12.1. **Voyage Optimisation:** Voyage Optimisation (VO) is a response by the maritime industry to the regulatory requirement for vessels to reduce Green House Gas (GHG) emissions. The term reflects how vessels will navigate voyages more efficiently whilst continuing to operate in a safe and navigationally compliant manner. Investigations with stakeholders, including mariners, shore-based decision support-teams and VO Service Providers, have concluded there are gaps within the current Voyage Optimisation solution offerings. The UKHO are using research gathered from across the industry to explore potential offerings for the growing Voyage Optimisation sector.

12.2. **Digital Twin and UK Celebrations for World Hydrography Day:** The theme for World Hydrography Day (WHD) 2023 was 'Hydrography - underpinning the digital twin of the ocean.' The UKHO celebrated this significant theme by creating a film all about our work on digital twins and how they will play a key role in the future of maritime navigation. This was shared with UKHO staff on WHD (21 Jun 2023) and via our social channels, a link to the film can be found [here](#). As the needs of the maritime community evolve, we need to find ways to support the development of innovative solutions that could enhance our use of the marine environment. Digital twins can support this aim by creating a digital representation of a physical object or an environment, such

as a ship or port, that can be maintained with real-time data. This provides shipping companies, port operators and others with accurate environments to test new ideas without the need for disruptive and costly physical tests. We have been working with the marine community to build a number of immersive digital twins, utilising our data and expertise to create a realistic virtual environment.

12.3. UK Centre for Seabed Mapping (UK CSM): In support of a more integrated Marine Geospatial Sector for the UK, both nationally and internationally, the UKHO has created the UK CSM, with a core focus on bathymetry and its associated data. Through increased coverage, quality and access of seabed mapping data collected from public money or in collaboration with industry, the UK CSM aims to enable a more unified voice to promote seabed mapping, and the resultant data, as the foundation data set to ocean mapping. The UK CSM is also a UK government voluntary commitment to the UN Ocean Decade and a policy commitment within the National Strategy for Maritime Security.

12.4. UK Ocean Priorities: The UK is a global ocean leader, continuing to take action and push for increased ambition on climate, pollution and biodiversity loss issues working with counterparts in the UK and overseas to help achieve these aims.

- Agreement on draft text of a legally-binding instrument on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction - the BBNJ Agreement - was reached at the UN on 4 March. This is a landmark agreement for biodiversity and will mean much greater protection for over 60% of the global ocean. It will play a key role supporting the delivery of the Kunming-Montreal Biodiversity Framework, including helping to achieve the target of protecting 30% of the ocean by 2030.

- The UK led efforts to ensure that the Kunming-Montreal Global Biodiversity Framework (GBF) agreed at CBD COP15 in December 2022 delivered positive and meaningful outcomes for the ocean. Centred around the mission to halt and reverse global biodiversity loss by 2030, the GBF includes global commitments to protect at least 30% of the ocean (known as 30by30) and restore at least 30% of degraded ecosystems.

- The UK continues to lead international partnerships to support global implementation, including the Global Ocean Alliance (GOA). Following COP15, the GOA will continue advocating for international ocean action, including by supporting implementation of the GBF in the ocean.

- The UK is a leading international voice in tackling marine plastic pollution and co-sponsored the proposal to prepare a new international legally binding plastic pollution treaty. At recent negotiation sessions the UK has called for ambitious outcomes, including seeking agreement to restrain and reduce the production and consumption of primary plastic polymers to sustainable levels.

- The £500 million Blue Planet Fund is supporting developing countries and vulnerable coastal communities around the world adapt to climate change and build sustainable, prosperous coastal economies.

- In the UNFCCC, the UK is working to deliver on the ambition in COP26's Glasgow Climate Pact to integrate ocean across the UNFCCC and support the implementation of ocean action in national plans.

12.5. International Partnership on Blue Carbon (IPBC): Since 2018, the UK has been a member of the International Partnership for Blue Carbon (IPBC). The IPBC, coordinated by the Australian Government, works across society to build awareness, share knowledge, and accelerate action on the significant role of blue carbon ecosystems in climate change adaptation and mitigation. The UK announced its intention to join the Partnership at the Our Ocean Conference in 2018. Our membership of the IPBC enables the UK government to lead on a critical sector of the environment on the global stage. It creates multiple strategic benefits for, and

synergies with, existing work across government, and complements our project delivery with a commitment to leading international policy. In 2022, the Partnership had 55 Partners, of which 18 are country government agencies. This includes representation from states including France, Norway, Portugal, and the Commonwealth Blue Charter.

12.6. Blue Belt Programme: In support of the UN Global Goals for Sustainable Development, the UK Government has committed £20 million to a four-year programme providing long-term protection and sustainable management of over four million square kilometres of marine environment across the UK OTs. The Blue Belt Programme supports delivery of the UK Government’s manifesto commitment, including:

- improve scientific understanding of the marine environment;
- develop and implement evidence based, tailored marine management strategies including surveillance and enforcement; and
- ensure management is sustainable and long-term.

The Programme is being delivered in partnership between the Centre for Environment, Fisheries and Aquaculture Science and the Marine Management Organisation with the UK OTs on behalf of the Foreign, Commonwealth and Development Office and the Department for Environment, Food and Rural Affairs. Further information can be found in the [Blue Belt Programme Annual Update 2022/23 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

12.7. UNFCCC COP27: The UK continued to champion ocean action at UNFCCC COP27, which concluded in Sharm El Sheikh on 19 November 2022. We welcome the progress made for ocean under the Sharm El Sheikh Implementation Plan, maintaining the momentum for ocean action from previous COPs. The negotiated outcome builds on the ocean outcomes agreed under the Glasgow Climate Pact and includes references to the cryosphere, blue carbon ecosystems and nature-based solutions The UK made the following announcements:

- Pledged an additional £12 million to the Ocean Risk and Resilience Action Alliance (ORRAA) to protect and restore vulnerable coastal communities and habitats.
- Endorsed the Mangrove Breakthrough led by the UNFCCC High Level Climate Champions and Global Mangrove Alliance.
- Continued to support the Global Ocean Decade Programme for Blue Carbon (GO-BC), which launched its new graduate scheme for blue carbon early career researchers.
- The UK Government has outlined [£5 million of funding for the Santiago Network](#) along with further commitments on loss and damage it made at COP27.
- The [Climate Change Committee report on COP27](#) also highlights the UK would triple its contributions to adaptation finance by 2025, based on 2019 levels, however this will come from existing [official development assistance](#) budgets.

12.8. The UKHO’s International Activities: Due to the UKHO’s technical expertise, primary charting responsibilities and UK OTs the UK is represented at the following groups:

International Hydrographic Organization - HSSC		Chair/Vice Chair	Member
HSSC	Hydrographic Services and Standards Committee		x
DQWG	Data Quality Working Group		x
ENCWG	ENC Standards Maintenance Working Group	x	x
NCWG	Nautical Cartography Working Group	x	x
NIPWG	Nautical Information Provision Working Group		x
S-100WG	S-100 Working Group		x
S-101PT	S-101 Project Team	x	x
S-102 PT	S-102 Bathymetric Surface Project Team		x

International Hydrographic Organization - HSSC		Chair/Vice Chair	Member
S-121PT	S-121 Maritime Limits and Boundaries Project Team		x
S-124PT	S-124 Navigational Warnings Project Team		x
S-130PT	S-130 Polygonal Project Team		x
S-131PT	S-131 Marine Harbour Infrastructure Project Team		x
TWCWG	Tides, Water Level & Currents Working Group	x	x
HSWG	Hydrographic Survey Working Group	x	x
MASS PT	Maritime Autonomous Surface Ships Navigation Project Team	x	x
ABLOS	Advisory Board on the Law of the Sea		x
IRCC	Inter-Regional Coordination Committee		x
CBSC	Capacity Building Sub-Committee	x	x
CSBWG	Crowd-sourced Bathymetry Working Group		x
MSDIWG	Marine Spatial Data Infrastructure Working Group		x
WENDWG	Worldwide ENC Database Working Group		x
WWNWS	Worldwide Navigational Warning Service		x
HCA	Hydrographic Commission on Antarctica		x
MACHC	Meso American and Caribbean Sea Hydrographic Commission	x	x
MBSHC	Mediterranean and Black Seas Hydrographic Commission		x
NIOHC	North Indian Ocean Hydrographic Commission		x
NSHC	North Sea Hydrographic Commission		x
RSAHC	ROPME Sea Area Hydrographic Commission		x
SAIHC	Southern African and Islands Hydrographic Commission	x	x
SWPHC	South-West Pacific Hydrographic Commission		x
EATHC	Eastern Atlantic Hydrographic Commission		x
International Maritime Organization		Chair/Vice Chair	Member
NAVTEX	NAVTEXT Coordination panel	x	x
International Association of Marine Aids to Navigation and Lighthouse Authorities		Chair/Vice Chair	Member
ENAV	E-navigation Committee		x
Other International Bodies		Chair/Vice Chair	Member
IAU	International Astronomical Union		x
CIRM	Comité International Radio-Maritime		x
BALTICO	Navarea1 member states meeting		x
ISO	International Standards Organisation		x
OGC	Open Geospatial Consortium		x
UNGGIM WGMGI	UNGGIM Working Group on Marine Geospatial Information		x
CARIGEO	Caribbean Geospatial Development Initiative		x

13. **CONCLUSION:**

13.1 The UK continues its strong commitment to the MACHC region through being Chair and in supporting all of its Working Groups. Furthermore, it continues with its primary charting activity and efforts in developing regional hydrographic self-sufficiency through capacity building measures. Outside of this specific programme, the UK continues to explore wider funding opportunities to benefit the Mariner and Marine User. Building on the previous year, where we delivered more than 3,000 training places to the global hydrographic community, we continue to offer and deliver significant training including two candidates from this region on the current GeoMAC CAT B course being delivered at the UKHO HQ in Taunton.

13.2 The provision of adequate ENC coverage, in support of the IMO carriage requirement for ECDIS, presented a challenge in the MACHC region as well as other regions. Good progress continues to be made to improve the availability and quality of suitable ENC coverage along with digital publications to support the digital bridge. UKHO has supported ICCWG to propose regional ENC scheme options.

13.3 Noting the fast approach of second-generation digital navigation requirements, delivered through the S-100 family of products and services, the UKHO is continuing the journey to meet this demand as part of its efforts to develop its Marine Geospatial Information credentials.

Taunton, 6 Nov 23

UKHO POINTS OF CONTACT:

UKHO Website: GOV.uk/UKHO

The general UKHO address is:

UK Hydrographic Office
Admiralty Way
TAUNTON
Somerset
TA1 2DN
United Kingdom

For further information on this report, UKHO representation in international fora, and UKHO activities in general, please contact:

E-mail: IBTE@ukho.gov.uk
Telephone: +44 (0)1823 484444

For capacity building matters within the MACHC region, please contact:

Ms Lucy Fieldhouse
International Capacity Building Manager
Telephone: +44 (0)1823 483335
Mobile: +44 (0) 7989 152246
E-mail: Lucy.Fieldhouse@ukho.gov.uk

For International training within the MACHC region, please contact:

Mr Jeremy Kitchker
International Training Manager
Telephone: +44 (0) 1823 483438
E-mail: Jeremy.Kitchker@ukho.gov.uk

For bilateral arrangements and other international partnering matters within the MACHC region, please contact:

Mr Nathanael Knapp
Head of Partnering and Engagement (East Atlantic & Caribbean)
Telephone: +44 (0)1823 483553
E-mail: Nathanael.Knapp@ukho.gov.uk

RAdm (Ret) Simon Hardern
Head of Partnering and Engagement (Americas)
Mobile: +44 7930 012324
US Cell: +1 (202) 445-3956
E-mail: Simon.Hardern@ukho.gov.uk

For charting matters in the MACHC region, please contact:

Robert Wheeler
Geographic Technical Leader - North America, Canada and the Caribbean
Email: robert.wheeler@ukho.gov.uk
Telephone: +44 (0)1823 484293

Lee Truscott
Geographical Technical Leader - South & Central America, Pacific, Southern Ocean & Antarctica
Email: Lee.Truscott@ukho.gov.uk
Telephone: +44 (0)1823 483955

For matters related to Sailing Directions within the MACHC, please contact:

Email: SDImpactAnalysis@ukho.gov.uk

**INPUT TO THE IHO PUBLICATION P-5 (YEARBOOK)
UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND**

Country information / Informations sur le pays/ Información sobre el país	
-Declared National Tonnage -Tonnage national déclaré -Tonelaje Nacional Declarado	40,632,143 tons
National day -Fête nationale -Fiesta nacional	The Third Saturday in June (The Kings Official Birthday)
-Date first joined IHO -Date d'adhésion à l'OHI -Fecha de adhesión a la OHI	21 Jun 1921
-Date ratification Convention -Date de ratification de la Convention -Fecha de ratificación de la Convención	3 May 67
Official Representative to IHO (as designated by Member Government) UNITED KINGDOM HYDROGRAPHIC OFFICE	
Contact information/ Informations de contact / Información de contacto	
-National Hydrographer or equivalent -Directeur du service hydrographique ou équivalent -Director del Servicio Hidrográfico o equivalente	RAdm Angus Essenhigh - National Hydrographer & Director Data Acquisition and Defence Postal address: Admiralty Way TAUNTON Somerset, TA1 2DN United Kingdom Tel:+ 44 (0) 1823 484444 E-mail: IBTE@UKHO.gov.uk
Other point(s) of contact -Autre(s) point(s) de contact - Otrospunto(s) de contacto	
-Website -site web -sitio web	http://www.gov.uk
Agency information	
Date of establishment	12 Aug 1795
Relevant National Legislation	- Order in Council 1795 under King George III - Government Trading Funds Act 1973 as amended by the Government Trading Act 1990 and the Finance Acts 1991, 1993 and 2001 - Civil Service (Management Functions) Act 1992 - The Hydrographic Office Trading Fund Order 1996 (legislation.gov.uk) The Hydrographic Office Trading Fund Order 1996 SI No. 773 of 1996 - United Kingdom Hydrographic Office Framework

	Document update February 2022 - Memorandum of Understanding with the Maritime and Coastguard Agency to enable UK to meet obligations under Safety of Life at Sea 1974 Convention where compliance lies within UK Hydrographic Office's expertise (as set out in UK Hydrographic Office's Public Task Annex A Framework Document updated Feb 22)
Top level parent organization	Ministry of Defence
Principal functions of the organization or the department	Publication of analogue and digital navigational charts and supporting publications, transmission of maritime safety information, Notices to Mariners (weekly), provision of geodetic, oceanographic and geophysical data and publications to meet defence requirements. Provision of tidal information and Ocean currents
Number of INT charts published	970
Total number of paper charts	3,500 (Approx)
Number of ENC cells published	1,771 GB cells
Number of Raster Charts	582
Number of Other Charts	52
Type of publications produced	Full suite of ADMIRALTY Charts and Publications including some digital products. For details see UK Catalogue of Admiralty Charts and Publications (NP131) or the UKHO web site: http://www.gov.uk/UKHO

Other Organizations providing national Hydrographic Services
Autre Organismes fournissant des services hydrographiques au niveau national.

**CAPTAIN HYDROGRAPHY & METEOROLOGY AND
HYDROGRAPHER OF THE NAVY**

Contact information / Informations de contact / Información de contacto	
Head of the Hydrographic Office (if different from the person indicated above) - Directeur du service hydrographique (si différent de la personne indiquée ci-dessus) -Jefe del Servicio Hidrográfico (si es diferente de la persona indicada anteriormente)	Head of Hydrographic Office - Royal Navy. Hydrographer of the Navy Cdr Adam COLES (Commander HM) Special postal address: SURFLOT, Defiance Building HM Naval Base Devonport, Plymouth, Devon, PL2 2BG, United Kingdom of Great Britain and Northern Ireland Tel: + 44 (0) 3001618853 Fax: + 44 (0) 1752 555844 E-mail: Adam.Coles222@mod.gov.uk Agency address: Navy Command Headquarters, Leach Building, Whale Island, Portsmouth, Hampshire, PO2 8BY, United Kingdom of Great Britain and Northern Ireland
Other point(s) of contact - Autre(s) point(s) de contact -Otros punto(s) de contacto	Postal address: SURFLOT, Defiance Building HM Naval Base Devonport, PLYMOUTH, Devon, PL2 2BG, United Kingdom of Great Britain and Northern Ireland
Agency information / Information sur l'agence / Información sobre la agencia	
Top level parent organization -Organisme mère -Organización	Ministry of Defence - Fleet Commander

asociada de nivel superior													
Principal functions of the organization or the department -Attribution principales de l'organisme ou du département - Principales funciones de la Organización o el departamento	Commander of RN ships, units and personnel engaged in collection analysis and dissemination of all forms of geospatial information through the hydrographic, meteorological and oceanographic disciplines												
Detail of surveying vessels/ Aircraft -Détail des bâtiments hydrographiques/aéronefs -Detalle de buques hidrográficos/Aeronaves	<table border="1"> <thead> <tr> <th>Displacement -déplacement -Desplazamiento - Fecha de puesta en servicio</th> <th>Commissioning Date -date de mise en service</th> <th>Crew -équipage -Personal</th> </tr> </thead> <tbody> <tr> <td>HMS SCOTT (H131)</td> <td>13,500</td> <td>1997</td> </tr> <tr> <td>HMS PROTECTOR</td> <td>5,000</td> <td>2011</td> </tr> <tr> <td>HMS MAGPIE (H130)</td> <td>37</td> <td>2018</td> </tr> </tbody> </table>	Displacement -déplacement -Desplazamiento - Fecha de puesta en servicio	Commissioning Date -date de mise en service	Crew -équipage -Personal	HMS SCOTT (H131)	13,500	1997	HMS PROTECTOR	5,000	2011	HMS MAGPIE (H130)	37	2018
Displacement -déplacement -Desplazamiento - Fecha de puesta en servicio	Commissioning Date -date de mise en service	Crew -équipage -Personal											
HMS SCOTT (H131)	13,500	1997											
HMS PROTECTOR	5,000	2011											
HMS MAGPIE (H130)	37	2018											
Other information of interest -Autres informations utiles -Otra información de interés	<p>HM personnel are also borne in other RN vessels. Capt(HM) directs all hydrographic, meteorological and oceanographic support to the fleet.</p> <p>The programme for Civil hydrography in UK waters is managed by the Maritime & Coastguard Agency and is outsourced to the commercial sector</p> <p>Training in hydrographic surveying and meteorology is provided for naval personnel by the Commander Fleet Operational Training - Hydrography, Meteorology and Oceanography HMS DRAKE HM Naval Base Devonport PLYMOUTH Devon PL2 2BG</p> <p>Details of courses are available at: www.mod.uk/DefenceInternet/AboutDefence/Whatwedo/TrainingandExercises/IDT/IDTRN</p>												

Input to the IHO Publication C-55 (Status of Hydrographic Surveying and Charting Worldwide)
Country: United Kingdom of Great Britain and Northern Ireland - Anguilla

C-55 Summary for:				Comments on Charts: 1. Charts have not been fully updated for the latest. 2. MBES survey data (HI1604). A new edition of 2079 is in the production plan.
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:	AI			
INT Region:	B			
Country/Depend:	Anguilla			
Last updated:	13/10/23			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	Comments on Surveys: 1. Extensive LiDAR survey undertaken 2017 covering 1479km and Full sea floor coverage of Road Bay 2016. 2. High resolution MBES survey carried out Sep 18 for selected priority areas to identify changes since Hurricane Irma.
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	40	7	53	
> 200m	3	0	97	

MSI	Y/N	Comments on MSI:
Local warning	N	
Coastal warning	Y	Via NAVAREA IV
Nav warning	Y	Via NAVAREA IV
Port warning	N	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	N	
Area A1	N	
Area A2	N	
Area A3	N	
NAVTEX	N	
SafetyNet	N	

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)
 Country: United Kingdom of Great Britain and Northern Ireland - British Virgin Islands

C-55 Summary for:				Comments on Charts: 1. New editions of charts 2020, 2019, 2005 and 2006 are planned.
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:	VG			
INT Region:	B			
Country/Depend:	British Virgin Is			
Last updated:	13 Oct 23			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	81	13	6	
> 200m	5	0	95	
Comments on Surveys:				
1. New LIDAR survey covers all of the 20m contour and in some areas 38m.				

MSI	Y/N	Comments on MSI:
Local warning	Y	
Coastal warning	Y	Via NAVAREA IV
Nav warning	Y	Via NAVAREA IV
Port warning	N	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	N	
Area A1	N	
Area A2	N	
Area A3	N	
NAVTEX	N	
SafetyNet	N	

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)
 Country: United Kingdom of Great Britain and Northern Ireland - Cayman Islands

C-55 Summary for:				Comments on Charts: 1. New Edition of Chart 462 planned. 2. New ENC for Spotts Bay released.
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:	KY			
INT Region:	B			
Country/Depend:	Cayman Islands			
Last updated:	13 Oct 23			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	8	69	23	
> 200m	0	0	100	
Comments on Surveys:				
1. Multibeam surveys conducted of Cayman Brac (West end) and Grand Cayman (West Bay and Spotts Bay) in 2017.				
2. 2021 Lidar coverage of all 3 islands to 30m depth.				

MSI	Y/N	Comments on MSI:
Local warning	Y	Via NAVAREA IV
Coastal warning	Y	Via NAVAREA IV
Nav warning	Y	Via NAVAREA IV
Port warning	N	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	N	
Area A1	N	
Area A2	N	
Area A3	N	
NAVTEX	N	
SafetyNet	N	

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)
 Country: United Kingdom of Great Britain and Northern Ireland - Montserrat

C-55 Summary for:				Comments on Charts: 1. New edition of chart 254 published Oct 18 including latest full seafloor survey data. 2. UKHO assistance has been used to train local staff with newly acquired survey equipment. First area delivered: south-west Plymouth.
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:	MS			
INT Region:	B			
Country/Depend:	Montserrat			
Last updated:	13 Oct 23			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	37	4	59	
> 200m	37	0	63	
Comments on Surveys:				
1. Multibeam survey of Western side Montserrat carried out by UKHO in 2017. 2. Multibeam survey of western side of Montserrat carried out by Montserrat surveyors together with UKHO in 2020.				

MSI	Y/N	Comments on MSI:
Local warning	N	
Coastal warning	Y	Via NAVAREA IV
Nav warning	Y	Via NAVAREA IV
Port warning	N	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	N	
Area A1	N	
Area A2	N	
Area A3	N	
NAVTEX	N	
SafetyNet	N	

Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)
 Country: United Kingdom of Great Britain and Northern Ireland - Turks & Caicos Islands

C-55 Summary for:				Comments on Charts: 1. New large-scale products of Approach Channel to Providenciales published Oct 23.
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:	TC			
INT Region:	B			
Country/Depend:	Turks & Caicos Is			
Last updated:	13 Oct 23			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	82	1	17	
> 200m	9	0	91	
Comments on Surveys:				
1. 2019 Multibeam surveys conducted on major routes in Cockburn Harbour, Grand Turk and Providenciales.				
2. 2019 LIDAR survey carried out and covers all of 20m contour and out to 30m in a large proportion.				

MSI	Y/N	Comments on MSI:
Local warning	N	
Coastal warning	Y	Via NAVAREA IV
Nav warning	Y	Via NAVAREA IV
Port warning	N	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	N	
Area A1	N	
Area A2	N	
Area A3	N	
NAVTEX	N	
SafetyNet	N	