



UK Hydrographic  
Office

MACHC23-03.13-UK National Report

# UNITED KINGDOM NATIONAL REPORT

TO THE

23<sup>RD</sup> MEETING OF THE  
MESO AMERICAN & CARIBBEAN SEA  
HYDROGRAPHIC COMMISSION  
(MACHC23)

28 Nov to 2 Dec 22  
Saint Louis, Missouri, USA



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

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## 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 UK Generic National Report to the IHO.

### 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 2023, to improve their compliance with the Hydrographic elements of SOLAS.

2.2. The UK fulfils the Primary Charting Authority (PCA) responsibilities of the following UK OTs within the MACHC region:

Anguilla;

Bermuda (falls within USCHC region, but has more in common with the MACHC region);

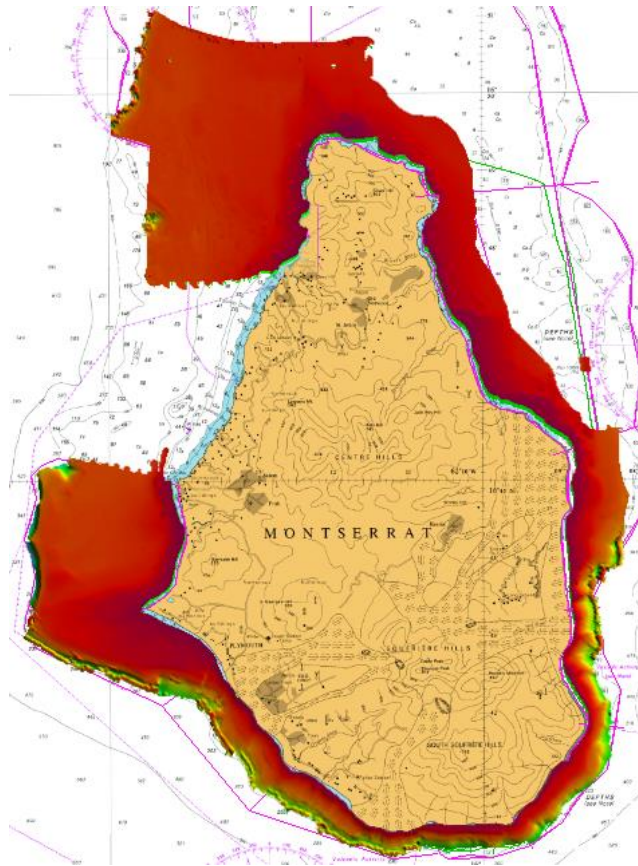
British Virgin Islands;

Cayman Islands;

Montserrat; and

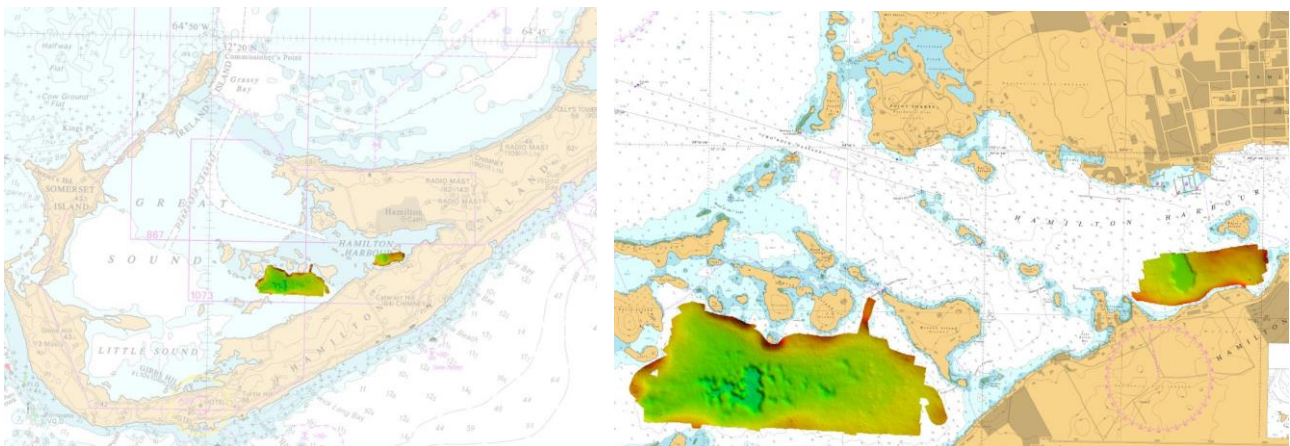
Turks and Caicos Islands.

2.3. The UK government funded OTSMP assesses and redresses the deficit of bathymetric data and lack of sound hydrographic governance in the UK's OTs. The programme is now in its seventh year and in August 2022 saw the mobilisation of a vessel-based survey in the waters around Montserrat by UKHO surveyors working with the Montserrat Hydrographic Survey Team. Figure 1 shows the extent of the coverage of data collected around Montserrat in 2022.



**Figure 1 : Seabed mapping data collected around Montserrat by the UKHO and Montserrat survey team**

2.4. In July 2022, the OTSMP funded a UKHO team to provide hands-on training and support to the Bermuda maritime authorities. This included supporting the Bermudan Hydrographic Survey team with a vessel-based survey of two areas within the vicinity of Hamilton Harbour, as shown below .



**Seabed mapping data collected in Bermuda by the UKHO and Bermudan survey team**

### **Commonwealth Marine Economies Programme:**

2.5. 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 and 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.

2.6. The UK Government's CME Programme was designed to support the sustainable economic growth of partner countries by maximizing 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:**

2.7. Details of the management of civil hydrographic surveys in UK Home Waters are provided in the UK Generic National Report, and on the UKHO website. The UK's National Hydrographic Committee (known as the Civil Hydrography Annual Seminar (CHAS)) 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).

2.8. In total, international UKHO survey operations under the OTSMP and CME Programme have covered a combined area of around 21,000KM<sup>2</sup> around the world. In 22, a further survey has taken place in Montserrat under the OTSMP. The UKHO has also been working with the MACHC region OTs to improve their hydrographic governance through the implementation of Hydrographic Action Plans. These plans provide a roadmap towards hydrographic compliance with international maritime obligations.

2.9. The UK continues to explore how we can strengthen the relationship with countries for which we are 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 in-country survey training for Montserrat, Bermuda, Jamaica and Guyana (and, here, additional survey work is ongoing).

2.10. 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 from ([hydrographicprogrammes@UKHO.gov.uk](mailto:hydrographicprogrammes@UKHO.gov.uk)).

### **3. CHARTS:**

3.1. In late Jul 22, the UKHO announced its strategic decision to implement a fully digital chart solution by the end of 2026, enabling the UKHO to move away from the production of traditional paper charts. This decision was made with the support of the MCA in response to declining demand for Standard Navigational Charts (SNCs) over a number of years. The UKHO now undertakes to replace its paper chart coverage with an official, endorsed and compliant digital alternative that will meet the needs of the mariner and allow us to move seamlessly towards the future benefits of the S-100 world within the timescales proposed by the International Maritime Organisation (IMO).



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.

### **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 22 New Paper Editions and 2 New INT Editions since the last MACHC meeting (Dec 21). The breakdown is as follows:

<b>GB Chart Number</b>	<b>Title</b>	<b>Published</b>
3382	US – Gulf of Mexico – Louisiana – Mississippi River	13 Jan 22
782	Caribbean Sea – Curacao	03 Feb 22
2261	Colombia – North Coast – Puerto Barranquilla and Approaches	17 Feb 22
CP5	Panama – Pacific Coast – Pacific Entrance	3 Mar 22
3854	US – Gulf of Mexico – Louisiana – Texas – Freeport to Calcasieu Pass	03 Mar 22
783	Caribbean – Curacao	31 Mar 22
1276	Colombia – North Coast – Bahia Santa Marta to Punta Canoas	14 Apr 22
CPI	Panama North Coast – Panama Canal, Atlantic Entrance including Adjacent Ports	28 Apr 22
1023	Guatemala and Mexico – Pacific Ocean Coast – Champerico to Punta Galera	2 Jun 22
1024	Mexico – Pacific Ocean Coast – Punta Galera to Punta Mangrove	2 Jun 22
1026	Mexico – Pacific Ocean Coast – Punta Mangrove to Punta Farallon	2 Jun 22
1027	Mexico – Pacific Ocean Coast – Approaches to Golfo De California	2 Jun 22
4802	North Pacific Ocean – West Coast of North America – United States and Mexico	2 Jun 22
4811	Pacific Ocean – Central America – Mexico to Ecuador	2 Jun 22
1106	Mexico – West Coast – Mazatlan	11 Aug 22
1220	Central America – East Coast – Gulf of Honduras and Yucatan Channel	8 Sep 22
2863	US – Bahamas – Cuba – Straits of Florida	3 Nov 22
3850	US – Gulf of Mexico – Galveston Bay to Ship Shoal	3 Nov 22
3851	US – Gulf of Mexico – Ship Shoal to Pensacola Bay	3 Nov 22
3852	US – Gulf of Mexico – Santa Rosa Island to Tampa Bay	3 Nov 22
3853	US – Gulf of Mexico – Tampa Bay to Key West	3 Nov 22
3768	US and Mexico – Gulf of Mexico – Brownsville to Altamira	17 Nov 22

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

<b>GB Chart Number</b>	<b>Title</b>
1946	Central America – Pacific Coast – Guatemala and El Salvador – Quetzal and Acajutla
4811	Pacific Ocean – Central America – Mexico to Ecuador

## 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.



## ENCs:

3.4. Within the MACHC region, the UKHO has released a total of 221 ENC cells. The breakdown by usage band is shown in the table below:

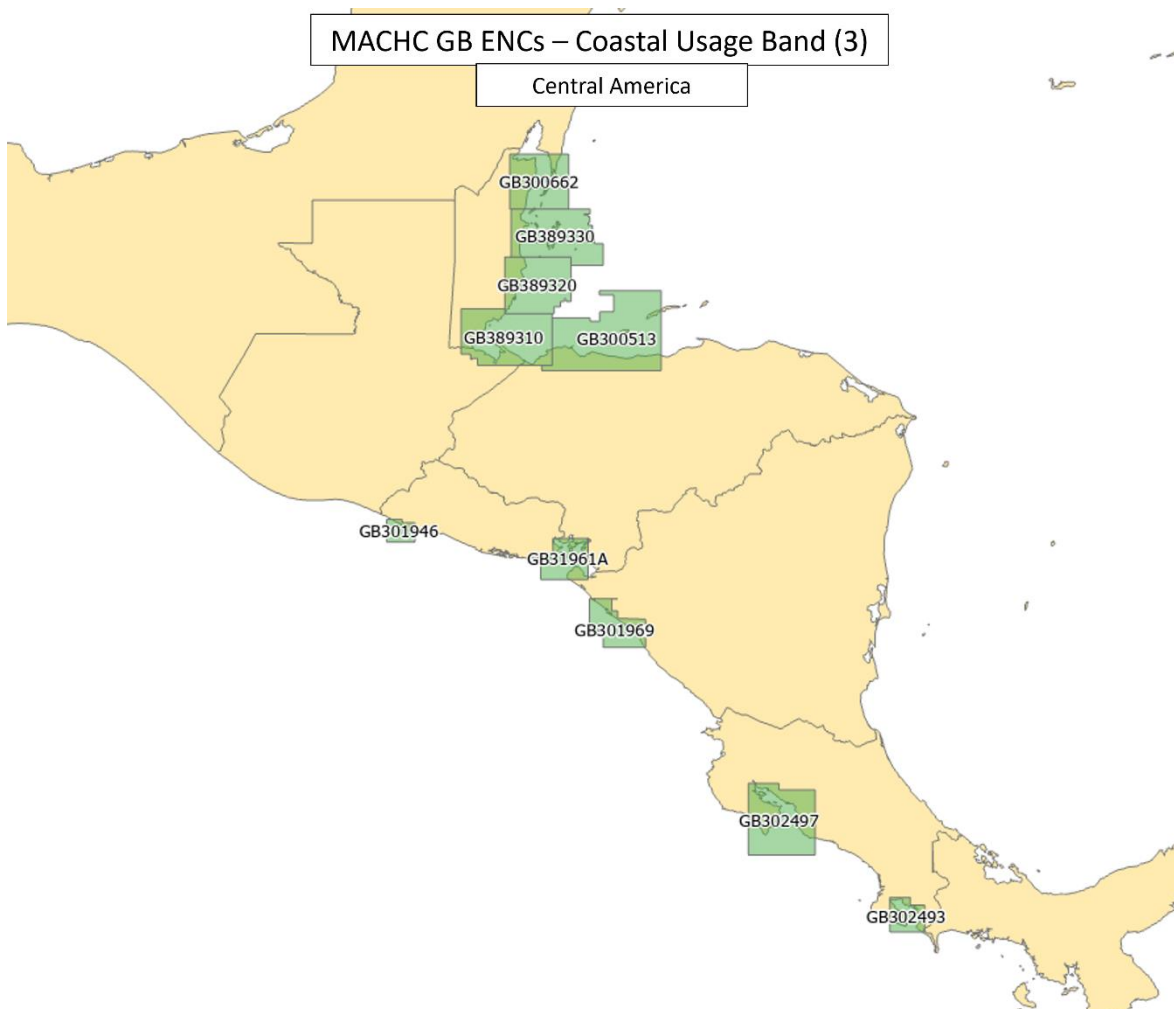
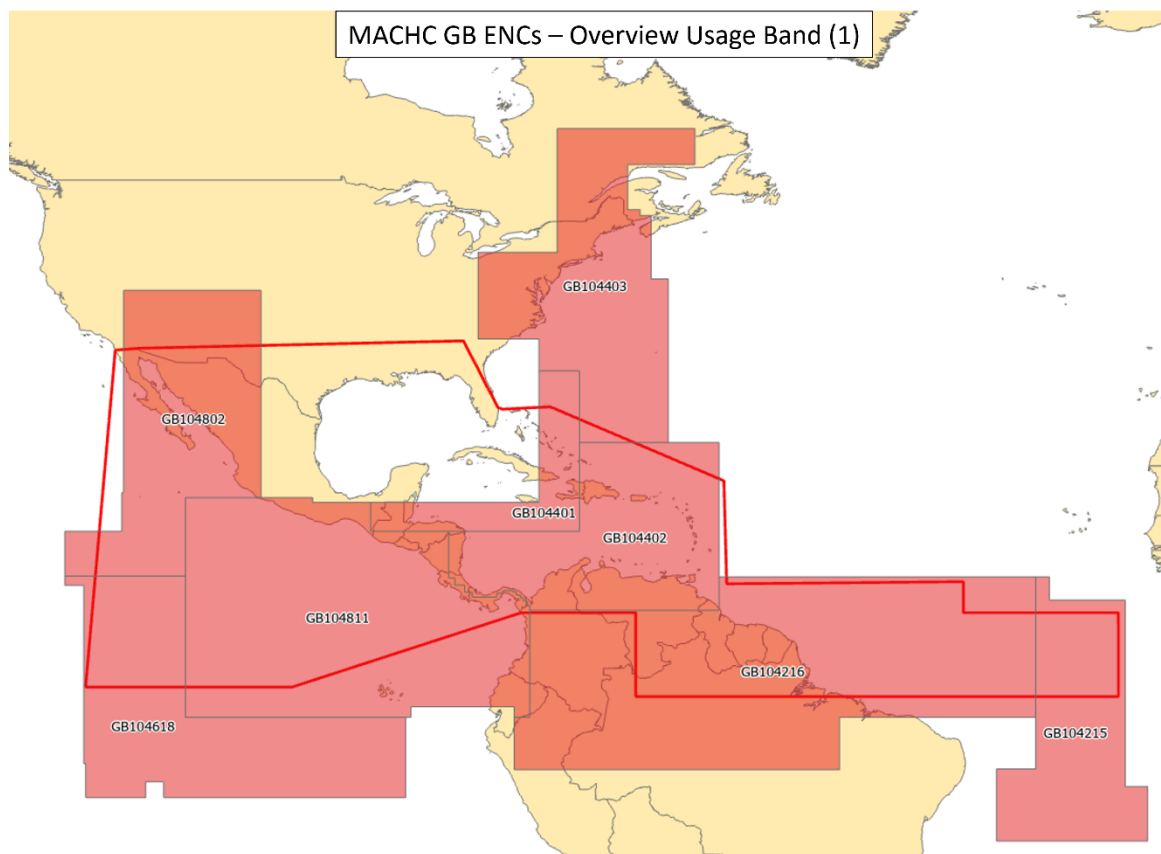
MACHC Region Released Cells	
ENC Usage Band	Number of GB ENC's
Usage Band 1	8
Usage Band 2	15
Usage Band 3	35
Usage Band 4	67
Usage Band 5	82
Usage Band 6	14
Total Number of ENCs	221

### ENC totals by usage band as produced by UKHO

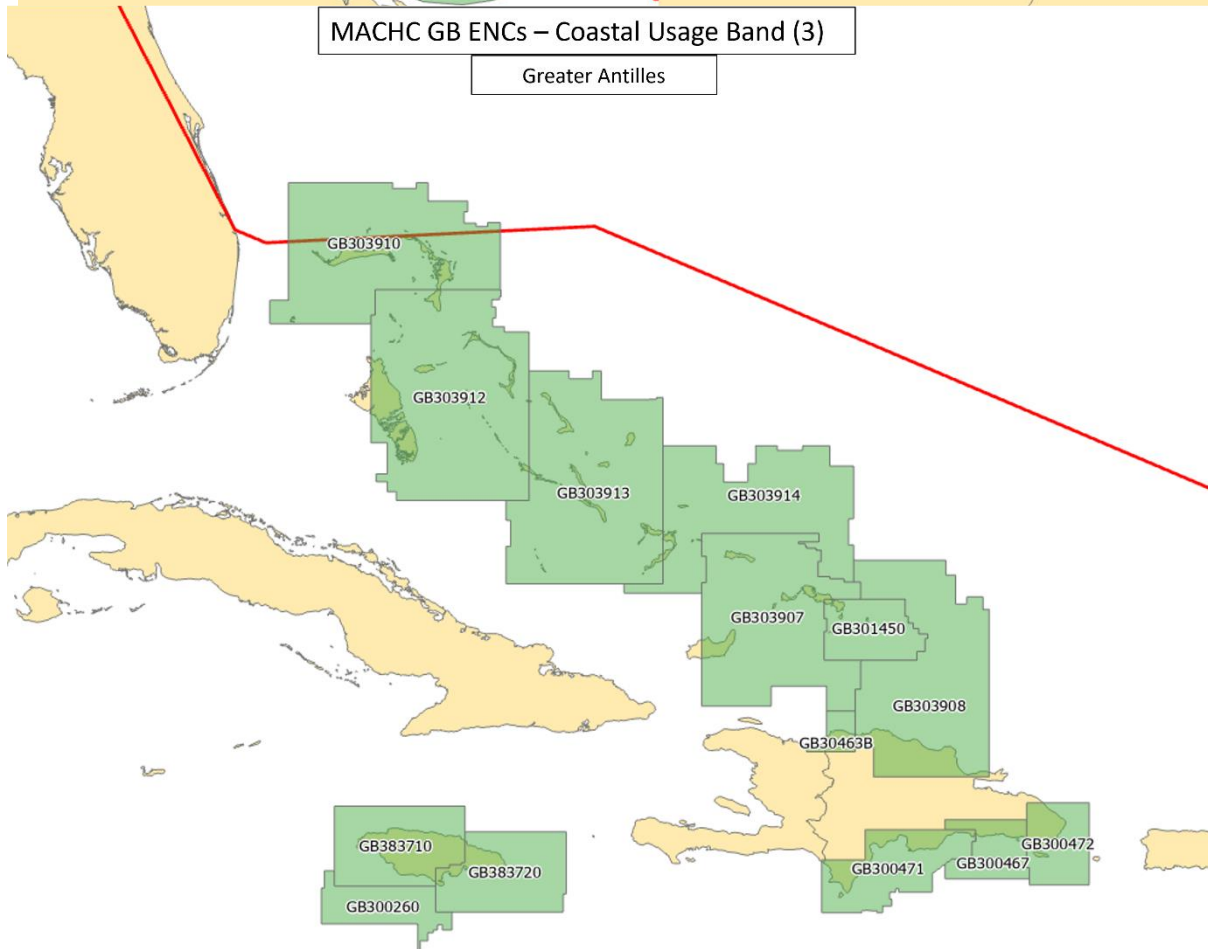
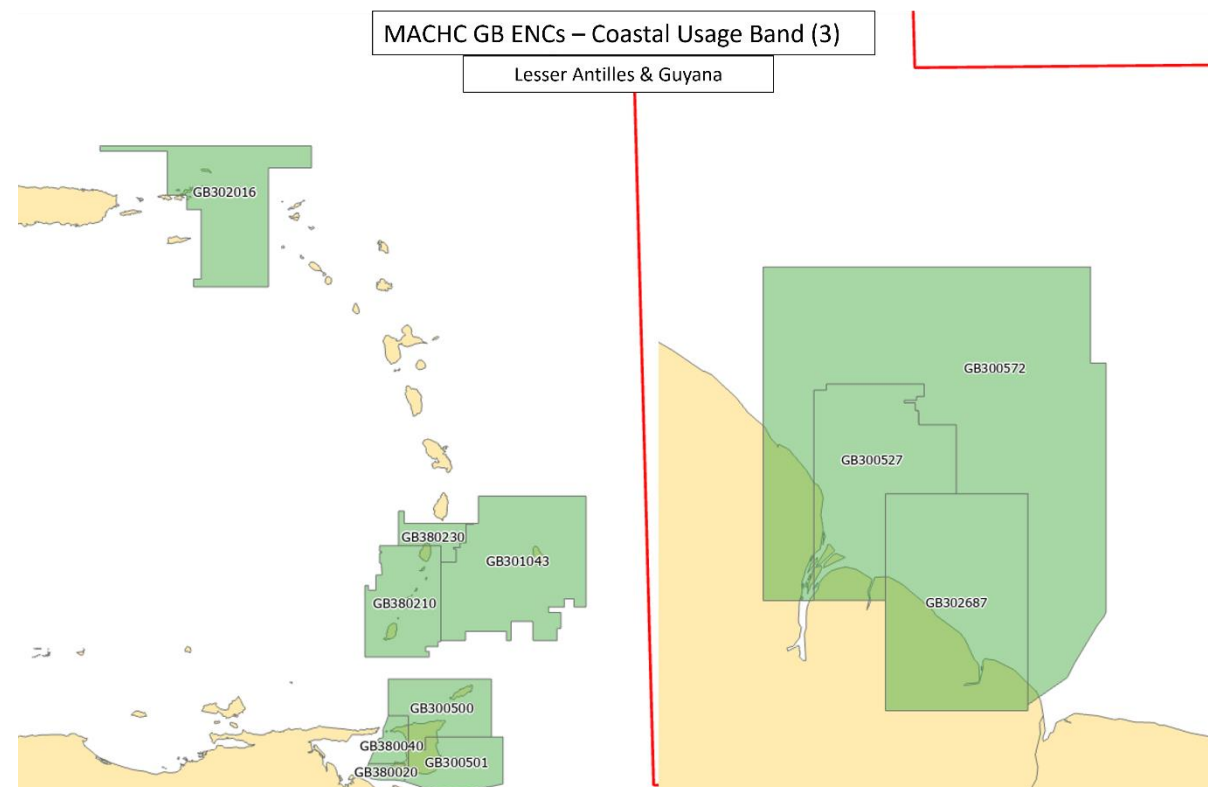
The tables below show revisions to GB ENC coverage for the MACHC Region during 21/22. The subsequent figures illustrate the current coverage of GB ENCs within the MACHC Region.

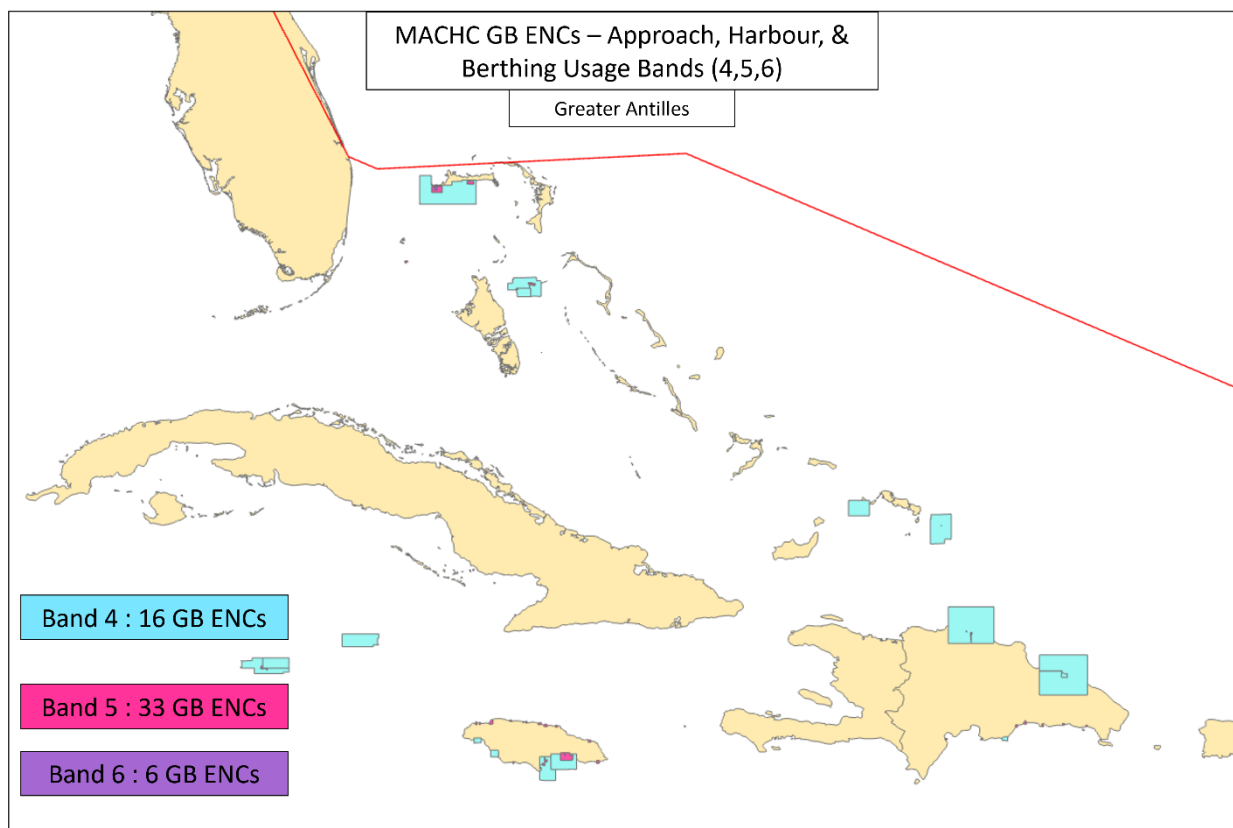
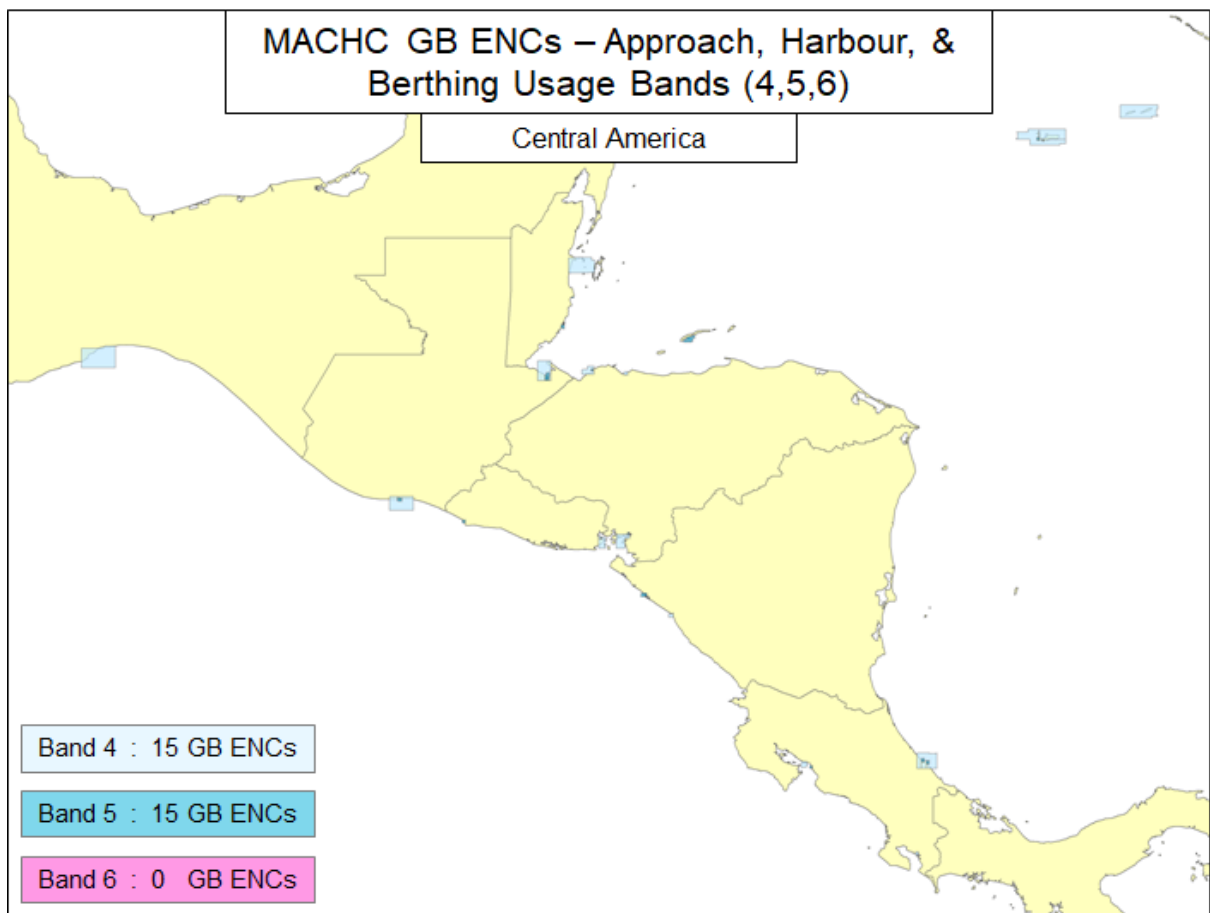
New Cells Nov 21 – Oct 22	Week Number
GB401449	14_22

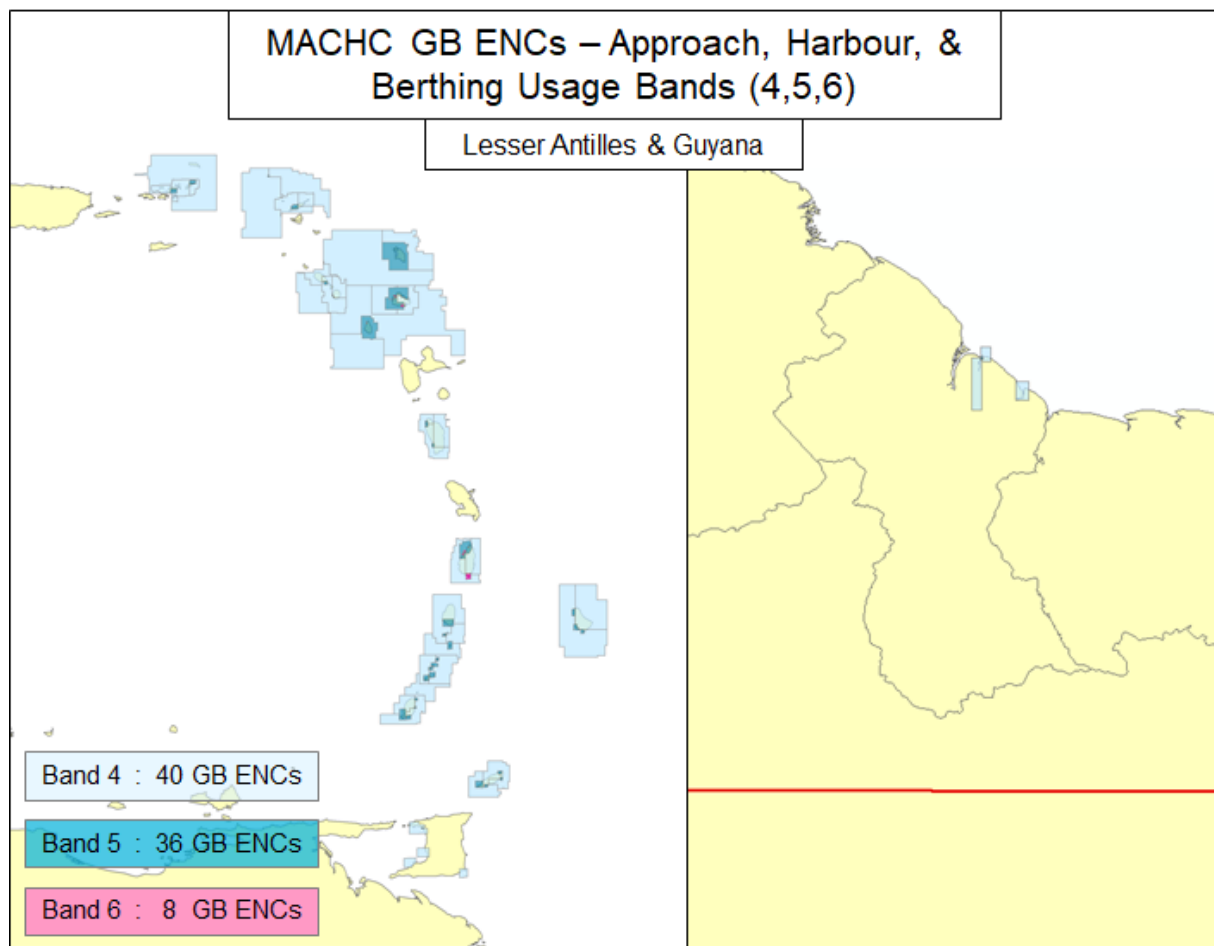
Cancelled Cells Nov 21 – Oct 22	Week Number	Replacement	
		Cell Name	Cell Title
GB401940	46_21	MX462200	Salina Cruz – Oax y Proximidades











### ENC Distribution:

3.5. The UKHO, along with other European hydrographic offices, was a founder member of the International Centre for ENC's (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 ENC's 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](http://www.ic-enc.org)). The UKHO also acts as a VAR in its own right, particularly promoting a global range of ENC's under the AVCS brand alongside its successful ADMIRALTY range of paper charts and publications. Additional details can be found on the ADMIRALTY website ([www.admiralty.co.uk](http://www.admiralty.co.uk)).

### S-100:

3.6. The UKHO is at the forefront of developing S-100 based products and services; we are doing this by working in collaboration and actively engaging with other Hydrographic Offices and our 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) and S-111 (Surface Currents). It anticipates roll-out of initial commercial services from 2024 onwards.

### Gridded ENC Rescheme:

3.7. The UKHO has chosen the parameters of a gridded ENC scheme for S-57 and S-101 which is applicable to all GB ENC's across the globe at all scale bands. The UKHO has engaged with many FGHOs 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.

The GB ENC rescheme is the foundation of 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 ENC's, resolve

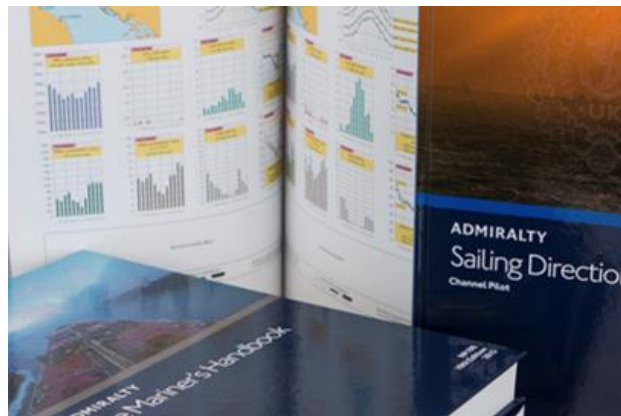
user pain-points, and enhance safety for the mariner.

#### 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
NP7 I	West Indies Pilot Vol 2



##### New editions published since last MACHC Dec 20:

NP5 South America pilot Vol 1 published 7 Oct 21

NP7A South America Pilot Vol 3 published 10 Feb 22

NP70 West Indies Pilot Vol 1 published 1 Apr 21

NP7 I West Indies Pilot Vol 2 published 7 Jul 22

##### New Editions to be Published:

NP7 South America Pilot Vol 3 published 8 Dec 22. These publications are all maintained on a continuous revision cycle and new editions are published every 3-5 years or as required.

Full details of the ADMIRALTY publication range and their status can be found on the ADMIRALTY website (<https://www.admiralty.co.uk>).

##### 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.



4.4. The **ADMIRALTY Digital Catalogue (ADC)** can be downloaded free from the ADMIRALTY website ([www.admiralty.co.uk](http://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. Maritime Safety Information (MSI) is provided through the IHO World Wide Navigation Warning System (WWNWS) on behalf of IMO. UKHO, on behalf of IMO, UK, hosts 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 UKHO which may require urgent promulgation is passed to NAVAREA IV or XII Co-ordinators for consideration.

5.2. **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.

5.3. 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; these are 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. The current Admiralty weekly Notices to Mariners are now supplemented by daily updates; these are available on the UKHO website.

## 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.

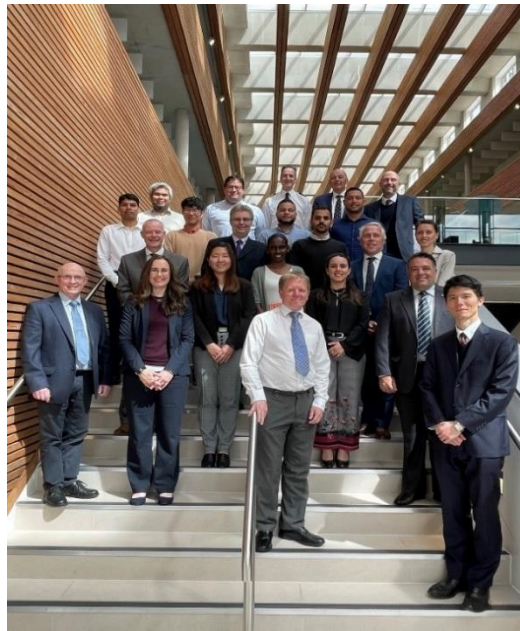
6.2. The UK has also provided assistance to update C-55 entries to other countries, including Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Panama, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and The Grenadines, Suriname and Trinidad and Tobago, where the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

## 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.





### **The 12th Category B Nippon Funded GEOMAC Course - Delivered by the UKHO International Training Team**

7.3. The International Training Team drives forward the continuous skills and knowledge development of our global network through world-class training. Details of all UKHO awarded training opportunities currently offered are provided on the UKHO website or by contacting [internationaltraining@ukho.gov.uk](mailto:internationaltraining@ukho.gov.uk).

The UKHO recognises the importance of continued training and, to enable continued activity, has developed a new Learning Management System (LMS). The LMS acts as the learning portal for training, offering all delegates ease of access to online seminars and interactive learning material.

Further details are described in the UKHO's Generic National Report.

The UKHO International Training Team are pleased to announce that, following the postponement due to the COVID-19 pandemic, the 12th Category B Nippon Funded Course in Geospatial Marine Analysis and Cartography (GEOMAC) was completed in Feb 22. From this region, Colombia, Dominican Republic and Guyana had successful students.

The 13th and 14th Nippon Funded Courses commenced Aug 22 and will be completed in Dec 22.

### **Royal Navy Training in Hydrography, Meteorology and Oceanography:**

7.4. Nationally and internationally certified courses delivered by the Royal Navy's Maritime Warfare school are described in the UKHO's Generic National Report.

## **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 are always keen to discuss new exchanges. 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, UKHO has made periodic releases of data to international data centres including US NODC, for inclusion in the World Ocean Database, and British Oceanographic Data Centre (BODC).

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

8.3. **Seabed 2030:** Following the signing of a data sharing MoU between the UKHO and the Seabed 2030 Project, and a successful data sharing trial with the Southern Ocean Regional Centre, the UKHO are delighted to announce that they have now started supplying bathymetric survey data for non-UK waters to the General Bathymetric Chart of the Oceans (GEBCO). Data has been shared with the Southern Ocean Regional Centre covering a total area of 46,482 km<sup>2</sup>, around South Georgia and Antarctica, contributing over 3.7 million new data points to the GEBCO grid.

8.4. UKHO has also contributed data to GEBCO for 13 countries in the Caribbean region, covering a total area of 13,680 km<sup>2</sup>. 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.

8.5. Where the UKHO is PCA and have the appropriate permissions, the UKHO will continue to share (100m) gridded bathymetry data with Seabed 2030 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 Seabed 2030.

8.6. We have also entered a technical cooperation agreement with Teledyne Caris and Seabed 2030 which will allow the Seabed 2030 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.

The UKHO will also continue to actively engage with associated Seabed 2030 working groups at the IHO and Regional Hydrographic Commissions.

8.7. 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 National Oceanographic Centre in Liverpool.

8.8. The UKHO participates on 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.

8.9. The UKHO is not directly tasked with owning and operating tide gauges at the UK national level – this is the remit of the National Tidal and Sea Level Facility (NTSLF, [www.ntsrf.org](http://www.ntsrf.org)), previously operated by the UK Environment Agency with a recent (Summer 21) contract to maintain and upgrade the National Tide gauge Network (NTGN) awarded to the commercial company OceanWise (<https://www.oceanwise.eu/>).

8.10. However, under the auspices of the OTSMP, the UKHO has been working with external contractors to establish permanently installed tide gauges in OTs, including to date Bermuda, Cayman Islands 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 now feed into the NOAA GOES (Geostationary Operation Environmental Satellites) Collection System, and also linked into the [IOC SeaLevel Monitoring System](#). Such installations are instrumental for the scientific study of long-term sea-level rise. In addition, they can form part of tsunami warning systems and also provide essential observations for use in coastal inundation (storm surge) modelling studies. It is the UKHO's intent to further expand this network under the OTSMP and any future overseas work under other programmes. A Marine Environmental Monitoring Station (MEMS) framework is now in place and will streamline any future projects. The OTSMP is currently funding the purchase and installation of one MEMS for Anguilla and one for Montserrat which will be installed later in 2022.



Further details are described in the UKHO's Generic National Report.

## 9. SPATIAL DATA INFRASTRUCTURES:

9.1. **Status of MSDI:** The UKHO is actively developing the concept of Marine Spatial Data Infrastructure in line with the United Nations Committee of Experts on Global Geospatial Information Management (UNGIM) Integrated Geospatial Information Framework.

9.2. **Relationship with the National Spatial Data Infrastructure (NSDI):** The UK does not yet have a recognised 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 is currently establishing a UK Geospatial Strategy which is likely to form the foundation of a NSDI soon. The Commission is currently supporting several collaborative projects being undertaken by the UKHO which all have strong links to NSDI principles.

9.3. **Involvement in Regional or Global MSDI Efforts:** The UKHO is an active member of the UNGIM and Open Geospatial Consortium (OGC) groups which contribute towards Global MSDI activities and methodologies. The UKHO has recently upgraded its membership of the OGC from Technical to Strategic and is now Co-Chair of the OGC Marine Domain Working Group. The UKHO is also a member of the IHO MSDI Working Group. The UKHO is also a member of the IHO MSDI Working Group. The UKHO Chairs the SWPHC MSDIWG, the SAIHC MSDIWG, and is represented on the BNSHC MSDIWG and MACHC MSDIWG. The UKHO has also provided briefings on MSDI to other RHCs which do not yet have MSDIWGs. The UKHO represents the UK on the UNGIM Working Group on Marine Geospatial Information and leads UK input into the UNGIM-Americas Caribbean Geospatial Development Initiative (CARIGEO). UKHO has also recently signed up to the G7 Digital Twins of the Ocean initiative. We are actively working at creating the appropriate standards to support national and international MSDIs, a good example is our sponsorship of the OGC S-121 pilot study to develop a standard for the exchange of Maritime limits and boundaries and our current sponsorship of the Federated Marine Spatial Data Infrastructure Pilot which looks at S-100 within an MSDI and MDSI maturity.

9.4. **The IGIF-MSDI Maturity Framework** is being developed (by UKHO) in conjunction with the UN, IHO, OGC and World Bank, with representation from Denmark, Singapore, and the United States. As a compact and accessible document, its intent to provide a more quantitative and prescriptive "Quick Start" or "Stepping Stone" for nations beginning their IGIF-aligned MSDI implementation plans. The current World Bank SDI Diagnostic Toolkit with its Terrestrial heritage is being augmented with IHO and OGC insights to maximize its benefits to the Marine community, whilst being aligned with the UN IGIF principles (and UN SDGs as a result) – effectively putting the "M" into (M)SDI. The involvement of the World Bank is crucial in providing answers to the Funding question (incl. business cases), alongside Why (UN), What (IHO), and How (OGC). The IGIF-MSDI Maturity Framework provides quantitative baselining of an agency or nation's (marine) geospatial development, being aligned to UN IGIF principles, the IHO MSDI model, OGC Best Practice, and the World Bank's SDI investment process. The Maturity Framework is also designed such that MSDI considerations are modular and interoperable with the full "all-domain" (N)SDI approach (air, land, sea, plus space and cyberspace if applicable).

National implementation of the Shared Data Principles – including any national data policy and impact on marine data. The UKHO is a lead sponsor of the Marine Environment Data Information Network (MEDIN) which coordinates the delivery of INSPIRE obligations to Findable, Accessible, Inter-operable and Re-usable (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. The UKHO also continues to produce Electronic Navigational Charts to the IHO S-57 standard which contains a defined structure for metadata and the modelling of maritime related features. Work is ongoing to transition to the future IHO S-100 standards.

9.5. **MSDI National Portal:** The UKHO has a Marine Data Portal which 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 the UK territorial waters. The Portal 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. **Autonomous Navigation:** 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. It has proactively sought out a number of organisations, such as Thales, Atlas Elektronik, TGP Polaris and Marine AI (the team behind the historic Mayflower Project), to discuss the issues with current products and services and have provided data to stimulate discussions about what they see as gaps in the current offering and identify the new products going forward. In this work with industry operators, the UKHO has supplied data to facilitate discussion and allow operators to explore what the future navigation services might look like.

The establishment of the MASS Navigation Project Team (MASS PT) was approved at HSSC 13 following a proposal by the United Kingdom, Norway and Singapore, to address the MASS requirements on navigation data and services, of which UK are Chair. The Project Team has conducted an extensive gap analysis of the S-100 standards and have made a number of 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.

## 11. **OTHER ACTIVITIES:**

### **UK Celebrations for World Hydrography Day (WHD):**

11.1. The UKHO celebrated World Hydrography Day 2022 by coming together at an internal exhibition to showcase the important work carried out by our teams in support of the global hydrographic community. The theme this year was *Hydrography – contributing to the United Nations Ocean Decade* and a link to a short film can be found [here](#).

### **Broader UK Government Work:**

11.2. **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.

11.3. The UK Member State, consisting of the UK, the OTs and Crown Dependencies, was audited in late 2021 (delayed from late 20 due to issues surrounding COVID-19) against the IMO Instrument Implementation Code's (IICC) and Mandatory IMO Member State Audit Scheme (MIMSAS). The work of the UKHO was specifically mentioned as an example of best practice in this field. This has raised awareness of the importance of maritime compliance and the benefits to everyone. To complement the work of the UKHO's OT SMP, the UK Maritime and Coastguard Agency have a UK Government aid funded programme to review maritime obligations compliance, search and rescue and oil pollution response.

11.4. **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. The UK is continuing to push for strong action at key negotiations and conferences in 2022 including BBNJ, CBD, Our Ocean, UN Ocean, UNFCCC COP27 and UNEA. The UK launched a £500m Blue Planet Fund that will support developing countries to protect their marine environment and reduce poverty.

### **Background and Key 22 Information:**

#### **Conferences:**

11.5. **UN Ocean Summit - Lisbon - Jun 22:** Lord Goldsmith led the UK delegation, joined by Minister Pow. FCDO SIDS Envoy Rebecca Fabrizi and RAdm Rhett Hatcher of the UK Hydrographic



Office were among the 30-strong visiting group from the UK. The UK hosted, with Fiji, a side event on sustainable ocean finance. Lord Goldsmith announced £154m for COAST, a new global programme to protect and restore habitats, support small-scale fisheries and unlock aquaculture, and £100m to support Marine Protected Areas (MPAs), both under the Blue Planet Fund. The UK also joined the High-Level Panel for a Sustainable Ocean Economy and, with the US and Canada, launched the IUU Fishing Action Alliance to tackle illegal, unregulated and unreported fishing. RAdm Rhett Hatcher joined an International Hydrographic Organisation led panel session, which aimed to raise awareness about the role of hydrography / seabed mapping, and how it contributes to marine spatial planning for sustainable management of the marine environment and knowledge of the world's oceans.

**11.6. One Ocean Summit - France - Feb 22:** The UK was represented by Lord Goldsmith, with the Prime Minister delivering a video message of support. At the Summit, the UK announced it would be joining the High Ambition Coalition for Biodiversity Beyond National Jurisdiction along with EU Member States and 16 other countries. The UK is committed to agreeing an ambitious BBNJ Agreement as soon as possible in 22.

The UK is supportive of the Our Ocean Conferences, the 7th of which was held in Palau in Apr 22, in collaboration with the US. The UK has continued work on the commitments submitted to the conference in 2019 and has recently submitted further commitments for 2022. The UK will look to harness the momentum garnered in Glasgow, Brest, Palau and of the UN Ocean Summit in Lisbon and work with partners to maintain momentum on ocean action into UNFCCC COP27 in Egypt and the CBD COP15 negotiations in Montreal

**11.7. Convention on Biological Diversity - Canada- 7 - 19 Dec 22:** The UK is committed to playing a leading role in developing an ambitious post-20 global biodiversity framework to be adopted at COP15 of the Convention on Biological Diversity (CBD), including ambitious outcomes for the ocean through targets on marine protection, ecosystem restoration and nature-based solutions, pollution reduction, sustainable fisheries, and the reform and elimination of harmful subsidies. The UK is committed to championing international ocean action to drive ambitious outcomes for ocean from CBD COP15, including through our role as leader of the Global Ocean Alliance.

**11.8. Blue Planet Fund:** The UK has launched a £500 million Blue Planet Fund that will support developing countries to protect the marine environment and reduce poverty. Financed from the UK overseas aid budget, the Blue Planet Fund will help eligible countries reduce poverty, protect and sustainably manage their marine resources and address human-generated threats across four key themes: biodiversity, climate change, marine pollution, and sustainable seafood. The Blue Planet Fund will mainly operate in five priority regions, including West Africa.

**11.19 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 important 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 has 50 Partners, of which 17 are country government agencies. This includes representation from states including France, Norway, Portugal and the Commonwealth Blue Charter.

**11.10. 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 to provide long term protection of:

- 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 (Cefas) and the Marine Management Organisation (MMO) with the UK OTs on behalf of the Foreign, Commonwealth and Development Office and the Department for Environment, Food and Rural Affairs (DEFRA). Further information can be found in the [Blue Belt Annual Report 2021](#) and [Annual Update 2021/22](#).

11.11. **COP26:** The UKHO provided material for the DEFRA's nature theme day and Department for Transport's Clydebank Declaration on green corridors at COP26 in Glasgow, Nov 21. We also represented at the Glasgow University College Campus where we raised awareness of the challenges of marine data paucity and its impact on the environment

11.12. The UK has committed to maintain its funding share of Caribbean Special Development Fund, pledging up to £21m over the next four years. The funding will help Caribbean countries better cope with helping mitigate the wider social and economic impacts post COVID-19, increase funding to tackle climate change, strengthen resilience to disasters, and protect the most vulnerable. This Fund is supporting 14 major infrastructure projects, including climate resilient investments in roads, ports, water supply and agriculture. Countries that will continue to benefit from the fund include Haiti, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines and Suriname.

### The UKHO's International Activities:

11.13. 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 ENC Project Team	x	x
S-102 PT	S-102 Bathymetric Surface Project Team		x
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
International Hydrographic Organization - IRCC		Chair/Vice Chair	Member
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
GEBCO	General Bathymetric Chart of the Oceans		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
RSABC	ROPME Sea Area Hydrographic Commission		x
SAIHC	Southern African and Islands Hydrographic Commission	x	x
SWPHC	South-West Pacific Hydrographic Commission		x

<b>International Hydrographic Organization - HSSC</b>		<b>Chair/Vice Chair</b>	<b>Member</b>
EAtHC	Eastern Atlantic Hydrographic Commission		x
<b>International Maritime Organization</b>		<b>Chair/Vice Chair</b>	<b>Member</b>
NAVTEX	NAVTEXT Coordination panel	x	x
<b>International Association of Marine Aids to Navigation and Lighthouse Authorities</b>		<b>Chair/Vice Chair</b>	<b>Member</b>
ENAV	E-navigation Committee		x
<b>Other International Bodies</b>		<b>Chair/Vice Chair</b>	<b>Member</b>
IAU	International Astronomical Union		x
CIRM	Comité International Radio-Maritime		x
BALTICO	Navarea I 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

## 12. CONCLUSION:

12.1. The UKHO remains committed to the Meso American and Caribbean Sea region; we continue our primary charting activity and efforts in developing regional hydrographic self-sufficiency through capacity building measures. During 2022, this was demonstrated by providing many regional PCA partners with in-country training and survey support, improving local capability and safety of navigation. We intend to expand these efforts further as we continue to explore wider funding opportunities within the region. Furthermore, the UK also continues its efforts as the MACHC's Capacity Building Coordinator. Over the past year, we have been grateful for the support, encouragement, and positive feedback that our partners have provided in response to the launch of our online training academy.

12.2. The UKHO continues to support the hydrographic community through delivery of the Nippon funded IHO GEOMAC Category B course, which included students from MACHC region.

12.3. 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. The UKHO has supported partners through MoUs to continue to grow digital coverage. This underpins the UKHO announcement to move to a digital only environment by the end of 2026; a move reflected by the significant drop in analogue sales and usage, and the continued development of the second generation of digital navigation products and services, through IHO S-100.

12.4. Noting the increasing demand and the IHO direction to enable the maximum and widest use of hydrographic maritime and marine information and data, the UKHO is continuing the journey into looking at how it can meet this demand as part of its efforts to develop its Marine Geospatial Information credentials.

12.5. In conclusion, having laid out its vision for a digital-only future, we recognise that this means different things to different national hydrographic offices. We will now work with our partners to ensure that the transition to digital only chart production is delivered in a way that meets our mutual needs. We will achieve this through clear and active engagement bilaterally, regionally and internationally.

**Taunton, Nov 22**

## UKHO POINTS OF CONTACT:

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Input to the IHO Publication P-5 (Yearbook)  
United Kingdom of Great Britain and Northern Ireland

<b>Country information / Informations sur le pays / Información sobre el país</b>	
-Declared National Tonnage -Tonnage national déclaré -Tonelaje Nacional Declarado	40,631,143 ton
National day -Fête nationale -Fiesta nacional	Second Saturday in June (Trooping the Colour)
-Date first joined IHO -Date d'adhésion à l'OHI -Fecha de adhesión a la OHI	21 Jun 21
-Date ratification Convention -Date de ratification de la Convention -Fecha de ratificación de la Convención	3 May 67
<p>Official Representative to IHO (as designated by Member Government)</p> <p><b>UNITED KINGDOM HYDROGRAPHIC OFFICE</b></p>	
<b>Contact information / Informations de contact / Información de contacto</b>	
-National Hydrographer or equivalent -Directeur du service hydrographique ou équivalent -Director del Servicio Hidrográfico o equivalente	<p>RAAdm Rhett Hatcher - National Hydrographer &amp; Director Data Acquisition and Defence</p> <p>Postal address: Admiralty Way TAUNTON Somerset, TA1 2DN United Kingdom Tel: + 44 (0) 1823 484444 E-mail: IBTE@UKHO.gov.uk</p>
Other point(s) of contact -Autre(s) point(s) de contact -Otros punto(s) de contacto	
-Website -site web -sitio web	<a href="http://www.gov.uk">http://www.gov.uk</a>
<b>Agency information</b>	
Date of establishment	12 Aug 95
Relevant National Legislation	<p>TS Baseline 25 Sep 64 12nm TS Limit 15 May 87 200nm EFZ 22 Dec 76</p>
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	1,781 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: <a href="http://www.gov.uk/UKHO">http://www.gov.uk/UKHO</a>

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 Matthew Warren Commander HM Tel: + 44 (0) 3001 618853 Fax: + 44 (0) 1752 555844 E-mail: <a href="mailto:Matthew.warren967@mod.gov.uk">Matthew.warren967@mod.gov.uk</a>		
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 asociada de nivel superior	Ministry of Defence - Fleet Commander		
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	Displacement -déplacement -Desplazamiento - Fecha de puesta en servicio	Commissioning Date -date de mise en service	Crew -équipage -Personal



HMS SCOTT (H131)	13,500	1997	63
HMS PROTECTOR	5,000	2011	88
<del>HMS ECHO (H87)</del>	<del>3,470</del>	<del>2002</del>	<del>72</del>
HMS ENTERPRISE (H88)	3,470	2002	72
HMS MAGPIE (H130)	37	2018	12
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 &amp; Coastguard Agency and is outsourced to the commercial sector</p> <p>Training in hydrographic surveying and meteorology is provided for naval personnel by the</p> <p>Commander Fleet Operational Training - Hydrography, Meteorology and Oceanography</p> <p>HMS DRAKE HM Naval Base</p> <p>Devonport</p> <p>PLYMOUTH</p> <p>Devon PL2 2BG</p> <p>Details of courses are available at:</p> <p><a href="http://www.mod.uk/DefenceInternet/AboutDefence/Whatwedo/TrainingandExercises/IDT/IDTRN">www.mod.uk/DefenceInternet/AboutDefence/Whatwedo/Training and Exercises/IDT/IDTRN</a></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:				<b>Comments on Charts:</b> Charts have not been fully updated for the latest MBES survey data (H11604). 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:	16/11/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b> 1. Extensive LiDAR survey undertaken 2017 covering 1479km and Full sea floor coverage of Road Bay 2016. 2. High resolution MBES survey carried out September 2018 for selected priority areas to identify changes since Hurricane Irma."
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
<b>Status of Paper Charts</b>				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
<b>Status of surveys</b>	<b>Adequate (%)</b>	<b>Resurvey (%)</b>	<b>No survey (%)</b>	
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	

C-55 Summary for:				Comments on Charts: 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:	16/11/2022			
Provided by:	UK			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	Comments on Surveys: New LIDAR survey covers all of the 20m contour and in some areas 38m.
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	

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:				<b>Comments on Charts:</b> 1. New Edition of Chart 462 currently in hand. 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:	16/11/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b> Multibeam surveys conducted of Cayman Brac (West end) and Grand Cayman (West Bay and Spotts Bay) in 2017.  2021 Lidar coverage of all 3 islands to 30m depth.
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
<b>Status of Paper Charts</b>				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
<b>Status of surveys</b>	<b>Adequate (%)</b>	<b>Resurvey (%)</b>	<b>No survey (%)</b>	
0-200m	8	69	23	
> 200m	0	0	100	

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:				<b>Comments on Charts:</b> 1. New edition of chart 254 published October 2018 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:	16/11/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b> 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
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
<b>Status of Paper Charts</b>				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
<b>Status of surveys</b>	<b>Adequate (%)</b>	<b>Resurvey (%)</b>	<b>No survey (%)</b>	
0-200m	37	4	59	
> 200m	37	0	63	

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 Is

C-55 Summary for:				<b>Comments on Charts:</b> 1. 2019 LIDAR Survey data was delayed. Larger scale charts have been updated. Smaller scale charts 3907 & 3908 to follow. 2. New large-scale products of Approach Channel to Providenciales are with the Fast Track Team for publication.
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:	16/11/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b> 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.
INT	100	100	100	
RNC	100	100	100	
ENC	100	100	100	
<b>Status of Paper Charts</b>				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
<b>Status of surveys</b>	<b>Adequate (%)</b>	<b>Resurvey (%)</b>	<b>No survey (%)</b>	
0-200m	82	1	17	
> 200m	9	0	91	

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	