



United Kingdom
Hydrographic Office



Report of UK Activities

for the

USCHC46

in

Mobile, Alabama

from

16-17 Mar 23

This Report is not a formal UK National Report; although similar in content, it simply describes UK's activities of direct relevance to the USCHC region

1. **THE UK HYDROGRAPHIC OFFICE (UKHO):**

1.1. **UK Delivery of Hydrographic Services:** The UKHO are the UK Government's hydrographic and marine geospatial data experts. We support the UK government's National Security Strategy (NSS) and discharge the government's obligation to provide hydrographic and cartographic products and services needed for safe passage in UK waters, and within the maritime interests of the UK Overseas Territories (UKOTs). We do this on behalf of the UK Maritime and Coastguard Agency (MCA) under the International Maritime Organization (IMO) Safety of Life at Sea (SOLAS) Convention. As a Ministry of Defence Trading Fund, we fulfil this task at no additional expense to the UK taxpayer.

1.2. Together with other national hydrographic offices and the International Hydrographic Organization (IHO), we work to set and raise global standards of hydrography, cartography and navigation. Through additional specialist departments such as the Law of the Sea and Her Majesty's Nautical Almanac Office, we support other specialised areas of Government.

1.3. **Cooperation and Partnerships:** The UKHO is committed to Bilateral Arrangements, developed in co-operation with other international government hydrographic authorities and other agencies. The Arrangements with Canada and the US promote co-operation between the participants, helping to enhance international maritime safety and protection of the environment.

2. **SURVEYS:**

2.1. 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 ([UKHO generic national report for Regional Hydrographic Commissions - GOV.UK \(www.gov.uk\)](http://www.gov.uk)). 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 taken into account when prioritising the work of the Civil Hydrography Programme (CHP). CHAS was expanded in 2007 to include a much wider range of organisations, which conduct hydrographic surveys, and has been successful in promoting co-operation between these organisations.

2.2. The UKHO contributes to project management for hydrographic surveys undertaken on behalf of the UKHO and UK Government interests across the globe, and has a post dedicated to the phased development of new international survey activity and capability. This post acts as the initial point of contact for UKHO involvement in direct overseas surveying schemes, including UKOTs and IHO Regional Hydrographic Commission initiatives.

3. **CHARTS:**

3.1. **Paper Charts:** Information on the UKHO's global chart portfolio is provided on the ADMIRALTY website (www.admiralty.co.uk). We continue to publish and update our catalogue in line with prevailing safety requirements and evolving business considerations.

3.2. **Raster Charts:** The UKHO continue to maintain global raster chart coverage.

3.3. **ENCs:** Within the USCHC Region, UK currently has published 22 ENC cells.

USCHC GB Overview Usage Band

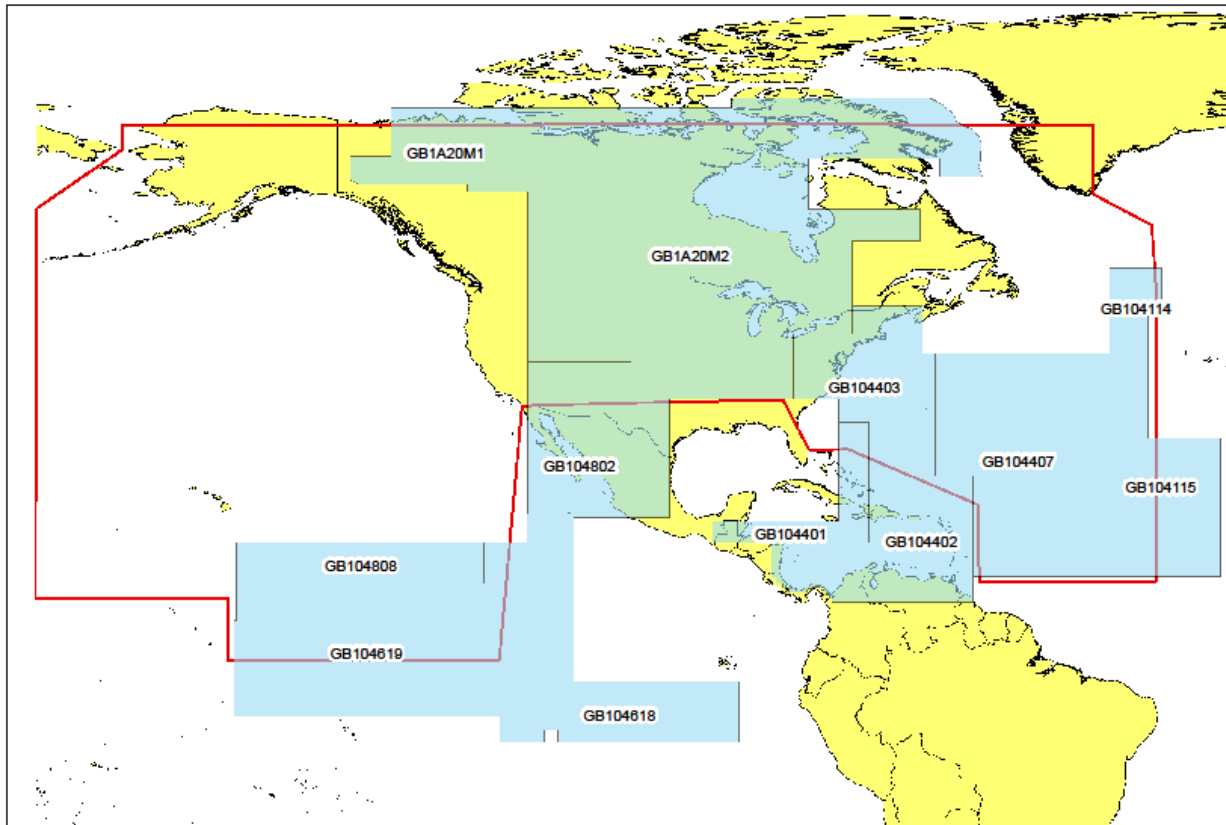


Figure 1 - The coverage in usage band 1

3.4. **ENC Distribution:** The UKHO, along with other national hydrographic offices, was a founder member of the International Centre for ENCs (IC-ENC) Regional ENC Co-Ordination Centre (RENC). IC-ENC concentrates its efforts on the validation and consistency of ENC data and leaves the marketing of ENCs to its value-added resellers (VARs) and chart agents. Additional details can be found on the IC-ENC website (www.ic-enc.org).

3.5. The UKHO also acts as a VAR in its own right, particularly promoting a global range of ENCs under the AVCS brand alongside its successful ADMIRALTY range of paper charts and publications. Additional details can be found on the UKHO's ADMIRALTY website (www.admiralty.co.uk)

4. PUBLICATIONS:

4.1. **Paper Publications:** The ADMIRALTY Sailing Directions in the USCHC region are as follows:

No	Title	Last Publishing Date	FY23 Publishing Date
NP4	South East Alaska Pilot	Apr 15	N/A
NP8	Pacific Coast of Central America and United States Pilot	Oct 19	N/A
NP12	Arctic Pilot, Vol 3	May 18	N/A
NP23	Bering Sea and Strait Pilot	Jul 19	N/A
NP25	British Columbia Pilot, Vol 1	Sep 19	N/A
NP26	British Columbia Pilot, Vol 2	Mar 17	N/A
NP50	Newfoundland and Labrador Pilot	Aug 16	N/A

No	Title	Last Publishing Date	FY23 Publishing Date
NP59	Nova Scotia and Bay of Fundy Pilot	Jan 20	N/A
NP65	St. Lawrence Pilot	Feb 20	N/A
NP68	East Coast of the United States Pilot, Vol 1	Nov 21	N/A
NP69	East Coast of the United States Pilot, Vol 2	May 21	N/A
NP69A	East Coasts of Central America and Gulf of Mexico Pilot	Dec 20	N/A
NP70	West Indies Pilot Vol 1	Apr 21	N/A

These publications are all maintained on a continuous revision cycle and new editions are published as required.

4.2. **Digital Publications:** The UKHO continues to develop digital equivalents to its existing paper publications, to support the IMO mandating ECDIS; these publications have advantages to the mariner of providing additional functionality and minimising the task of updating.

4.3. **Catalogue:** The ADMIRALTY digital catalogue may be downloaded free from the UKHO's 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 the ENC 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 USCHC Region is for its UKOT of Bermuda.

5.2. **Notices to Mariners:** ADMIRALTY Notices to Mariners are available on the UKHO website, which is now updated on a daily basis. The UKHO no longer publishes hard-copy weekly Bulletins.

6. **CAPACITY BUILDING:**

6.1. **IHO Capacity Building Sub-Committee:** The UK fully supports the IHO Capacity Building Sub-Committee strategy (CBSC) and particularly its emphasis on facilitating Phase 1 and appropriate Phase 2 capacity 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.

6.2. **Capacity Building Coordinator:** The UKHO has a post dedicated to 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's involvement in capacity building activities, including UK involvement in regional hydrographic commission initiatives and IHO Capacity Building Sub Committee activities. Further information can be obtained from Lucy Fieldhouse (see the Annex for details).

6.3. **Cartographic Training provided by the UKHO:** A general description of training provided by UKHO is included in the UK Generic National Report. Further details of the training opportunities offered by the UKHO can be found on the UKHO website (and also see Para 7.6).

6.4. **NIPPON Foundation-sponsored GEOMAC Cat B Courses:** The UKHO delivered

the 12th NIPPON-sponsored IHO-accredited Cartography Cat B course (now broadened to include ENC training, and referred to as a GEOMAC Cat B course) between Jan and May 22. Candidates from 9 countries attended. The UKHO also hosted two courses with 15 candidates, between Aug and Dec 22. The next NIPPON Course is yet to be confirmed by the NIPPON Foundation/IHO but the UKHO has plans in place to support a 2023 cycle if so directed.

6.5. **ENC Training and Assistance:** The UKHO strongly supports the successful uptake of type approved ECDIS using Official ENCs, and is pro-active in offering assistance to other nations to produce, maintain and distribute ENCs. Details of courses, sponsorship, venues and options for bespoke training provided by the UKHO can be provided on request.

7. **OTHER ACTIVITIES:**

7.1. **Move to Digital Only:** On 26 Jul 22, the UKHO announced it would be withdrawing from the production of paper charts (SNCs) by late 2026 as part of its journey to digital-only production. The UKHO also made a commitment to consult widely with all its stakeholders on this proposal and to listen to feedback, stating that 'we would leave no one behind'. Since Jul, we have been engaging with many different organisations; this has included distributors, users, international regulatory authorities, and esteemed colleagues in the global hydrographic community. Following that engagement, we have been analysing the feedback and, on 2 Feb 23, provided a global update; In short, it has become clear that more time is required to address the needs of users that do not yet have viable alternatives to paper chart products, so the UKHO will continue to provide a global paper chart service until at least 2030. As you would expect, we will continue to manage our paper chart portfolio to ensure its efficiency and suitability for the mariner, with adoptions, derived charting and chart schemes being looked as a matter of 'business-as-usual'. Our plans to withdraw the remaining (34) global set of Port Approach Guides, announced in Jan 23, will continue as planned. In simple terms, this means: we will continue to have a portfolio that includes derived and adopted charts until at least 2030; and we will consider new charting where it is available, but will have to ensure that it makes sense from a viability perspective. Generally, feedback to the most recent announcement has been positive and the change in timeline welcomed. We are now working on a strategic approach looking at how to maintain the viability of the service over a longer than anticipated timeline. We've submitted a paper to IHO assembly (May 2023) to begin the process for regulatory change. This process will determine the final timeline. We have initiated work with the User Research team to conduct further user research on paper chart use, which will be more important as we look at options to maintain viability.

7.2. **Future of Navigation:** The UKHO continues to explore technology and wider opportunities through which safe navigation can be optimised and delivered. Our Future of Navigation initiative embraces the potential of the S-1XX suite of datasets, together with the exchange of real-time data across different user platforms, to develop new services in voyage optimisation and port integration.

7.3. **In-House Printing of SNCs:** Technology now allows UKHO to enable all its approved international chart agents and Distributors to print Admiralty SNCs on demand. The requirement for an in-house printing facility has dramatically reduced in recent years so that UKHO terminated this capability in Sep 22, with the residue of direct-supply customers being offered alternative delivery options.

7.4. Data Improvement including Rescheming (Gridding): The UKHO has chosen the parameters of a gridded ENC scheme for S-57 and S-101 which is applicable across the globe and at all scale bands. We have engaged with many NHOs and RHCs to explain the chosen scheme and is keen to share the parameters, test data, our experience and offer any guidance to NHOs who would wish to consider rescheming and aligning their ENC scheme with the GB ENC scheme. 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. We have already published the first area of reschemed, improved and enriched coverage in the UK, which has been developed in collaboration with the local port authorities. Recently, the Meso American and Caribbean Sea Hydrographic Commission (MACHC) voted to adopt the UK gridded scheme parameters to support a gridded scheme for the ENCs within the MACHC footprint at scale band 1.

7.5. UKOT and Other Countries/Territories where UKHO acts as Primary Charting Authority (PCA): The UKHO, on behalf of UK Government, recognises the importance of reducing contingent liability in the maritime environment. With renewed vigour, this is being addressed through supporting ongoing programmes of commissioned hydrographic surveys and marine data gathering, training and capacity building initiatives with specific countries/territories, and technical innovation. Within the USCHC region, UK is the PCA for Bermuda. The UKHO is progressing a programme of work to update the status of hydrography within the UKOTs, and 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 UKOTs.

7.6. UK Centre for Seabed Mapping (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.

7.7. The NIPPON Foundation - GEBCO Seabed 2030 Project: Following the signing of a data sharing MoU between the UKHO and the SB2030 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 have been shared with the Southern Ocean Regional Centre covering a total area of 46,482 km², around South Georgia and Antarctica, contributing over 3.7 million new data points to the GEBCO grid. UKHO has also contributed data to GEBCO for 13 countries in the Caribbean region, 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. Where the UKHO is PCA and has the appropriate permissions, it will share (100 m) gridded bathymetry data with SB2030 to help improve the GEBCO grid product; it will not be sharing full resolution raw survey data. The UKHO is also supportive of other global bathymetry initiatives, such as EMODNET, where it intends to

contribute data using the same rules as SB2030. The UKHO entered a technical cooperation agreement with Teledyne Caris and SB2030 which allows 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 recently released at Ocean Business 2021 and is now also available commercially. The UKHO will also continue to actively engage with associated working groups at the IHO and Regional Hydrographic Commissions.

7.8. **Crowd Sourced Bathymetry:** The UKHO has recently finished facilitating a series of discussions with the various government department stakeholders in order to achieve an agreed UK position on the matter of Crowd Sourced Bathymetric Data provision into the public domain. The UKHO is now awaiting approval of the developed UK position at ministerial level, which once gained will allow the UKHO to respond formally to the IHO Circular Letter 21/2020. 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. 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.

8. **SPATIAL DATA INFRASTRUCTURES:**

8.1. **Status of MSDI:** The UKHO is actively developing the concept of MSDI in line with the United Nations Committee of Experts on Global Geospatial Information Management (UNGGIM) Integrated Geospatial Information Framework.

8.2. **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.

8.3. **Involvement in Regional or Global MSDI Efforts:** The UKHO is an active member of the UN-GGIM Working Group on Marine Geospatial Information and Open Geospatial Consortium (OGC) Marine Domain Working Group, contributing towards Federated MSDI development and methodologies. The UKHO 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 MSDIWG and Chairs the SWPHC and SAIHC MSDIWGs, and is represented on the BNSHC and MACHC MSDIWGs. The UKHO has also provided briefings on MSDI to other RHCs which do not yet have MSDIWGs. Finally The UKHO is currently developing an IGIF-MSDI Maturity Roadmap to help developing nations avoid duplication and complexity, serving as a stepping-stone until interested nations decide to fully engage with the full spectrum of IGIF and MSDI resources.

8.5. **National implementation of the Shared Data Principles:** The UKHO is a lead sponsor of the Marine Environment Data Information Network which coordinates the delivery of INSPIRE obligations to Findable, Accessible, Inter-operable and Re-usable standards.

8.6. **MSDI National Portal:** This is the UKHO gateway to its non-navigation data and services. The Portal allows users easy access to several free of charge datasets and services mainly covering UK territorial waters. The Portal also provides access to premium data sets for purchase. The technology has the capability to host other agencies', or even other nation's datasets.

9. **CONCLUSION:**

9.1. The UKHO continues its commitment to carrying forward hydrographic activities through the work of the IHO's Regional Hydrographic Commissions, and notes that each one has its own particular opportunities and challenges. The UK has a strong commitment to the Caribbean, North America and Arctic areas, through its PCA responsibilities and through its continuing interest in developing regional hydrographic self-sufficiency through capacity building measures. It became an Associate Member of the Arctic Hydrographic Commission in Dec 22.

9.2. The UK, through the UKHO and the UK's MCA, continues to pursue opportunities to improve hydrography and international maritime compliance in waters around the UKOTs. The provision of adequate ENC coverage, in support of the IMO carriage requirement for ECDIS that have progressively come into force from 2012, presents a significant challenge globally; the USCHC already has comprehensive ENC coverage. With a diverse range of shipping interests in the Region, from the Caribbean to the Arctic, improving the effective distribution of hydrographic publications and updates remains paramount.

9.3. The UKHO very much appreciates the close and meaningful collaboration that it has with both the Canadian and US hydrographic authorities.

Taunton, 24 Feb 23

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