



UK Hydrographic  
Office

ARHC13-B10. UK National Report



# UK NATIONAL REPORT

for the

**ARHC13**

in

**Nuuk, Greenland**

from

**5-7 Sep 23**

## 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 His 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. It has such Arrangements with ARCH Member and Observer Nations.

## 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 the 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](http://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 ARHC Region, the UK currently has published 5 ENC cells.

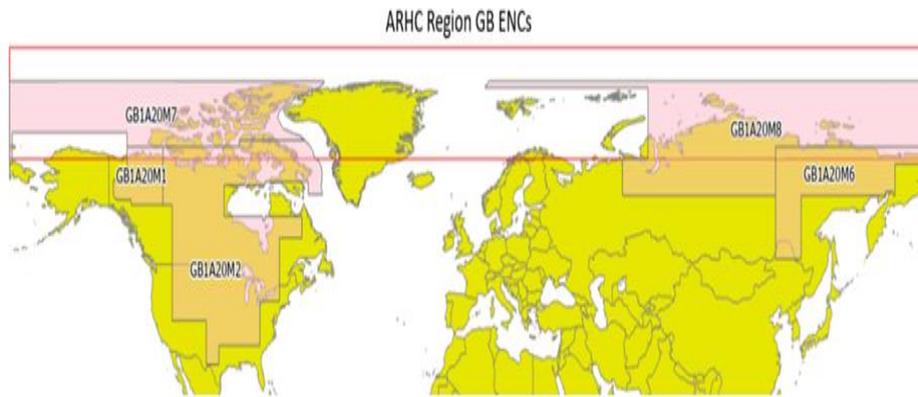


Figure 1 - The coverage in usage Band 1

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). The 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](http://www.ic-enc.org)). We are also pleased to note that there has been an increase in Greenland’s ENC Coverage with the release of 10,000 IC-ENC ENCs earlier this year in the region of Denmark.

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](http://www.admiralty.co.uk))

#### 4. **PUBLICATIONS:**

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

No	Title	Last Publishing Date	FY23 Publishing Date
NP4	Southeast Alaska Pilot	Apr 15	N/A
NP10	Arctic Pilot, Vol 1,	2016	N/A
NP11	Arctic Pilot, Vol 2	2018	N/A
NP12	Arctic Pilot, Vol 3	May 18	N/A
NP23	Bering Sea and Strait Pilot	Jul 19	N/A
NP57B	Norway Pilot, Vol 2B	2022	N/A
NP58A	Norway Pilot, Vol 3A	2022	N/A
NP58B	Norway Pilot, Vol 3B	2022	N/A
NP72	Southern Barents Sea and Beloye More Pilot	2019	N/A

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

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](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. **Responsibilities:** The UKHO is the NAVAREA I Coordinator for the IMO and IHO Worldwide Navigational Warning Service (WWNWS). This area extends to 75° N (as shown in Figure 1 below). As such, although the UK is not an Arctic State, it has responsibility for Maritime Safety Information (MSI) within Arctic waters and, therefore, contributes to regional coordination of information, and regional collaboration, on matters of interest to the IHO; this is in line with Art 4 of the Statutes of the ARHC (Objectives of the Commission). Furthermore, within the domain of MSI, the UK is both Chair and Secretary for the IMO NAVTEX Coordinating Panel and attends the IHO WWNWS Sub-Committee.

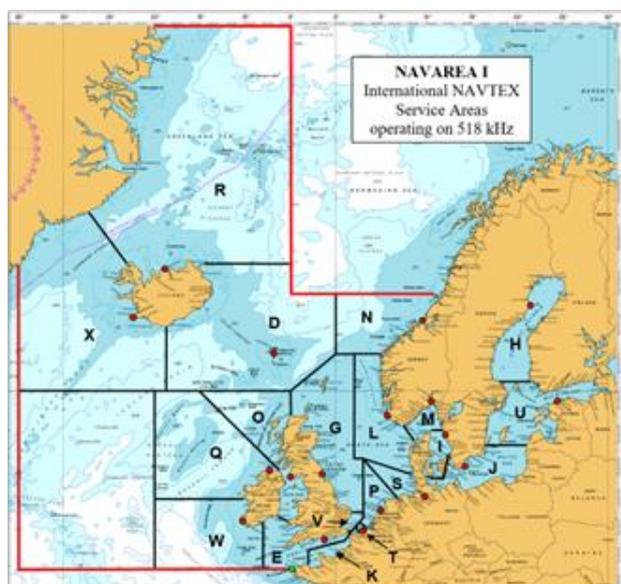


Fig. 2 - Limits of NAVAREA I

5.2. **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.

## 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 (see Annex A) 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.

6.3. **Cartographic Training provided by the UKHO:** A general description of training provided by the 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.

6.4. **NIPPON Foundation-sponsored GEOMAC Cat B Courses:** The UKHO International Training Team are pleased to announce that the 15th Nippon Funded GeoMAC CAT-B Course commenced on 17 Jul 23 for 11 delegates. This is the first cohort to study in the new, bespoke training environment at the UKHO HQ. Please click [here](#) for a detailed list of all UKHO International Training Courses.

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. A new Project team was established by the HSSC in Jun 23 under the ENCWG to consider and address gaps in IHO standards for the Sub-ECDIS sector, which UK will chair. 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 the 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 the 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. 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:**

a. Following the signing of a data sharing Memorandum of Understanding between the UKHO and the SB2030 Project, and a successful data sharing trial with the Southern Ocean Regional Centre, the UKHO is 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 which have been shared include 46,482 km<sup>2</sup> around South Georgia and Antarctica, 16,364 km<sup>2</sup> in the Caribbean region and a further 5104 km<sup>2</sup> in the Atlantic which covers the islands of Tristan da Cunha, Saint Helena and Ascension. We have little to contribute to Arctic waters as it stands.

b. Where the UKHO is Primary Charting Authority 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 will not be sharing full resolution raw survey data. 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.

c. 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 recently released at Ocean Business 2021 and is now also available commercially.

d. 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. The UK will continue to actively engage with and support the IHO Crowd Sourced Bathymetry Working Group. Finally, the UKHO supplies data into DCDB via third parties for the UK home waters. Elsewhere in the world, where the 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.

## 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 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 combine elements from the IGIF and MSDI ecosystem(s) of resources, as a simplified “Quick Start” guide or “Menu of Options” for developing 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 full spectrum of IGIF and MSDI resources (currently around 800 pages across both communities, hosted by UN-GGIM and IHO, excluding commercial, academic, and national publications). The first version of this IGIF-MSDI Maturity Roadmap is being sponsored by the UKHO within the OGC FMSDI project initiative, with contributions from the World Bank Group, UN Statistics Division (UN-GGIM) and the Chair of the WG-MGI (United States NOAA).

8.4. **National implementation of the Shared Data Principles:** 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 of future IHO S-100 standards.

8.5. **MSDI National Portal:** The UKHO has a Marine Data Portal 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.

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. Given it became an Associate Member of the ARHC in Dec 22, it looks forward to actively supporting Member States in the execution of their important role and responsibilities.

**Taunton, Aug 23**

**UKHO POINTS OF CONTACT:**

**UKHO Website:** [www.gov.uk/ukho](http://www.gov.uk/ukho)

The UKHOs correspondence address is:

Admiralty Way  
TAUNTON  
Somerset  
TA1 2DN  
United Kingdom

E-Mail: [customerservices@ukho.gov.uk](mailto:customerservices@ukho.gov.uk)  
Telephone: +44 (0)1823 484444

For further information on this Report, the UKHO representation in international forums and the UKHO activities in general, please contact:

E-Mail: [International.Relations@ukho.gov.uk](mailto:International.Relations@ukho.gov.uk)

**For Bilateral Arrangements and Capacity Building within the ARHC region, please contact:**

**RAdm (Ret) Simon Hardern**

Head of Partnering & Engagement - Americas  
E-Mail: [Simon.Hardern@ukho.gov.uk](mailto:Simon.Hardern@ukho.gov.uk)  
Telephone: +1 202 445 3956 (US Cell)

**Mr Bruce Harding**

Global Partnering & Engagement Thematic Manager  
E-Mail: [Bruce.Harding@ukho.gov.uk](mailto:Bruce.Harding@ukho.gov.uk)  
Telephone: +44 (0)1823483426

**Ms Lucy Fieldhouse**

International Capacity Building Manager  
E-Mail: [Lucy.Fieldhouse@ukho.gov.uk](mailto:Lucy.Fieldhouse@ukho.gov.uk)  
Telephone: +44 (0)1823 483921  
+ 44 (0)7768 152235

Hydrographic Programmes  
E-Mail: [HydrographicProgrammes@ukho.gov.uk](mailto:HydrographicProgrammes@ukho.gov.uk)

**For Charting and Technical Matters in the ARHC region, please contact:**

**Mr Rob Wheeler**

Geographic Technical Lead - North America and Caribbean

E-Mail: [Robert.Wheeler@ukho.gov.uk](mailto:Robert.Wheeler@ukho.gov.uk)  
Telephone: +44 (0)1823 484293