



UK Hydrographic  
Office

SAIHC 18- 6.9 UK National Report

# UNITED KINGDOM NATIONAL REPORT

to the

SOUTHERN AFRICAN AND ISLANDS  
HYDROGRAPHIC COMMISSION (SAIHC)  
18<sup>TH</sup> MEETING

10 - 12 MAY 2022  
Maputo, Mozambique - Hybrid Meeting

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

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## 1. UK HYDROGRAPHIC OFFICE (UKHO)

### UK Delivery of Hydrographic Services

1.1 The UK delivery of hydrographic services is described in the UK Generic National Report; it is worth highlighting, however, the close liaison which exists between UK's Hydrographic Office (UKHO) and UK's maritime administration Maritime & Coastguard Agency 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.

### UKHO Organisation

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

### Production Systems

1.4 This is described in the UK 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), it highlights the importance and utility, both locally and within UK government, of Hydrography and the wider blue economy within the context of the UK OTs. Despite current restrictions as a result of COVID-19, the UKHO is continuing to plan and deliver Programme activity in several UK OTs through to 2023, as well as working with OTs to ensure their compliance with the Hydrographic elements of SOLAS.

2.2 The UK fulfils the Primary Charting Authority responsibilities of the following UK OTs within the SAIHC region: Ascension Island, St Helena and Tristan da Cunha.

2.3 The OTSMP has UK government funding to assess and redress the deficit of bathymetric data and lack of sound hydrographic governance in the UK's OTs; the programme is now in its seventh year.

### Commonwealth Marine Economies Programme

2.4 The UKHO has continued to support the Commonwealth Marine Economies (CME) Programme. The CME Programme is providing 17 Commonwealth Small Island Developing States (SIDS) with accurate hydrographic and scientific data relating to their marine environment, as well as capacity building for national bodies.

2.5 The UK Government's CME Programme aims to support the sustainable economic growth of SIDS 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.

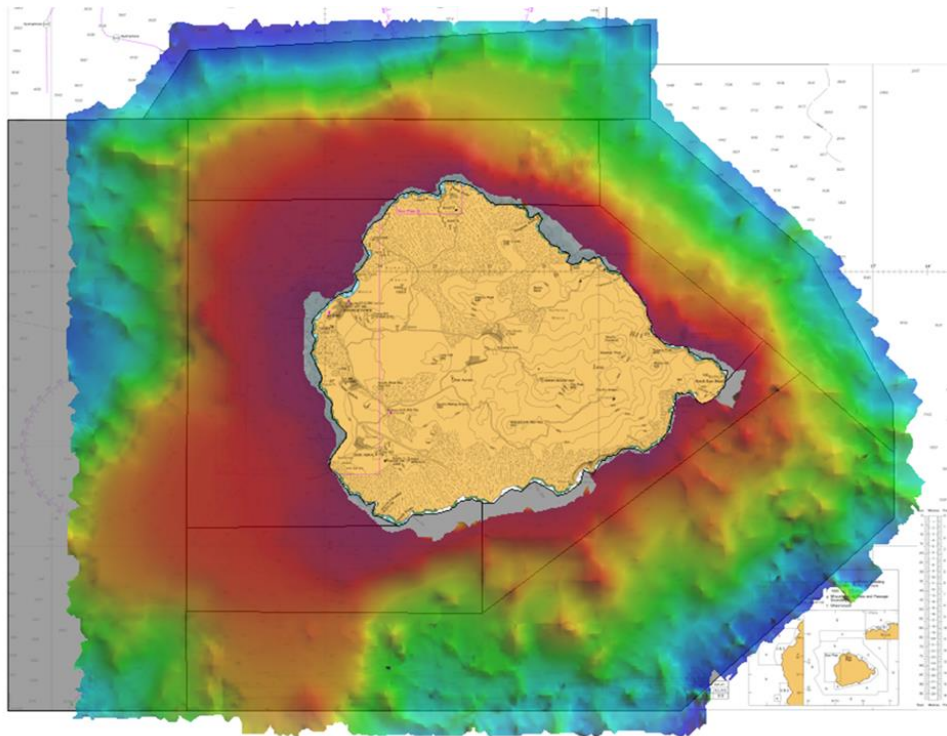
### Surveys and Capacity Building

2.6 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. 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).

**2.7** In total, UKHO survey operations under the OTSMP and CME programme have covered a combined area of nearly 21,000KM<sup>2</sup> since their inception. Since the last SAIHC meeting the UK has collected seabed mapping in Ascension and St Helena. The extent of these surveys can be seen in Figure 1 and Figure 2 respectively. The Ascension survey greatly improves the coverage of modern data with 422km<sup>2</sup> collected; the St Helena survey infills around data previously collected and equates to 190km<sup>2</sup>.

**2.8** Future survey plans for the UKOTs are as follows:

- Vessel based survey of inshore waters around Ascension
- Satellite Derived Bathymetry of Ascension, St Helena and Tristan da Cunha
- Offshore survey of seamounts around Ascension and St Helena via a scientific cruise under the UK's Blue Belt Programme



**Figure 1: Seabed mapping survey around Ascension Island**

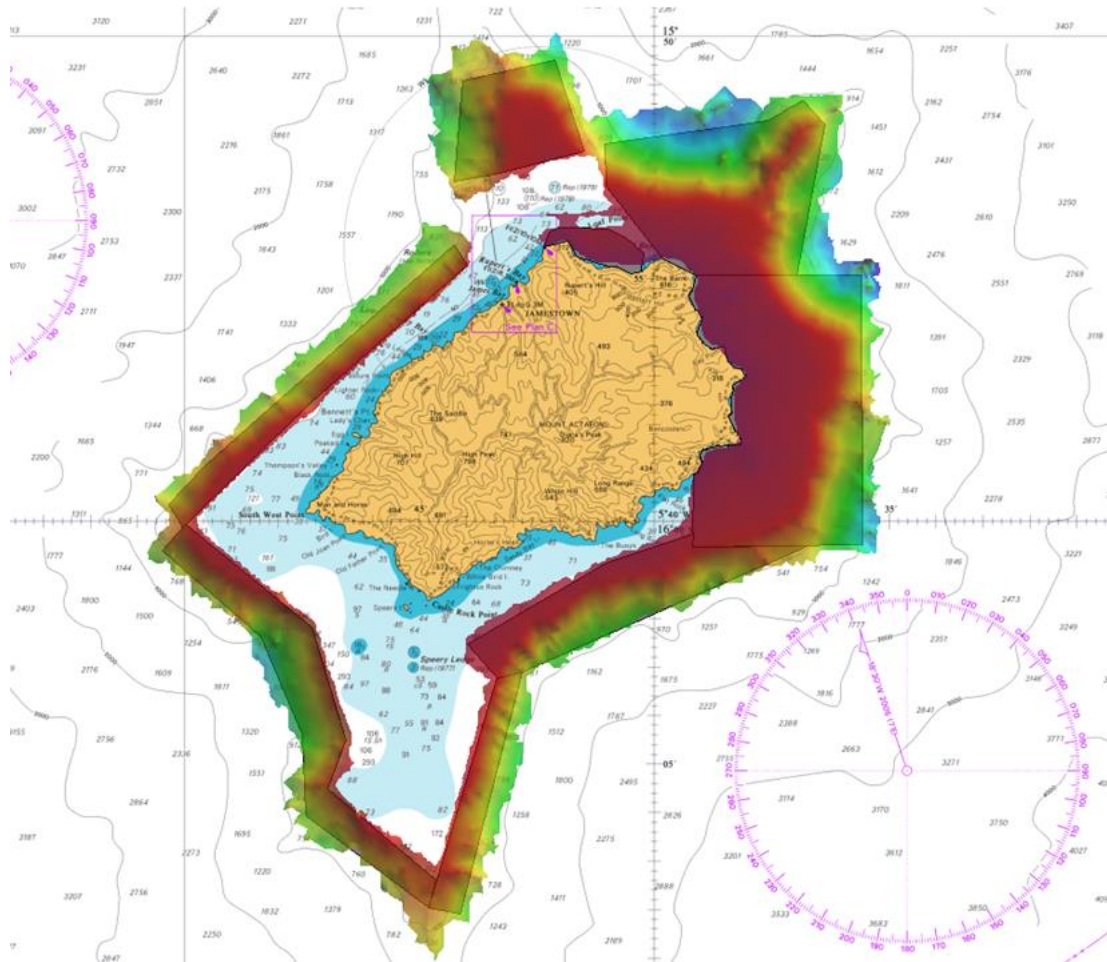


Figure 2: Seabed mapping survey around St Helena

**2.9** The UK continues to explore how we can strengthen the relationship with countries for which we are the Primary Charting Authority (PCA). We have increased our level of engagement to better understand prioritised requirements in the SAIHC region and are currently updating our strategy to reflect this.

**2.10** Any requests for survey assistance from nations within the SAIHC 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** UK's Generic National Report provides information on UK's portfolio of chart products and services. The following paragraphs provide information specifically relevant to the SAIHC region.

#### Paper Charts

**3.2** Information on UK's chart portfolio is provided on the ADMIRALTY website. There have been 11 new editions of SNCs published since Feb 2021. There have been 2 independent withdrawals. The following charts have been published since the last SAIHC meeting as New Charts or full New Editions:



GB Chart Number	INT Chart Number	Title	Published
4180	7052	Richards Bay to Inhambane	29/04/2021



GB Chart Number	INT Chart Number	Title	Published
2930	7580	Jesser Point to Boa Paz	29/04/2021
4714	714	Cocos (Keeling) Islands to Ile Saint-Paul	10/06/2021
4204	204	Walvis Bay to Maputo	15/07/2021
3880	7053	Mozambique Channel, Southern Part	05/08/2021
3878	7054	Mozambique Channel, Central Part	05/08/2021
3877	7055	Mozambique Channel, Northern Part	05/08/2021
3906	7064	South Eastern Approaches to Madagascar	16/12/2021
1495	7736	Pointe des Chateaux to Pointe de la Riviere du Mat	23/12/2021
4701	701	Maputo to Muqdisho	27/01/2022
666	7702	Port Mombasa including Port Kilindini and Port Reitz	24/02/2022

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

GB Chart Number	INT Chart Number	Title
4142	2672	Saldanha Bay Harbour
1236	2673	Entrance to Saldanha Bay

## Digital Charts

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



## ENCs

**3.4** Within the SAIHC region, the UKHO has released a total of 101 ENC cells. The breakdown by usage band is shown in the table below:

SAIHC Region Released Cells	
ENC Usage Band	Number of GB ENC's
Overview	18

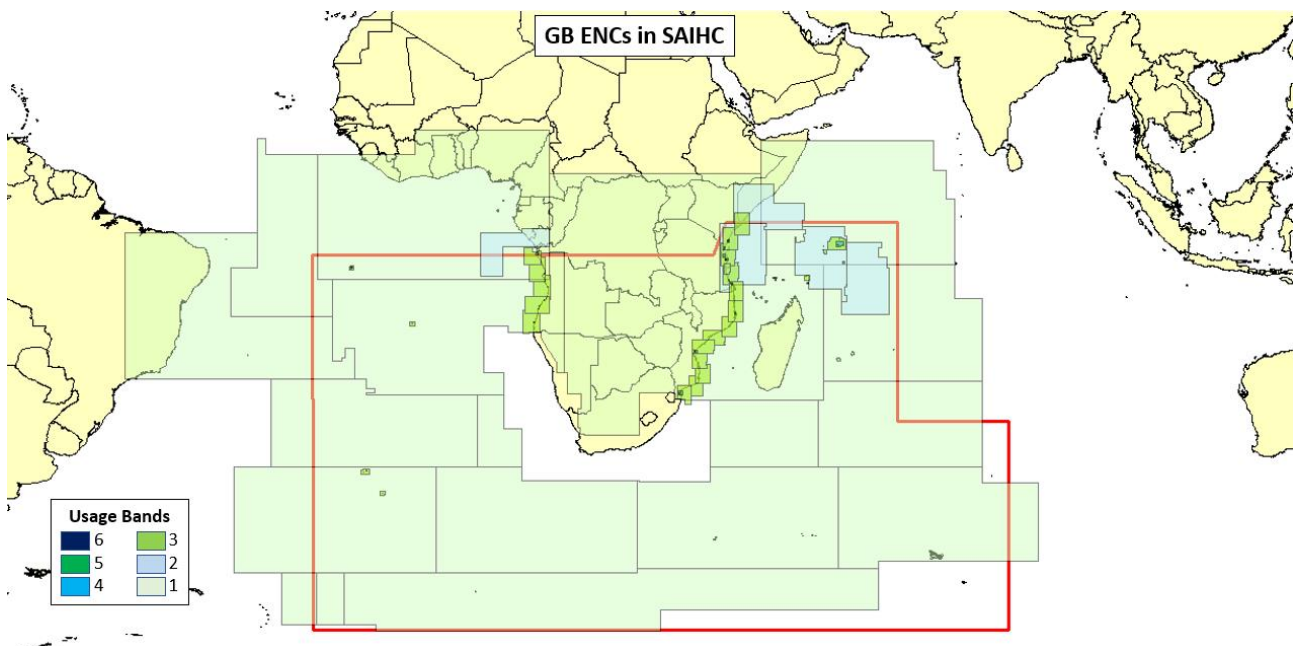
General	5
Coastal	29
Approach	32
Harbour	14
Berthing	3
Total number of released ENC's	101

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

The tables below show revisions to GB ENC coverage for the SAIHC region during 2021/22. The subsequent diagram illustrates the current coverage of GB ENC's within the SAIHC Region.

New Cells Feb 2021 – May 2022	Week No.
No new cells.	

Cancelled Cells Feb 2021 – May 2022	Week No.	Replacements	
		Cell Name	Cell Title
GB40718C	WK01/22	IN62554A and IN52555I	
GB542231A	WK04/22	IN62524P	
GB50663A	WK04/22	IN62693T	



**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 out 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.

### Gridding

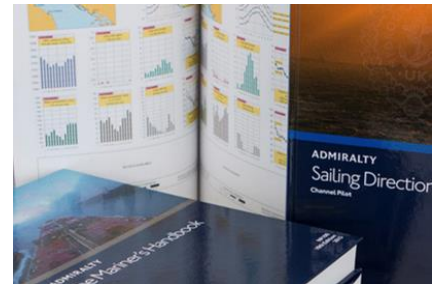
**3.7** The UKHO has chosen the parameters of a gridded scheme for S-57 and S-101 which can be applied to all GB ENCs across the globe at all scale bands. The grid was chosen following testing and trialling, comparing the grid size options which best align with the existing GB coverage. The work to apply the grid will also include Data Improvement themes including harmonising and consistency of scale and features. This is part of the UKHO's response to the findings in a recent joint UK Marine Accident Investigation Branch and Danish Marine Accident Investigation Department report.

## 4. PUBLICATIONS

### Paper Publications

**4.1** The Admiralty Publications in the SAIHC region are as follows:

- NP77 ADMIRALTY List of Lights and Fog Signals Vol. D Eastern Atlantic Ocean, Western Indian Ocean, Arabian & Red Seas
- NP203 ADMIRALTY Tide Tables (ATT) Volume 3, Indian Ocean
- NP281(1) ADMIRALTY List of Radio Signals Maritime Radio Stations Europe, Africa and Asia
- NP282 ADMIRALTY List of Radio Signals Volume 2 Radio Aids to Navigation, Satellite Navigation Systems, Differential GPS (DGPS) Legal Time, Radio Time Signals and Electronic Position Fixing Systems
- NP283(1) ADMIRALTY List of Radio Signals Volume 3 Part 1 Maritime Safety Information Services. Europe, Africa and Asia (excluding the Far East)
- NP284 ADMIRALTY List of Radio Signals: Volume 4, Meteorological Observation Stations
- NP285 ADMIRALTY List of Radio Signals: Volume 5, Global Maritime Distress and Safety System
- NP286(8) ADMIRALTY List of Radio Signals: Volume 6 - Part 8, Pilot Services, Vessel Traffic Services and Port Operations
- NP1 ADMIRALTY Sailing Directions Africa Pilot Vol 1
- NP2 ADMIRALTY Sailing Directions Africa Pilot Vol 2
- NP3 ADMIRALTY Sailing Directions Africa Pilot Vol 3
- NP39 ADMIRALTY Sailing Directions South Indian Ocean Pilot



### New editions published since last SAIHC Feb 2021:

- NP 77 Published 10/06/21
- NP 203 -21 Published 15/07/21
- NP 281 (1) Published 21/10/21
- NP 282 (1) & (2) Published 24/03/22



NP 283 (1) Published 02/12/21

NP 284 Published 27/01/22

NP 285 Published 15/07/21

NP 286 (8) Published 31/03/22

NP 2 Published 03/03/22

### **New editions to be published 2022**

NP 77 Expected publication date 09/06/22

NP 203-22 Expected publication date 14/07/22

NP 281 (1) Expected publication date 20/10/22

NP 283 (1) Expected publication date 01/12/22

NP 285 Expected publication date 11/08/22

These publications are all maintained on a continuous revision cycle and new editions are either published annually or Sailing Directions 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 offers digital equivalents to its existing paper publications to support the IMO mandate of ECDIS. These publications provide mariners with additional functionality and automate the task of updating.

**4.3** The UKHO produces a range of ADMIRALTY Digital Publications which are digital versions of ADMIRALTY paper Nautical Publications. These publications are subscription-based and updatable by 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 Responsibilities.** The UK's principal responsibility within the SAIHC region is for its UK Overseas Territories - namely St Helena, Ascension and Tristan da Cunha, along with those Commonwealth of Nations countries where the United Kingdom is the producer of primary charting, including Kenya, Seychelles and Tanzania.

**5.2** UK maintains close liaison with the co-ordinators for NAVAREA VII (South Africa - which covers most of the SAIHC area) and NAVAREA VIII (India - which covers a small part of the area to the NE and East). Meteorological Information and Navigational Warnings are promulgated on

SafetyNET through Inmarsat; coastal warnings are broadcast on NAVTEX from stations at Walvis Bay, Cape Town, Port Elizabeth, Durban, Cape Columbine, Mauritius and Mahe. Walvis Bay NAVTEX, which has been out-of-service since February 2011, remains temporarily suspended. Coastal warnings are also available on SafetyNET for the areas around Mayotte, Reunion, and the Kerguelen Islands.

**5.3 GMDSS.** There is a limited MSI broadcast within the SAIHC region with only Seychelles, Mauritius, South Africa and Namibia having established GMDSS or WWWNS facilities. Whilst the International SafetyNET service has been in existence for many years, expansion of NAVTEX services are required, particularly to cover the area of the Mozambique Channel.

**5.4** 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.

**5.5 Notices to Mariners.** 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 Overseas Territories including Ascension Island, St Helena and Tristan da Cunha within the SAIHC area. The latest status is correctly depicted within C-55.

**6.2** The UK has also provided assistance to update C-55 entries to other countries, including Kenya, Seychelles, and Tanzania, where the UKHO is the producer of 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.

### **Training provided by the UKHO- International Training Academy (ITA)**

**7.3** The International Training Academy 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 by the ITA 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 Learner 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. As a result of this the UKHO are currently running a series of virtual courses which started with an introductory series in March 2021. The first phase of this



blended learning has seen 1,960 delegates places being assigned during a five-month period, studying across three topics:

- Compiling for Navigational Safety
- Introduction to S-57
- Understanding ENCs
- Introduction to S-100

Further details are described in the UK Generic National Report.

The UKHO International Training Academy are pleased to announce that the Category B Nippon funded Course in Geospatial Marine Analysis and Cartography (GEOMAC) recommenced in February 2022.

## **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 UK Generic National Report.

## **8. OCEANOGRAPHIC ACTIVITIES**

**8.1** 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 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.** The UKHO are delighted to announce that they have now signed a data sharing MOU with the SB2030 Project. This MOU will enable UKHO to develop its data contribution plan to the SB2030 Project. Where UKHO is Primary Charting Authority and have the appropriate permissions, the UKHO will 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.

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.

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

**8.4** 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.

**8.5** The UKHO participates on 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.

**8.6** 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.ntsfl.org](http://www.ntsfl.org)), operated by the UK Environment Agency and very recently (summer 2021) contract work to maintain and upgrade the National Tide Gauge Network (NTGN) has been awarded to the commercial company

OceanWise (<https://www.oceanwise.eu/>).

**8.7** However, under the auspices of the OTSMP, the UKHO has been working with external contractors to establish permanently installed tide gauges in Overseas Territories including to date Bermuda, Caymans 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 permanent 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 one MEMS for Ascension Island which will be installed later in 2022.



## **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 (UNGGIM) 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 UNGGIM 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 Chairs the SWPHC MSDIWG, the SAIHC MSDIWG, Vice-Chairs the MACHC MSDIWG and is represented on the BNSHC 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 UNGGIM Working Group on Marine Geospatial Information and leads UK input into the UNGGIM-Americas Caribbean Geospatial Development Initiative (CARIGEO).

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 S100 within an MSDI and MSDI 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).

**9.5** 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 of future IHO S-100 standards.

**9.6 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.

## **10. AUTONOMOUS NAVIGATION**

**10.1** The UKHO have 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.

UKHO have proactively sought out a number of organisations such as Thales, Atlas Elektronik and TGP Polaris and discussed 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 our work with industry operators, UKHO has supplied data to facilitate discussion and allow operators to explore what the future navigation service might look like.

The establishment of the Maritime Autonomous Surface Ships (MASS) Navigation Project Team (MASS PT) was approved at HSSC13 following a proposal by the United Kingdom, Norway and Singapore, to address Maritime Autonomous Surface Ships (MASS) requirements on navigation data and services, of which UK are Chair.

## **11. OTHER ACTIVITIES**

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

**11.1** The UKHO celebrated World Hydrography Day 2021 by producing a short film to showcase the UKHO's rich history of partnerships. This included the 140 collaborative partnerships established across the globe and our Primary Charting Authority responsibilities for 71 coastal states, to the work carried out through our International Hydrographic Programmes and International Training. The theme was "100 years of international cooperation in hydrography" and a link to the film can be found here. In 2021, UKHO recognised the achievements of the US National Oceanic and Atmospheric Administration's Office of Coast Survey (OCS) team with the Alexander Dalrymple Award.

### **Broader UK Government Work**

**11.2** The UK Member State, consisting of the UK, the Overseas Territories and Crown Dependencies, was audited in late 2021 (delayed from late 2020 due to issues surrounding COVID-19) against the IMO Instrument Implementation Code's (IIC) 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.

**11.3** The Commonwealth Litter Programme (CLiP), is led by the UK through the Centre for Environment Fisheries and Aquaculture Science (Cefas). Funded by the UK Department for Environment, Food and Rural Affairs, the programme will support four developing countries across the Commonwealth to take action on plastics entering the oceans. The programme will contribute to the UK meeting its responsibilities under the Commonwealth Blue Charter, which calls for Commonwealth countries to drive action and share expertise on issues affecting the world's oceans, including marine litter. CLiP will contribute to delivering the objectives under the UK and Vanuatu-led Commonwealth Clean Oceans Alliance (CCOA), which calls on other countries to pledge action on plastics. CCOA also promotes actions in line with the United Nations Sustainable Development Goal 14 (life below water) to conserve and sustainably use the oceans, as well as contributing to the UK Government's 25 Year Environment Plan. The programme will work in the South Pacific, Caribbean and Africa.

The programme encompasses the following five pillars:

- Land based sources of litter;
- Sea based sources of litter;
- Removal of litter from the marine environment;
- Science and Education; and
- Outreach.

**11.4 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 Overseas Territories.

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
- 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 Overseas Territories on behalf of the Foreign, Commonwealth and Development Office and the Department for Environment, Food and Rural Affairs. Between 2016 to 2021, the Blue Belt programme was funded by nearly £25 million from the Conflict, Stability and Security Fund. The Foreign, Commonwealth and Development Office has funded the Programme for 2021/22, with a further £8 million funding.

For the SAIHC region, Tristan da Cunha, St Helena and Ascension Island are UK OTs in scope of the Blue Belt Programme. Highlights include:

Tristan da Cunha:

- Tristan's new marine protection strategy was announced, closing over 90% of its waters to fishing and other extractive activities.
- Assessment conducted on wreck of MFV Geo Searcher, which sank off Gough Island, to identify risk of oil pollution and impact on rare species.
- Comprehensive monitoring and reporting system developed to track shipping and human activity within the newly designated Areas to be Avoided.
- First stock assessment of bluenose warehouse in the Atlantic carried out. Findings will inform conservation measures for vulnerable species around Tristan.

St Helena:

- Assisted in development of new policies for marine tourism and marine development within St Helena's MPA, ensuring human activities are managed effectively.
- Continued to fund a number of roles for St Helena to help implement new policies and build local capability.
- Island's first inshore habitat maps generated to identify key areas for valuable and vulnerable marine species.
- Celebrated Marine Awareness Week and Blue Belt-themed activity booklets were provided for school children on the island.
- Logbooks introduced by St Helena Government within fishery to better monitor the fishing effort and catch.

Ascension Island:

- Ascension Island's new MPA management plan was approved, designed to conserve key marine life, and sustainably manage ongoing activities.
- Trialled new satellite technology to help monitor possible illegal fishing activity and improve surveillance coverage of Ascension's MPA.
- Impacts of climate change on the distribution of commercially important tuna in waters of Ascension Island were modelled.
- Funded key roles within the Ascension Island Fisheries and Conservation Department, to support with the management and implementation of the MPA.

Further information can be found in the [Blue Belt Annual Report 2021](#).

## 11.5 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, November 2021. 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.

### The UKHO's International Activities

**11.6** 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-101ENC Project Team	x	x
S-102 PT	S-102Bathymetric Surface Project Team		x
S-121PT	S-21 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-131Marine Harbour Infrastructure Project Team		x
TWCWG	Tides, Water Level & Currents Working Group	x	x
HSWG	Hydrographic Survey Working Group	x	x
MASS PT	Maritime Autonomous Surface Ships Navigation Project Team	x	x
ABLOS	Advisory Board on the Law of the Sea		x
IRCC	Inter-Regional Coordination Committee		x
CBSC	Capacity Building Sub-Committee	x	x
CSBWG	Crowd-sourced Bathymetry Working Group		x
MSDIWG	Marine Spatial Data Infrastructure Working Group		x
WENDWG	Worldwide ENC Database Working Group		x
WWNWS	Worldwide Navigational Warning Service		x
HCA	Hydrographic Commission on Antarctica		x

International Hydrographic Organization - HSSC		Chair/Vice Chair	Member
MACHC	Meso American and Caribbean Sea Hydrographic Commission	x	x
MBSHC	Mediterranean and Black Seas Hydrographic Commission		x
NIOHC	North Indian Ocean Hydrographic Commission		x
NSHC	North Sea Hydrographic Commission		x
RSAHC	ROPME Sea Area Hydrographic Commission		x
SAIHC	Southern African and Islands Hydrographic Commission	x	x
SWPHC	South-West Pacific Hydrographic Commission		x
EAtHC	Eastern Atlantic Hydrographic Commission		x
International Maritime Organization		Chair/Vice Chair	Member
NAVTEX	NAVTEXT Coordination panel	x	x
International Association of Marine Aids to Navigation and Lighthouse Authorities		Chair/Vice Chair	Member
ENAV	E-navigation Committee		x
Other International Bodies		Chair/Vice Chair	Member
IAU	International Astronomical Union		x
CIRM	Comité International Radio-Maritime		x
BALTICO	Navarea1 member states meeting		x
ISO	International Standards Organisation		x
OGC	Open Geospatial Consortium		x
UNGGIM WGMGI	UNGGIM Working Group on Marine Geospatial Information		x
CARIGEO	Caribbean Geospatial Development Initiative		x

## 12. CONCLUSION

**12.1** As with previous reports, the UK has continued to experience significant impact due to the COVID-19 pandemic. Most of our workforce has, for more than half of the year, been working from home in an effort to reduce the spread and infection rate. Following recent changes to the UK's pandemic restrictions, many of our staff have returned to the office, but operating in a hybrid way so that we do not lose some of the positive aspects of the changes we have made over the last two years.

**12.2** UK continues its strong commitment to the Southern African and Islands region, through Chair of SAIHC. Furthermore, we continue our primary charting activity and efforts in developing regional hydrographic self-sufficiency through capacity building measures and more recently the delivery of the Southern African and Islands governance workshop funded by UK government. Outside of this specific programme, UK continues to explore wider funding opportunities to benefit the Mariner and Marine User. 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. More than 3,000 training places have been provided to the hydrographic community worldwide.

**12.3** In recognition of the importance of MSDI, UKHO has continued to take this work forward through the SAIHC MSDI Working Group. This group has recognised the strategic priority work of Seabed 2030, which has been incorporated into the forthcoming plenary session. In addition, UK has taken forward the African Great Lakes and Rivers Sub Working Group (AGL&RSWG). This exciting development has embraced the broader needs of the SAIHC community, and we look forward to an even greater focus in the coming year.

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

**12.5** 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.

**UKHO POINTS OF CONTACT**

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

The general UKHO address is:

United Kingdom Hydrographic Office,  
Admiralty Way,  
TAUNTON  
Somerset

TA1 2DN  
United Kingdom

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

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

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

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For charting matters in the SAIHC region, please contact:

For Seychelles and Mauritius:

**Mr Barry Woodman**

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For West Africa (Angola):

**Miss Cathy Tunks**

Geographical Technical Lead  
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For matters related to **Sailing Directions** within the SAIHC region, please contact:

Email: [SDImpactAnalysis@ukho.gov.uk](mailto:SDImpactAnalysis@ukho.gov.uk)

**Annex A**

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

Country information / Informations sur le pays/ Información sobre el país	
-Declared National Tonnage	40,631,143 ton
-Tonnage national déclaré	
-Tonelaje Nacional Declarado	



National day -Fête nationale -Fiesta nacional	Second Saturday in June (Queen's Official Birthday)
-Date first joined IHO -Date d'adhésion à l'OHI -Fecha de adhesión a la OHI	21/06/1921
-Date ratification Convention -Date de ratification de la Convention -Fecha de ratificación de la Convención	03/05/1967
Official Representative to IHO (as designated by Member Government) <b>UNITED KINGDOM HYDROGRAPHIC OFFICE</b>	
<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	RAdm Rhett Hatcher - National Hydrographer & Director of Data Acquisition and Defence Postal address: Admiralty Way TAUNTON Somerset, TA1 2DN United Kingdom Tel: + 44 (0) 1823 484444 E-mail: IBTE@UKHO.gov.uk
Other point(s) of contact -Autre(s) point(s) de contact -Otros punto(s) de contacto	
-Web site -site web -sitio web	<a href="http://www.gov.uk">http://www.gov.uk</a>
Agency information	
Date of establishment	12 August 1795
Relevant National Legislation	TS Baseline 25.09.64 12nm TS Limit 15.05.87 200nm EFZ 22.12.76
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	3500 (Approx)
Number of ENC cells published	1771 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) 3001618853 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)	13500	1997	63
HMS PROTECTOR	5000	2011	88
HMS ECHO (H87)	3470	2002	72
HMS ENTERPRISE (H88)	3470	2002	72
HMS MAGPIE (H130)	37	2018	12
Other information of interest -Autres informations utiles -Otra información de interés	HM personnel are also borne in other RN vessels. Capt(HM) directs all hydrographic, meteorological and oceanographic support to the fleet. The programme for Civil hydrography in UK waters is managed by the Maritime & Coastguard Agency and is outsourced to the commercial sector Training in hydrographic surveying and meteorology is provided for naval personnel by the Commander Fleet Operational Training - Hydrography, Meteorology and Oceanography HMS DRAKE HM Naval Base Devonport		

	PLYMOUTH Devon PL2 2BG Details of courses are available at: <a href="http://www.mod.uk/DefenceInternet/AboutDefence/Whatwedo/Training%20and%20Exercises/IDT/IDTRN">www.mod.uk/DefenceInternet/AboutDefence/Whatwedo/Training and Exercises/IDT/IDTRN</a>
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Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*)  
 Country: United Kingdom of Great Britain and Northern Ireland – Ascension Island

C-55 Summary for:				Comments on Charts:
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:				
INT Region:	H			
Country/Depend:	Ascension Island			
Last updated:	27/04/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	
INT	100	100	100	<b>Comments on Surveys:</b>
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	47	25	28	
> 200m	0	0	100	
<b>MSI</b>	<b>Y/N</b>	<b>Comments on MSI:</b>		
Local warning	Y	Local Authority responsibility – no requirement to promulgate internationally		
Coastal warning	N			
Nav warning	Y	Via NAVAREA VII Coordinator, South Africa and SafetyNET		
Port warning	Y	Through UKHO		
<b>GMDSS</b>	<b>Y/N</b>	<b>Comments on GMDSS:</b>		
Master Plan	N			
Area A1	N			
Area A2	N			
Area A3	N			
NAVTEX	N			
SafetyNet	N	Via NAVAREA VII Coordinator, South Africa		

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

<b>C-55 Summary for:</b>				<b>Comments on Charts:</b>
Country:	United Kingdom of Great Britain and Northern Ireland			Larger scale ENC coverage of whole island planned to be released Summer 2022
Country Iso Code:	UK			
Country SubCode:				
INT Region:	H			
Country/Depend:	St Helena			
Last updated:	27/04/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b>
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	23	0	77	
> 200m	1	0	99	
<b>MSI</b>	<b>Y/N</b>	<b>Comments on MSI:</b>		
Local warning	Y	Local Authority responsibility – no requirement to promulgate internationally		
Coastal warning	N			
Nav warning	Y	Via NAVAREA VII Coordinator, South Africa and SafetyNET		
Port warning	Y	Through UKHO		
<b>GMDSS</b>	<b>Y/N</b>	<b>Comments on GMDSS:</b>		
Master Plan	N			
Area A1	N			
Area A2	N			
Area A3	N			
NAVTEX	N			
SafetyNet	N	Via NAVAREA VII Coordinator, South Africa		



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

C-55 Summary for:				Comments on Charts:
Country:	United Kingdom of Great Britain and Northern Ireland			
Country Iso Code:	UK			
Country SubCode:				
INT Region:	H			
Country/Depend:	Tristan da Cunha			
Last updated:	27/04/2022			
Provided by:	UK			
<b>Chart coverage</b>	<b>Passage (%)</b>	<b>Coastal (%)</b>	<b>Port (%)</b>	<b>Comments on Surveys:</b> Large areas of kelp preclude inshore survey. Tristan da Cunha - navigationally significant shoal depths from surveys conducted in 2017 have been promulgated by NMs. Gough Island - inadequately surveyed 0m and deeper, however there only limited landing places and is uninhabited except for the personnel of a South African weather station.
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	39	11	50	
> 200m	1	0	99	
<b>MSI</b>	<b>Y/N</b>	<b>Comments on MSI:</b>		
Local warning	Y	Local Authority responsibility – no requirement to promulgate internationally		
Coastal warning	N			
Nav warning	Y	Via NAVAREA VII Coordinator, South Africa and SafetyNET		
Port warning	Y	Through UKHO		
<b>GMDSS</b>	<b>Y/N</b>	<b>Comments on GMDSS:</b>		
Master Plan	N			
Area A1	N			
Area A2	N			
Area A3	N			
NAVTEX	N			
SafetyNet	N	Via NAVAREA VII Coordinator, South Africa		



National MSI Self-Assessment

*Country:* United Kingdom – Ascension Island  
*Organization:* United Kingdom Hydrographic Office

*Country:* United Kingdom – St Helena  
*Organization:* United Kingdom Hydrographic Office

*Country:* United Kingdom – Tristan da Cunha & Gough Islands  
*Organization:* United Kingdom Hydrographic Office

1. **Maritime area:**  
 N/A

2. **Operational Points of Contact for the National Coordinator**

INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
NAVAREA I Coordinator	+44(0)1823 353448	+44(0)1823 322352	navwarnings@ukho.gov.uk

3. **GMDSS Master Plan:**

Not in GMDSS Master Plan

Year Y-2		Year Y-1		Year Y	
Total	Average elapsed time	Total	Average elapsed time	Total	Average elapsed time
xx	xx.x Mins	xx	xx.x Mins	xx	xx.x Mins

4. **NAVTEX Coverage:**  
 N/A

5. **Operational Issues:**  
 N/A

6. **Contingency Planning:**  
 N/A

7. **Capacity Building:**  
 N/A

8. **Other Activities:**  
 N/A

9. **National Maritime Website:**  
 N/A

10. **Recommendations:**  
 N/A

11. **Summary:**

Any MSI in the area may be sent to UKHO for assessment and then forwarded to NAVAREA VII with recommendations for SafetyNET broadcast as a Navigational Warning.