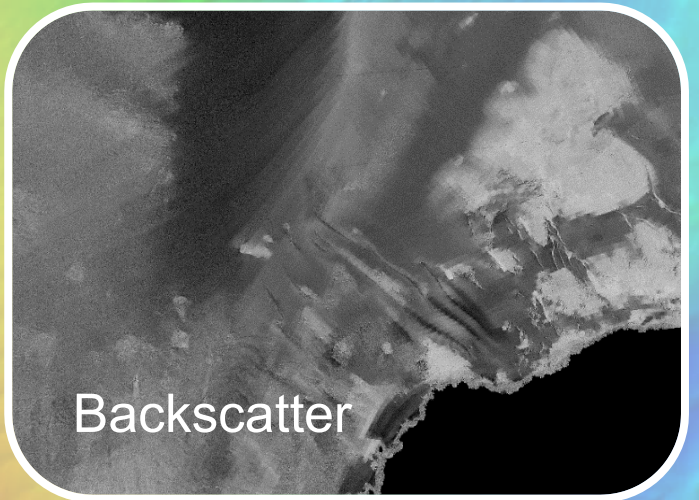
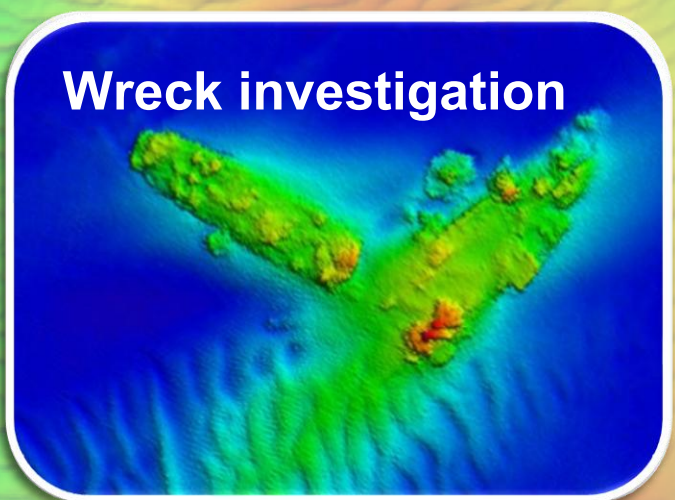
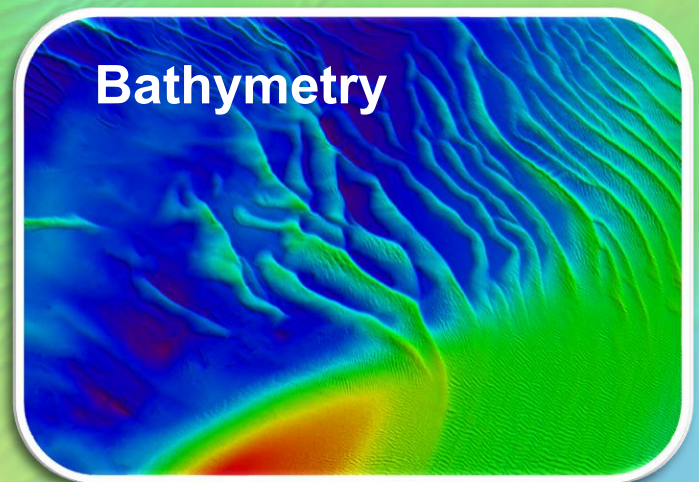
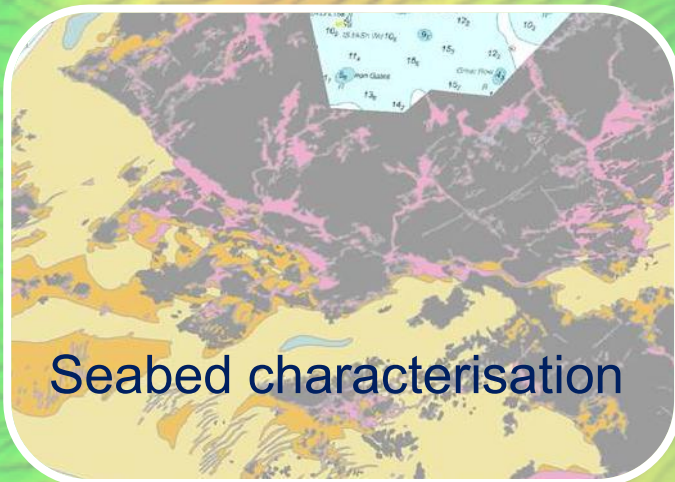


UK Civil Hydrography Programme 2025



Contents

Foreword	i
Introduction	1
Civil Hydrography Annual Seminar	3
News from the CHP	4
Survey Vessels 2024/25	6
Collaboration & Partnerships	7
UK Centre for Seabed Mapping	9
Survey Safety	10
Hydrographic Notes	11
Maritime Safety Information	13
How the MCA Gathers Hydrographic Data	17
Propose a Survey	18
Maritime Autonomy	19
Sharing Data with the MCA	21
Offshore Wind Energy & Shipping Safety	22
Space Launches	22
Guidelines for Offshore Renewable Energy Developers	23
MGN 654: Hydrography	24
Annex 1: CHP Surveys 2024/25	25
Annex 2: CHP Surveys 2025/26	26
Annex 3: Indicative CHP Surveys 2026/28	27
Annex 4: UKHO Chart Updates	28
Contacts	

Foreword

The seabed mapping and hydrographic survey community is fortunate to have dedicated, experienced people that have a passion for exploration and driving innovation. Our understanding of the oceans and seafloors is continually being enhanced through the collection of and access to high quality data, close collaborations, and the sharing of specialist knowledge.

On behalf of my team, I would like to formally acknowledge all those involved with undertaking survey operations, data processing and validation, whether on the vessels, on site, in the office or working from remote locations. I'm proud that we have safely and efficiently completed another full programme of high priority surveys within time and budget.

The MCA works very closely with our partners from across the public sector, industry and academia on a wide range of maritime and navigational safety matters to ensure the UK meets its statutory, regulatory and policy obligations and that the mariner is equipped with or has access to the most accurate and up to date data, information and products. In terms of the UK CHP, we have fostered a positive and effective relationship where the MCA and UKHO, in essence, act as a single team.

In August we bid farewell to David Parker, Head of Hydrographic Programmes at UKHO. Over the last twenty years or so, David has been a pivotal player in the UK CHP, providing essential support and sharing invaluable technical knowledge and advice with colleagues at the MCA, UKHO, and with our contractors and survey partners. He continues to be an enthusiastic advocate and ambassador for seabed mapping. We wish David all the best in his new role as Port Hydrographer at the Port of London Authority and look forward to working with him and his team through the Civil Hydrography Working Group and on other navigation safety and survey projects.

I am pleased to report that Rosalind Craven joined the MCA Hydrography & Meteorology team in April as the Hydrography Contract Lead. From her previous role in the MCA International Liaison Branch, Ros brings a wealth of experience of contract and event management and is a great addition to the team.

Andrew Colenutt

Head of Hydrography & Meteorology

Maritime & Coastguard Agency

Introduction

As an executive agency of the Department for Transport, the Maritime and Coastguard Agency (MCA) plays a key role in implementing and enforcing the Government's maritime safety and environmental protection strategies. We are committed to preventing loss of life, continuously improving maritime safety, and protecting the marine environment.

Within this remit, the MCA has overall responsibility for the UK's hydrographic obligations under the Safety of Life at Sea Convention (SOLAS) but works in close partnership with the UK Hydrographic Office (UKHO) to ensure these obligations are met.

The MCA manages a multi-million-pound budget to systematically survey the waters around the UK. This programme is known as the "Civil Hydrography Programme" (CHP).

Under the CHP, commercial contracts are let to ensure accurate hydrographic information is gathered for updating the nation's nautical charts and publications. The hydrographic survey work commissioned for the CHP is undertaken by contractors, who gather and report seabed data using their own personnel, equipment, and vessels.

The CHP workscope is divided into the following streams:

- **Routine resurvey - navigationally critical shallow water areas with mobile seabed;**
- **Shallow water - predominantly 0 to 40m water depth; and**
- **Medium water - predominantly 0 to 200m water depth.**

The CHP prioritises areas of highest navigational safety risk and surveys and maps UK home waters - defined by the boundaries of the UK's Exclusive Economic Zone, an area in excess of 720,000km² - in order to keep our nation's nautical charts and publications current, safe and fit for purpose.

The MCA makes extensive use of geographic information systems (GIS) to prioritise survey areas using a contemporary risk analysis methodology capable of reflecting the changing pressures of the maritime sector.

To support the requirements of the CHP, the MCA specifies state-of-the-art survey technologies including high resolution multibeam echosounders (MBES) and Post Processed Kinematic (PPK) Global Navigation Satellite Systems (GNSS) to ensure accurate high-quality hydrographic information is gathered. Additionally, more focused work includes high-resolution wreck investigations, water column data collection and seabed grab sampling.

Prior to final data being accepted from contractors, it passes through a rigorous quality assurance process at the UKHO's Bathymetry Scientific Analysis Group, where checks are made against items such as data density, interline consistency, geodetic parameters, and tidal observations.

Once data has passed validation, it is archived to the UKHO's bathymetric database ready for inclusion in their nautical charting products.

Through specialist technical fora, such as the Civil Hydrography Working Group and Holm Channel Working Group, the MCA works closely with Trinity House, the Port of London Authority, Associated British Ports, Peel Ports, and other strategic partners to coordinate survey scheduling to maximise survey efforts and mitigate navigation safety risk in areas of highly mobile seabeds and areas with critical underkeel clearances.

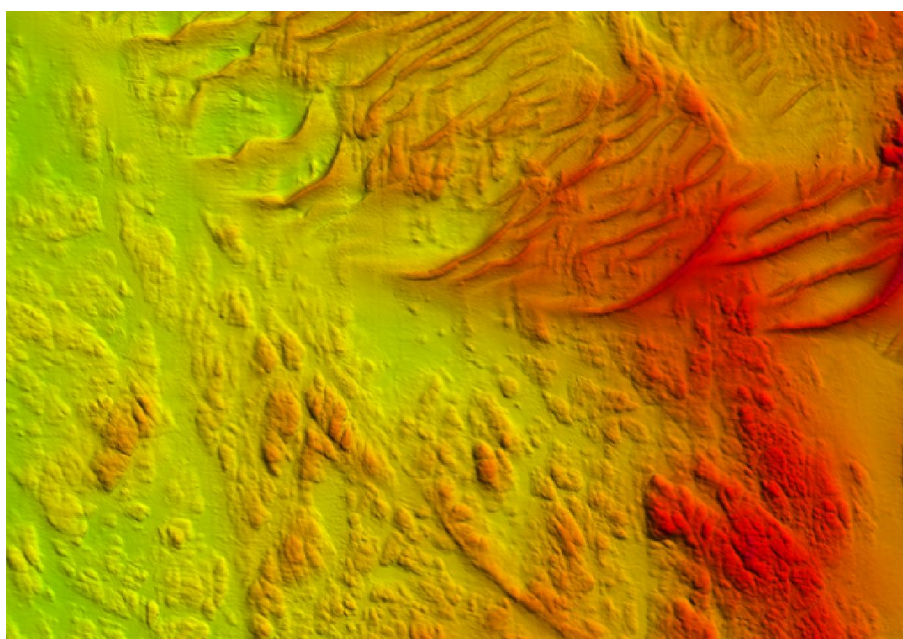
The UKHO hosts the Marine Environment Data and Information Network (MEDIN) Data Archive Centre (DAC) for bathymetry data. Bathymetry data collected through the CHP are made freely available from

<https://www.gov.uk/guidance/inspire-portal-and-medin-bathymetry-data-archive-centre>

The British Geological Survey hosts the Deposited Data Search and Offshore GeoIndex MEDIN DAC for geology, geophysics, and backscatter data. Backscatter, sediment sample location and metadata, and sediment texture sheet deliverables collected through the CHP are made freely available from

<http://www.bgs.ac.uk/GeoIndex/offshore.htm> and

<https://webapps.bgs.ac.uk/services/ngdc/accessions/index.html>



HI 1782 Southwest Shetland (Lot 1 Shallow Water)

Hydrography & Meteorology Team

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MSI_MCA@mcga.gov.uk	

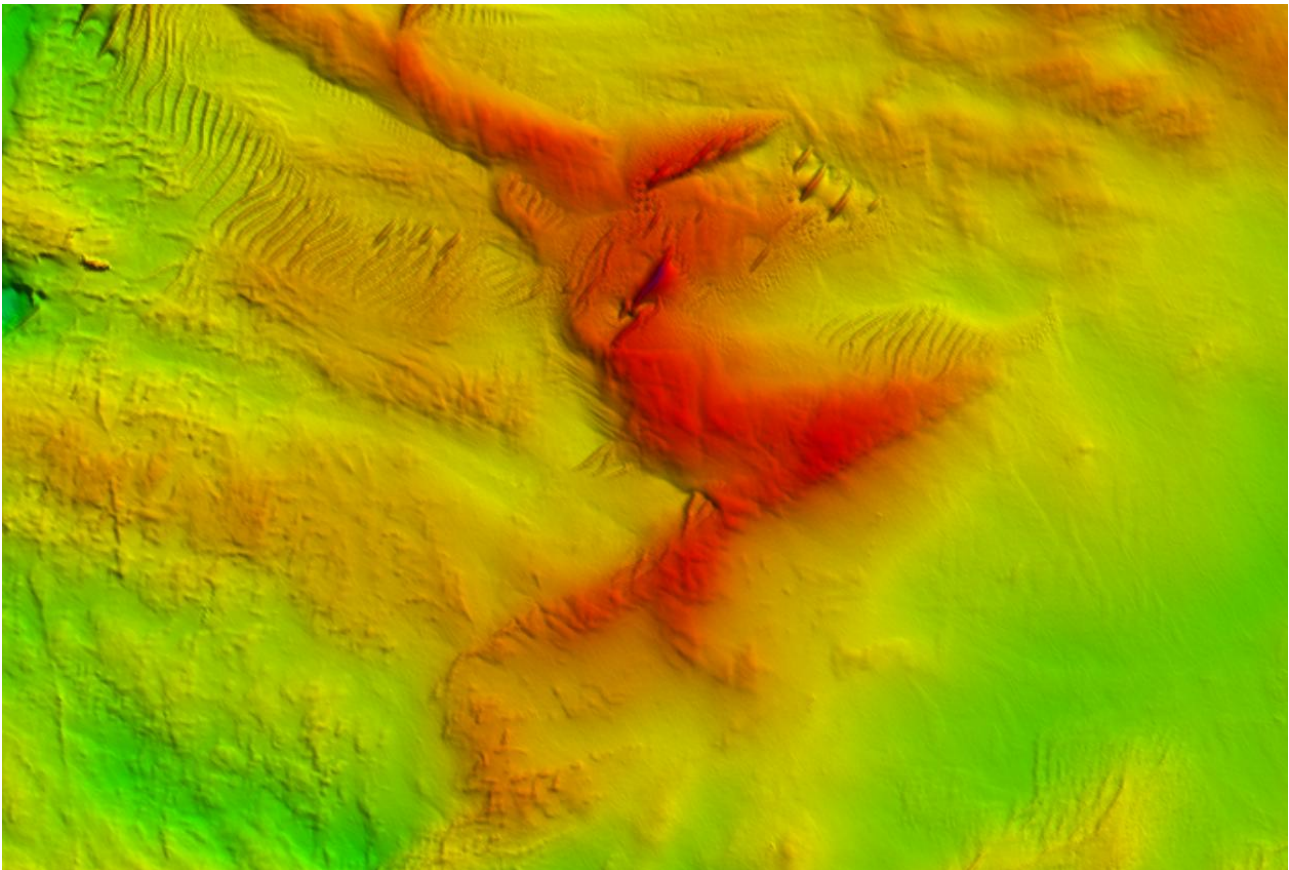
Civil Hydrography Annual Seminar

The MCA-convened Civil Hydrography Annual Seminar (CHAS) provides an open forum for Government and industry to come together to share their hydrographic data gathering and seabed mapping programmes for the forthcoming years to enable longer-term survey planning integration.

The primary aims of CHAS are:

- **To provide an open forum for public sector organisations to come together to share data gathering programmes for the forthcoming years.**
- **To encourage co-operative working and survey planning integration.**
- **To realise the financial benefits of co-funding such work.**

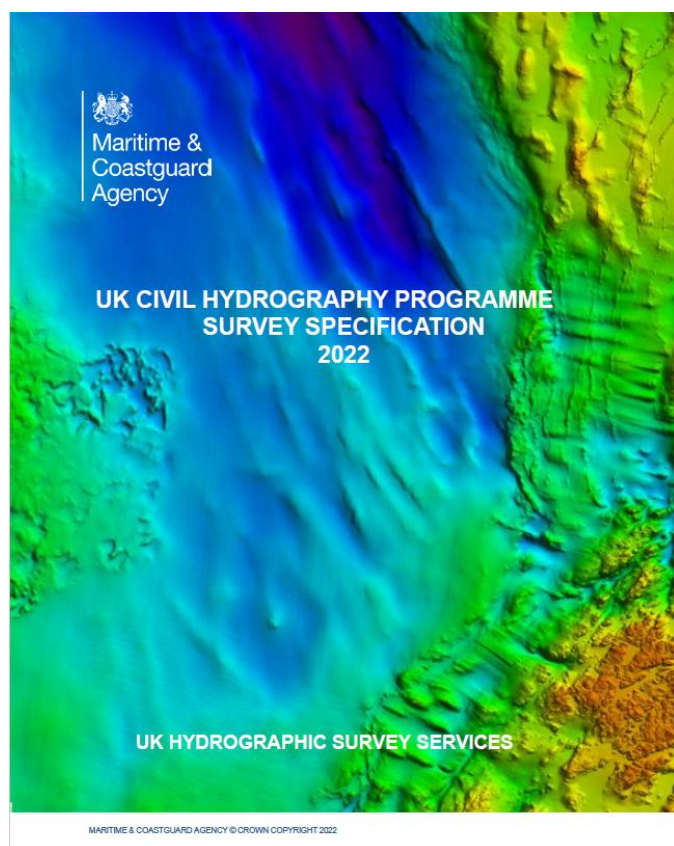
The MCA advocates a coordinated and integrated approach to the longer-term survey planning, which hopefully will enable the hydrographic sector to manage funding streams more effectively, develop new partnerships and strengthen existing collaborations between stakeholders.



HI 1789 North Channel B South (Lot 2 Medium Water)

News from the CHP

UK CHP Survey Specification 2022



All CHP surveys awarded through the MCA Hydrographic Survey Services contracts comply with our UK CHP Survey Specification.

The UK CHP Survey Specification has evolved over time from previous iterations, with technical input from the UK Hydrographic Office (UKHO) and contributions from other Maritime Administrations, Hydrographic Offices, contractors and other MCA and CHP stakeholders.

It details the CHP-specific requirements for conducting hydrographic surveys undertaken on behalf of the MCA, in order to deliver UK requirements and services, and meets/exceeds the requirements stated in the IHO's Standards for Hydrographic Surveys. Special Publication No. 44 (Edition 6.1).

Where possible the intention is for the requirements to be equipment and software agnostic to allow Contractors the freedom to innovate and propose the most efficient and accurate methodology for completing the work to the required standards. It may be amended at any time as techniques, methodologies and/or requirements become available, with the intention to create and maximise economic efficiencies for Government and Contractors and environmental benefits.

The UK CHP Survey Specification is used in conjunction with the relevant Hydrographic Instructions (HI) and in combination with other quality assurance measures such as vessel and technical office visits, standardised reporting, and data validation. The specification coupled with those measures, provides confidence in the quality of the resultant data and deliverables for safety of navigation and other maritime geospatial products and publications.

The MCA's UK CHP Survey Specification 2022 may be re-used free of charge under the terms of the Open Government Licence with appropriate accreditation as detailed in the specification itself.

<https://www.gov.uk/guidance/uk-civil-hydrography-programme-chp>

CHP Survey Contracts

The work scopes for 2023-26 have been awarded to the following marine survey contractors following a rigorous competitive tendering exercise:

Lot 1 Shallow Water	
Lot 3 Routine Resurvey	Njord Survey AB
Lot 4 Receiver of Wreck, SS Richard Montgomery	(formerly Clinton Marine Survey AB)
Lot 5 Supplementary Survey Services	
Lot 2 Shallow to Medium Water	A-2-Sea Solutions Ltd

CHP 2024/25 surveys

A substantial programme of high priority surveys has been completed, including collaborative surveys and surveys the MCA has supported. In total, 23 CHP surveys have been conducted. The total area surveyed was 4,316.75km² of seabed:

Lot 1: Shallow Water

HI 1724 Cape Wrath to Stoorhead
 HI 1781 Southeast Shetland
 HI 1782 Southwest Shetland
 HI 1783 Thurso to Hoy
 HI 1784 Dunnet Head to Duncansby Head

Collaborative surveys (Lot 1)

HI 1818 Bahama Bank North
 (funded by Isle of Man)

HI 1884 SALMO wrecks
 (funded by MOD SALMO)

Lot 2: Medium Water

HI 1594 Smith's Knoll to Leman's Bank
 HI 1788 North Channel A North
 HI 1789 North Channel B South
 HI 1793 NW Approach to Liverpool Bay A

Lot 3: Routine Resurvey

HI 1855 EA3A&B Cockle Shoal Focused
 HI 1856 EA5 Scroby Sands
 HI 1857 EA9A Holm Channel Focused
 HI 1858 EA10A, B & C Approaches to Lowestoft Focused
 HI 1859 Hemsby Hole checklines
 HI 1860 Pakefield Road
 HI 1861 TE3A Sunk Focused
 HI 1862 TE5A Long Sand Head Focused
 HI 1863 TE7A Kings Channel Gunfleet & TE7B Kings Channel Sunk Sand Focused
 HI 1864 TE17 Margate Sand Focused
 HI 1865 Dover DWR C1 Tail of the Falls
 HI 1866 Gull Stream Focused

Supported surveys

HI 1703 Withernsea to Spurn - commissioned by East Riding of Yorkshire Regional Coastal Monitoring Programme. Contractor Geosight.

HI 1820 MBSW08 (Bude, Camel Estuary, Hayle, Perranporth Gannel Estuary) - commissioned by South West Regional Coastal Monitoring Programme. Contractor Geosight.

Survey Vessels 2024/25

Lot 1 Shallow Water, Lot 3 Routine Resurvey and Lot 5 Supplementary Survey Services



Northern Wind © Njord Survey AB



Northern Storm © Njord Survey AB



Lode © Njord Survey AB



Northern Remote © Njord Survey AB

Lot 2 Medium Water



Mintaka © A-2-Sea Solutions



Morven © A-2-Sea Solutions

Collaboration & Partnerships

The MCA are continually exploring opportunities to improve co-ordination and collaboration across the seabed mapping sector to further increase efficiencies under the “gather once, use many times” philosophy, and to increase the level of survey and the quality of hydrography and seabed mapping data in UK home waters.

Over the last 20 years or so, the MCA has established effective collaborations with public sector organisations, government departments and other partners. Sharing medium-term survey programmes and having genuine collaborations have enabled survey capability to be taken forward within and between organisations. This approach also optimises public expenditure by sharing the costs of procurement of swath bathymetry surveys for areas of mutual interest, avoiding duplication of effort. In addition to strengthening relationships between different govt agencies, undertaking targeted surveys in parallel with CHP survey operations realises survey efficiencies and maximises public-funded survey assets and resources, providing utmost value for money.

The MCA has Memoranda of Understanding or Agreements with the following public sector partners:

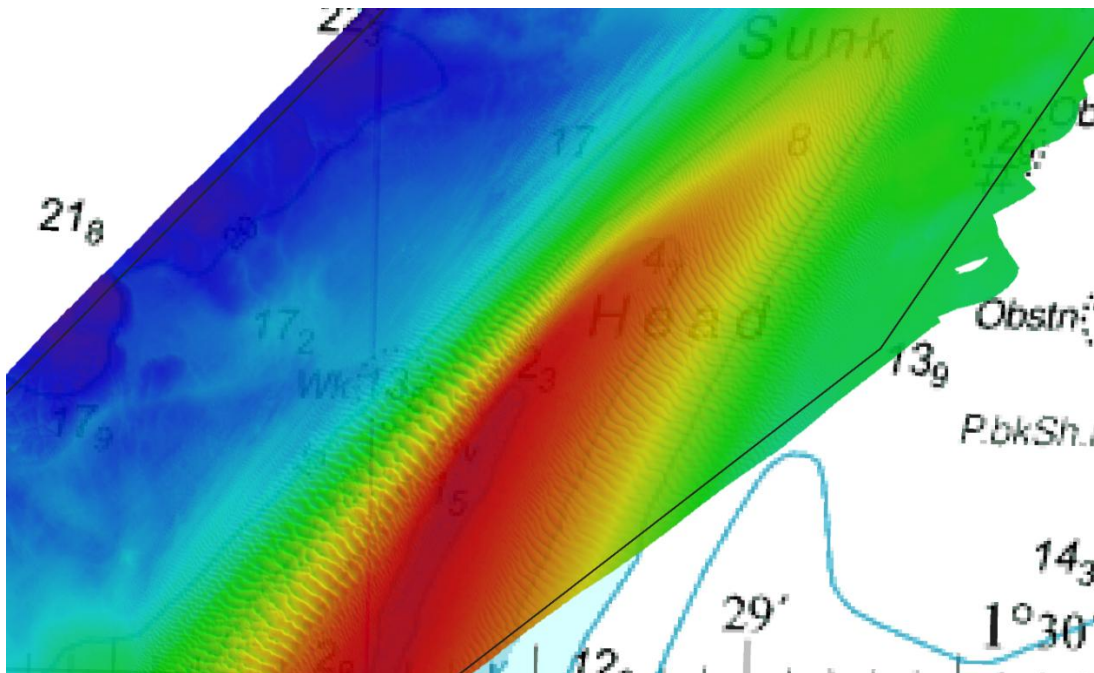
- National Network of Regional Coastal Monitoring Programmes managed by the Channel Coastal Observatory, with the following Lead Local Authorities:
 - North East – North Yorkshire Council
 - East Riding RCMP – East Riding of Yorkshire Council
 - South East RCMP – New Forest District Council
 - South West RCMP – Teignbridge District Council
 - North West RCMP – Metropolitan Borough Council of Sefton
- British Geological Survey (BGS)
- Centre for Environment, Fisheries and Aquaculture Science (CEFAS)
- Centre for Seabed Mapping (CSM)
- Isle of Man, Department of Infrastructure
- Marine Environmental Data and Information Network (MEDIN)
- Ministry of Defence Salvage & Marine Operations (MOD SALMO)
- UK Hydrographic Office (UKHO)

These agreements enable the MCA to undertake additional surveys on behalf of our partners using MCA contractors via MCA’s CHP contractual arrangements, which are wholly partner-funded. All data gathered through such collaborations are:

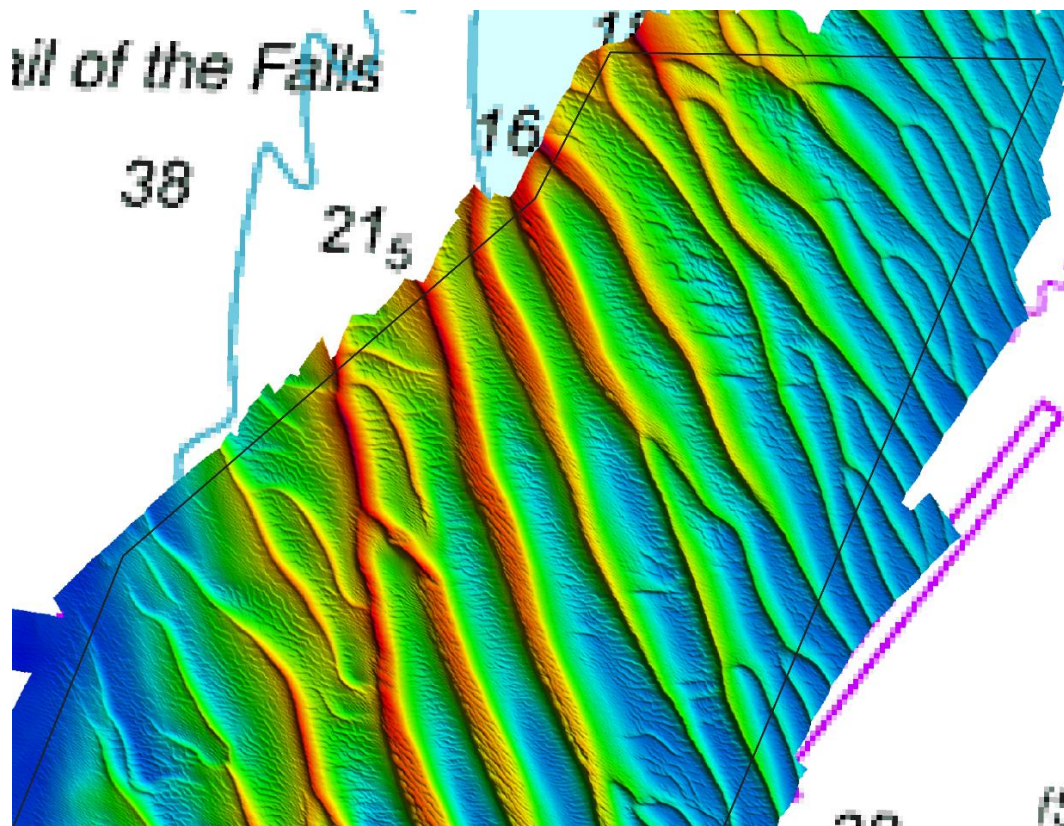
- made freely available under the Open Government Licence
- collected in accordance with the UK CHP Survey Specification
- validated by UKHO to ensure compliance with the UK CHP Survey Specification
- submitted to additionally support the update of nautical charts and products by the UKHO
- made freely accessible via the Bathymetry INSPIRE Data Archive Centre (DAC), hosted by the UKHO, and the Deposited Data Search and Offshore GeoIndex DAC, hosted by BGS

Discussions are in progress with the Secretary of State Representative (SOSREP), Natural Resources Wales, Marine Directorate of Scottish Government, Scottish Environment Protection

Agency, the Agri-Food & Biosciences Institute of Northern Ireland, and The Crown Estate, regarding opportunities for data collection and data sharing that will enhance the quality, volume and accessibility of seabed mapping data, and support the management of incidents and subsequent monitoring and recovery.



HI 1863 TE7a Kings Channel Gunfleet and TE7B Kings Channel Sunk Sand
(Lot 3 Routine Resurvey)



HI 1865 Dover Deep Water Route DWR C1 (Lot 3 Routine Resurvey)

UK Centre for Seabed Mapping

The UK Government's National Strategy for Maritime Security (published in 2022) sets clear strategic objectives and commitments to create a more secure, prosperous, and sustainable maritime sector. To meet these objectives, the UK Centre for Seabed Mapping was established to support the coordination, collection, management, and access to publicly funded data and to increase the quantity, quality, and availability of seabed mapping data.

The UK is a world leader in seabed mapping, and the UK government alone invests in over 30 public sector organisations to collect and use these datasets. The UK CSM is hosted and administered by UKHO and currently has 36 member organisations that have signed the MoU or are in the process of signing the MoU. These organisations share a common interest in optimising the UK's national maritime assets for the security and prosperity of the UK.

The CSM Steering Committee comprises representatives from across government – Crown Estate (CE); CE Scotland; Dept of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA); Dept for Business and Trade; Dept for Culture, Media and Sport; Dept for the Environment, Food and Rural Affairs; Dept for Transport; Dept for Science, Innovation and Technology; Dept for Energy Security and Net Zero; Foreign, Commonwealth and Development Office; Geospatial Commission (GC); MCA; Ministry of Defence; North Sea Transition Authority; Scottish Govt, UKHO and Welsh Govt.

The CSM Management Group comprises representatives from - Agri-Food and Biosciences Institute Northern Ireland; British Antarctic Survey; BGS; British Oceanographic Data Centre (BODC); Centre for Environment, Fisheries and Aquaculture Science (CEFAS); Commissioner for Irish Lights; CE; CE Scotland; DAERA; GC; Historic England (HE); HE Scotland; Joint Nature Conservation Committee (JNCC); Marine Accident Investigation Bureau; Marine Directorate of Scottish Govt; Marine Management Organisation; MCA; MEDIN; Met Office; MOD Salvage and Marine Operations; National Network of Regional Coastal Monitoring Programmes (NNRCMP); Natural England; Natural Resources Wales; North Sea Transition Authority; Northern Lighthouse Board; Ordnance Survey (OS); Royal Commission on the Ancient and Historical Monuments of Wales; Royal Navy; Scottish Environment Protection Agency (SEPA); Trinity House; UKHO and Welsh Coastal Monitoring Centre.

The CSM Steering Committee and Management Group are supported by the following:

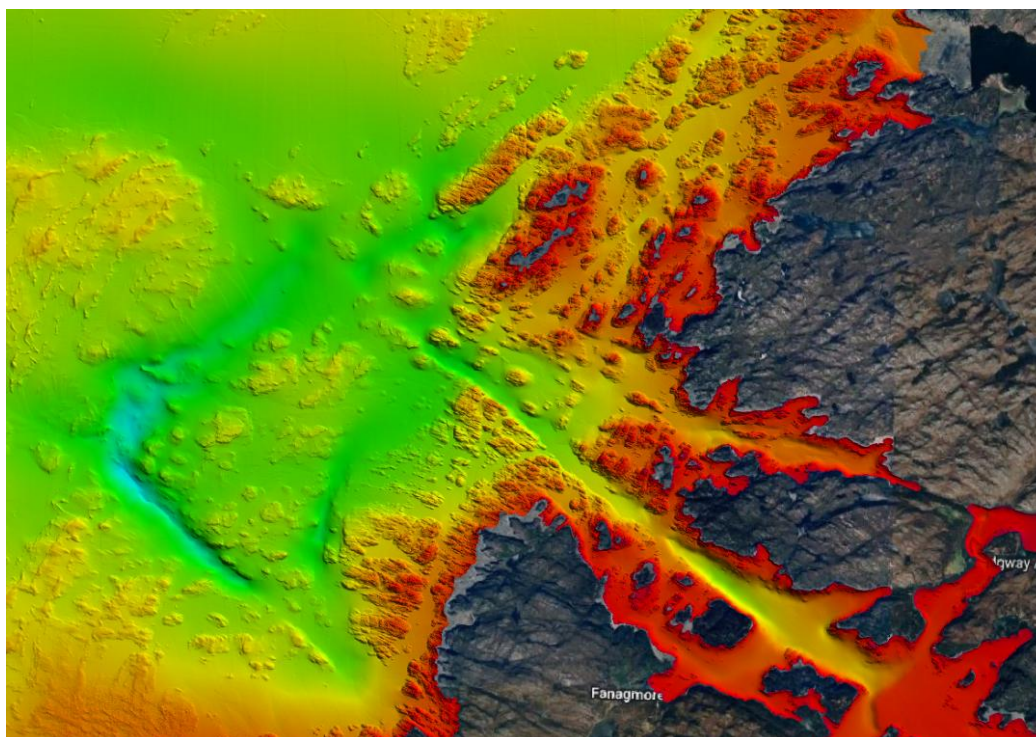
National Survey Coordination Working Group	Chair: Andrew Colenutt, MCA
International Survey Coordination Working Group	Chair: Alison Pettafor, CEFA
Data Standards and Specifications Working Group	Chair: Rob Clarke, UKHO
Wreck Mapping Working Group	Chair: Antony Firth, HE
Applications of Seabed Mapping Discussion Forum	Chair: Dayton Dove, BGS
Education and Research Working Group	Chair Rebecca Reid, DSIT

Those organisations that undertake seabed mapping and survey activities share their survey plans, which are made available via the Planning Information Portal (PIP). For further details on the objectives, membership and priorities of the UK CSM, please visit <https://www.admiralty.co.uk/uk-centre-for-seabed-mapping>

Survey Safety

Much of the hydrographic work completed by the CHP is undertaken by contractors who are required to gather seabed data using their own personnel, and vessels owned or chartered by themselves. Acquired data is then submitted to both the MCA and UKHO.

- I. Any vessel undertaking work on behalf of the CHP must adhere to MCA safety and regulatory guidelines. MCA safety requirements include:
- II. Contractors are always required to supply and adhere to a Safety Management Plan.
- III. All offshore personnel are required to have a valid medical certificate to at least the ENG1 standard.
- IV. All offshore personnel are required to have appropriate and valid safety training certification.
- V. Every vessel that participates in CHP survey operations is subject to approval by the MCA (via MCA marine office inspection) prior to work starting. Repeat inspections are undertaken annually for the duration of MCA contracts.
- VI. Paris MoU. Should a vessel employed on the CHP develop a high ship risk profile (HRS), then the MCA reserves the right to remove said vessel from the contract until she meets 'standard' (SRS) or 'low' (LRS) risk criteria.
- VII. All vessels participating in CHP surveys are visited by an MCA or a UKHO contract overseer on a regular basis throughout the year. A report covering each visit is kept on file by the MCA Hydro&Met team. Visits are primarily intended to focus on the quality of survey procedures and deliverables but also include an informal safety assessment. If significant safety concerns are raised, then the contract overseer is required to notify the local MCA marine office.



HI 1724 Cape Wrath to Stourhead (Lot 1 Shallow Water)

Hydrographic Notes

It is important that safety critical information identified during a survey is reported promptly so that information is passed to the mariner as soon as possible, for example through Navigational Warnings, and nautical charts and products can be updated to ensure safety at sea.

Reports of significant differences to depths, particularly to the controlling depth, and any newly discovered dangers to surface or sub-surface navigation are passed immediately by the CHP contractors to the MCA and UKHO using the H102 Hydrographic Note form.

H102s are submitted if there are significant differences to the charted depths, any newly discovered or uncharted wrecks or hazardous obstructions to surface or sub-surface navigation, and/or a change in position or characteristic of a charted feature.

Significant changes to depth include:

- ANY shoaling of Controlling or Critical Depth in high-risk areas with minimum under-keel clearance, such as in a navigation channel, Deep Water Route, Traffic Separation Schemes, port approach or anchorage.
- ANY shoaling of depth over a significant seabed feature, such as the least depth over a shoal, bank, or bar in navigable channels or top of a charted obstruction.
- Shoaling >0.3m alongside berths, quay walls, jetties.
- Shoaling >0.5m in depths between 0-10m.
- Shoaling >1.0m in depths between 10-31m.
- Shoaling >5% of depth between 31-200m.
- Shoaling >10% of depth between 200-800m.

Controlling Depth is defined as the least depth which vessels cannot avoid when navigating through a channel (Generally towards the centre of the channel, but in busy channels where vessels travel in both directions, two controlling depths may be present, one on each side of the centre line. Only applicable to surface navigation, so not relevant to depths over 31m. Also defined as 'the least depth in the approach or channel to an area, such as a port or anchorage, governing the maximum draught of vessels that can enter.'

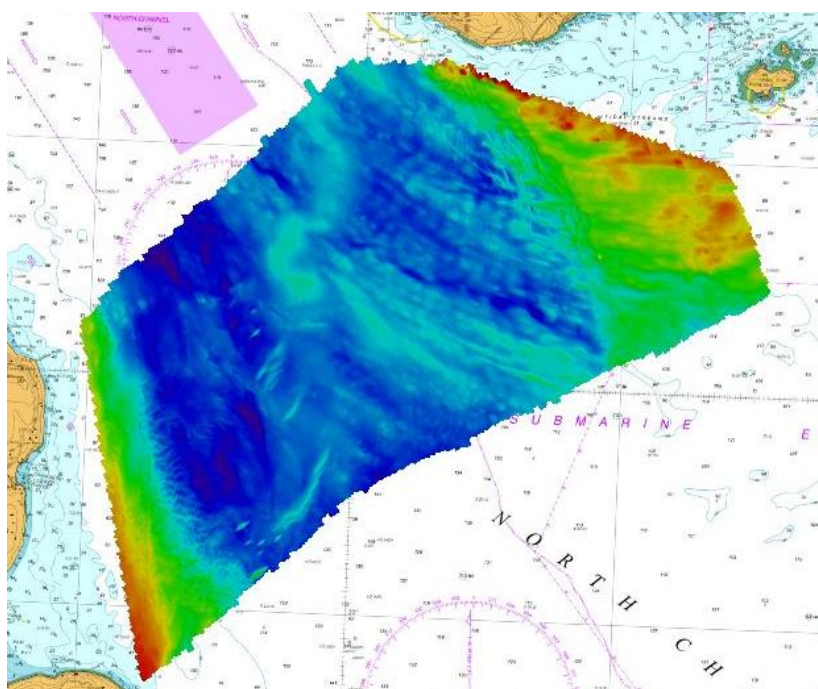
Critical Depth are the least depth in proximity to a known or potential navigational route depths, which are critical to the safe navigation of any vessel likely to be in the area.

All wrecks found in a CHP survey are investigated with additional lines and detailed bathymetry and water column data. Sitting proud of the seabed, wrecks and other man-made obstructions often form the critical depth in each area of seabed. It is therefore crucial we have confidence that the shoalest point on these obstructions are found so the mariner can navigate safely.

The guidance provided to MCA CHP contractors can also be considered best practice for all other survey work.

From survey operations that have already been completed during 2024/25, a total of 321 H Notes have been submitted.

Lot 1: Shallow Water	No of H Notes	Lot 3: Routine Resurvey	No of H notes
HI 1724 Cape Wrath to Stoerhead	54	HI 1855 EA3A&B Cockle Shoal Focused	7
HI 1781 Southeast Shetland	24	HI 1856 EA5 Scroby Sands	8
HI 1782 Southwest Shetland	34	HI 1857 EA9A Holm Channel Focused	12
HI 1783 Thurso to Hoy	18	HI 1858 EA10A, B & C Approaches to Lowestoft Focused	20
HI 1784 Dunnet head to Duncansby Head	33	HI 1859 Hemsby Hole checklines	3
HI 1818 Bahama Bank North	0	HI 1860 Pakefield Road	26
		HI 1861 TE3A Sunk Focused	1
<u>Lot 2: Medium Water</u>		HI 1862 TE5A Long Sand Head Focused	2
HI 1594 Smith's Knoll to Leman's Bank	23	HI 1863 TE7A Kings Channel Gunfleet & TE7B Kings Channel Sunk Sand Focused	18
HI 1788 North Channel A North	5	HI 1864 TE17 Margate Sand Focused	6
HI 1789 North Channel B South	0	HI1865 Dover DWR C1 Tail of the Falls	6
HI 1793 NW Approach to Liverpool Bay A	9	HI 1866 Gull Stream Focused	12



HI 1789 North Channel A North (Lot 2 Medium Water)

Maritime Safety Information

Maritime Safety Information (MSI) is a collective term used to describe navigational and meteorological warnings, meteorological forecasts and other urgent safety related messages that ships require to safely navigate. All H102s submitted through the CHP are supplied to the Radio Navigational Warnings team at UKHO. The details are assessed, and where appropriate, Nav Warnings are issued, and charts are updated accordingly.

The UK's obligations in relation to MSI derive from the requirements of The International Convention for the Safety of Life at Sea (SOLAS), Chapters IV & V.

The MCA is responsible for the provision of the UK's MSI service, which is a co-ordinated network of broadcasts designed to harmoniously disseminate MSI to all seafarers navigating within particular sea areas; MSI broadcasts are a key element for the maintenance of navigation safety in UK waters. The service supports one of the key functional requirements of the Global Maritime Distress and Safety System (GMDSS); "every ship, while at sea, shall be capable of receiving MSI."

Currently, there are two approved methods of promulgating MSI:

- International Navigational Telex (NAVTEX) Service (518kHz). NAVTEX is a narrow band direct-printing system for the receipt of navigational and meteorological warnings and forecasts and urgent MSI from shore to ship stations. In the UK, the NAVTEX service is coordinated 24-hours a day by HM Coastguard.
- International Enhanced Group Call (EGC), via a Recognised Mobile Satellite Service (RMSS), is the coordinated broadcast and automatic reception of MSI and Search and Rescue related information.

The current UK MSI service provision exceeds SOLAS requirements both in the means of proliferation and the frequency of transmissions. In addition to Navtex and EGC, the UK also broadcast MSI by VHF voice, Medium Frequency (MF) via the internet, FM radio and radiotelephony (RT) to make the information available to those that are not 'Mandated' to receive it.

The MCA ensures that the service fulfils the requirements of both national and international regulations and policies and maintains oversight of the following components:

- The UK Navigational Warning Service, provided by the UKHO.
- The UK Marine Weather Service, provided by the Met Office.
- The UK's NAVTEX Service, provided by the MCA.
- International EGC Services, provided by RMSS - currently INMARSAT's SafetyNet Services and Iridium's SafetyCast Service.
- Radiotelephony (RT) Broadcast services, provided by the MCA.

The UKHO act as the National Co-ordinator and NAVAREA I Co-ordinator for the UK. They are responsible for assessing, selecting, and issuing Coastal Navigation Warnings (known in the UK as WZ's) and NAVAREA I Warnings. The principal methods for broadcasting these warnings are by the International NAVTEX Service and by the International EGC Service. WZ warnings and selected NAVAREA I warnings are also broadcast to 1 or more of the 19 Coastal Warning Areas by VHF and MF through coastal radio stations.

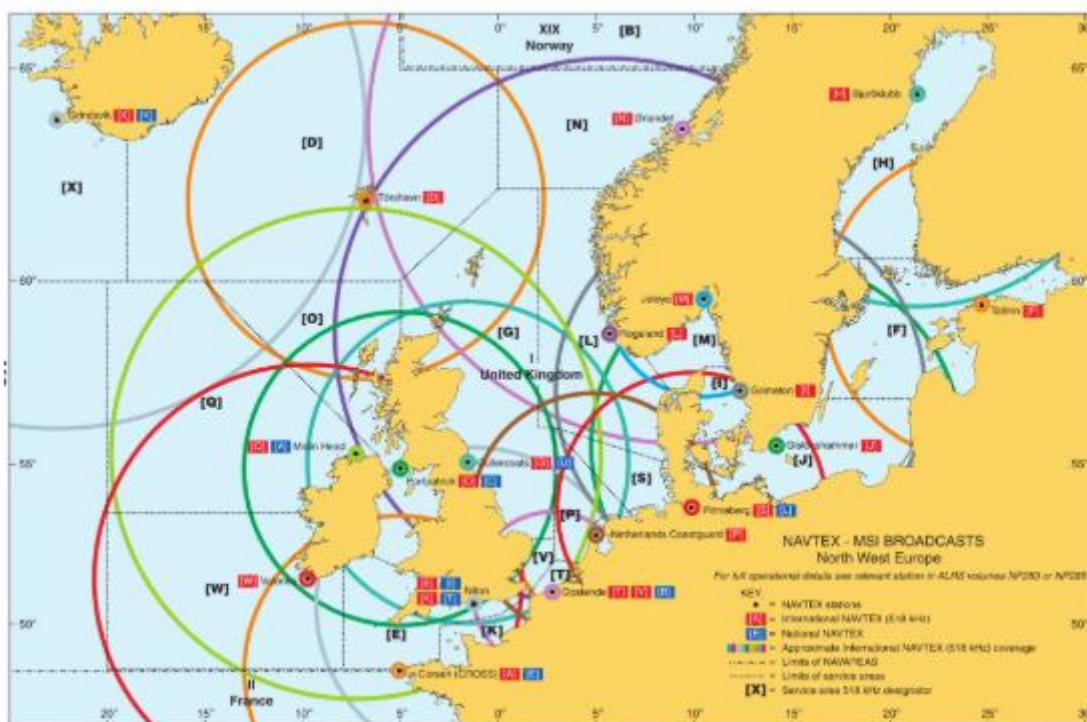
The Met Office act as the METAREA I Co-ordinator for the UK and the national issuing and preparation service for the UK. The primary products provided by the Met Office as part of the UK's Marine Weather Service are:

- Inshore waters forecasts
- Strong Wind Warnings (Beaufort Force 6, 22 knots or above)
- Shipping Forecast (for 31 Shipping Forecast Areas around and approaching the UK)
- Shipping Forecast 24 hours outlook
- Extended 3-day outlook (post-Shipping Forecast outlook)
- Gale Warnings (Beaufort Force 8, 34 knots or above)
- High Seas Forecast (for 13 'Deep Water' areas of the North Atlantic within METAREA I)
- Storm Warnings (Beaufort Force 10, 48 knots or above)

Additional services provided by the Met Office include the Fishing Fleet Forecast. This is issued between 1st of October and 31st March, comprising of 4 areas around the UK (Northern North Sea, broadcast by Aberdeen MRCC; Southern North Sea, broadcast by Humber MRCC; Southwest Approaches, broadcast by Falmouth MRCC; Northwest, broadcast by Shetland MRCC). Also, weather actuals or Coastal Reports, which are real time weather observations intended for validation.

The principal method for the dissemination of UK MSI is through the NAVTEX Service. The MCA is responsible for delivering this service, and HM Coastguard are the Navtex Co-ordinator.

UK coverage is provided out to 300 miles from Cullercoats station [G], Niton station [E] and Portpatrick station [O]. In addition to these stations, WZ warnings are also broadcast by the Belgium Administration via Oostende NAVTEX Station [V], primarily to cover the Thames Estuary and approaches. Select Inshore Waters Forecasts and Shipping Forecasts are also broadcast by the Irish Coastguard, via Malin Head [Q] and [A] and Valentia [W] NAVTEX Stations.



NAVTEX Coverage. © Crown Copyright 2024. All rights reserved.

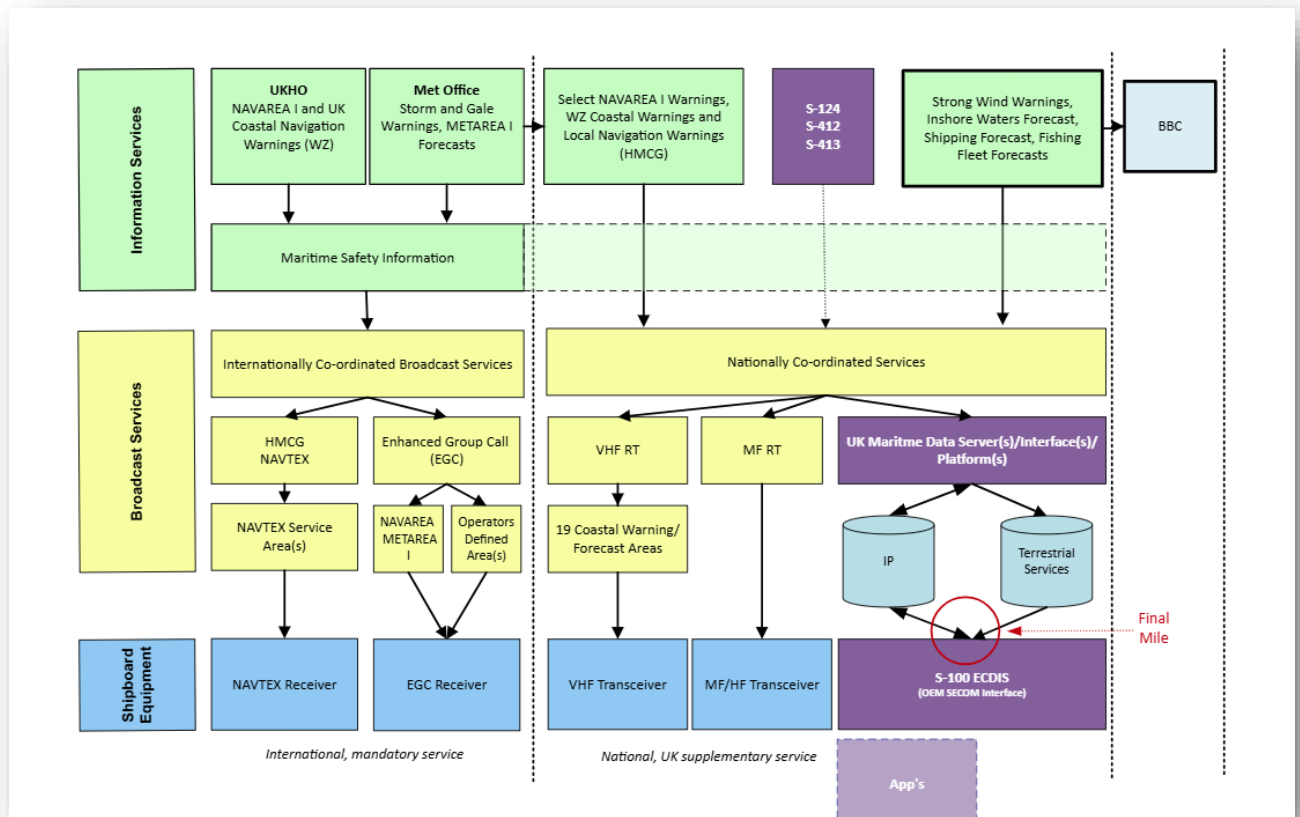
Reproduced from Admiralty List of Radio Signals (ALRS), UK Hydrographic Office.

NOT TO BE USED FOR NAVIGATION.

As we move towards a smarter, more connected, and greener maritime environment, new methods are needed to improve the timeliness and accessibility of MSI.

The International Hydrographic Organization (IHO) has introduced the S-100 Universal Hydrographic Data Model, the new standard for sharing and using maritime geospatial data products and services. This includes navigational warnings and meteorological forecasts and warnings, designed to be delivered directly and securely to the Electronic Chart Display Information Systems (ECDIS). These Standards have the potential to enhance seafarer safety, optimise ships routing, and support machine-readable products. In turn this could help to minimise emissions, support Maritime Autonomous Surface Ship (MASS) operations, and is hoped to reduce the cognitive burden on seafarers.

From January 1, 2026, some early test products will be available. Trials are underway and production capabilities are being developed, however, to fully realise the potential of '2nd Generation MSI' and have it officially recognised and incorporated into the GMDSS, a new regulatory framework for data distribution and global connectivity is essential. The MCA will be working with both its domestic and international partners to develop this. How these new digital products will be incorporated into the existing MSI framework has yet to be fully considered.



High-level Structure of the UK International MSI Service and National Safety Services. Note items in purple depict how new digital S-100 standards may be incorporated into the existing service framework.

The schematic above illustrates the current arrangement of the UK MSI Service and National Safety Services, where the new digital services will likely be provided in the short to medium term as part of the UK's complimentary services before being adopted by the IMO as a mandatory product in the future.

How the MCA gathers hydrographic data

Hydrographic survey is the process of gathering a wide variety of data for the purpose of describing the seafloor. To ensure that data is collected to the highest possible quality for navigational charting, the MCA, through our UK CHP Survey Specification 2022, specify the following requirements.

Standards

All surveys are conducted to the IHO Order 1a Survey Standard, as defined by the International Hydrographic Organisation (IHO) publication 'Standards for Hydrographic Surveys, Special Publication S44, Edition 6.1', with the exception of single-beam echosounder (SBES) check lines under the Routine Resurvey Programme.

Technical Requirements

Multibeam Echosounder (MBES)

- Multibeam bathymetry is collected during all CHP surveys.
- The MCA usually require 100% bathymetric coverage in all areas they survey.
- System detection capability is defined by IHO requirements. Contractors are required to detect objects whose size is greater than a cube measuring 2m³, in water depths of up to 40m, and a cube with sides equal to 10% of depth in deeper waters.
- A minimum of 9 soundings per minimum detectable object are required.
- Sound velocity measurements are routinely taken throughout the survey to position the soundings correctly.
- Contractors are often required to conduct tidal-stream observations at specific locations.

Quality Assurance

Data Quality Control

- In addition to QC procedures employed by CHP survey contractors, technical personnel from both the MCA and UKHO routinely visit contractors' vessels throughout survey operations to verify data quality.
- Prior to final survey data being accepted from contractors, it passes through a rigorous quality assurance process at the UKHO, where checks are made for items such as data density, inter-line consistency, geodetic parameters, tidal observations *etc.*
- Contractors are asked to provide error budgets prior to and after every survey so that the contribution of individual error sources are tightly defined. This ensures rigorous quality control of the final survey dataset.

Additional Measurements

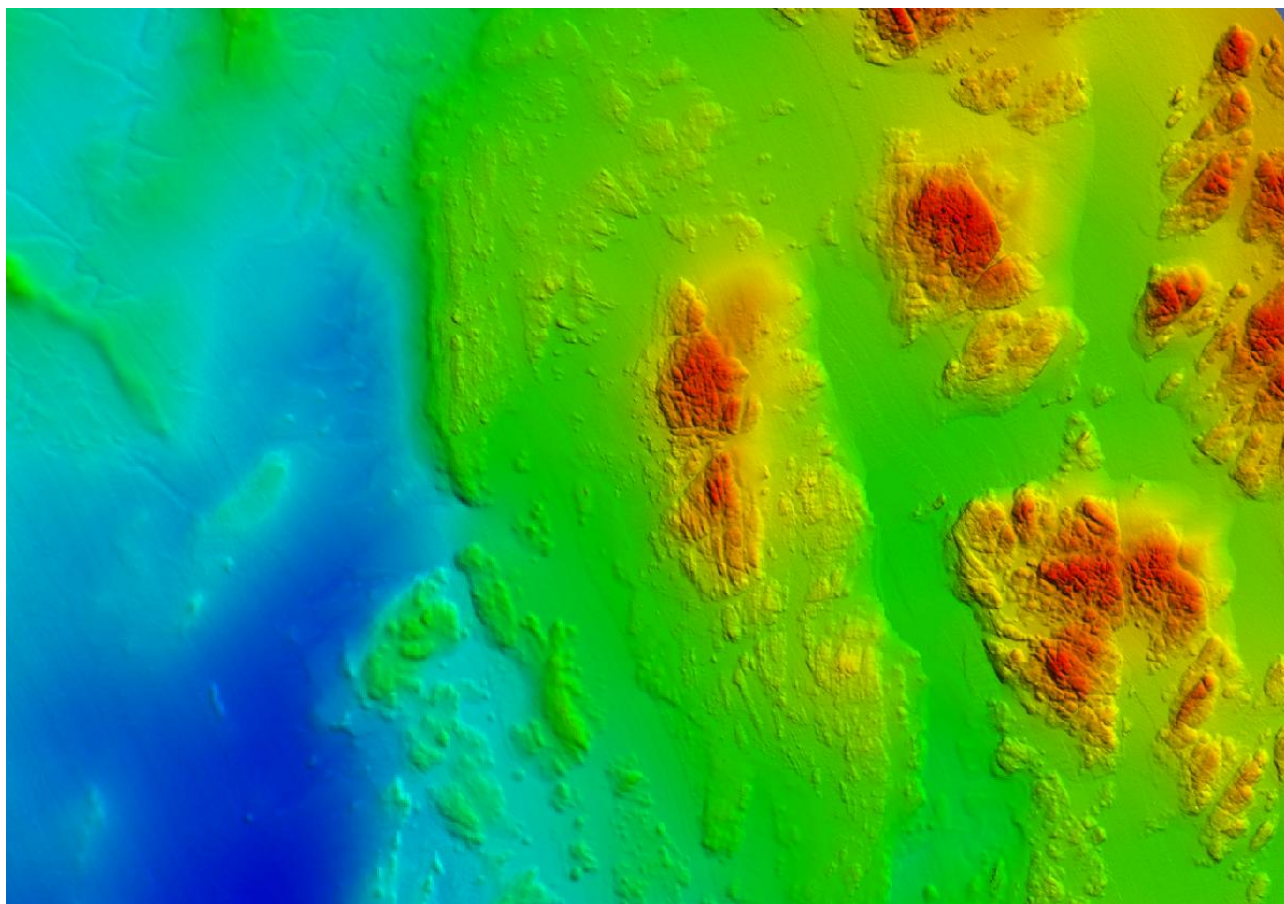
- Rigorous tidal reduction is required on all CHP surveys.
- Depths are reduced to Chart Datum (CD).
- Seabed grab samples are typically taken at 5km intervals to ground-truth multibeam backscatter observations.
- MBES water column data is collected over all found wrecks to support an assessment of their condition and ensure shoalest depth is found.

Propose a Survey

Should you know or be aware of any areas of UK seabed that require update to the nautical charts and publications that cover them, please let us know. The MCA assess CHP survey areas using a contemporary risk-based methodology, but we are keen to receive any information that can aid us in our responsibilities to the mariner and the safety of life at sea. E-mail your suggestions for hydrographic survey to: hydrography@mcga.gov.uk

Typical indications of an area requiring re-survey are:

- Old underlying survey data (check using the "Source Data Diagram" on the latest chart)
- A change in traffic patterns (e.g. increased marine traffic volume, ship routing changes, offshore wind farms and other infrastructure, etc.)
- An accident occurring due to inaccurate or incomplete survey data
- Changes to the seabed due to sandwave movement / channel migration
- Cumulative impacts of existing and future/proposed offshore wind farms and other infrastructure on ship routing within the UK EEZ and abutting with neighbouring Member States, and search and rescue planning, etc.



HI 1781 Southeast Shetland (Lot 1 Shallow Water)

Maritime Autonomy

Maritime Autonomy is a fast-growing area of the maritime industry, that is already being used for hydrographic survey. Whilst maritime autonomy can encompass both surface and sub-surface vessels, they are primarily maritime autonomous surface ships (MASS). There is a huge range of vessels being developed and MASS can be remotely operated with a human in the loop, either from a shore-based location or another vessel, as well as vessels that are fully autonomous and operated independent of human intervention. The remote and fully autonomous elements of these vessels are not restricted to just the navigation but can - and are - being applied to any function of a ship's operation.

Vessel Developments

Currently, MASS operating in UK waters are generally under 24m, remotely operated and unmanned, although some larger MASS are also capable of conventional manned operation. For commercial applications these are predominately being used for survey or marine monitoring. The military, particularly the Royal Navy, are also developing and operating vessels for Intelligence, Surveillance, and Reconnaissance (ISR), mine hunting and fast attack craft simulation. Some of these vessels incorporate more recent advances in autonomous technology, such as automated collision avoidance or computer vision to identify hazards to augment remote operator situational awareness. As the associated technologies mature and confidence grows, we will see it used in a wider variety of maritime applications (size and role), including retrofitting to existing vessels, enabling them to also operate as MASS when required.

Regulatory Developments

To ensure all MASS are operated safely and securely there is much work being undertaken internationally and domestically on how these vessels are regulated. The MCA and Department for Transport has identified changes that are required in primary legislation to allow the safe and environmentally sound operation of MASS in the UK, or for UK and British MASS. Addressing these changes will take time but the MCA has implemented certification routes to support industry such as MGN 664 Certification process for vessels using innovative technology, the Workboat Code and MGN 702 and 705. In addition to certification routes, MCA works with industry to develop guidance for remote operators and leads the work at the IMO where international code of MASS is being developed.

Workboat Code

In December 2023 Workboat Code Edition 3, and The Merchant Shipping (Small Workboats and Pilot Boats) Regulations 2023 entered into force. Workboat Code Edition 3 included two new Annexes – Annex 1 Alternative Fuels and Propulsion Systems, which set out requirements for battery-hybrid and battery-electric propulsion systems; and Annex 2 Remotely Operated Unmanned Vessels. Annex 2 sets out all additional requirements for a Remotely Operated Unmanned Vessel of <24m Load Line Length operating as a workboat. Remotely Operated Unmanned Vessels are defined as vessels with no persons on board, which are operated from a location remote to the vessel. Remotely Operated Unmanned Vessels will need to meet the requirements set out in Annex 2 of the Code in addition to the relevant sections of the main body of the Code.

MGNs 702 and 705

In 2024 two Marine Guidance Notices (MGNs) were published by the MCA for the smallest autonomous vessels. These MGNs each include a General Exemption which enables eligible vessels to operate without certification issued by the MCA or its delegates:

- MGN 702 Maritime autonomous surface ships (MASS) of less than 2.5 metres in length overall
- MGN 705 Remotely Operated Unmanned Vessels (ROUVs) of 2.5 metres to less than 4.5 metres in length overall

Vessels which do not meet the definition of a Remotely Operated Unmanned Vessel, as set out in Workboat Code Edition 3; or do not meet the conditions of MGNs 702 or 705; may be considered on a case-by-case basis via the MGN 664 (Amendment 1) certification process for vessels using innovative technology.

Remote Operator Training and Certification

The MCA has published guidance for remote operator training and competence (MGN 703), which further supports the development of safe remote operations. In addition, the MCA had coordinated stakeholder engagement in the MASS industry through the National Correspondence Group for MASS (NCG-MASS). This group has produced an initial remote operator Training and Certification Pilot Framework, which enables Training Providers to trial the delivery and assessment of generic remote operator competencies. This work in turn has been key in developing standards of training, certification and watchkeeping when engaging in working groups at IMO.

International Maritime Organization (IMO)

Following a detailed review of international safety regulations identifying barriers and gaps that could prevent the operation of MASS internationally, the IMO is now finalising a non-mandatory MASS Code to ensure these vessels can operate safely and securely internationally. The Code is goal-based allowing for flexibility in future design and operation of these vessels whilst still ensuring the safety of their operation. It is anticipated that this non-mandatory Code will be published in 2026, with it potentially becoming mandatory in 2032. The UK has played a leading role in the process and uses its experience working with the MASS industry, in areas such as hydrography, to influence the development of these international instruments.

Contact Details

MCA's maritime autonomy experts are based across the Agency in relevant departments; the following individuals will be able to help in the areas listed.

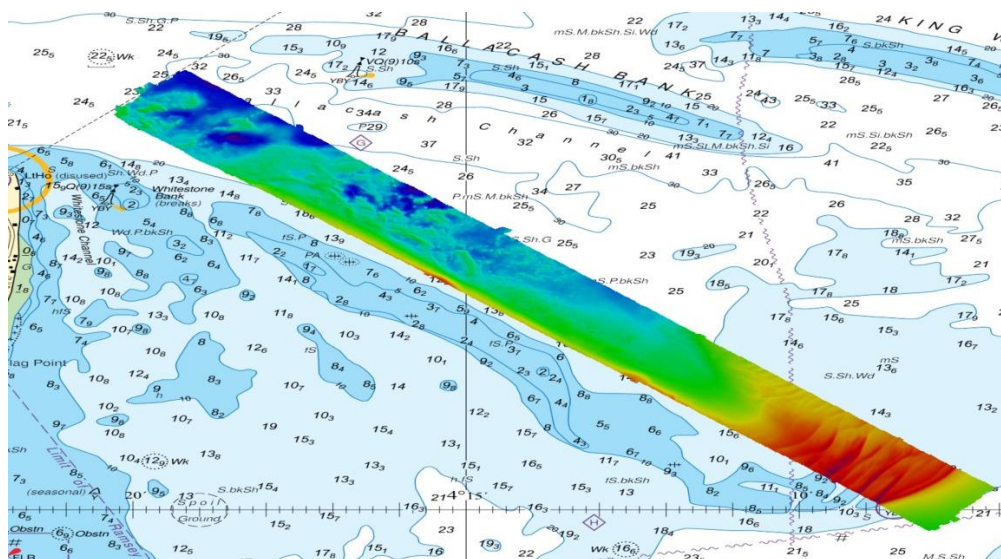
Katrina.Kemp@mcga.gov.uk	Maritime Autonomy Team Leader	IMO autonomy UK lead, Team Leader Maritime autonomy
James.OMahony@mcga.gov.uk	Autonomous Vessel Training Lead	MASS training and development
Jeremy.Jenkins@mcga.gov.uk	Maritime Autonomy Technical Specialist	MASS assurance and certification. Technical assessment, standards development research projects & trials
Esme.Flegg@mcga.gov.uk	Innovative Technologies Lead – Code Vessels	Maritime autonomy policy (<24m in load line length). Alternative fuels and propulsion systems (<24m in load line length)
Sam.Hodder@mcga.gov.uk	Ship Standards Policy Lead	Maritime autonomy policy
Anni.Koponen@mcga.gov.uk	Ship Standards Policy Adviser	Maritime autonomy policy

Sharing Data with the MCA

The MCA can provide help with and advice on hydrographic data gathering requirements to increase the usefulness of survey data. If you are considering conducting a hydrographic survey and are willing to share your data with us, we can pass it on to the UKHO for compiling new or updating nautical charts to help improve safety for mariners. Your survey does not need to be carried out to full charting standards to be of use. Even without a full search for dangers, a modern survey can improve our knowledge of the seabed. There will be no legal liability for you for the way that the data is used. However, data which fully complies with all aspects of IHO Order 1a would be ideal.

Ideally bathymetry data would be rendered and delivered in digital form, with:

- Data in one of the following formats: CARIS Project Directory or Generic Sensor Format.
 - Spurious data cleaned from the final, delivered dataset with rejected soundings included, but flagged as deleted.
 - Details of the method used for data-cleaning.
 - Digital data as full density (i.e. prior to any gridding or binning being applied), though if gridded datasets have been created then please include these too.
 - The soundings reduced using observed tides (not predicted tides from Tide Tables).
 - Depths referenced to Chart Datum for the area.
 - How tides were measured, how the tide pole or tide gauge was levelled and how depths were reduced to chart datum.
- A report of the survey that describes how the data was gathered and processed would be of use, especially if it includes:
- A list of the equipment and software used.
 - How positioning equipment was set up, calibrated and used.
 - How the echo-sounder transducer was set up and levelled, together with all sensor offsets.
 - Details of the horizontal datum to which the positions are referred (or the grid, if appropriate).



HI 1818 Bahama Bank North (Lot 1 Shallow Water)

Offshore Wind Energy & Shipping Safety

The MCA promotes the safety of navigation and UK search and rescue obligations for various projects such as offshore renewables, cables/pipelines, aquaculture, oil and gas, carbon capture storage and nuclear. The MCA and DfT are involved in various Marine Spatial Planning groups across the UK, and there is an ongoing need to ensure that navigation safety and search and rescue obligations are properly considered by all government departments.

The MCA and DfT attend the Ministerial Delivery Group on Marine Spatial Prioritisation to balance, and where necessary, prioritise demands for sea space. Competition for sea space between users is intensifying as the UK progresses ambitious targets set out in the recent Energy Security Strategy for achieving Net Zero by 2050, alongside environmental and biodiversity objectives for the UK EEZ. While there is a need to protect the marine environment, the safety of navigation encompassing important shipping routes and safe access to ports/harbours remains critical to the UK economy and must be protected.

With the increased growth of offshore windfarm developments in the North Sea, the countries around the North Sea need and want to co-operate on where wind farms are sited, especially those proposed near the borders of the EEZ.

Strengthening the existing relationships between the various Member States has resulted in greater focus to:

- better co-ordinate planning and development of offshore and onshore electricity grid expansion to facilitate the expansion of offshore wind;
- collaborate on maritime spatial planning;
- develop an integrated approach to assessing cumulative impacts on navigation; and
- comment on proposed policies on surveying in and around windfarms, for navigation safety and meeting SOLAS obligations.

These areas of mutual interest will continue to be discussed and advanced at the North Sea Hydrographic Commission Resurvey Working Group and the forum for Offshore Wind Energy and Shipping Safety in the North Sea.

Space Launch Activities

The Civil Aviation Authority is the United Kingdom's space regulator licensing launch and return activities, spaceports, and in-orbit operations. In addition to space regulation, a marine licence is required for any deposits made at sea from rockets launched within the UK. With up to seven spaceports proposed across the country, the frequency of rocket launches is expected to increase, potentially impacting the marine environment.

The MCA assesses each marine licence application on a case-by-case basis. Each application is expected to be supported by a Navigation Risk Assessment (NRA), aligned with risk mitigation measures agreed through the UK Safety of Navigation Committee. The Marine Licensing and Consenting Team is involved in both the marine licensing and the Space Industry licensing arrangements for space launch activities from the UK and has provided guidance, in consultation with the UK Hydrographic Office, to help mitigate the risk to shipping and navigation. We aim to ensure the risk is within the parameters of As Low As Reasonably Practicable (ALARP). This includes the assessment of any changes to the seabed topography because of rocket debris, which may cause a danger, or obstruction/reduces vessel under keel clearance.

Guidelines for Offshore Renewable Energy Developers

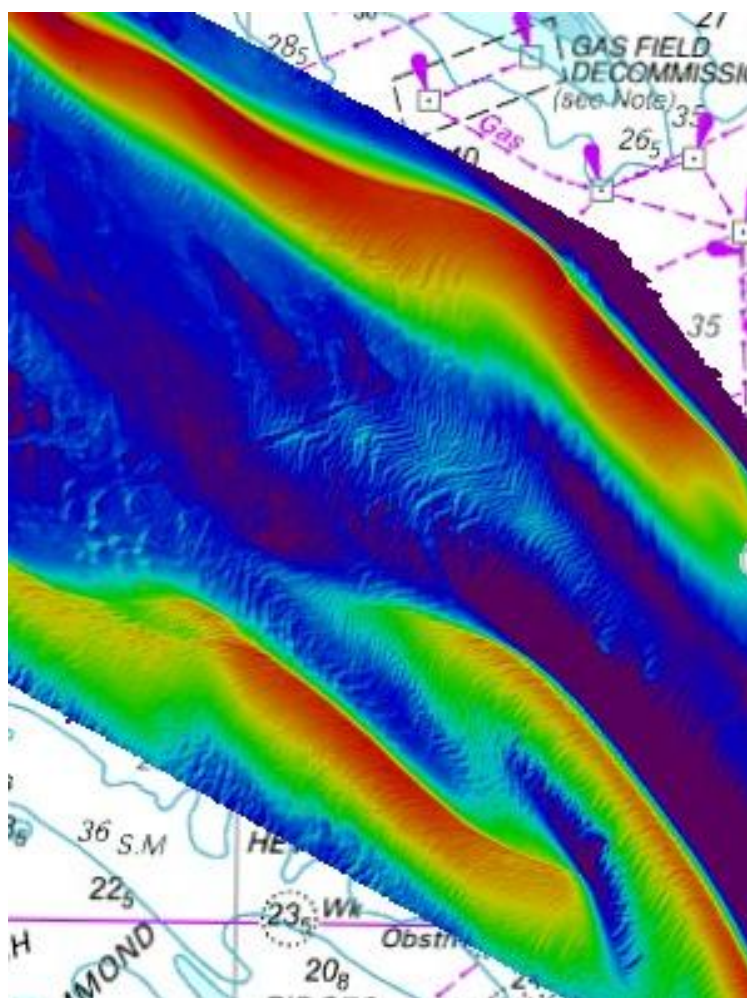
The MCA has issued guidelines which are intended to aid developers when submitting development consent applications that impact upon hydrography. These guidelines should be read in conjunction with Marine Guidance Note (MGN) 654, which is available on the MCA pages on gov.uk:

<https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

The MGN 654 guidance note highlights issues that need to be taken into consideration when assessing the impact on navigational safety and emergency response (search and rescue,

salvage and towing, and counter pollution) caused by offshore renewable energy installation developments. It applies to proposals in United Kingdom internal waters, Territorial Sea, and Exclusive Economic Zone.

All hydrographic surveys should provide full seafloor coverage that meets the requirements of the IHO Order 1a survey standard. Particular attention should be given to horizontal and vertical sounding accuracy, together with target detection requirements. It is requested that all data and reports are passed to the MCA for forwarding to the UKHO for the update of the UK's nautical charts and publications.



HI 1594 Smith's Knoll to Leman's Bank (Lot 2 Medium Water)

MGN 654: Hydrography

To establish a baseline, confirm the safe navigable depth, monitor seabed mobility and to identify underwater hazards, detailed and accurate hydrographic surveys are required of the development at the following stages:

- Pre-construction: the proposed generating assets area shall be undertaken as part of the licence and/or consent application. The survey shall include all proposed cable route(s).
- Post-construction: Cable route(s).
- Post-decommissioning of all or part of the development: the installed generating assets area and cable route(s).

The development may result in an alteration to maritime traffic patterns as vessels seek alternative passage around the installed generating assets area. Where this is the case, it may be considered necessary that a hydrographic survey of these alternate passages and their immediate environs be undertaken. MCA can provide guidance.

Where shipping corridors are formed within or adjacent to the consented generating assets area, the requirement for hydrographic surveys shall be referred to the MCA and undertaken on a case-by-case basis. All hydrographic surveys listed above should fulfil the requirements of the MCA's 'Hydrography Guidelines for Offshore Renewable Energy Developers.'

Contact Details

navigationsafety@mcga.gov.uk

Helen.Croxson@mcga.gov.uk

Nick.Salter@mcga.gov.uk

Marine Licensing & Consenting Manager

Offshore Renewables Lead

On completion of each survey, the bathymetric data and associated report of survey should be delivered to the MCA.

The MCA is responsible for collecting and supplying data to the UKHO to update nautical charts and publications for the purposes of navigation safety.

The commercial sensitivity of your data will always be respected.

Developers are reminded of the requirement to report significant changes in depths from charted depths that become a navigation hazard to UKHO so Navigational Warnings and Notice to Mariners can be issued, if necessary.

Please send your data and reports to:

Head of Hydrography & Meteorology

UK Technical Services Navigation

Maritime & Coastguard Agency

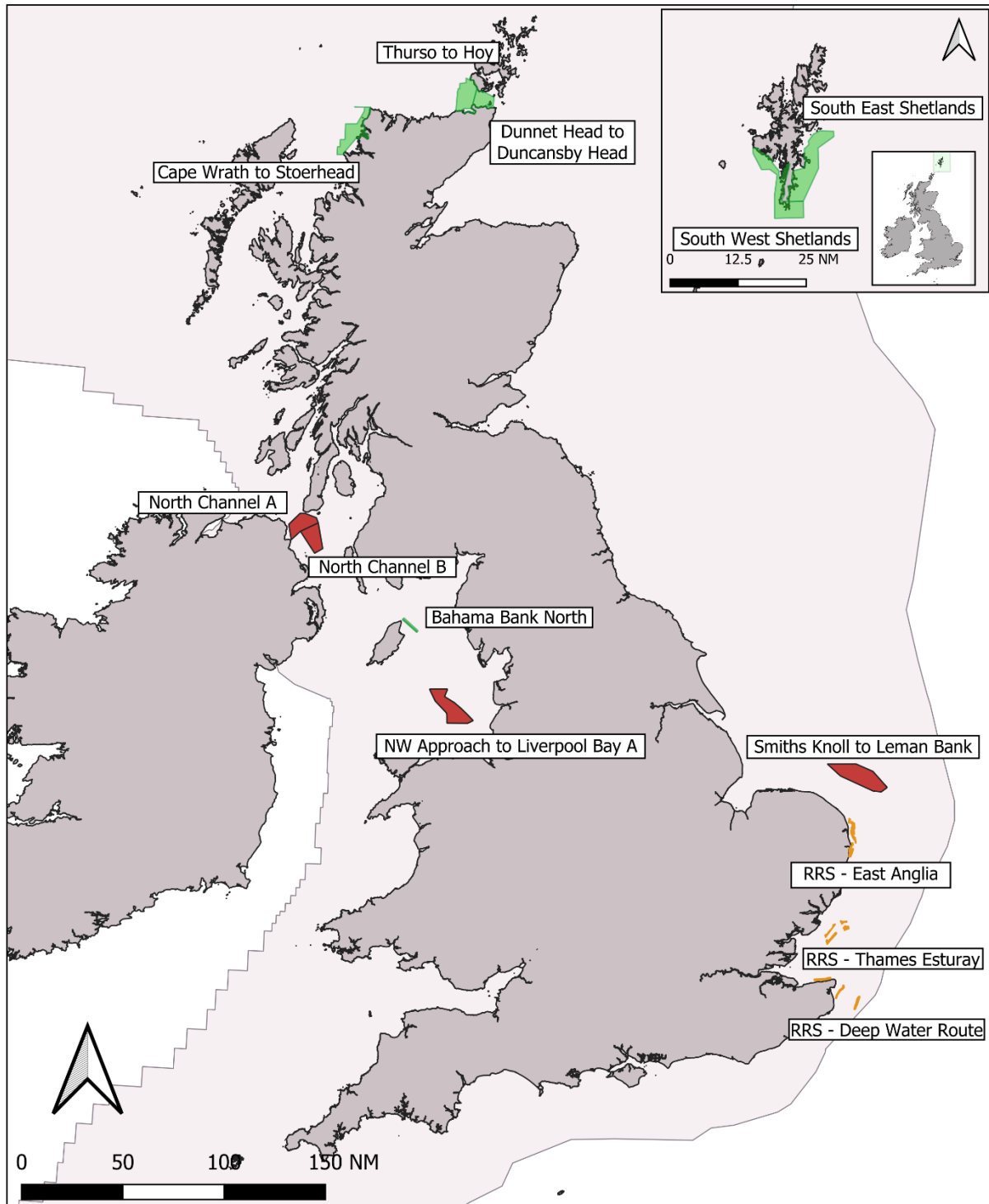
Bay 2/25, Spring Place

105 Commercial Road

Southampton, SO15 1EG

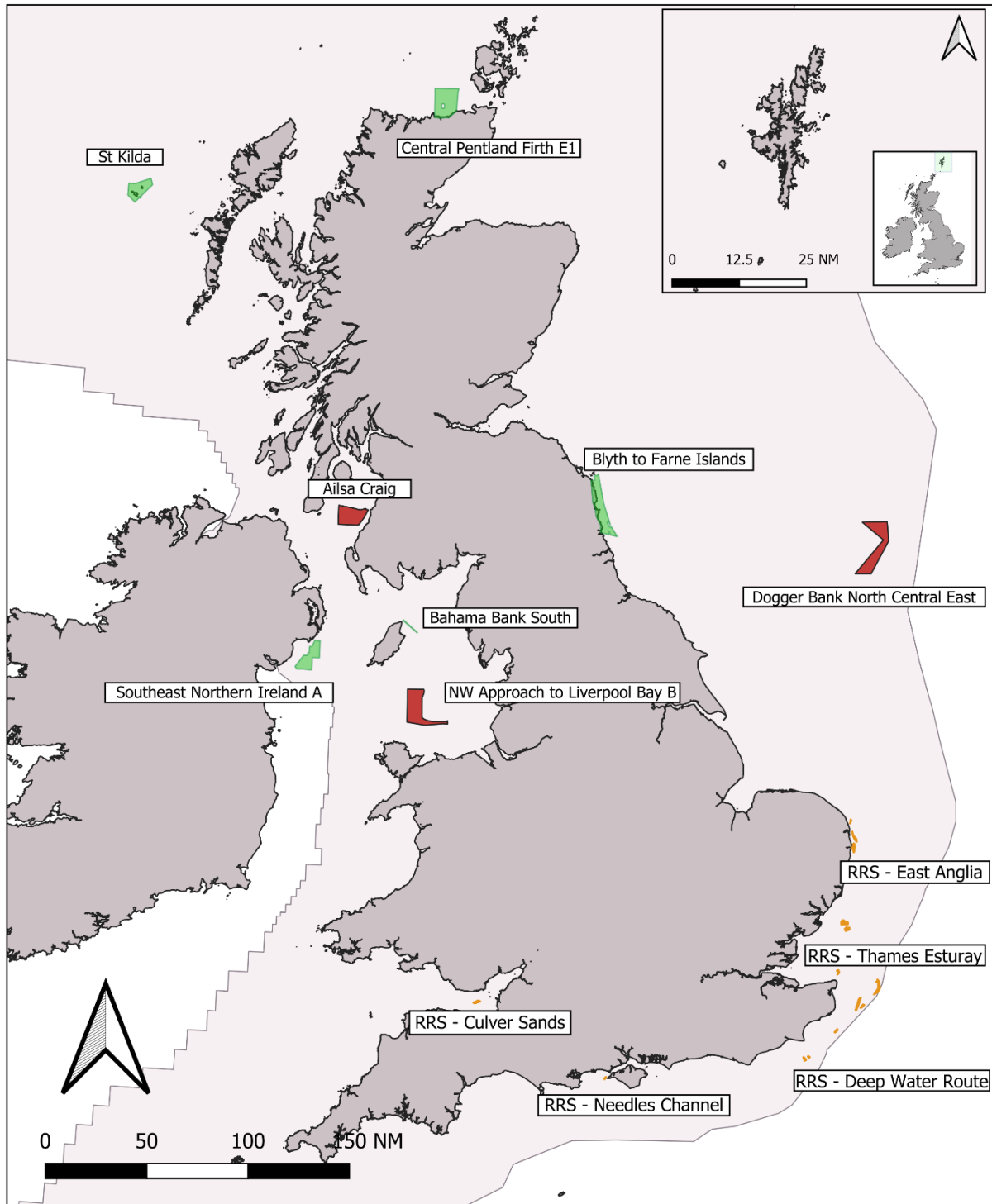
If you require any further assistance with the above guidelines, please contact the MCA at: navigationsafety@mcga.gov.uk

Annex 1: CHP Surveys 2024/25



CIVIL HYDROGRAPHY PROGRAMME SURVEYS 2024-2025			
	LEGEND:	CHP 2024-25 SHALLOW WATER AREAS CHP 2024-25 MEDIUM WATER AREAS CHP 2024-25 RRS AREAS EEZ/CHP AREA OF RESPONSIBILITY	 Maritime & Coastguard Agency
	NOT TO BE USED FOR NAVIGATION		
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		DRAWING Projection: WGS1984 World Mecator Originator: AM Date: 26 Aug 2025	

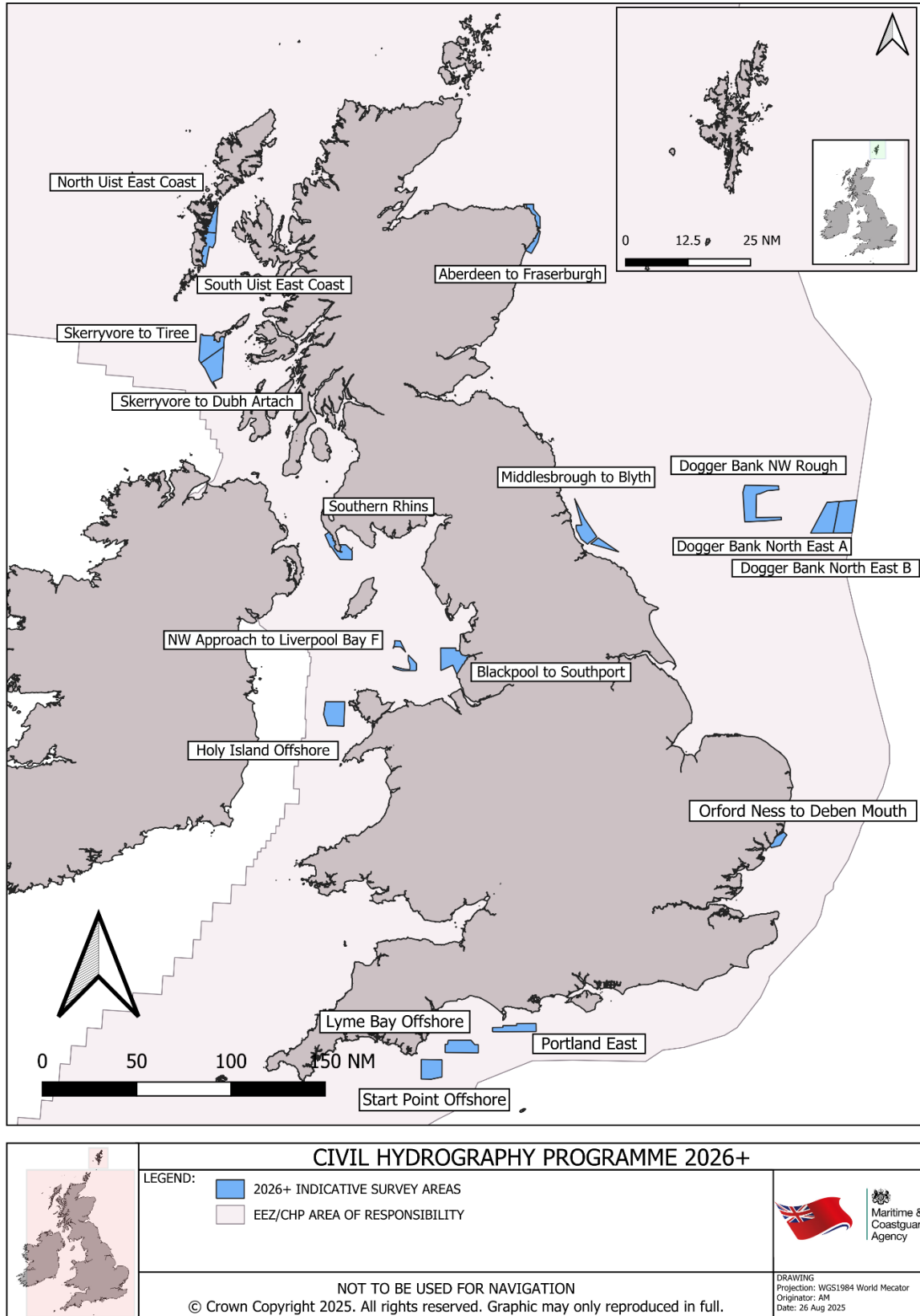
Annex 2: CHP Surveys 2025/26



CIVIL HYDROGRAPHY PROGRAMME 2025-2026		
	LEGEND:  CHP 2024-25 SHALLOW WATER AREAS  CHP 2024-25 MEDIUM WATER AREAS  CHP 2024-25 RRS AREAS  EEZ/CHP AREA OF RESPONSIBILITY	 Maritime & Coastguard Agency
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Annex 3: Indicative CHP Surveys 2026/28

High priority areas under consideration for either taking forward in subsequent years, or may be brought forward to the current year, depending on available MCA budget, collaboration opportunities and survey capacity.



Annex 4: UKHO Chart Updates

CHP HI	ENC Published		Chart Published	
	Name	Date	Name	Date
HI 1716	GB300266	25/04/24	266	26/09/24
HI 1727	GB300107 GB300108	02/01/25	108	22/05/25
HI 1792	GB4DEVEQ GB4DEVJD GB4DEVEL	02/06/25	2010	29/05/25
HI 1787	GB301795	14/10/24	1757 1795	Planned
HI 1797	GB300266	25/04/2024	266	26/09/24
HI 1817	GB302094 GB301320 GB4DERVK	11/06/24	2094	Planned
HI 1789	GB302199 GB302198	03/04/25	2199	Planned
HI 1802	GB301975 GB302052	13/02/25	1975 2052	20/03/25
HI 1803	GB40302C GB301975	13/02/25	1975 2692	20/03/25
HI 1855	GB4DNANB	27/02/25	1534	26/06/25
HI 1856	GB4DNANB GB4DNANF	13/03/25	1534	26/06/25
HI 1857	GB4DNANA GB4DNANE	16/01/25	1534 1535	26/06/25
HI 1858	GB4DNANA	27/03/25	1535	26/06/25
HI 1859	GB4DNANB	10/04/25	1534	26/06/25
HI 1860	GB4DNANA	27/03/25	1535	26/06/25
HI 1861	GB4H0002 GB40302B	27/02/25	2692 1975 2052	20/03/25
HI 1862	GB4H0003 GB40302C	20/03/25	2692 1975 2052	20/03/25
HI 1863	GB40302B GB40302C GB301975	13/02/2025	2692 1975	20/03/25
HI 1864	GB401828 GB301607	05/12/24	1607	20/03/25
HI 1865	GB4DNALB GB4DNALC	06/11/24	323 1892	Planned
HI 1866	GB401828	05/12/24	1828	04/09/25
HI 1892	GB4DNANB	15/08/25	1534	Planned

Contacts

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Web: www.gov.uk/mca

Hydrography and Meteorology Team

Andrew Colenutt, Head of Hydrography & Meteorology

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Rebecca De Bono, Hydrography Programme Co-ordinator

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