



Defence Maritime Geospatial Intelligence Centre (DMGIC)

Products and Services Guide



United Kingdom
Hydrographic Office

**6th Edition
2018**



United Kingdom Hydrographic Office

Defence Maritime Geospatial Intelligence Centre

Products and Services Guide

Defence Maritime Geospatial Intelligence Centre (DMGIC) products are designed for navigation and the enhancement of situational awareness for dived and surface vessels as well as amphibious craft and maritime air platforms.

Extensive digital data holdings and expert compilation skills and techniques within DMGIC allow us to quickly compile products bespoke for operations, particularly emergency situations, or humanitarian operations such as disaster relief.

Products at a Glance at the beginning of this handbook, is a quick reference guide to products to enable easy identification of the most suitable product for a particular purpose.

Tell us about the task you need to do and we can create products from existing data holdings to enable:

- maximum exploitation of the marine environment and littoral zone
- increased chance of successful outcomes
- a battle winning edge.

Requests for Information - RFI

As the Maritime Specialist Geospatial Centre for the MOD, UKHO contributes to the Request for Information (RFI) process managed by the Joint Forces Intelligence Group (JFIG). The RFI process allows the customer to state an information requirement (an example would be for bathymetric data or imagery within a particular area of interest) which the UKHO Support to Operations team can then manage and supply data and products as appropriate. It is particularly useful for the provision of bespoke products and datasets in support of specific operations.

The RFI template can be found at:

https://jfig.ahe.r.mil.uk/serv_submit_rfi.htm

For further details please contact soe@UKHO.gov.uk

March 2018

For more information please contact Defence Service Delivery:

Telephone +44(0) 1823 48 3708
Email defence.servicedelivery@ukho.gov.uk

DMGIC Products and Services at a Glance

Product or Service	Page	Use	Beach (above low water line)	Littoral (offshore)	Marine (blue water)	Paper	Digital	Digital Format	Supported Systems	Bespoke See note 2
AML (see note 1)	5-7	Situational Awareness	•	•	•		•	S57, NetCDF	WECDIS, SONAR, C2, MERLIN Mk2	
ARCS (Standard commercial product)	3	Navigation		•	•		•	HCRF	WECDIS	
AVCS (Standard commercial product)	3	Navigation		•	•		•	S57	WECDIS	
AENP - Electronic Pilots	4	Navigation	•	•	•		•	UKHO digital product	Generic	
Beach Intelligence Survey Database - BIRD	16	Situational Awareness	•				•	PDF/GIS	Generic	
Defence Maritime Environmental Briefs - DMEB	11-12	Planning			•		•	pdf & ESRI ArcReader	Generic	
Environmental Awareness Charts - EAC	12-13	Situational Awareness			•	•	•	pdf	Generic	
Environmental Briefing Docket - EBD	14	Situational Awareness	•	•	•		•	HTML PDF	Generic	
Fleet ARCS	4	Surface navigation		•	•		•	HCRF	WECDIS	
Fleet Thematic Charts	9	Situational Awareness		•	•	•				
Fleet Training Charts	20	Navigation training		•	•	•	•	HCRF	WECDIS	
Geotiffs of UKHO Standard Navigational charts	5	Powerpoint, planning		•	•		•	geotiff	Generic	
Global Ocean Atlas - GOA	14	Situational Awareness			•		•	HTML, HTML, PDF	Generic	
Gridded Physical Properties Database - GPPDB	19	Situational Awareness			•		•	Netcdf	various	
HMNAO Ground Illumination Diagrams (GIDS)	10	Situational Awareness	•	•	•		•	.pdf	Generic	•
Hydrographic Port Assessment	17	Situational Awareness		Port			•	Powerpoint	Generic	•
Identification Guide to Whales, Dolphins and Porpoises	15	Planning & mitigation			•	•	•	pdf within DMEB, EBD and SPS	Generic	
Maritime Foundation Database - MFDB	8	Situational Awareness	•	•	•		•	Various	Various	
Mine Warfare Environmental Summaries	18	Mine hunting		•	•		•	HTML	Generic	
Mine Warfare Pilots	18	Mine hunting		•			•	ARC Reader Project (note 4)	NAUTIS-4, PC, Laptop	•
NavPac and Compact data DP330	9	Astro Navigation	•	•	•	•	•	•	Generic	
Operational Graphics	9	Situational Awareness	•	•	•	•	•	JPEG, PDF etc.	Generic	•
Request for Information - RFI	1	Navigation & SA	•	•	•	•	•	Any	as requested	•
Satellite Derived Bathymetry	16	Situational Awareness	•	•		•	•	Any	Generic	•
Submarine Electronic Navigational Chart (SMENC)	3	Submarine navigation			•		•	S-57	WECDIS	
STOIC - Special Tactical Operational Information Chart	8	Situational Awareness	•	•	•	•	•	PDF	Generic	•
STOIC - In Theatre	9	Situational Awareness	•	•				Various	Laptop	•
Strategic Port Summary - SPS	17	Situational Awareness		Port			•	HTML	Generic	•
Submarine paper charts	7	Submarine SA		•	•	•				
Tactical Pilotage Charts (Maritime) TPC(M)	19	Situational Awareness	•	•	•	•	•	ASRP		

1. See the AML Handbook for full details. Request by emailing aml@ukho.gov.uk

2. Bespoke products are created from existing data to suit specific operations and exercises eg. humanitarian aid operations or emerging NATO operations. Contact JOMOC in the first instance.

3. ARC Reader software is free ESRI software that will read ESRI Published Map Files (.pmf); can be loaded onto any PC.

Standard Navigation Products

AVCS

Admiralty Vector Chart Service

AVCS is a standard commercial service that provides ENCs (Electronic Navigational Charts) from the world's hydrographic offices.

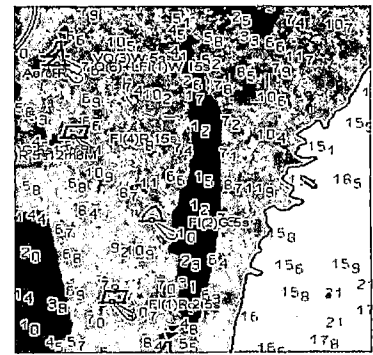
Defence Service Delivery acts as the Distributor of AVCS to the RN and MoD and provides specialist support to Navigators and other Defence users. World coverage of all ENC cells available from UKHO is provided via DVD, and permits are to be purchased to view the ENC cells required. ENC's can be viewed via ADMIRALTY gateway if WECDIS is not available, together with ATT, ADLL and ADRS when installed on the same machine.

Format: S57

Supply: Permits to use individual ENC's are ordered using the Admiralty Digital Catalogue available from the UKHO website or ADMIRALTY gateway

Updates: Weekly chart updates (NMs) and New Editions are provided via the service.

UKHO contact: Email: defence.servicedelivery@ukho.gov.uk



SMENC

Submarine Electronic Navigational Chart

SMENC is a vector based, bathy-rich, digital product that portrays seafloor configuration using additional contours in areas deeper than 30 metres. In addition to standard navigational data SMENCs include wrecks and obstructions in S-57 format suitable for subsurface navigation. SMENCs are stand alone navigational products covering littoral and offshore areas. Updates are provided as required.

Benefits: Detailed depiction of the seabed & S57 anti-grounding alarms

Target user: Submarine and surface vessels towing submerged sensors or equipment and for training.

Format: S57

Supported systems: ECDIS/WECDIS

Contact: defence.servicedelivery@ukho.gov.uk

ARCS

Admiralty Raster Chart Service

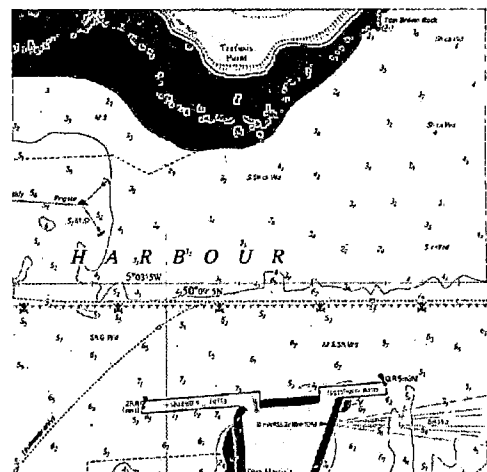
This commercial product provides the raster version of standard Admiralty paper navigational charts. UKHO acts as the Distributor of ARCS to the Royal Navy and MoD, and provides specialist support to Navigators.

Format: HCRF

Supported systems: ECDIS/WECDIS

Supply: ARCS Licences and permits are delivered by Defence Service Delivery

Contact: defence.servicedelivery@ukho.gov.uk



Fleet ARCS **Fleet Admiralty Raster Chart Service**

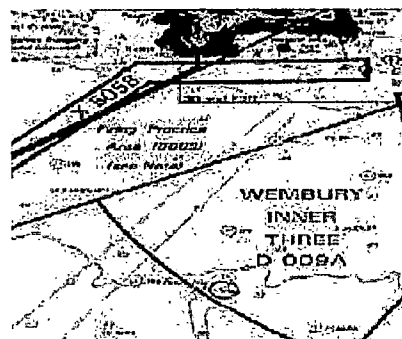
Standard navigational ARCS (as above) with additional data for Fleet operations. Note: not all Fleet charts are available as ARCS.

Format: HCRF

Supported systems: ECDIS/WECDIS

Supply: ARCS Licence from Defence Service Delivery and the RC20 disc with weekly updates.

Contact: defence.servicedelivery@ukho.gov.uk



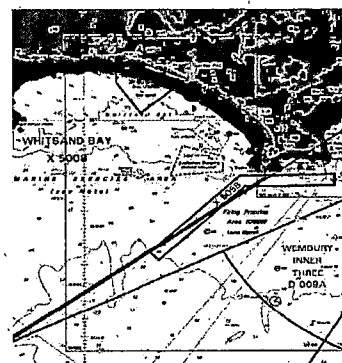
Fleet Charts

Based on Standard Navigational Charts with overlays adding exercises, training areas and operational or grid information. Most Fleet charts are available as ARCS charts.

Format: ARCS

Supply: Authorised demanders order through defence.servicedelivery@ukho.gov.uk

Updates: by Fleet ARCS Weekly update disc



AENP – Electronic Sailing Directions and References

Electronic versions of Admiralty Pilots (Sailing Directions and other reference books), delivered via a base DVD, and permits are delivered by email to view the Pilots required. Permits last for 12 months and can be ordered at any time. Updates are applied electronically via a weekly update disc.

Supply: Authorised demanders contact defence.servicedelivery@ukho.gov.uk

Sailing Directions and Reference books available in paper and AENP digital format:

Sailing Directions NP 1-74

NP 136 Ocean Passages for the World

NP 100 The Mariner's Handbook

NP 314 The Nautical Almanac

NP 231 Guide to the Practical Use of ENCs

NP 5012 Guide to ENC Symbols

NP 232 Guide to ECDIS Implementation, Policy & Procedures

NP 294 How to Keep your ADMIRALTY Products Up-to-Date

NP 5011 Symbols and Abbreviations Used on ADMIRALTY Charts

Situational Awareness Products

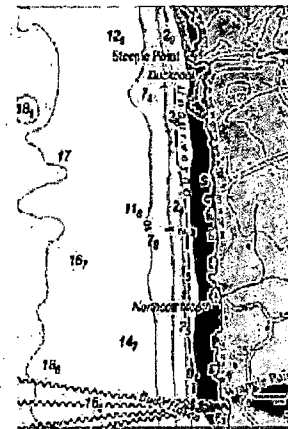
Geotiffs of Standard Nautical Charts

Derived as a by-product of ARCS, geotiffs have the borders removed and are not to be used for navigation. They are provided for situational awareness and briefing purposes only. Supplied as small digital files that can be delivered via email.

Purpose: Planning, briefings

Format: GEOTIFF

Supply: on request from defence.servicedelivery@ukho.gov.uk



AML

Additional Military Layers

Vector and gridded format digital data sets providing a unified, interoperable product for the enhancement of Situational Awareness. AML supports digital navigation within WECDIS to enhance manoeuvrability, access and reach of maritime forces.

The individual AML products are described below. More details are available in the AML Handbook and also the AML User Guide; both available from Defence Service Delivery.

Catalogues showing coverage are available from UKHO or MCSU.

Benefits: Increased operational effectiveness through better exploitation of the environment. A large amount of detailed data is available within the data sets.

Format: S57 AML v1.0 (and 2.0 for IWC)

Supported systems: WECDIS, DNA2, WAIS, SONAR Systems S2050 and S2091, CMS, S2117, ICC and non-surface combatant systems e.g. MERLIN Mk II Tactical Command System.

Supply: Automatic supply of the Global disc, by MCSU to Authorised Demanders; the CD is encrypted; supplied twice per year with additional New Editions of individual cells when required.

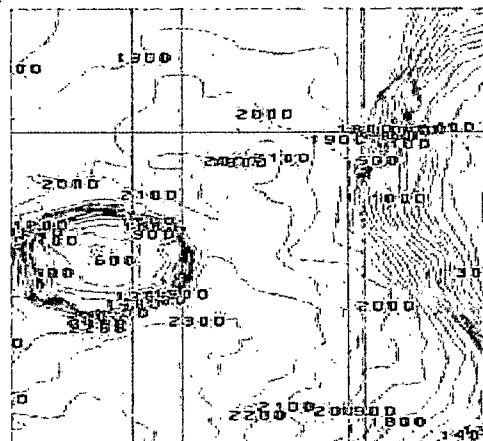
Updates: AML is updated according to the strategic priorities set by FLEET. Significant changes to AML RAL TTW limits are issued by New Edition as they occur.

MCSU Contact: +44 (0)2392212054 Email: NAVYIW-MCSUSVCDESK@mod.gov.uk

AML – Contour Line Bathymetry - CLB

High density contours, spot soundings, and depth areas.

Designed for Anti-Submarine Warfare and any other maritime operations in which high definition bathymetric information is required.



AML - Environment Seabed & Beach – ESB

Designed to provide information about the seabed and beach areas in support of mine counter measures and amphibious operations. Includes:

- Composition and depth of multiple sediment layers and bedrock
- Acoustic/physical properties
- Beach slope
- Sand waves
- Trawl scours
- Vegetation
- Large scale beach information
- Beach information is currently provided through the BISD products (see Beach Intelligence products).



AML - Maritime Foundation and Facilities – MFF

Contains features providing a reference background where standard navigational products such as ENCs are not available. Features included are:

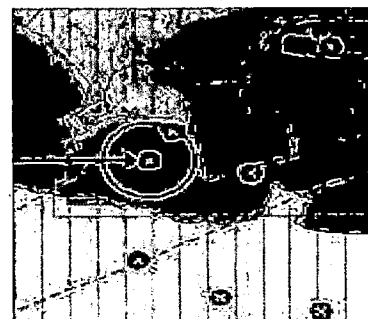
- Coastline
- Built up areas
- Lights
- Buoyage
- Magnetic information
- Tidal information
- Communications facilities
- Pipeline and cable data
- Fishing activity
- Wind farms, Oil gas production areas
- Traffic Separation Schemes
- Ice limits



AML – Large Bottom Objects - LBO

Contains all objects on the sea bed larger than 5 metres in any dimension. Each bottom object includes full attribution beyond that shown on a standard navigational chart; useful for submarine and anti-submarine operations and for mine warfare applications. LBO includes:

- Wrecks
- Rocks
- Obstructions



AML – Small Bottom Objects - SBO

Contains all known bottom contacts smaller than 5 metres in any dimension i.e. mines and mine-like objects.

Used for mine counter-measures, amphibious and route lead-through operations.

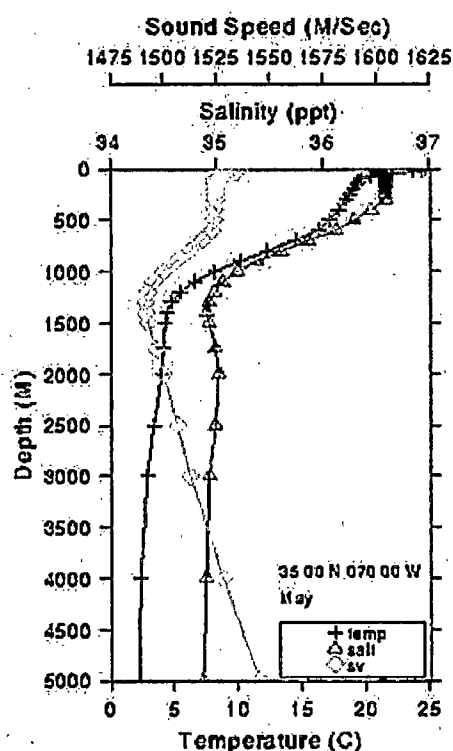
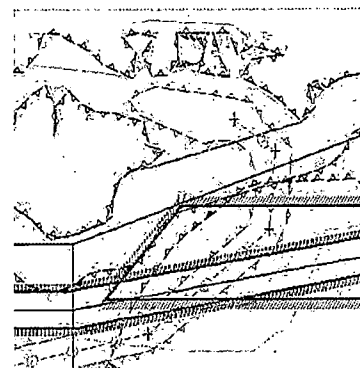
Mine Warfare data is supplied through the UKHO Mine Warfare Data Centre (see Mine Warfare Pilots).



AML – Routes Areas and Limits - RAL

A layer containing features useful for a variety of planning and operational purposes. It includes the following feature types:

- Territorial waters limits, EEZ, fishery limits, contiguous zone, continental shelf, straight territorial baselines
- Military Practice Areas – danger areas, PEXA, safe bottoming areas, testing and evaluation ranges
- Q routes
- Restricted areas e.g. historic wrecks, mine fields, safety zones
- Swept areas
- Waypoints/reporting/calling in points, NAVAIDS, helicopter reporting points, rendezvous points, radio calling in points



AML – Gridded Products

IWC – Integrated Water Column

Climatological data to describe the likely conditions to be found within the water column, including temperature, salinity and marine mammal distribution.
Format: NetCDF format.

AMC – Atmospheric and Meteorological

Climatology provided by the Met Office describes meteorological and climatological conditions to assist with operational planning. The gridded datasets include Wind speed direction and frequency, air temperature, relative humidity, dew point, pressure, cloud cover, visibility and the likelihood of meteorological phenomena.
Format: GRIB

GS-ESB – Gridded Sediment ESB contains gridded data on the geo-acoustic properties of the sediment layer in a gridded format.
Format: NetCDF

Submarine Paper Charts Shelf bathymetric contour charts

Submarine paper charts containing additional high density contour information for submarine and ASW assets. These charts are not updated for Notice to Mariners and are for Situational Awareness use only. Coverage is limited to 19 metric charts in Home Waters. These are available with authorisation from NAVY SHIPS SM NAVSEA SO2.

Benefits: Superior situational awareness.
Target User: Submariners, surface vessels and for training.
Format: Paper
Supply: Via Defence Service Delivery to Authorised Demanders.

General Geospatial Data Products

MFDB

Maritime Foundation Database

MFDB supports requests for standard Maritime data for GIS applications and users. The MFDB contains Global coverage of ARCS, AML, ENC, Fleet ARCS, Submarine ARCS and submarine ENCs data and is updated on a weekly basis.

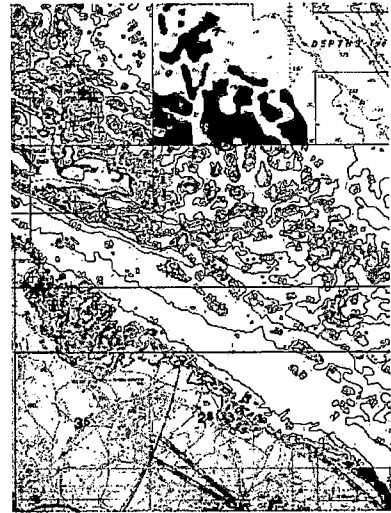
Formats: Shape Files, Personal Databases, File Database, Tiff and bespoke ArcGIS projects

Supported systems: ESRI Arc GIS

Benefits: Consistent structure and symbolisation of information. Standard ArcGIS projects supplied with standard MFDB layer files and presentation of data. Data is rendered to show vector data at the appropriate scale band.

Target User: Mission Planning and Situational Awareness support activities.

Supply: contact defence.servicedelivery@ukho.gov.uk



STOIC

Special Tactical Operational Information Chart

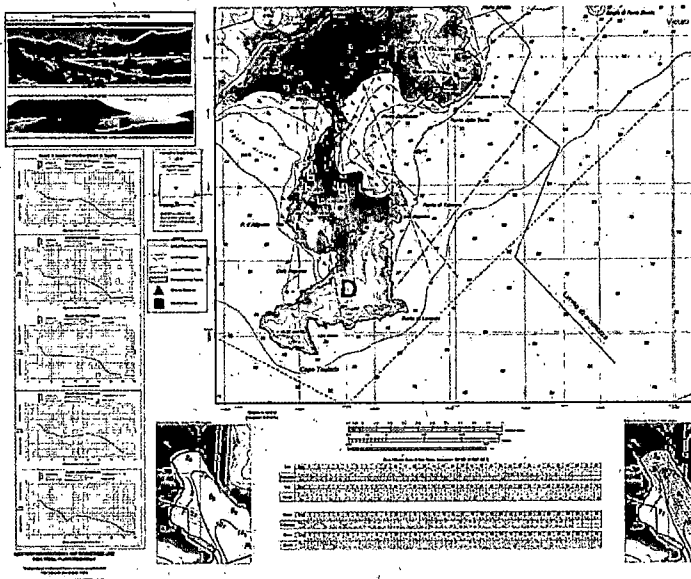
Existing data already held in UKHO relevant to the operation or exercise is gathered and compiled into one product, delivered either in digital or hard copy format. A bespoke service providing data for briefing purposes and operations such as beach landings. Can be provided at short notice and should be destroyed after use as updating is not provided.

Purpose: Enhancement of Situational Awareness

Format: Generic eg. pdf, jpeg, geotiff,, tiff or printed paper.

Supply: On request via SOE@ukho.gov.uk through the RFI process

Example of STOIC



STOIC (In Theatre)

Create your own STOIC combining UKHO data and data collected in theatre.

Existing data relevant to the operation or exercise is supplied on a laptop for users to create their own digital or printed STOIC, or Powerpoint document for briefing purposes. The software to create the document is provided. Field gathered data can be added to data supplied by UKHO. For briefing purposes and operations such as beach landings and weapons targeting.

Limitations: Relies on the IT capability of the user but training can be provided at DMGIC if required.

Purpose: Briefings and operations.

Format: existing UKHO data supplied on a laptop

Supply: On request via SOE@ukho.gov.uk through the RFI process (SO2 HM OPS)

Operational Graphics

Generally 'one-off' bespoke chart-like graphics, based upon existing navigational charts, using additional data held within UKHO or sourced from other organisations; for any operational, training, briefing purpose e.g. arbitrary grid for mine clearance.

Format: Any format as required

Supply: On request by Authorised Demanders via RFI

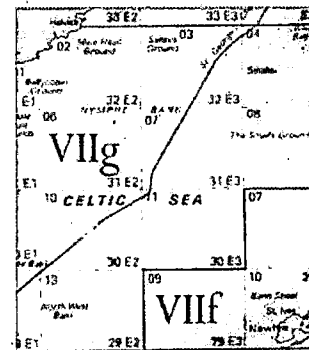
Fleet Thematic Charts

Non navigational (hard copy) charts and overlays e.g. fishery, Plotting, Grid, Planning.
Coverage is shown in NP104

Purpose: Planning, Exercise, Situational Awareness

Format: Paper

Supply: Supplied to Authorised Demanders as ordered



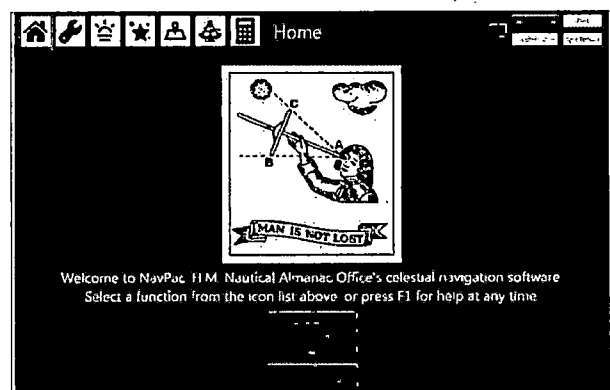
NavPac and Compact Data DP330

A software product designed to assist in Astro-Navigation and in situations where GNSS positioning data are denied or corrupted. Also, provides facilities for Sun and Moon rise/set times and twilight times for any location, and celestial navigational object azimuth positions for bearing-only navigation and mandatory compass checks.

Purpose: Designed to assist in the planning and practice of Astro-Navigation, and provides situational awareness for celestial object positions.

Format: Software

Supply: contact
defence.servicedelivery@ukho.gov.uk



HMNAO Ground Illumination Diagrams (GIDs)

GIDs provide a significant amount of environmental awareness in a compact easy to understand format that can be annotated by the user for operational planning purposes.

The diagrams provide calculated millilux levels based on Sun and Moon positions and phase together with the effects of starlight and airglow. Three curves are provided for guidance on the effect of different sky conditions i.e. Clear, Cloudy and Very Overcast.

The diagrams also provide an assessment as to the darkest point/period, and the bearing and altitude of the moon during the 24hr period (midday to midday) together with the moon phase at midnight.

Sun rise/set, Moon rise/set and twilight times are also included graphically on the diagram and in a separate table in the top right corner.

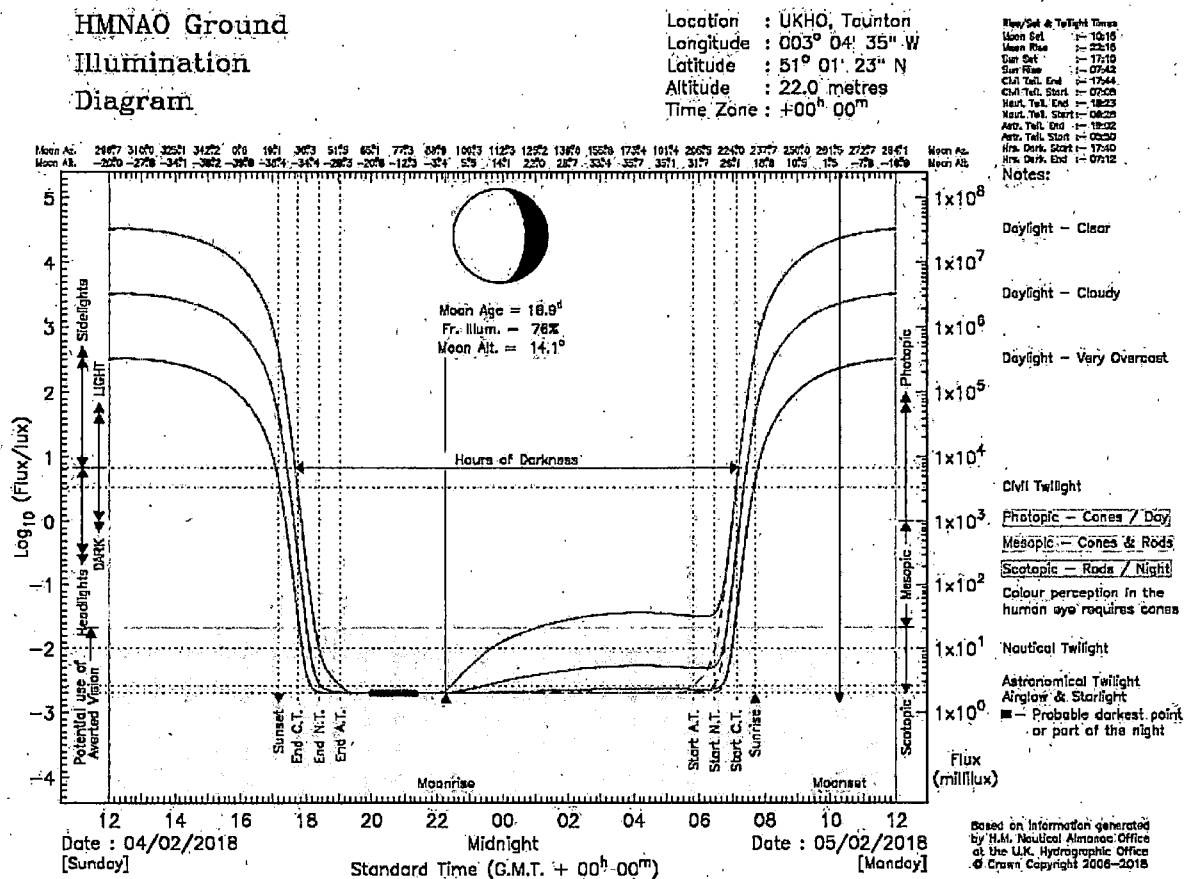
The three colour coded regions of the diagram provide guidance on how the human eye is likely to behave in the given millilux ranges, indicating whether colour vision or peripheral night vision is dominant.

Purpose: Designed to provide easy to understand situational awareness of natural lighting conditions, these offer a guide to how the human eye is operating at a specified location during a specified 24hr period.

Format: PDF

Supply: On request via RFI. Specifically request HMNAO GID and provide a location and date range.

Example of HMNAO Ground Illumination Diagram



Maritime Environmental Awareness Products

Defence Maritime Environmental Brief (DMEB)

Produced by the Tactical Products Team, DMGIC, the Defence Maritime Environmental Brief (DMEB) exists to support the Royal Navy by improving situational awareness and information superiority through the effective exploitation of marine environment information. Together the PDF and geospatial elements of the DMEB provide a comprehensive situational awareness tool for environmental planning to support RN exercises and operations.

Product description: An encyclopaedic environmental planning product comprising of the following; geological & geophysical, human and economic; meteorology, oceanography, biology, acoustics, mine warfare, atmospheric phenomena, and lessons learned. The DMEB consists of textual and graphical information in PDF format (including GeoPDF interactive graphics) and is supported by a geospatial ESRI ArcReader package.


Format: Adobe .pdf and ESRI ArcReader (.pmf)

Supply: Included on DMGIC laptop OR available on single CD/DVD via the channels below:


- Request from MSCU if not already on their distribution list
- Request via RFI

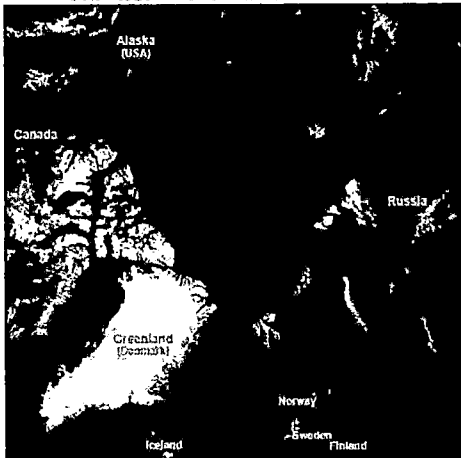
Note: DMEBs will gradually replace the existing EBDs as they become available in line with Fleet priorities.

Example of DMEB



Defence Maritime Environmental Brief
ARCTIC





GEOLOGICAL & GEOPHYSICAL

ACOUSTICS

OCEANOGRAPHY

BIOLOGY

METEOROLOGY

ICE

HUMAN & ECONOMIC

ATMOSPHERIC PHENOMENA

SOURCES

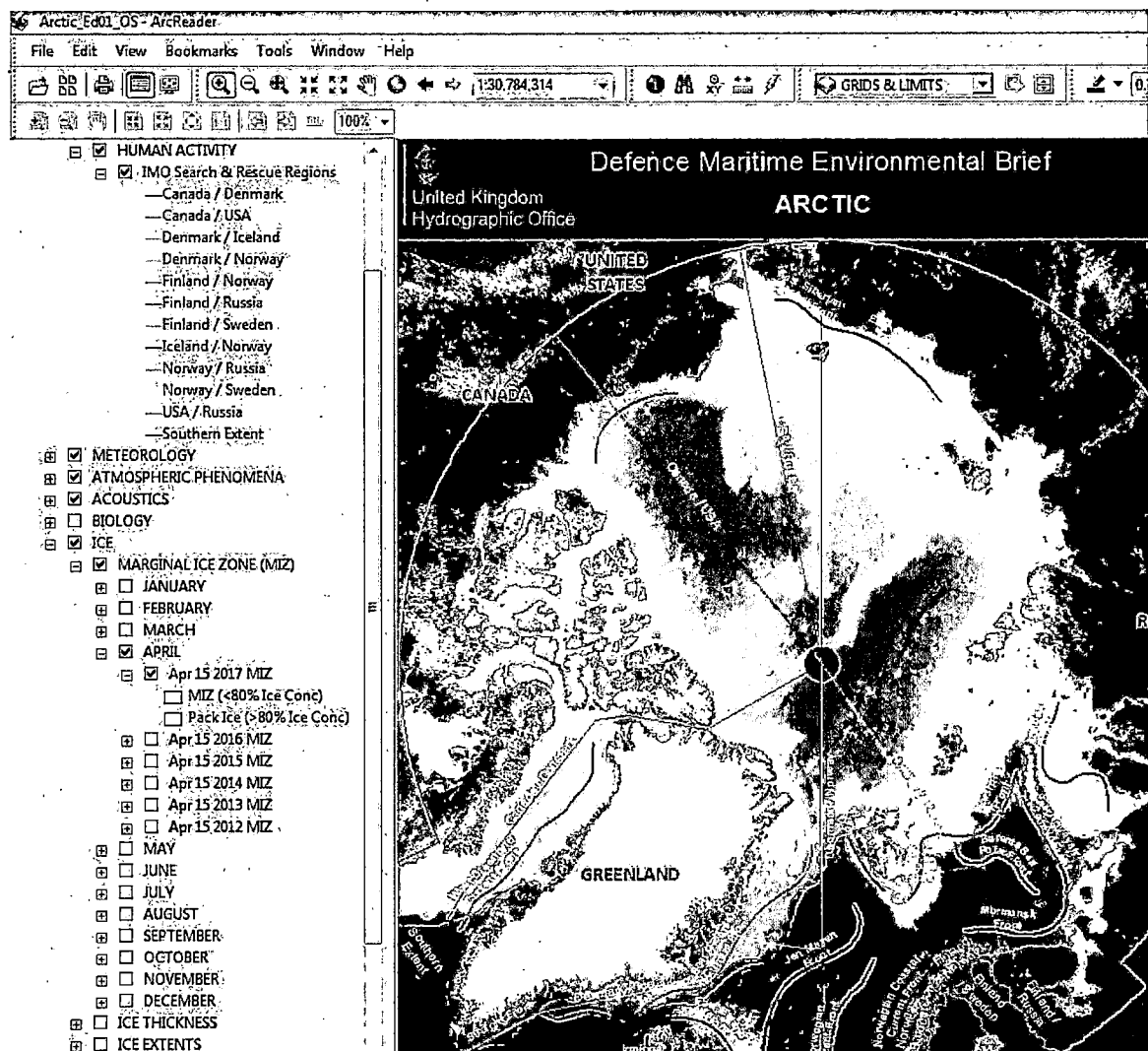
ARCREADER PROJECT

INTERACTIVE MAPS

Produced by:
Tactical Products Team
Defence Maritime Geospatial Intelligence Centre
UK Hydrographic Office, Admiralty Way, Taunton, Somerset, TA1 2DN, United Kingdom

Edition 1
October 2017

Extract of DMEB ArcReader Project



Environmental Awareness Chart (EAC)

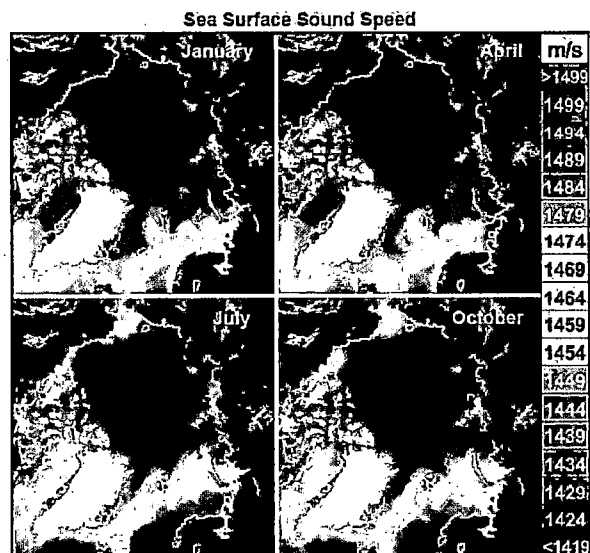
Initially developed and produced by JOMOC, Environmental Awareness Charts are produced by the Tactical Products Team, DMGIC. The product is used as a planning aid for RN exercises and operations.

Product description: Analogue Graphics which display a selection of key environmental parameters for quick reference. Information provided includes climate station data, sound velocity profiles, climatology, geology and marine mammal information.

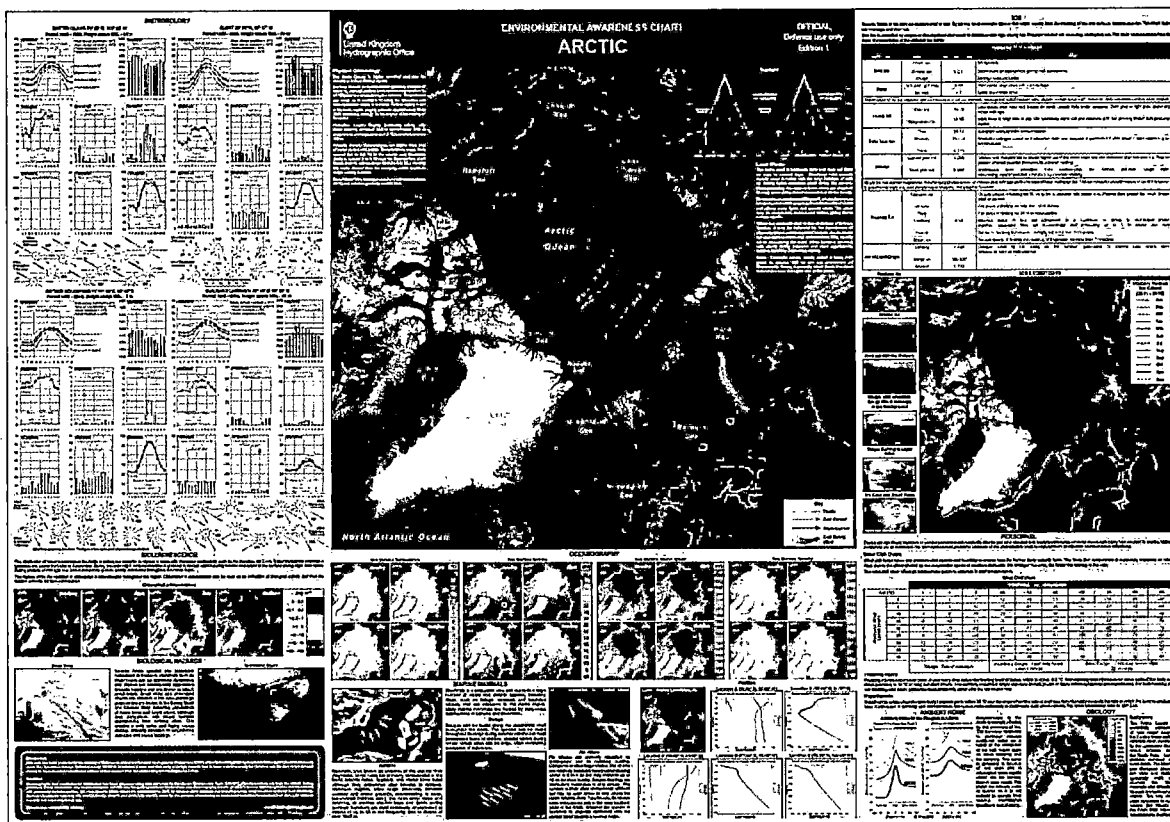
Format: A1 size printed charts or as pdf supplied on a CD

Supply: On request for Authorised Demanders; contact defence.servicedelivery@ukho.gov.uk

Extract of EAC



Example of EAC



Catalogue of Environmental Awareness Charts

Chart Order Number	CD Order Number	Title
EAC1	EAC1CD	Persian Gulf & North Arabian Sea
EAC2	EAC2CD	Eastern Mediterranean & Black Sea
EAC3	EAC3CD	Northern Waters (Norwegian Sea)
EAC4	EAC4CD	Northern Waters (Barents Sea)
EAC5	EAC5CD	Baltic Sea
EAC6	EAC6CD	Central Mediterranean
EAC7	EAC7CD	Western Mediterranean
EAC8	EAC8CD	British Isles
EAC8JW	EAC8JWCD	Joint Warrior
EAC9	EAC9CD	Red Sea
EAC10	EAC10CD	Gulf of Aden
EAC11	EAC11CD	North Atlantic SE
EAC12	EAC12CD	Caribbean
EAC13	EAC13CD	Falkland Islands
EAC14	EAC14CD	Arctic
EAC15	EAC15CD	East Pacific
EAC16	EAC16CD	South Atlantic

Encyclopaedic review of environmental conditions likely to be expected in an area. Headings include: Geological & geophysical, human & economic, meteorology, ice, oceanography, biology, acoustics; atmospheric phenomena, mine warfare operations, lessons learned, exchange data.

Format: HTML or pdf

Note: EBD will gradually be replaced by DMEBs (see above)

- HOME
- INTRODUCTION
- GEOLOGICAL & GEOPHYSICAL
- HUMAN & ECONOMIC
- METEOROLOGY
- ICE
- OCEANOGRAPHY
 - 5.1 Data Collection
 - 5.2 Physical Climatology
 - 5.3 Mixed Layer Depth
 - 5.4 Sea and Swell
 - 5.5 Ocean Features
 - 5.6 Ocean Lunar Features
 - 5.7 Ocean Optics
 - 5.8 Sources
- BIOLOGY
- ACOUSTICS
- ATMOSPHERIC PHENOMENA
- MINI-WARFARE OPERATIONS
- LESSONS

TEMPERATURE, SALINITY, SOUND SPEED, and DENSITY:

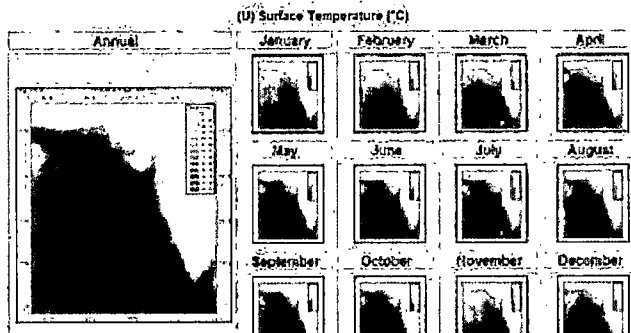
Introduction

(U) The oceanography of the Arabian Sea is dominated by the meteorological conditions of the area. The prime NE and SW monsoon seasons and the consequent reversal of the principal current systems between seasons are the main oceanographic drivers for the region. Other effects result from these meteorological conditions such as the dramatic and contrasting seasonal variation in wave conditions which have a significant impact on the mixed layer depths and the complex associated fronts, eddies and upwelling features (See MLD Section 5.3 and Ocean Features Section 5.5). [2]

(U) Layering of the water column is a significant consequence of the intense seasonal heating and cooling of surface waters and evaporation that occurs as well as the subsequent development of steep seasonal thermoclines that inhibit the mixing of surface and subsurface layers. [3]

(U) The sources for the temperature, salinity, sound speed and density contour plots, vertical profile diagrams and mean climatological tabulated data in this section are the UKHO Gridded Physical Properties Database (GPPDB) global climatology version 5.0 [4], Gulf Of Oman version 1.3 [5], Omani Basin version 1.2 [6] and NW Arabian Sea version 1.1 climatologies [7]. The spatial latitude and longitude resolution of the climatologies is 1° for the Global and 0.25° for the others and all have been included in the latest GPPDB Version 6.0 released in 2009. **There are no current plans for future high resolution analysis for other areas.**

(U) This EBD includes colour-filled monthly surface contour plots for temperature, salinity, sound speed and density (see Figures 5.25 to 5.72).

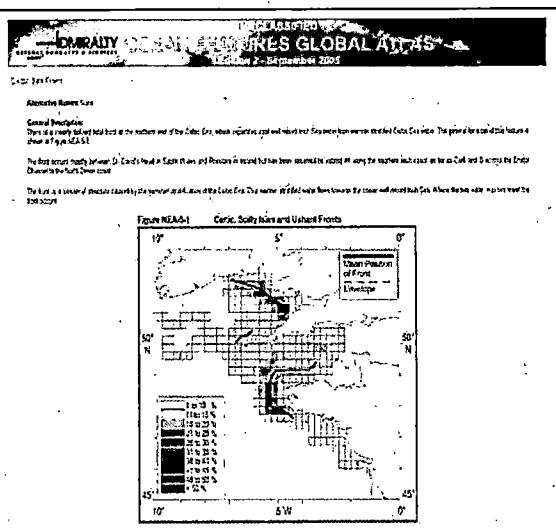


Detailed Global Encyclopaedias for:

- Marine Biology
- Ocean Features
- Internal Waves

Target user: Royal Navy/MOD

Supply: Via MCSU



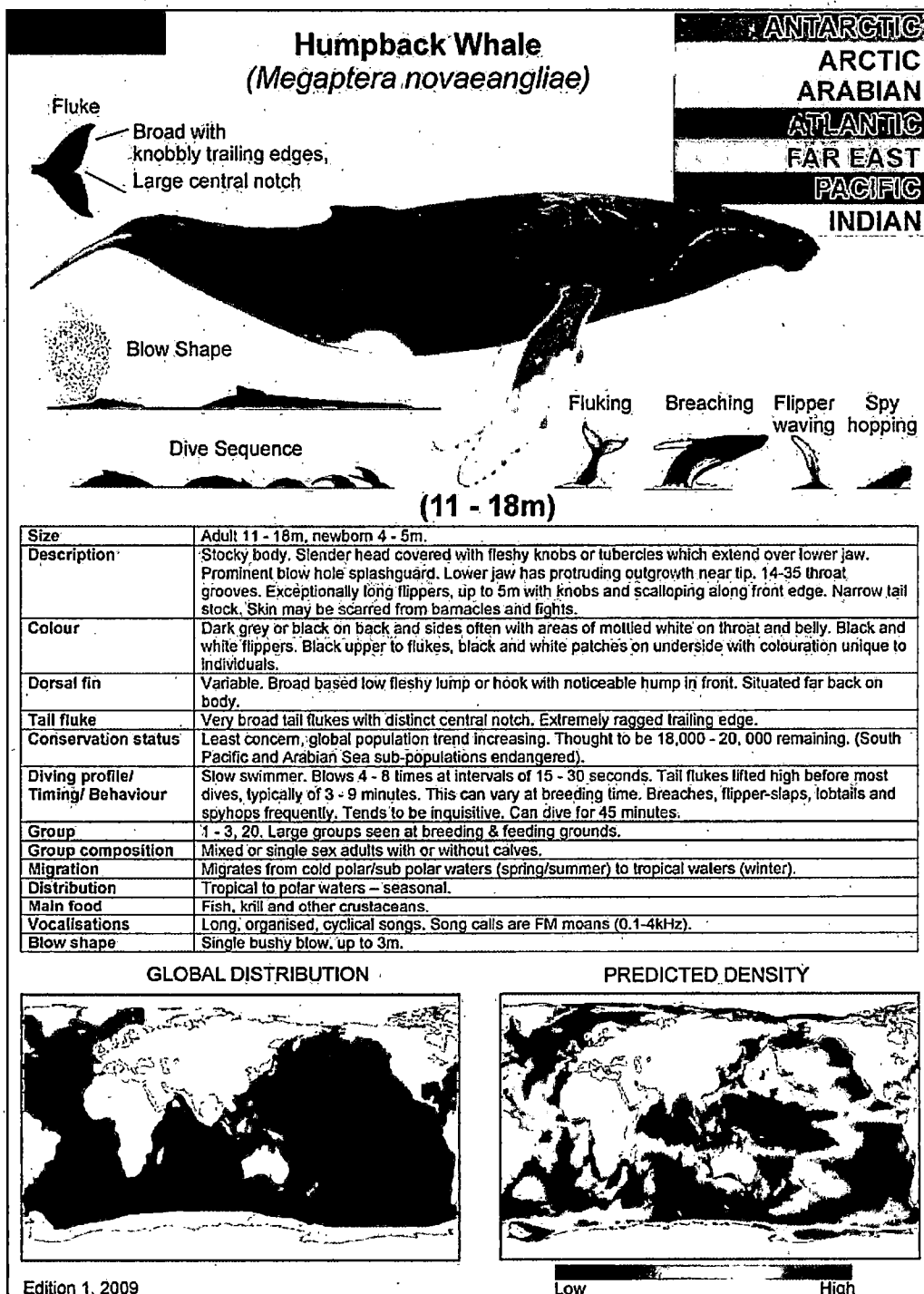
Identification Guide to Whales, Dolphins and Porpoises (NP141A)

Purpose: Provides species and behavioral information to assist Marine Mammal Observers with identification and accurate recording of sightings to aid effective planning and mitigation during naval exercises and operations.

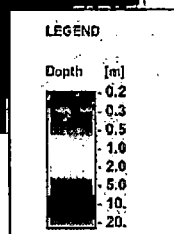
Target user: Royal Navy/MOD

Format: Water Resistant Hardcopy or PDF

Supply: Hard copy via Defence Service Delivery. PDF versions are contained within DMEB, EBDs and SPSS



Beach and Port Situational Awareness



Satellite Derived Bathymetry (SDB)

SDB provides depth information from the beach to approximately the 10m contour. While not as accurate as a full survey it can provide details of 'no-go' areas and areas for further investigation in the field. The product requires up to date cloud free satellite imagery which DMGIC will identify from either military or commercial sources. The data is normally merged into other beach or port products after analysis which may take several weeks.

Purpose: To provide increased situational awareness bathymetry in the near shore area

Target user: Royal Navy/Royal Marines

Format: printed or digital as part of other beach/port products

Supply: normally through the RFI process

BISD

Beach Intelligence Survey Database

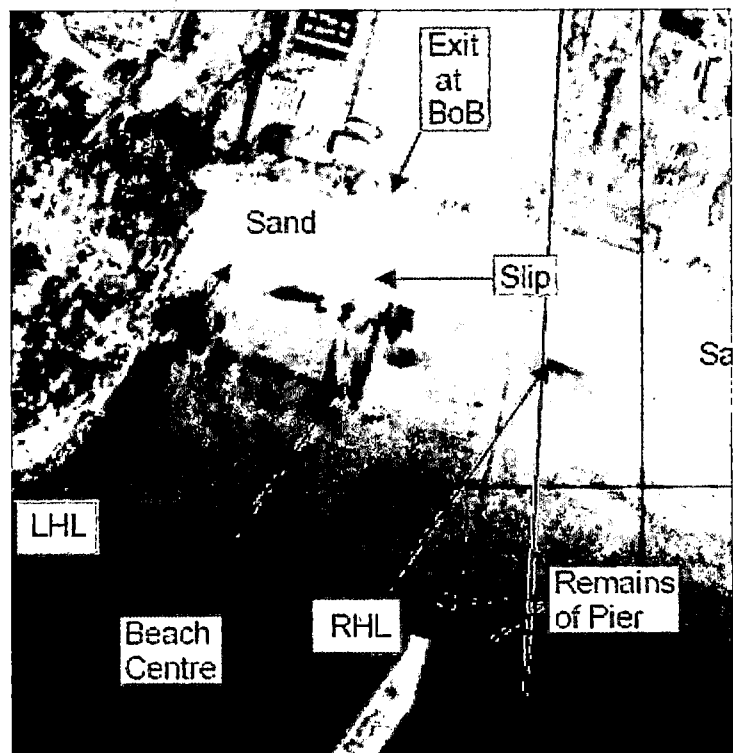
Country reports and exercise support information designed to equip COMUKTG staff and other units with the necessary beach landing information to plan exercises, evacuation and relief operations or respond to arising threats.

Purpose: To provide Situational Awareness information at large scale and a level of detail greater than on nautical charts

Target user: Royal Navy/Royal Marines

Format: PDF/GIS

Supply: Via MCSU and direct to COMATG



Hydrographic Port Assessment

UKHO experts provide an assessment on the suitability for RN vessels to access a port or harbour together with additional information to that provided on navigational charts and publications.

Can be provided at short notice.

Purpose: Port & Harbour Situational Awareness

Format: ESRI, ArcGIS

Supply: On request via RFI



Strategic Port Summary

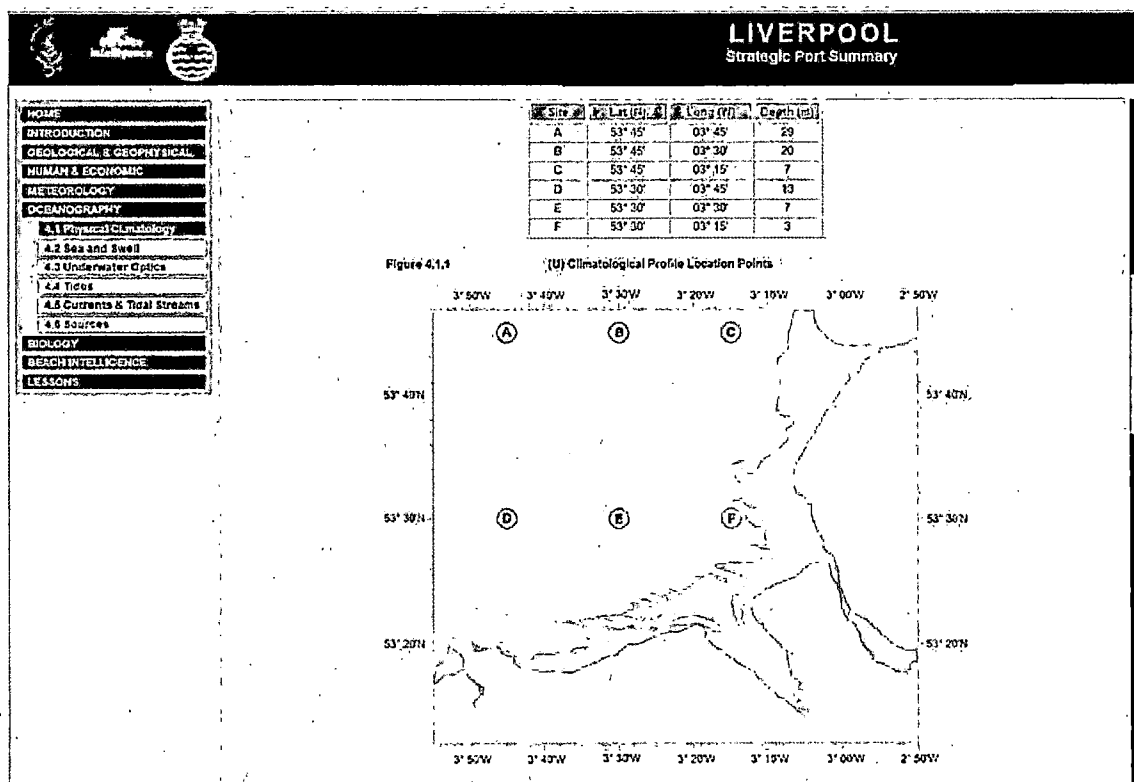
Encyclopaedic summary of environmental conditions effecting UK port approaches, relevant to certain RN and other operations.

Purpose: Situational Awareness products to be used to supplement the environmental information contained in the Electronic AMP11 Vol. XII product series, and MSIDS produced for OP ROCOCO areas and MCM Training.

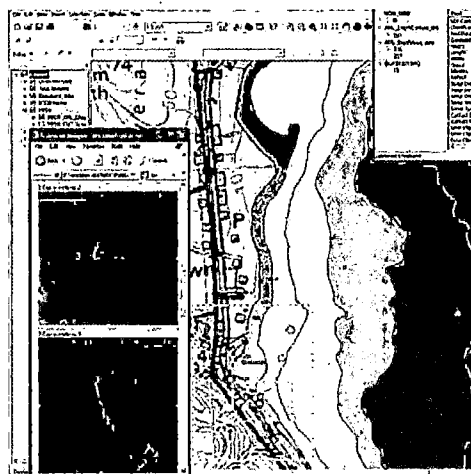
Target user: Royal Navy/MOD

Format: HTML

Supply: Via MCSU



Purpose: Operational Planning and Briefing
Benefits: Increased geospatial intelligence of the seabed environment enhances operational planning and ultimately increases the tempo of Route Survey Operations and EOD clearance.
Target User: RN MCMVs, MASTT, FOST, JTEPS, MCM Squadron TAs and Fleet Diving Squadrons.
Format: Arc Reader Project (pmf) on CD or DVD
Supply: Directly from UK Mine Warfare Data Centre

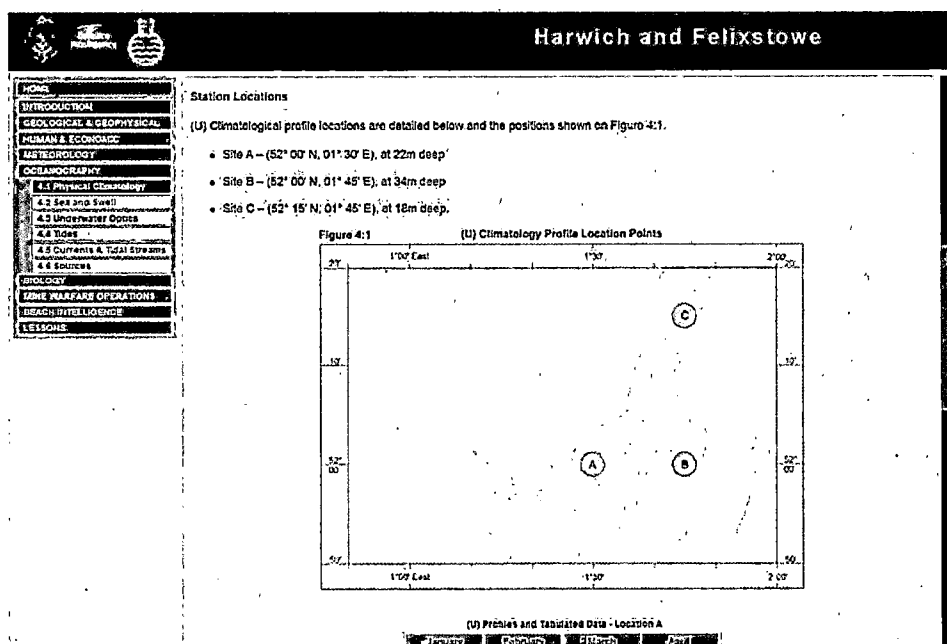


Purpose: Situational Awareness products should be used to supplement the environmental information contained in the Electronic AMP11 Vol XII product series, and MSIDS produced for MCM Training.

Target user: Royal Navy/MOD

Format: HTML

Supply: Via MCSU



Oceanography

GPPDB Gridded Physical Properties Database

The Gridded Physical Properties Database is a collective term for a series of gridded oceanographic products which contain representative vertical profiles of temperature, salinity and sound speed. Supported systems - WADER, SONAR 2117.

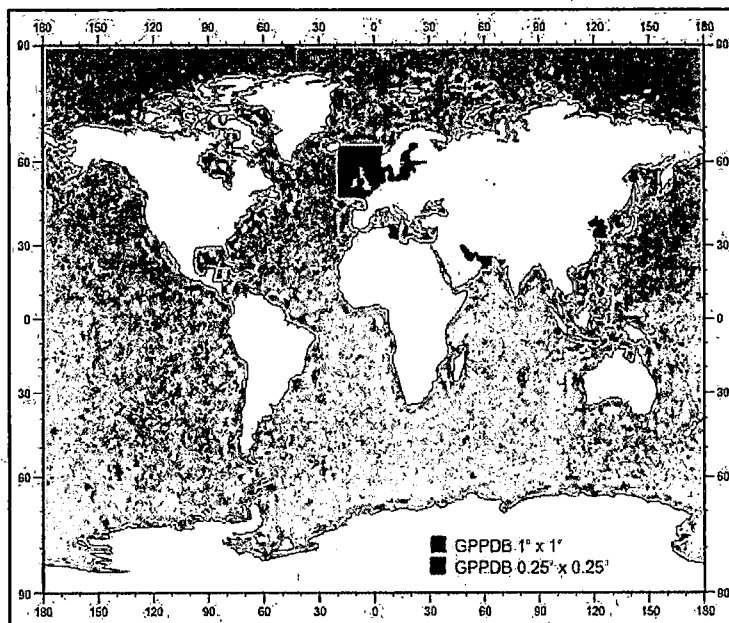
Purpose: Situational Awareness planning for tactical exploitation of the environment

Format: Internal UKHO textformats/NetCDF

Supported systems: WADER, S2117, WECDIS

Target user: Royal Navy/MOD

Supply: WADER, S2117; Authorised bespoke requests.



Air Charts

TPC(M) Tactical Pilotage Charts (Maritime)

1:500,000 chart combining

- Topography (from DGC TPC mapping series)
- Aeronautical data (from AIDU)
- Hydrographic data (from UKHO)

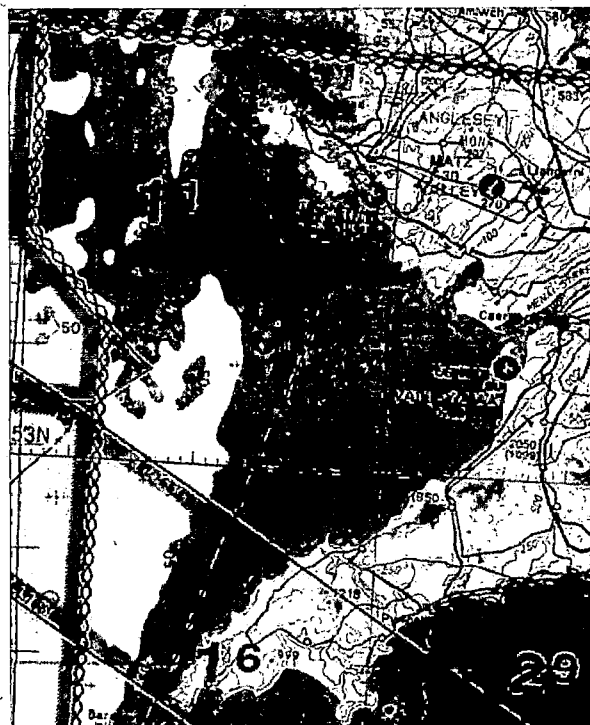
The series was originally produced for Nimrod Maritime Reconnaissance Aircraft ASW/SAR use, but the requirement is now driven by MCSU. Coverage is shown in NP110. For 2018 the products are to be developed further, contact MSCU for information.

Purpose: Situational Awareness planning

Format: Paper and Raster, ASRP, JPEG2000

Benefits: Land, sea and air content on one product.

Supply: Printed at DGC Feltham, distributed by DGC & NAIC (RAF Northolt).



Fleet Training Charts

Standard navigational charts with additional fictitious information, such as shoal patches, obstructions, land masses, for use in training scenarios.

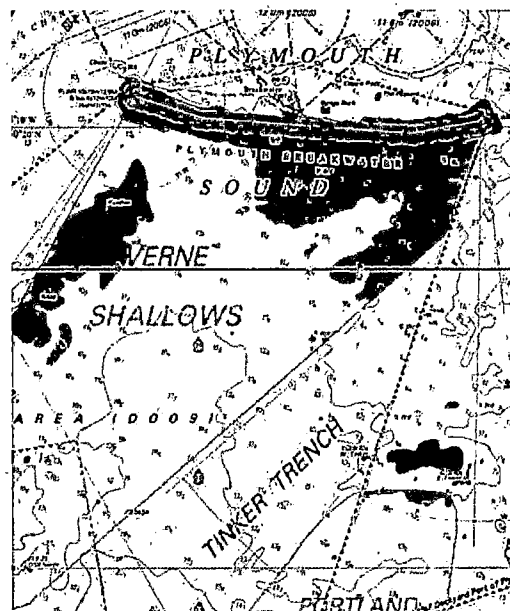
Benefits: Enable training exercises to have fictitious scenario based information on a navigational product, allowing safe navigation whilst carrying out training.

Format: Paper and digital ARCS

Supported systems: Any system capable of ingesting ARCS including WECDIS

Supply: A catalogue item (NP104) to be ordered using form H262

Contact: defence.servicedelivery@ukho.gov.uk



Defence Maritime Geospatial Intelligence Centre (DMGIC)

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