Defence and National Security

Maritime

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- Navigational Charting
- METOC Survey and Analysis
- Port and Maritime Facility Management

Featured Partner

SIMmetry from Fugro Earth Data provides an easy-to-use, Web-based approach to spatial information management within a port.

In support of their operations, the Naval service must manage ports, storage and maintenance facilities often similar in size and complexity to small towns.

Esri has been helping the maritime community meet these challenges for over 30 years. ArcGIS supports ASW planning and amphibious operations, and enables ISR missions. It supports C2 decision-making, not only at the Fleet Maritime Operations Center and the Task Force flagship, but also down to smaller deployed units, afloat and ashore.

ArcGIS for Maritime Operations

ArcGIS for Maritime Operations is an Esri initiative to help the maritime community implement the ArcGIS system in a military context. It includes a framework of maps, apps, and portals built around a common information model and designed to work together. You can use these as templates for your own maps and applications. Visit the Maritime Operations section with Esri's Resource Centre.

You can also use the Defense and Intelligence Discussion forum to communicate with other users, and with Esri's experts that support the Defence and National Security community.

Navigational Charting

ArcGIS for Maritime helps national hydrographic offices, defence charting agencies, and subcontractors manage large volumes of data and produce standardised nautical databases and charts for a variety of maritime needs. By providing a GIS-based platform, Esri Nautical Solution helps your organisation significantly improve data and chart management efficiency.
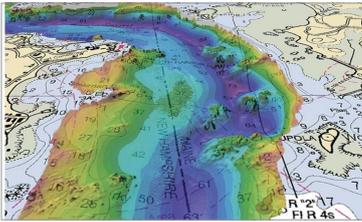
With Esri Nautical Solution, you can:

- Produce and maintain S-57 Electronic Navigational Charts (ENC) and paper charts simultaneously as well as other navigational and non-navigational products such as Digital Nautical Charts (DNCs), additional military layers (AML), and marine information overlays (MIO).
- Significantly reduce production time by generating high-quality electronic, hard-copy, and raster navigational products that comply with nautical and hydrographic standards.
- Manage complex nautical symbols, labels, and chart elements, including oceanographic, meteorological, and defense specifications, via database-driven cartography.
- Enhance data quality through various built-in validations with the ability to maintain features in a historical archive.
- Edit point features or symbology once and have all affected charts updated automatically.
- Utilise a service-oriented architecture for product deployment and data dissemination.
- Facilitate streamlined workflows through standardised assignment, execution, monitoring, and reporting of production activities

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METOC survey and analysis

METOC Survey and Analysis

From complex weather systems to seafloor modelling, maintaining a detailed understanding of the demanding and dynamic marine environment is vital to the successful conduct of maritime operations. All of the data behind this understanding has a location.
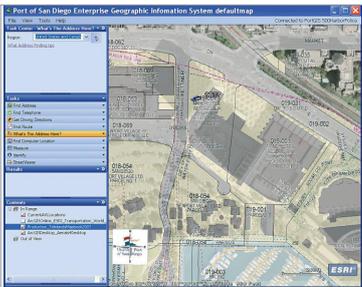
GIS brings together a huge and growing range of Meteorological and Oceanographic (METOC) data on which to inform these complex decisions. Effective analysis ensures the safety and efficiency of air, surface and sub-surface movement whilst enabling maritime forces to utilise the above and below water environments for best effect.

Now, Esri's ArcGIS makes it easier than ever to put data, maps, and applications into the hands of the Hydrographic community, supporting analysis in key areas such as:

• Exploration—Seafloor mapping, sampling, and geophysical structure assessment
• Shoreline assessment—Shoreline rates of change
• Climate change analysis—Sea level rise, warming ocean temperatures, and ecosystem impacts

World's first Ocean Base map on ArcGIS Online

On World Hydrography Day 2011, Esri officially released the world's first ocean basemap as a cached map service available on ArcGIS Online. The first basemap of its kind, the Ocean Basemap was designed by Esri to support a variety of maritime and hydrographic GIS applications.

Global positioning system

Port and Maritime Facility Management

Naval port operators must constantly balance the need for efficient facilities management, whilst ensuring security and minimising environmental impact.

All of the information behind these decisions has a location. Esri's GIS offers solutions that integrate this information and give users at all levels greater power to control operations and positively impact on efficiency, cost control and ultimately, operational readiness.

For water, traffic, and navigation managers, GIS combined with Global Positioning System (GPS) technology offers a superior solution for tracking vessels and managing traffic in crowded waterways and docks. Database-driven nautical charting solutions from Esri make it easier for maritime administrators to efficiently manage chart production and generate high-quality navigational products.

The ability of GIS to manage, correlate, model, and share geographic information makes GIS a productive tool that helps:

• Integrate information from all aspects of port operations.
• Manage environmental compliance and emergency response planning.
• Provide a common operational picture of facilities, including security monitoring.
• Improve port operations through more precise coordination.

Learn more at: esriuk.com/defence