Integrated Maritime Suite

Integrated Maritime Suite

The industry's most advanced back-of-bridge planning station.

SAFETY
Reduce the risk to crew, cargo, and vessel from adverse weather.

COMPLIANCE
Incorporate company navigation policies to routing decisions, manage chart data and licenses for port state compliance.

EFFICIENCY
Automate tedious manual route planning tasks such navigational and weather calculations.

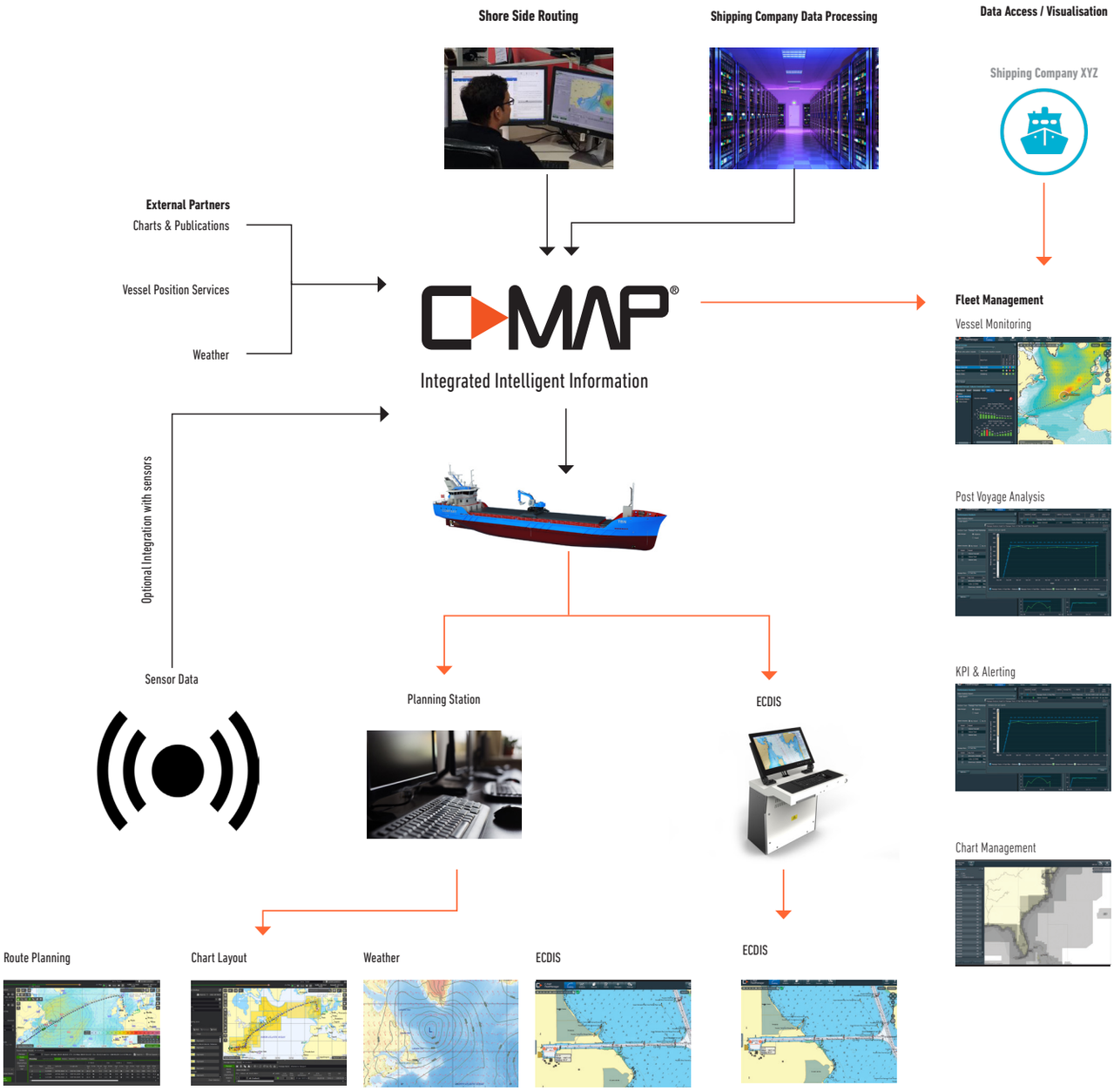
RETURN ON INVESTMENT
Gain visibility into and reduce voyage and bunker costs, avoid expensive and disruptive damage, and enhance schedule predictability.

Overall, I found the program to be helpful and accurate. I believe that it is definitely a big step up from what we previously had... The visual platform and planning station is state of the art.

Master, Handymax tanker, December 2018

The C-MAP Ecosystem

The IMS onboard software suite helps you improve your operational efficiency as it relates to voyage planning and nautical information management.

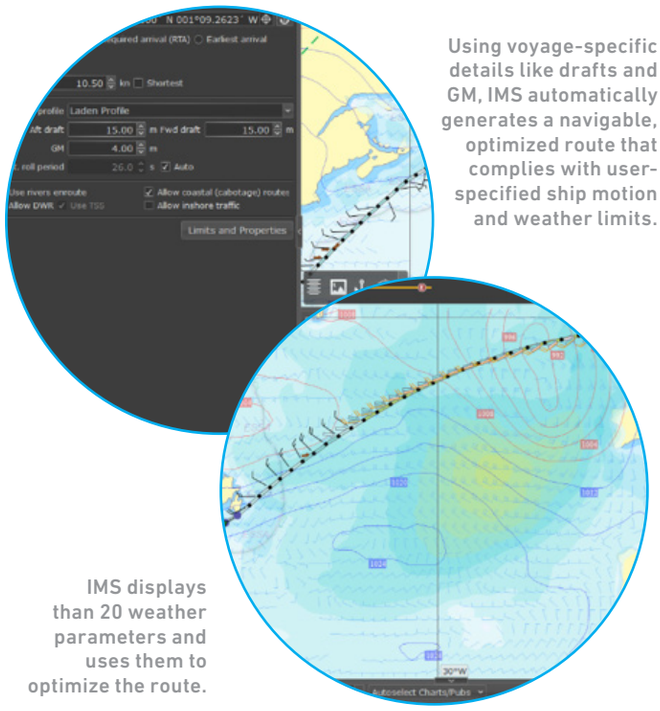


Looking for a nautical chart & publication management tool?

IMS Voyage Planning has you covered

IMS Voyage Planning includes C-MAP's NauticalManager module, which supports a modern and efficient workflow for automated chart and publication management, and a comprehensive set of simple-to-use but powerful tools for route planning, graphical and quantitative analysis of weather (requires weather subscription) and navigational considerations.

IMS Voyage Planning is available free of charge to C-MAP commercial chart customers.



Using voyage-specific details like drafts and GM, IMS automatically generates a navigable, optimized route that complies with user-specified ship motion and weather limits.

IMS displays than 20 weather parameters and uses them to optimize the route.

Upgrade to IMS Plus or IMS Pro

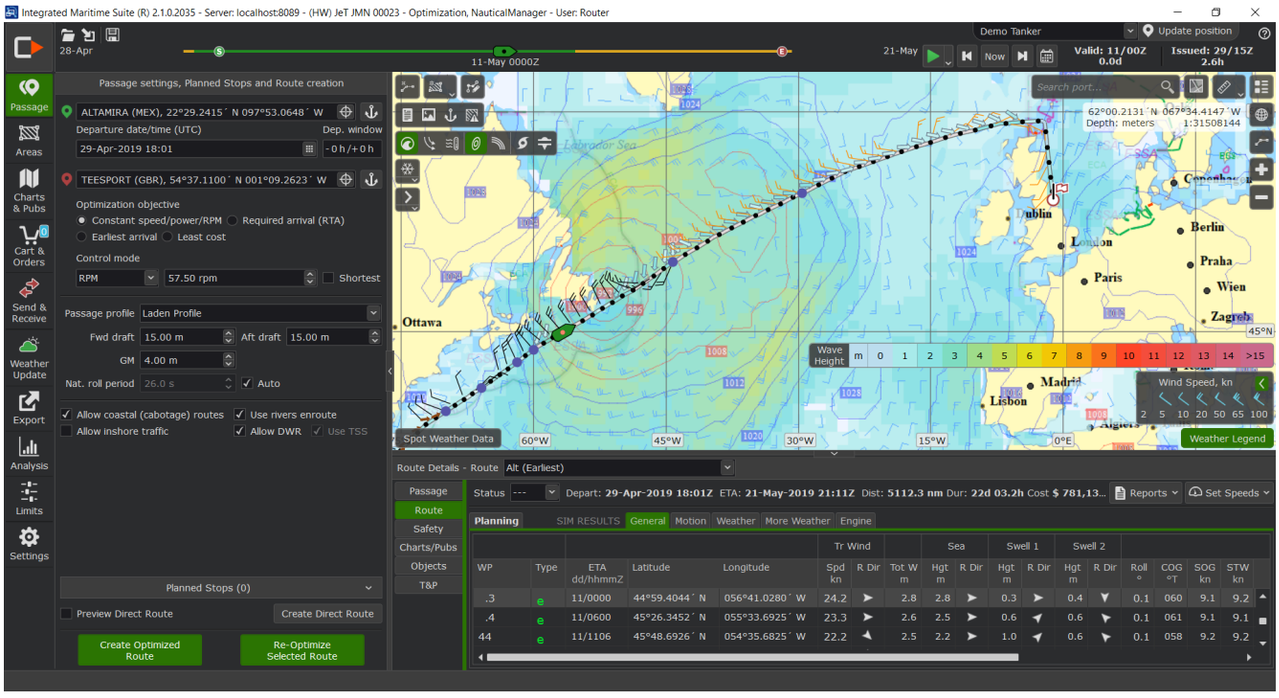
for weather routing or route optimization

IMS Plus includes all of the route planning and weather analysis capabilities mentioned above, plus Weather Routing and our Plus Weather package (upgrade to Pro Weather also available). Weather Routing automatically generates a navigationally correct route that stays within your specified weather limits.

IMS Pro is our premium offering that includes full Voyage Optimization capabilities and our Pro Weather package (see below). Using our proprietary evolutionary optimization algorithm, IMS Pro works quickly with minimal user input to generate an optimized route, taking into account the weather forecast and a customized model of the ship's hull (for motion/seakeeping calculations) and propulsion plant to optimize your route to meet commercial objectives (on time arrival, least cost, etc.) while minimizing fuel consumption, maintaining your seakeeping limits, and avoiding dangerous weather.

For customers using C-MAP as their preferred supplier for navigational charts, IMS Plus and IMS Pro are tightly integrated with the NauticalManager module. For example, your optimized route can be used to automatically select the charts you'll need for your voyage, purchase and update those charts, run a safety pre-check, and export the charts, licenses, and route directly to your ECDIS.

By enabling only the modules you need, IMS streamlines and simplifies onboard navigational tasks while providing tight integration with C-MAP's web-based FleetManager (page 6), allowing unparalleled levels of insight by operations managers. C-MAP's Shoreside Routing Service (page 5) works as the perfect complement to the onboard IMS tools, or as a standalone service without any onboard software required.



IMS Voyage Planning

Comprehensive route planning with automated management of electronic & paper charts and publications

SAFETY

Automated route planning, weather forecasts (optional subscription), navigational safety pre-check, and Voyage Plan report generation helps eliminate manual mistakes.

CREW EFFICIENCY

Automate and streamline tedious tasks such as ordering & updating charts and manually preparing Voyage Plans.

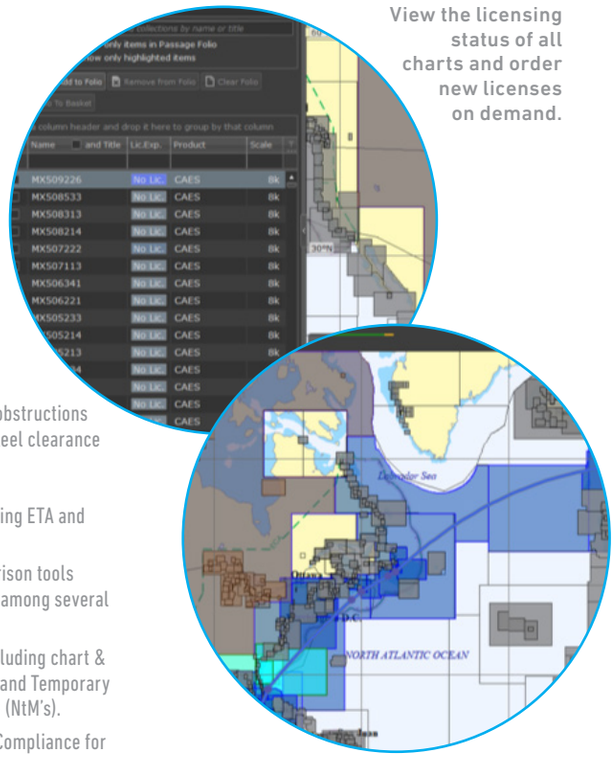
COST SAVINGS

Optimize your chart portfolio using automated chart selection, or choose from innovative offerings such as Pay As You Sail (PAYS) or FlatFee.

The core of IMS Voyage Planning is the Nautical Manager module, which allows you to efficiently manage your C-MAP and ADMIRALTY electronic & paper charts and publications.

IMS Voyage Planning supports close integration with C-MAP's other services, such as Shoreside Routing (page 5) and FleetManager (page 6). It also affords streamlined access to valuable datasets like the C-Routes port database and automated route library, ADMIRALTY Information Overlay (AIO), and Weather Forecasts (see below). Upgrade options for more advanced routing capabilities include IMS Plus (offering Weather Routing) and IMS Pro (offering full voyage and route Optimization)

– see page 4.



View the licensing status of all charts and order new licenses on demand.

Charts and publications relevant to a voyage are identified automatically with the click of a button.

IMS Voyage Planning offers the following features:

Automatic generation of the shortest navigationally correct route between specified ports or arbitrary points.

Using your route as a starting point, automatically select and order all relevant charts and publications.

24/7 ordering via internet or email.

Automatic updating of chart data via internet or email and ability to export charts, chart updates, and licenses to your ECDIS.

View, interact with, and plan your route on your ENCs.

Display (S)ECA and other fuel regulation zones, PSSAs, ESSAs, and Areas to be Avoided.

Automatic safety pre-check checks for obstructions and warnings based on specified underkeel clearance (UKC) and cross-track limit (XTL).

Simulation of your planned route, including ETA and estimated bunker consumption.

Graphical and quantitative route comparison tools allow simple selection of the best route among several alternatives.

Automatic creation of a Voyage Plan, including chart & publication holdings, status of updates, and Temporary & Preliminary (T&P) Notices to Mariners (NtM's).

Automatic generation of Certificates of Compliance for port state inspectors.

Supported Products

ELECTRONIC CHARTS

- **C-MAP ADMIRALTY ENC Service (CAES)**
  Official ENCs from UKHO in C-MAP SENC format
- **C-MAP Extended ENC Service (CEES)**
  Official ENCs from India & more in SENC format
- **ADMIRALTY Vector Chart Service (AVCS)**
- **PRIMAR® ENCs**
- **C-MAP Professional+**
- **C-MAP vector chart database in C-MAP SENC format**

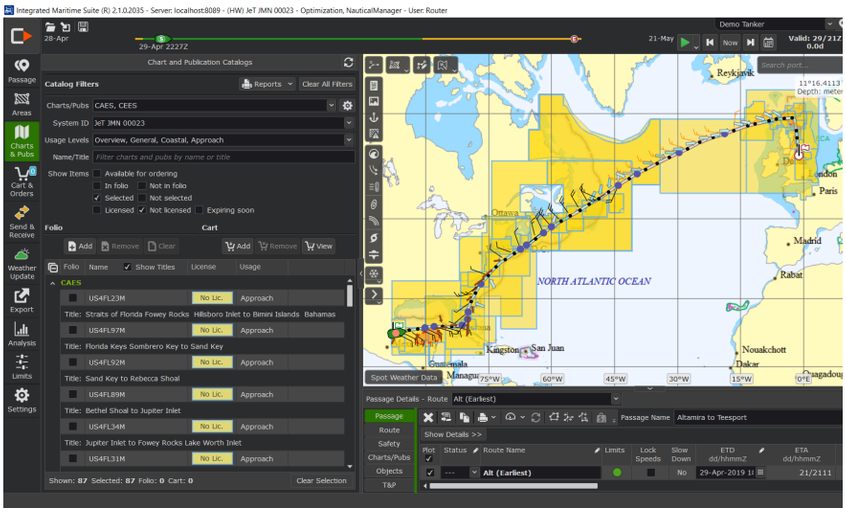
ELECTRONIC PUBLICATIONS

- **ADMIRALTY e-Nautical Publications (eNP)**
  Including Sailing Directions
- **ADMIRALTY Digital Publications (ADP):**
  ADMIRALTY Digital List of Lights (ADLL)
  ADMIRALTY Digital Radio Signals (ADRS)
  ADMIRALTY Total Tide (ATT)

PAPER CHARTS

- Paper Charts (ADMIRALTY)

PAPER PUBLICATIONS



IMS Plus

Cost-effective advanced route planning and weather routing solution for vessels engaged primarily in coastal and short-sea trades.

COST SAVINGS

Routing decision support tool informs the ship's crew and shoreside managers of the financial implications of their operational decisions, allowing comparison the Total Cost of alternative routes (including the higher cost of low sulfur fuels in ECA zones, and the cost of time).

ENHANCED SAFETY

Adverse weather avoidance and automated checks for navigational and weather safety

CREW EFFICIENCY

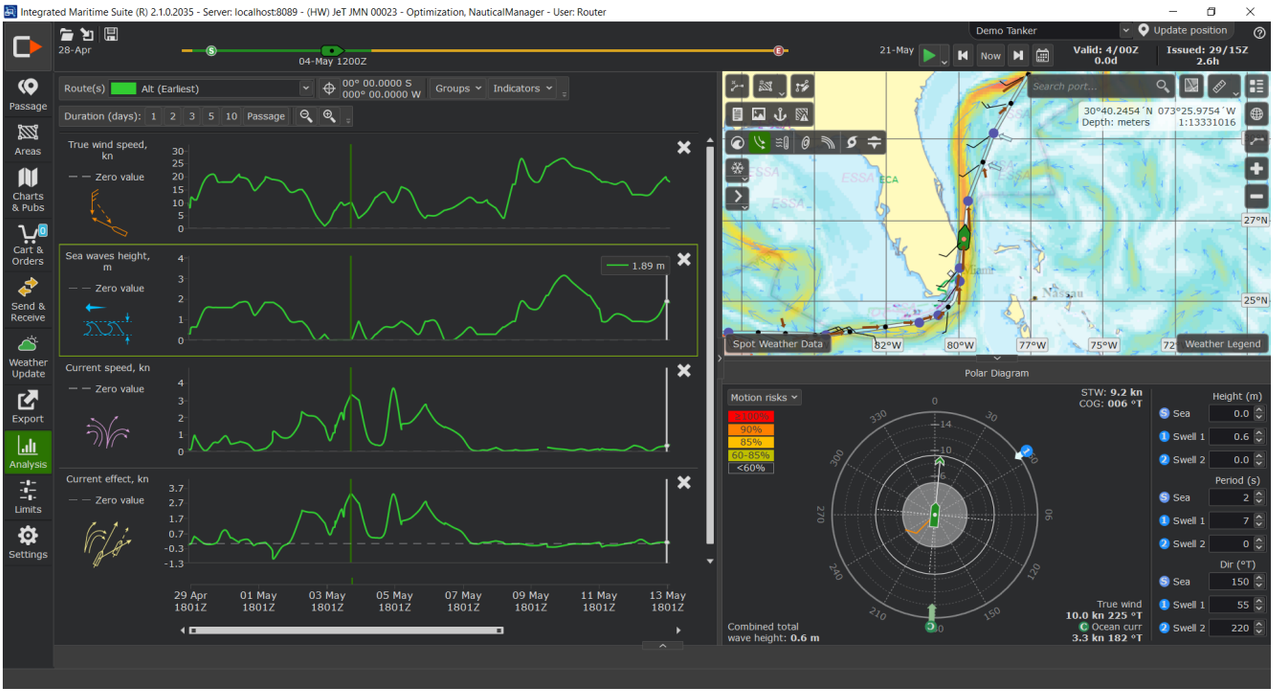
Automate tedious manual route planning tasks such navigational and weather calculations.

The core capability of IMS Plus is its Weather Routing module. Rather than having to manually edit a route to avoid adverse weather, IMS Plus automatically generates a navigationally correct route at a specified speed that stays within your stated weather limits. IMS Plus includes Plus Weather (see below); an upgrade to Pro Weather is also available.

Instead of using simplistic constant-speed dead reckoning for ETA and weather calculations, IMS Plus takes into account the effects of wind, waves, and currents on the ship's speed of advance and bunker consumption.

Combined with user-defined speed-consumption curves, this gives a much more accurate ETA and estimated bunker consumption than dead reckoning, while improving the accuracy of forecasted weather expected to be encountered along the route.

With all of this information at hand, a built-in comparison tool allows visual and numerical comparison of route alternatives so you can make tradeoffs and choose the best route.



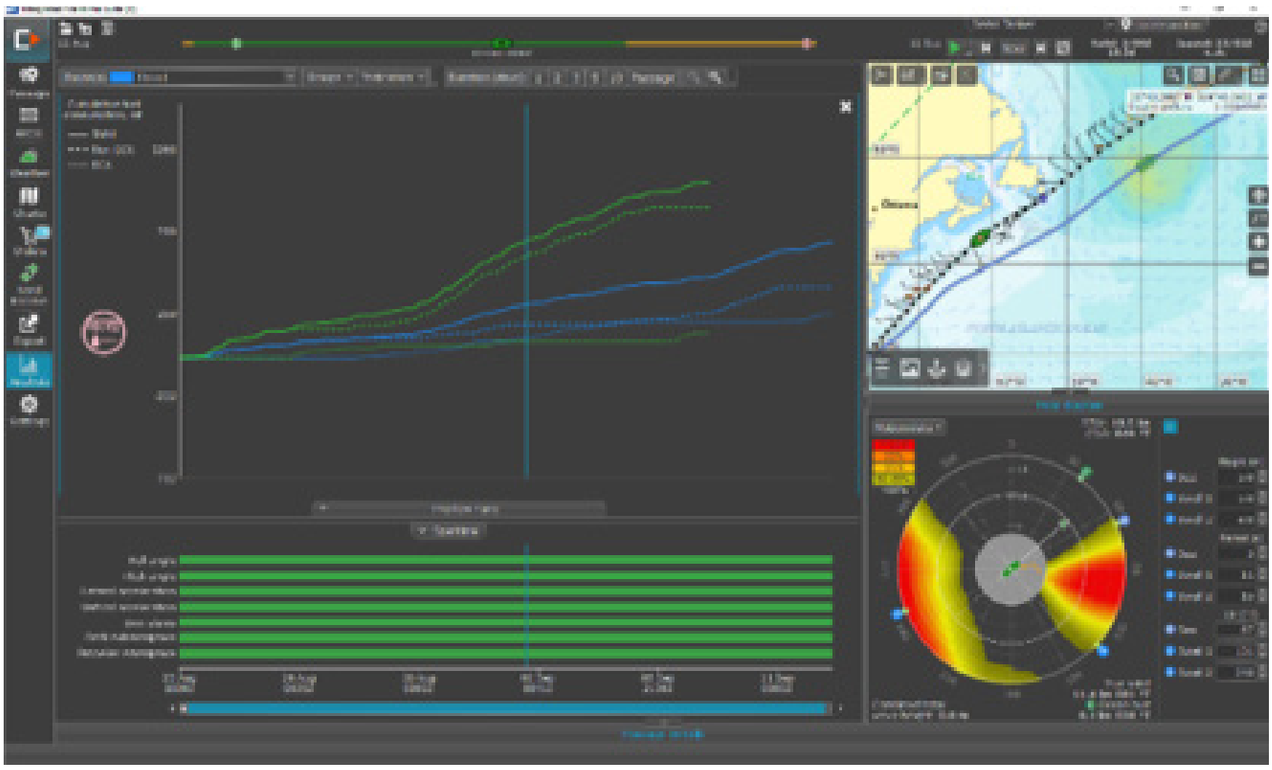
IMS Pro

Full voyage optimisation including speed optimisation and motion calculations for maximizing efficiency and ROI.

ULTIMATE SAFETY
Includes ship motion prediction capability and our most complete Pro Weather package to mariners the insight they need to make the best decisions.

CREW EFFICIENCY
Automate tedious manual route planning tasks such navigational and weather calculations.

COST SAVINGS
Speed optimization and routing based on ship motion limits (rather than simple weather limits) yields the most efficient routes.



IMS Pro is a must-have for vessels engaged in services with opportunities for cost savings, such as:

TRANSOCEANIC CROSSINGS
Vessels making transoceanic crossings.

HIGH SPEEDS
Vessels transiting at high speeds (e.g., containerships, LNG carriers), leading to enormous bunker costs and opportunities ripe for efficiency improvements.

LINER SERVICES AND CHARTERED VESSELS
Liner services on a published schedule and chartered vessels meeting laycan or redelivery schedules, where delays can be costly.

CARGOS AND PASSENGER VESSELS
Vessels carrying fragile or precious cargos (containerships, LNG carriers) and passenger vessels where vessel motions can be calculated and optimized.

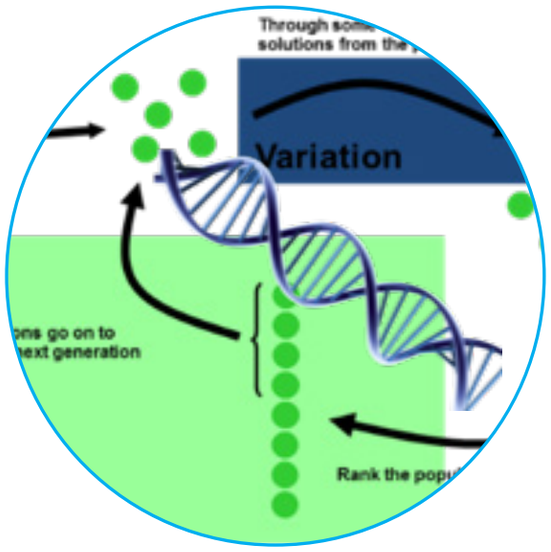
IMS Pro

In-Depth

IMS Pro automatically optimizes your route and speed to meet a variety of commercial objectives (such as scheduled arrival, least total cost, fastest, or ordered command).

Our proprietary evolutionary optimization algorithm is so simple to use that it belies the decades of research and development that has gone into creating it.

Using the best marine weather forecast data available on the market and a customized ship model created by C-MAP's naval architects to calculate ship motions (roll, pitch, slamming, etc.) and propulsion plant output (power, rpm, speed, torque, and bunker consumption), it automatically generates the most economical route that meets motion, environmental, and navigational safety limits.

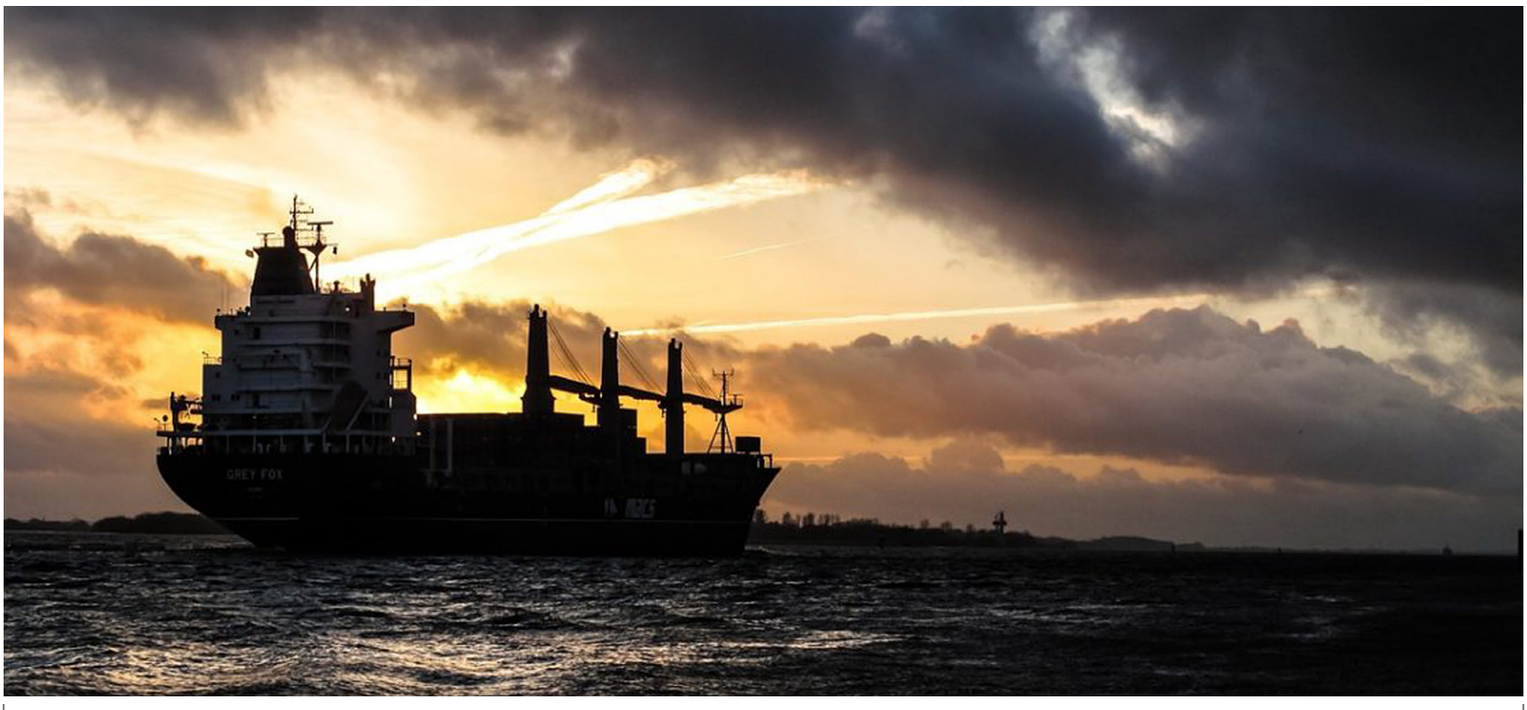


Using IMS Plus or IMS Pro with C-MAP Charts and Publications

C-MAP chart customers can use IMS Pro or IMS Plus with the NauticalManager chart / publication management module enabled.

Tight integration between these modules means a simplified workflow and reduced workload for the crew – for example, the optimized route can be used to automatically select the charts you'll need for your voyage, purchase and update those charts, run a safety pre-check, generate a voyage plan, and export the charts, licenses, and route directly to your ECDIS.

And if you purchase your charts from another supplier, you can still use IMS Pro, IMS Plus, or IMS Basic with the chart / publication management module deactivated.



Weather Forecasts

C-MAP's proprietary weather forecast and exhaustive coverage are legendary for their accuracy and dependability.

C-MAP uses weather from internationally recognized marine weather forecasting firm Oceanweather Inc. (OWI) under decades-long exclusive partnership. OWI has been producing operational marine forecasts since 1983, and is the only forecast center in the world, public or private, to run operational global and regional wave forecast models that were developed completely in-house.

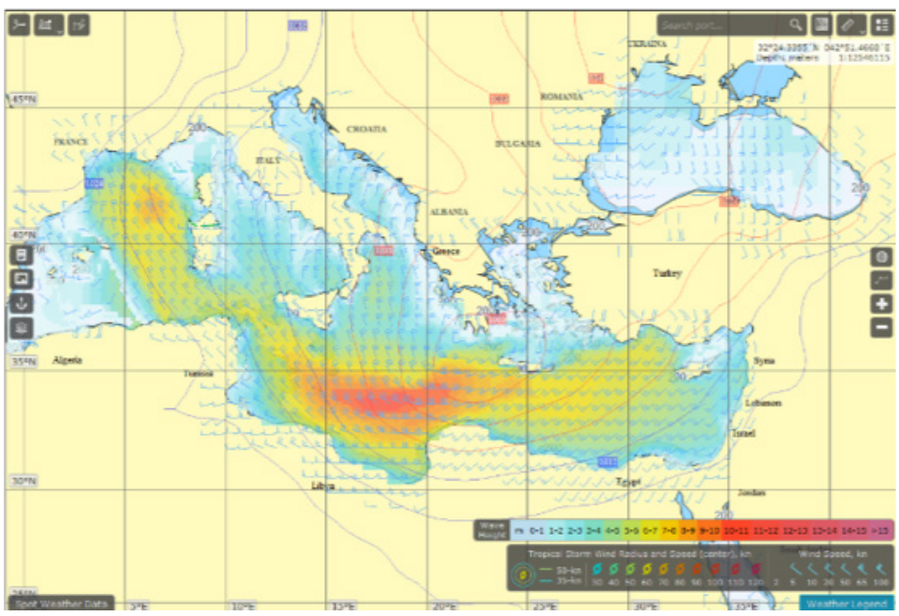
OWI's forecast philosophy is to use man-interactive techniques and analysis tools to produce a better marine forecast than is possible using pure model forecast data. Their team of marine meteorologists, most with over a decade of experience, are dedicated to producing the best wind and wave forecasts. Major international oil companies routinely use design criteria established by OWI for their offshore platforms and terminals.

Their CYCLOPS product provides offshore operators in tropical basins the information they need to evaluate the need for evacuation of personnel, orderly shutdown of operations and other activities when faced with a tropical cyclone threat.

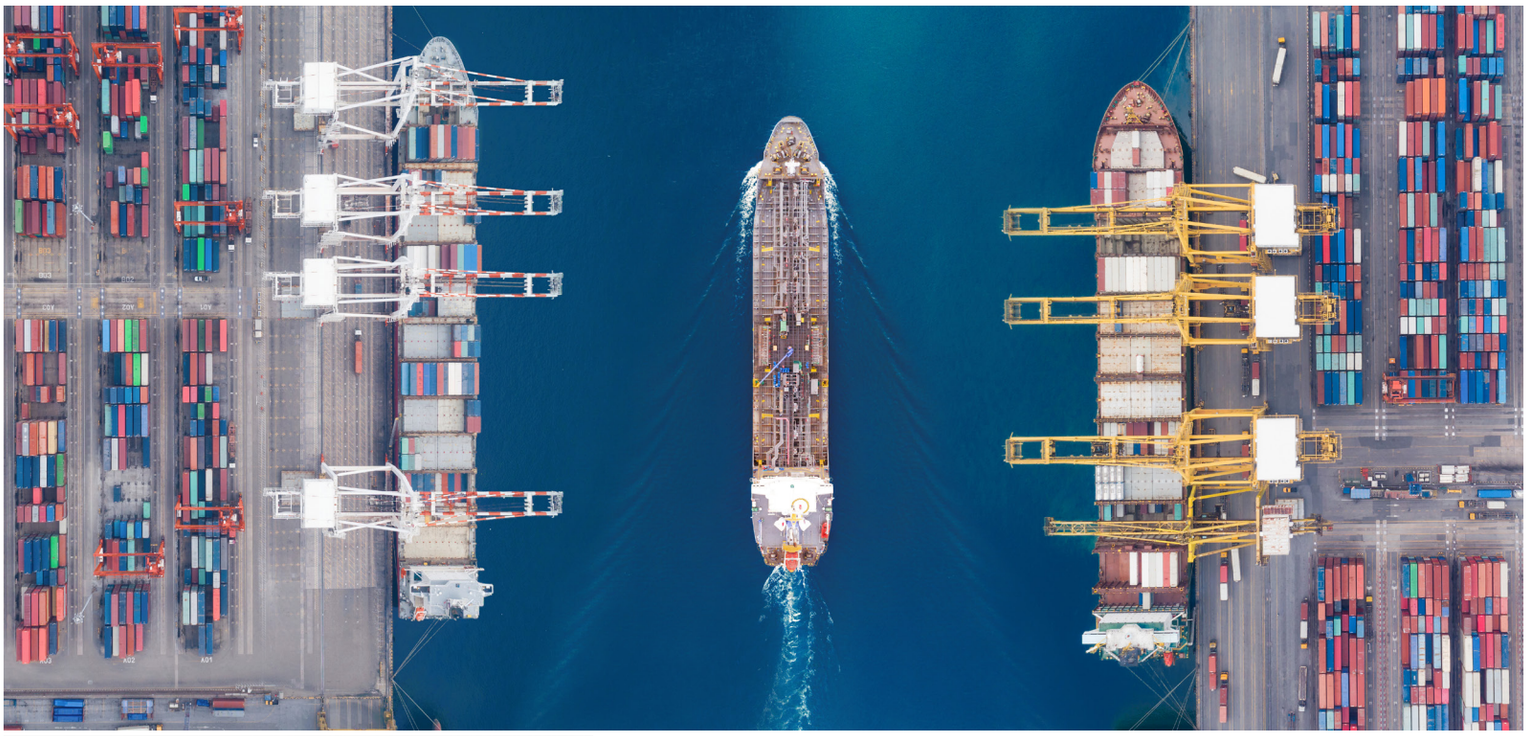
OWI's ocean wind and wave forecasting method is a complex process that has been in practice and continually refined over the past 15 years. The forecast accuracy has been validated by measurements from satellite, buoy, and shipboard observations. Running its own wave model, one unique and key feature of OWI's forecast is the ability to produce up to three wave trains instead of the usual two (sea and swell) available from other forecast sources. The additional swell component significantly increases the accuracy of ship motion predictions, which are sensitive to period and direction.

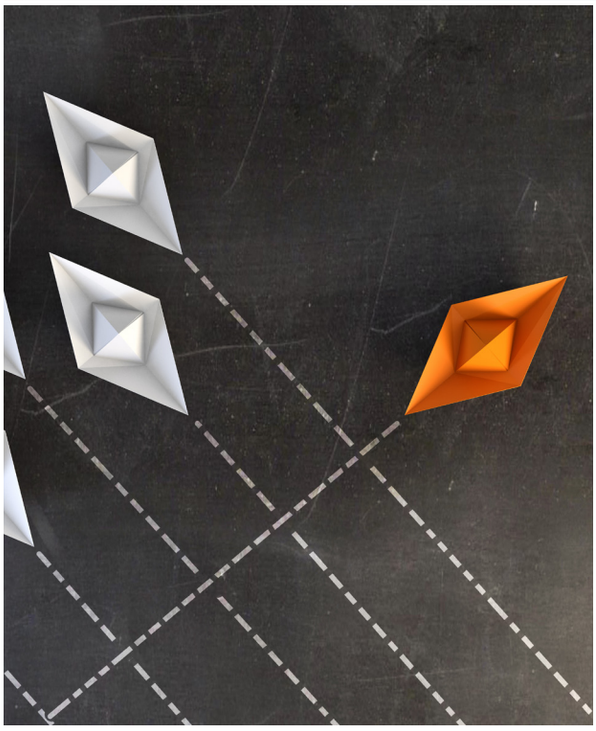
Forecast layers available in IMS

- Port Forecasts
- Wind Speed
- Wave height, period, and direction for 3 individual wave trains (wind waves / sea, primary swell, and secondary swell)
- Surface Pressure
- Upper Air (500 mb) Pressure
- Tropical Cyclones Tracks and Ensemble Track and Intensity Plots
- Text Forecast
- Air Temperature
- Fronts and Jet Streams
- Ocean Currents
- Fog / Visibility
- Sea Surface Temperature
- Precipitation
- Ice Edges/Boundaries, Thickness, Concentration, and Accretion
- High resolution (up to 10 km) coastal and inland wind and wave forecasts and ice concentration



IMS offers super high-resolution proprietary wind and wave forecasts.





Stolt Protector

Shoreside Routing

The only routing service in the industry where 100% of the routing services are performed by seasoned Master Mariners.

C-MAP is committed to providing our customers with the best maritime vessel routing service available today, including:

Precise vessel tracking and passage modeling - enhanced safety, on-time arrival, and lower fuel consumption.

Accurate marine weather routing and ship guidance - incorporates C-MAP's latest ocean forecasts each time the route is re-optimized, improving accuracy of eta and eliminating wasteful "sprint-and-loiter" operating profiles.

Timely operational updates and voyage optimization - risk reduction guidance system provides speed and course recommendations based on operational priorities: fuel efficiency, arrival time, and heavy weather avoidance surface pressure.

Integrated - works seamlessly with ims onboard software and weather forecasts, along with c-map fleetmanager for tracking and monitoring ship status.

Benefits of route optimization versus traditional weather routing Patented approach and proprietary optimization algorithms provide safe and efficient optimized routes.

Requesting Routing Support is as simple sending an email to C-MAP's routing advisory team. For more complex or urgent inquiries, the team may also be contacted 24/7 by telephone.

The ability to request routing service is also integrated within C-MAP's IMS back-of-bridge software, should you choose to install it onboard. If C-MAP's ShipReportXL shipboard utility is used for daily reporting, shore-based routing support may also be requested by selecting the "Request Routing" checkbox.

FleetManager

Intelligent and proactive tracking, monitoring, alerting, and reporting for operations managers, traders, analysts, and superintendents.

SAFETY

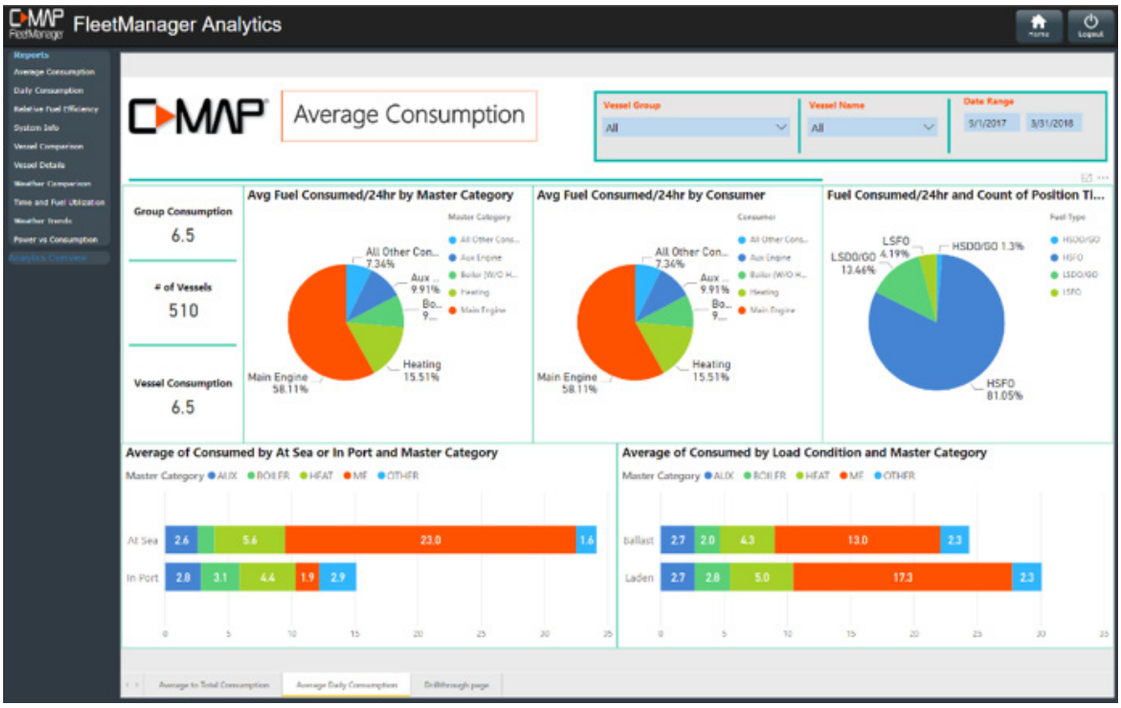
Monitor the navigational, operational, and weather status of your fleet at all times; automated alerts allow management by exception.

IMPROVE SHORESIDE PERSONNEL EFFICIENCY

Automate tedious tasks such as data validation, charter party analysis, and SEEMP and MRV reporting.

OPTIMISE OPERATIONS WITH PROVEN ROI

Proactive, real-time alerts for underperformance (bunker consumption or speed), schedule deviations, and failure to follow routing recommendations.



C-MAP FleetManager is a Web-based enterprise solution for providing fleet tracking, prediction, performance analysis, and reporting. It offers shore-side managers extensive insight into historical, present and even future performance.

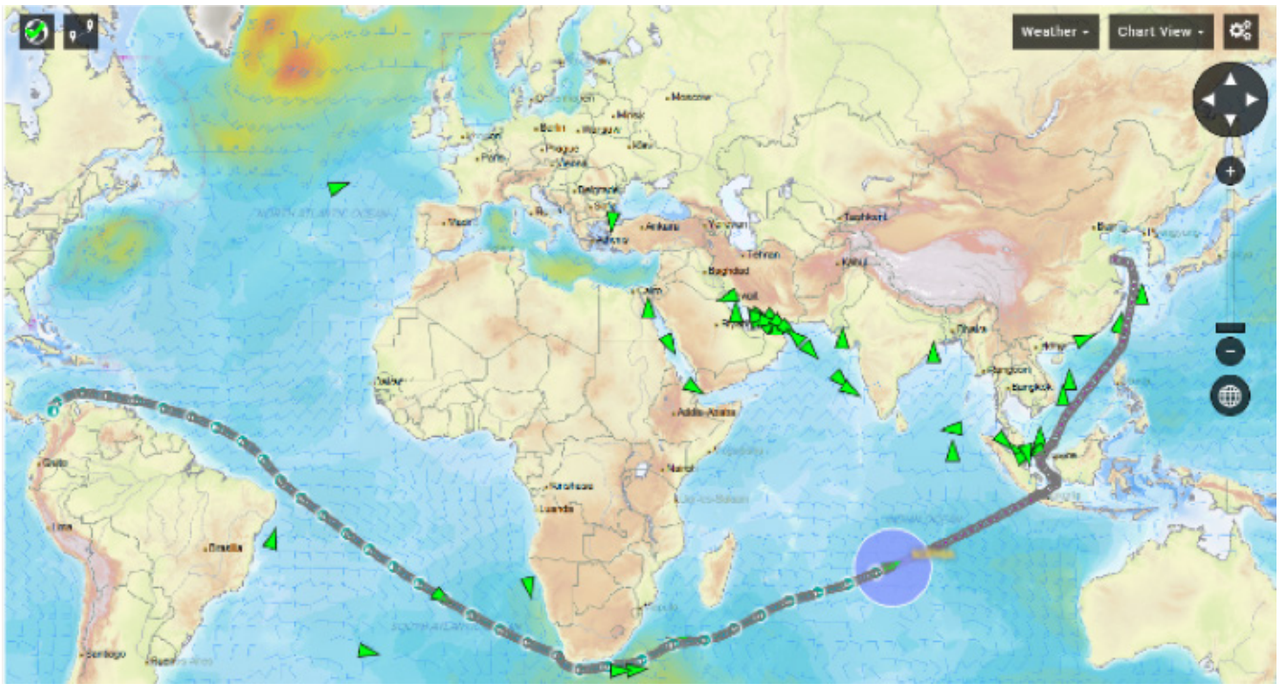
It delivers critical information and analytics when you need it, allowing you to manage assets more efficiently and improve operational and strategic decision-making. Whether you're monitoring in-progress or past voyages, FleetManager provides an integrated set of tools to help you manage your fleet to its full potential.

PERFORMANCE ANALYSIS AND REPORTING

An extensive library of available reports can be generated on demand, covering everything from speed and consumption to Time Charter Party Analysis to SEEMP and MRV reports.

BUSINESS INTELLIGENCE AND ANALYTICS

Fueled by industry-leading Microsoft Power BI® business intelligence technology, the new FleetManager Analytics tool provides interactive graphical representations of the ship's data, allowing users to filter and drill through in a variety of methods.



Highlights

- Status dashboard for real-time vessel status summary across your entire fleet supports "management by exception"
- Microsoft Power BI® business intelligence and analytics
- Exhaustive library of pre-built reports covering vessel performance, efficiency, and government-mandated reports such as SEEMP, EEOI, and MRV
- Charter Party analysis with user-customizable Charter Party warranty/terms and fully automated calculation of good/bad weather days, and bunker and time claims/credits
- Extensive list of proactive and automated email alerts indicating schedule deviations, severe weather/motions, off track, not following recommended route, underperformance (speed and consumption), and data validation errors (e.g., typos or missing reports)
- Advanced vessel tracking (current status, past track, and intended route) overlaid on the global C-MAP nautical chart background with historical and 15-day forecast weather overlays including wind, wave, ocean currents, upper air, surface pressure and tropical cyclones
- Analysis of fuel consumption, schedule/ETA variance, forecasted weather and predicted vessel motions along the Master's intended route
- Supports inputs from automated high frequency tracking tools (e.g., Satellite AIS, Inmarsat C, Purplefinder / Pole Star) and noon reports from C-MAP ShipReport, third party (e.g., Veslink by Veson), or your own proprietary system
- Web browser-based application for optimal enterprise management and data sharing
- Web service API supports integration with your existing business systems

www.c-map.com