



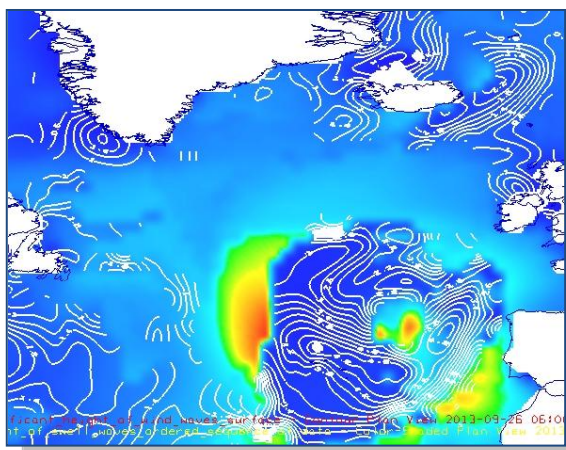
## MWS - Maritime Weather Solutions

The EPSON Meteo Centre is a private applied research firm, founded in 1995.

During the last ten years, EPSON Meteo has been recognized as a leading meteorological office, operationally serving many users at all levels and also for its leading research in atmospheric physics, particularly in the development of the numerical models.

EPSON Meteo provides meteorological consulting and products to a variety of professional fields and both public or private businesses (such as agriculture, aviation, gas& power, rail, road transport etc.).

Our Research and Development Division is constantly testing the latest NWP models and techniques, keeping up to date with scientific breakthroughs and technical advancements.



We develop in house products and algorithms to better forecasts in all the specific fields. Because of this, we are extremely flexible and are able to satisfy all the requests of our clients, by tailoring and optimizing products to their specific needs.

One of our areas of expertise is offering a wide variety of meteorological services for shipping, yachting, offshore and every activity on the sea.

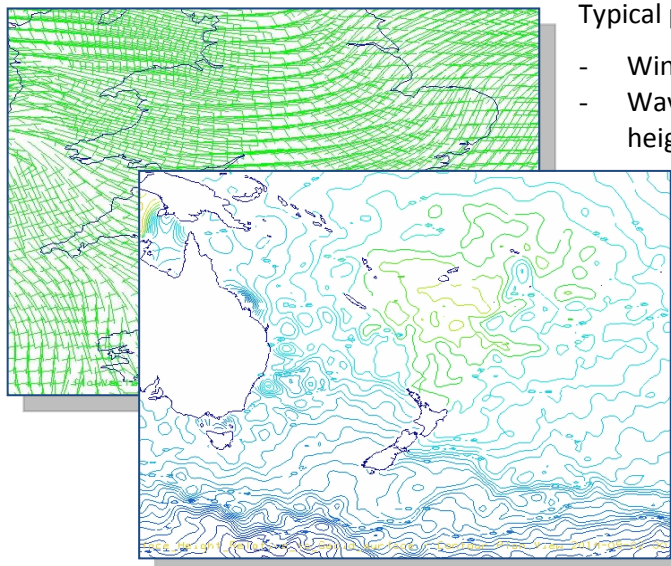
What EPSON Meteo offers covers every meteorological necessity the maritime sector requires.

### SHIPPING, YACHTING AND HARBOR TRAFFIC

Weather forecast has an important role to ensure safety and efficiency for offshore, inshore navigation and for operations related to each vessel arriving a port and monitoring its location in operational areas, as well as to protect the marine environment and adjacent shore areas and ground operations from the possible adverse weather conditions.

EPSON Meteo can provide forecast

- at very small scale: from 2,0 degrees to 0,085 degrees;
- hourly step for next 24, 48, 72 hours, plus three-hourly step for the following days (132 hours);
- for the harbor and neighboring area and seven seas worldwide .



Typical parameters:

- Wind (direction, speed, gusts)
- Wave primary and secondary (direction, height, period)
- Sea levels/Tides
- Ocean Currents
- Cloud cover
- Precipitation (type and quantity)
- Air pressure
- Air temperature
- Surface temperature
- Umidity
- Fog/Visibility
- Thunderstorm/Hail
- Ice limit

## OIL& GAS (OFFSHORE AND FLIGHT)

EPSON Meteo can provide specific weather forecast for all offshore activities in connection with the exploration or exploitation, including the access by air. As for the shipping, weather and ocean data may be provided at very high resolutions for all parameters: winds, currents, waves, tides etc. Similar service can be done to support Cables and Pipelines Monitoring activities.

As well as the services like those above detailed, EPSON Meteo can provide specific services for flight operations related to offshore activities: in fact, from January 2013 CEM has the ENAC-EASA certification as ANSP-MET.

Thanks to this, CEM is capable to deliver various meteorological services for civil aviation, including airspace, airdrome and helicopter landing platforms:

- Messaging (TAF, AIREP, warnings)
- Weather folder and briefing
- Flight- dispatch (FAA certified)



All these services can support also the unmanned aerial vehicle (UAV) operations for oil and gas industry.

## OIL SPILL

Accidents involving spilled oil are unfortunately frequent occurrences in coastal regions. Many factors including, winds, surface currents, tides, air and water temperatures, and salinity, control the movement of spilled oil. The type and amount of spilled oil, and local shoreline and bottom features also influence movements of an oil slick.



An effective response to an oil spill requires the input of scientists representing many different specialties and information on the chemical composition of the spilled oil, ocean currents, and weather. These data are needed for mathematical models that predict movements (known as trajectory analysis) of the oil. EPSON Meteo runs specific models to predict the possible route, or trajectory, a pollutant might follow in or on a body of water, such as in an oil spill.

To quickly set up spill scenarios customized for each incident, EPSON Meteo can model in a diagnostic mode, which enables us to incorporate a number of outside atmospheric and oceanic circulation models. In a standard mode, it is possible to set up spill scenarios to predict how wind, currents, and other processes might move and spread oil spilled on the water. Describing a spill scenario by entering all necessary information, it is possible to create and display an oil spill evolution showing the predicted trajectory of the oil spilled in the scenario.

In addition, it is possible to estimate the amount of oil beached, still floating, or evaporated at specific times.



*Il Centro EPSON Meteo opera con sistema di gestione certificato ISO 9001:2008*

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