

Ship weatherrouting services are becoming more reliable as technology advances in telecommunications, ship tracking and positioning, and forecasting of the atmosphere and the sea. The Interreg IIB MEDOCC project entitled Weatherrouting dans la Méditerranée (WERMED) targets to develop an experimental system for weatherrouting in the Mediterranean Sea and analyse its potential in the region.

Weatherrouting is a means of optimizing shipping routes on the basis of meteo-marine conditions. Unfavourable conditions at sea often cause considerable delays in marine transportation and higher operational costs and fuel consumption. The forecasting of wind, sea state and currents permits an anticipated assessment for optimisation of routes to enable the most convenient navigation at lowest costs, minimal risks to the environment and highest safety to crew, passengers and cargo.

The project is led by the Italian agency CINFAI (Consorzio Interuniversitario per la Fisica delle Atmosfere e delle Idrosfere) and brings together partners from some of the main MEDOCC countries with clear maritime interests, namely Italy, Greece and Malta.

WERMED will estimate risk scenarios for maritime transportation in the Mediterranean, through the compilation and use of high resolution climatologies of key meteorological and oceanographic quantities based upon historical databases developed under recent international research projects. The potential risks of Mediterranean main routes will be assessed, focusing on economical costs of running ships during different types of weather. Socio-economical impacts of ship-routing will be analysed and a prototype system of weather-routing based on a chain of mesoscale meteorological and sea-state models will be planned.

Project Partners



CINFAI (Consorzio Interuniversitario per la Fisica dell'Atmosfera e delle Idrosfere)



APAT (Agenzia Nazionale per la Protezione dell'Ambiente e i Servizi Tecnici)



ARPAL (Agenzia Regionale per la Protezione dell'Ambiente Ligure)



Region of Sardinia



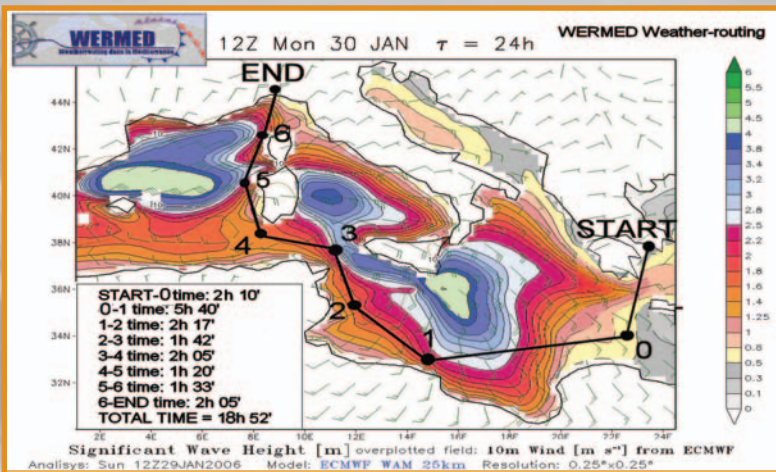
National Observatory of Athens



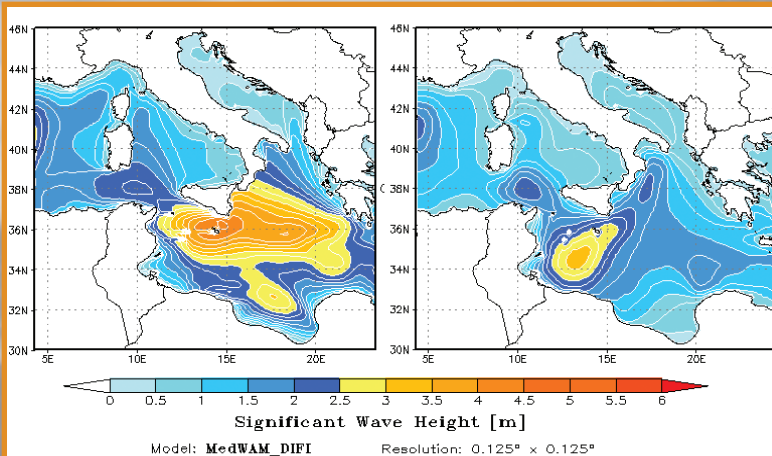
Region of Crete



**University of Malta
IOI - Malta Operational Centre**



Typical re-direction of a ship route to avoid hazardous weather



Forecasting the development of sea state during a storm over the Central Mediterranean

The project is articulated over a number of key tasks addressing the following points:

- Mapping of existing knowledge and experiences relevant to weatherrouting in the Mediterranean;
- Use of wind and sea state climatologies to build the basis for weatherrouting in the region through a combined probabilistic and deterministic approach;
- Use of a suite of high resolution models to forecast meteo-marine conditions down to the mesoscale level;
- Assessment of the system through test cases in straits and islands, especially in areas that act as nodal points for shipping in the Mediterranean;
- Establishment of an experimental system for weatherrouting;
- Cost analysis and feasibility assessment of the system.

More information on the WERMED project can be accessed from the project website <http://www.wermed.net>, by contacting the project leader Dr. Alessandro Delitala, by emailing at wermed@tiscali.it or by phone on +39-0792005082