

AUTOMATIC IDENTIFICATION SYSTEM DATA IMPLEMENTATION TO A WEATHER SHIP ROUTING

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ABSTRACT

This paper tries to explain the project that aims to use Automatic Identification System (AIS) data in ship route plotting systems with the intention to analyse current Short Sea Shipping routes and be able to compare them to optimized routes and support this comparison with weather reports. The study will be carried out using the path finding algorithm SIMROUTE which uses meteorological and oceanographic predictions as input data for the optimized routes, a route plotting software to create routes from waypoints obtained on an AIS platform and a platform to visualize weather reports from official sources. In previous works, having compared the shortest distance with the most efficient distance in strong wave situations gave, to the research, the conclusion that the direction of the waves in relation to the ship's course has a significant importance for the optimum route, with improvements in the safety and economical domains when energetic wave episodes occur. Ship routing systems have been used in research on inter-oceanic routes as an effective solution to reduce sailing time, mitigate carbon emissions and in order to improve maritime safety.

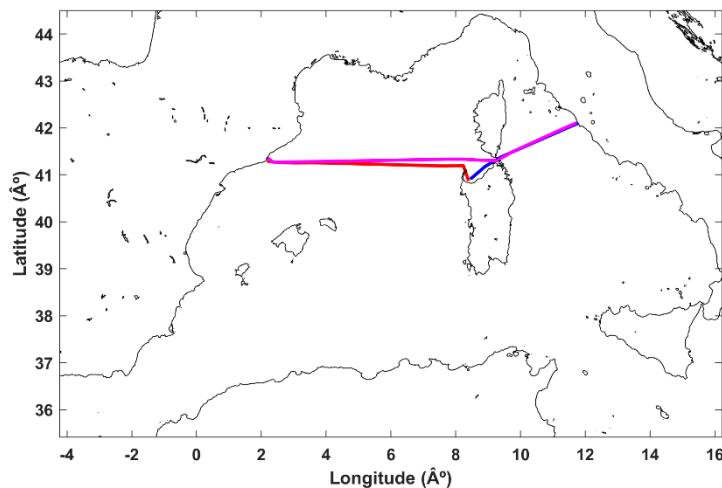


Figure 1 - Cruise Barcelona's route

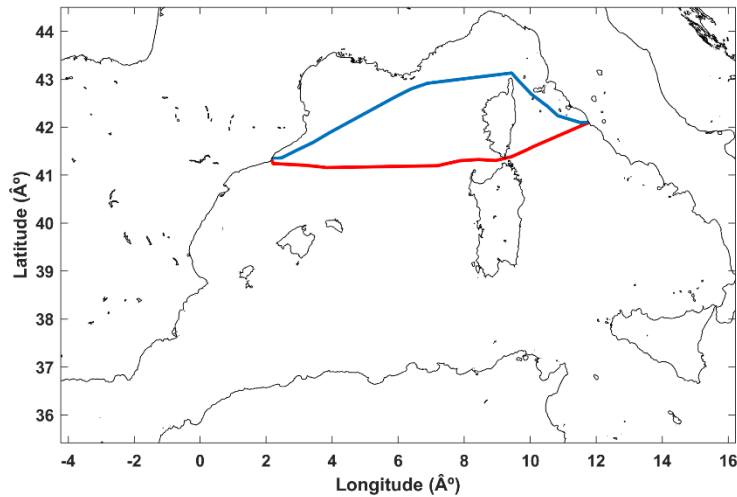


Figure 2 - Cruise Barcelona's route in strong wave episode

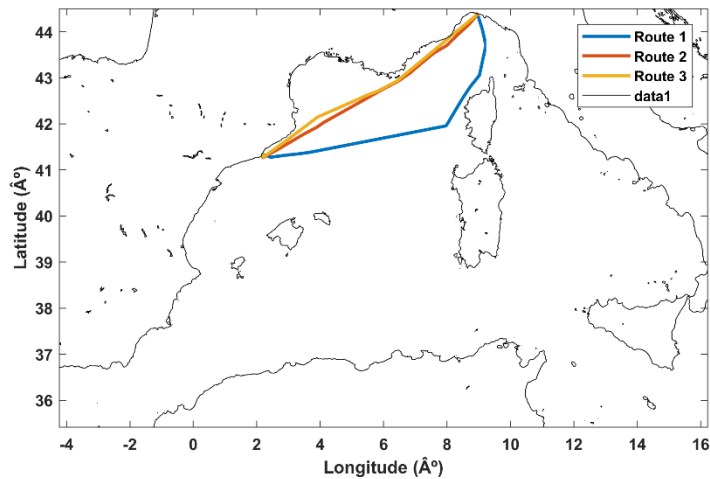


Figure 3 - Excellent's routes depending on the weather

As shown in these figures, with this method it is possible to display and monitorise current routes. Therefore, it enables the evaluation of how ship routing applies to given routes once implemented.

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