



Storm Prediction Information for Decision Making at Sea

Lizzie Froude, Kevin Hodges, and Robert Gurney

Environmental Systems Science Centre, University of Reading, Reading, United Kingdom (e.s.froude@reading.ac.uk)

In recent years the Environmental Systems Science Centre (ESSC) has developed extensive expertise in analysing the ability of forecast models to predict storms. This research has particularly focused on Ensemble Prediction Systems (EPS), which provide information about the uncertainty/probability of forecasts of severe weather events. The storm tracking approach used provides useful storm focused forecast information, which it is not possible to obtain from standard diagnostic techniques. The potential value of this storm prediction information has been recognised by a number of industry sectors, including the marine, insurance and oil and gas. However, the question of how to interpret and utilise this information presents a major barrier. This project aims to overcome this barrier by working with British Marine Technology Group Ltd ARGOSS (BMT ARGOSS, <http://www.bmtargoss.com/>), a technical consulting company, specialist provider and leading innovator in the supply of marine environmental information.

Accurate forecast information about storms is vital for decision making at sea. Activities ranging from ship routing to resource exploration require such information to optimise operations and to prevent economic and human losses. Forecast tools/web services are being developed that present storm prediction information from the National Centers for Environmental Prediction (NCEP) EPS in a way that is useful to BMT ARGOSS' clients for improving decision making at sea. The tools under development will make use of eScience technologies to access the data remotely and make use of distributed computing techniques. Storm tracking verification is also being used to access the performance of the Weather Research and Forecasting Model (WRF) used by BMT ARGOSS.