Geophysical Research Abstracts, Vol. 7, 04094, 2005
SRef-ID: 1607-7962/gra/EGU05-A-04094

Impact of additional observations from the Atlantic THORPEX Regional Campaign 2003

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The Atlantic THORPEX Regional Campaign (ATReC), performed in October-December 2003, investigated the feasibility of an operational adaptive observation network. Multiple additional observing platforms were deployed in sensitive regions over the North Atlantic region with the aim to improve forecasting performance of significant weather events at a range of up to 3 days.

Parallel experiments have been performed at ECMWF to begin to evaluate the impact of additional observations on the forecast skill. A control experiment incorporating only routine observations is compared with an experiment that includes both the routine network and the additional observations from ATReC. The forecast error differences for all available cases are discussed and put into context with respect to the observational coverage in the predicted sensitive regions. In addition, the uncertainty in predicting the sensitive regions is assessed by comparing the predictions from the different singular vector-based and ensemble-based techniques that were used during ATReC.