EMS Annual Meeting Abstracts
Vol. 10, EMS2013-163, 2013
13th EMS / 11th ECAM

Development of improved turbulence forecasts for aviation

D. Turp
Met Office, Exeter, United Kingdom (debi.turp@metoffice.gov.uk)

Turbulence continues to be one of the main meteorological hazards for en-route air traffic. The UK Met Office is one of two World Area Forecast Centres (WAFCs) which are responsible for providing numerical global forecasts of turbulence to the aviation industry. At present the forecasts are produced using a predictor for wind shear turbulence and a predictor for mountain wave turbulence. The performance of these forecasts is routinely assessed using aircraft observations of turbulence provided by the Global Aircraft Data Set (GADS). Although the forecasts predict turbulence with some degree of success, there is scope for improvement.

Recent research has focussed on improving the forecasts using several different approaches. These include the development of a predictor for turbulence associated with convection, combining several turbulence predictors to generate a single forecast, and developing an ensemble turbulence forecasting system. This poster will present results from the development of a combined predictor along with proposals for making this operational.