EMS Annual Meeting Abstracts
Vol. 11, EMS2014-432-1, 2014
14th EMS / 10th ECAC

First Results of the Bora Flow Forecast Verification in Terminal Aerodrome Forecasts in Croatia

Jadran Jurković, Igor Kos, and Ladislav Ćoso
Croatia (jadran.jurkovic@crocontrol.hr)

The bora flow is prominent in the lee side of Dinaric Alps where several airports are situated. Its accurate forecasts is highly desirable especially in winter time when it can significantly reduce aviation operations. For the aviation purpose, one of the most important forecasts is the Terminal Aerodrome Forecast (TAF).
The data used for the verification are TAF and METAR reports during the period 2009-2013. They contain hourly values of short-range forecasts (9 and 24 hours) and observed reports every half-hour. A method similar to the Austro Control TAF verification system is applied in Croatia Control Ltd.
A forecasted maximum of mean wind speeds and gusts in one hour are verified with an observed ones. Here are presented only hours with observed NE winds more than 7.5m/s (15kt) and their winter occurrence is 10-15% in winter. Regardless all Croatian airports at the coast experience the bora, the airport with highest impact of bora flow on aviation is Dubrovnik.
A forecast verification is presented through several verification indexes. The bora is dominantly driven by large scale, hence it is very well forecasted. Inferior forecasts are found at the end of the forecast period and when significant influence of small mesoscale phenomena exists. The most severe gusts have higher False Alarm Ratio that is inherent to a rare (observed) event. Although flow is essentially turbulent, verification of 10minutes wind direction is very good according to aviation requirements.