



Forecasting Runway Visual Range

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Runway visual range (RVR) is used at airports across the globe to provide users with details on the current visibility along the runway. The RVR influences operating procedures at an airport and thresholds of the RVR are used to dictate the rate of aircraft movement through an airport. When the RVR decreases below these thresholds, the reduced number of flights will have an economic impact on airports and airlines as flights are delayed or cancelled. Being able to plan for low RVR events can help airlines and airports to mitigate against the worst impacts of the delays.

The purpose of this research was to determine if it is possible to forecast RVR up to 12 hours ahead using existing tools at the UK Met Office. By receiving an accurate RVR forecast, an airport or airline may be able to prepare for low visibility procedures and the potential downstream effects of this invocation. Heathrow and Bournemouth Airports were able to provide observations of RVR. These observations were used to identify four case studies for autumn/winter 2011 where fog led to low RVR. It was shown that a forecast of RVR could be made if the input visibility was reflective of the true conditions on the runway, but local variations could easily impact on the accuracy of the RVR.