

The RAL Seminar Series



NCAR

Some Insights into Cloud Forecast Biases and Skill: Putting Data and Methods Under the Spotlight

by

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Foothills Lab Building 2, Room 1001, 3:00 p.m.

In this seminar four model configurations of the Met Office Unified Model (MetUM) are compared against two conventional data sources: automated and manual SYNOP cloud observations, as well as 1-minute data at a single site to consider the representativeness of the hourly observations and the impact on distributions, biases and skill. The evolution of the bias and skill as a function of time-of-day is also considered. The conclusion is that results need to be interpreted with care as the dominant feature may well be the observation characteristics.

Site-specific observations provide only limited sampling of the model space, especially for high-resolution (km-scale) models. The suitability of a variety of spatial methods for monitoring the spatial coverage bias and texture of cloud in NWP models is considered, using the Meteosat cloud mask product as well as conventional observations. Too extensive cloud cover is one of the main causes for poor temperature forecasts in maritime mid-latitude climates like the UK. Indeed, initial results show that model cloud forecasts have too few "holes", implying that there are textural and spatial issues, even when compared to a relatively coarse resolution (binary) cloud mask.