To enhance the warnings and mitigation of severe weather events, the Australian Bureau of Meteorology is supporting the development of high resolution (1-2km) numerical weather prediction (NWP) suites. A key part of initializing such systems is the use of radar data for defining wind and cloud fields. This presentation will cover recent developments using the Australian Community Climate and Earth System Simulator (ACCESS) which is built on the Unified Model and variational assimilation system of the UK Met Office.

The overall performance of the modelling system and recent progress in mesoscale assimilation will be assessed using case studies of recent significant events, and neighbourhood (a.k.a. fuzzy) verification. It will be shown that despite the differences in climate and observing systems between Australia and the UK, the performance of the system is encouraging. The importance of high resolution assimilation relative to simple downscaling will also be discussed.