

# **Impacts of the Australian Wind Profiler Network on Global Numerical Weather Prediction**

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Completed in 2017, the Australian Government Bureau of Meteorology installed a network of 9 wind profiling radars (WPRs) across Australia. There are two WPR classes with Boundary Layer (BL) Profilers in Ceduna, Mildra, Cairns, Coffs Harbour and Mackay, and Stratospheric Tropospheric (ST) Profilers in Halls Creek, Tennant Creek, Carnarvon and Longreach. These systems compliment an existing network of 5 Bureau profilers installed at Sydney, Launceston, Canberra, Broadmeadows and East Sale, which underwent software and minor hardware upgrades. In addition to desktop use by Australian forecasters, data from the Bureau profilers are available on the GTS, and are currently being ingested into both Australian and global Numerical Weather Prediction (NWP) models.

Measuring the impact of any new instrument on global NWP models presents significant challenges. Data quality, timeliness of data delivery, frequency of observation and density of like measurements are among the variables contributing to the challenge. Criteria of data acceptance also vary across the major models, which leads to data acceptance in some models where it is rejected by others.

This talk will introduce the Operational Australian Wind Profiler network, and present investigations into the use of its data in global numerical weather prediction models. Results from the Australian Community Climate and Earth-Systems Simulator (ACCESS) will be featured.