

Post-processing improves accuracy of artificial intelligence weather forecasts

Belinda Trotta (belinda.trotta@bom.gov.au), Robert Johnson, Catherine de Burgh-Day, Debra Hudson, Esteban Abellan, James Carvin, Andrew Kelly, Daniel Mentiplay, Benjamin Owen, Jennifer Whelan

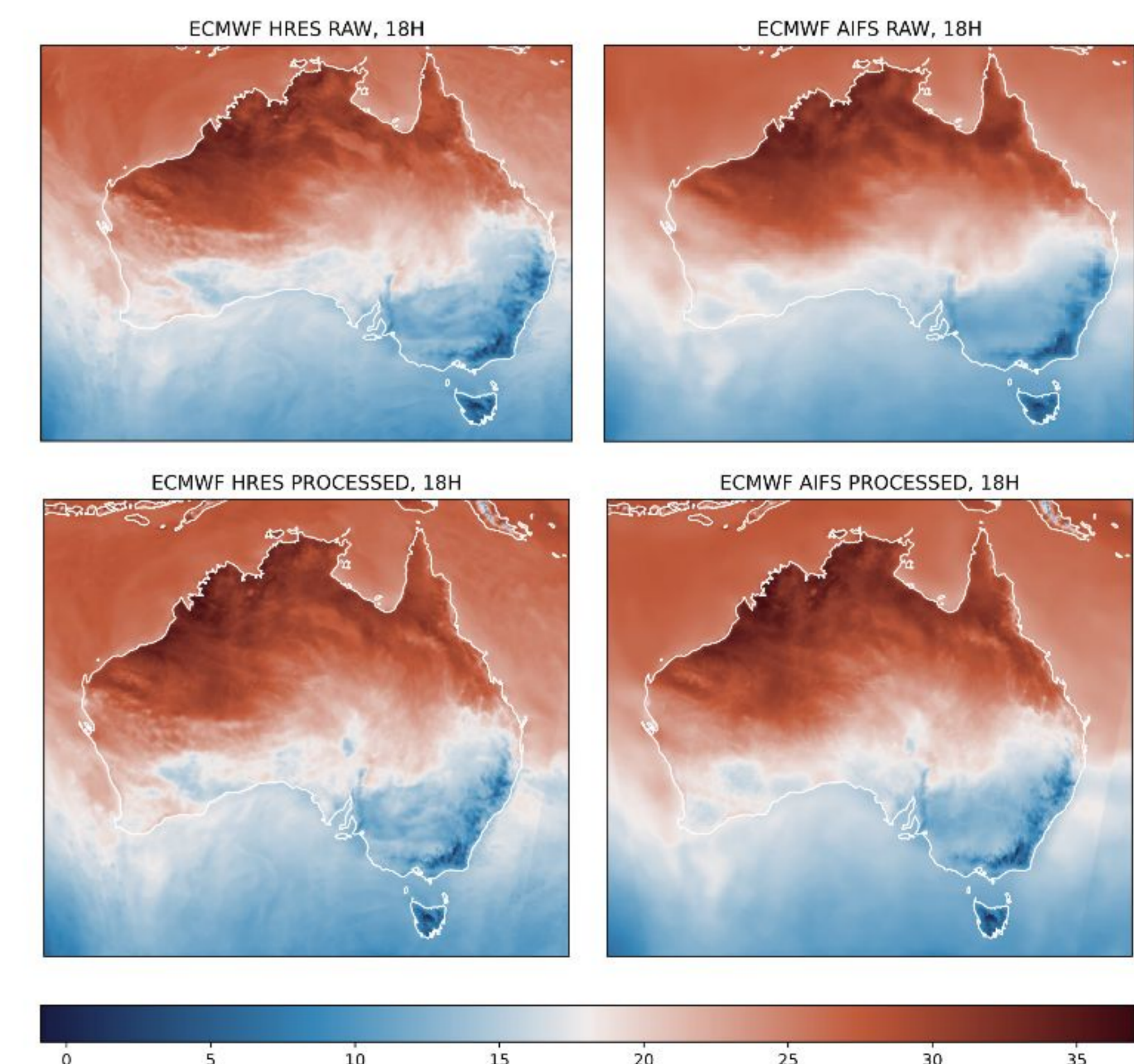
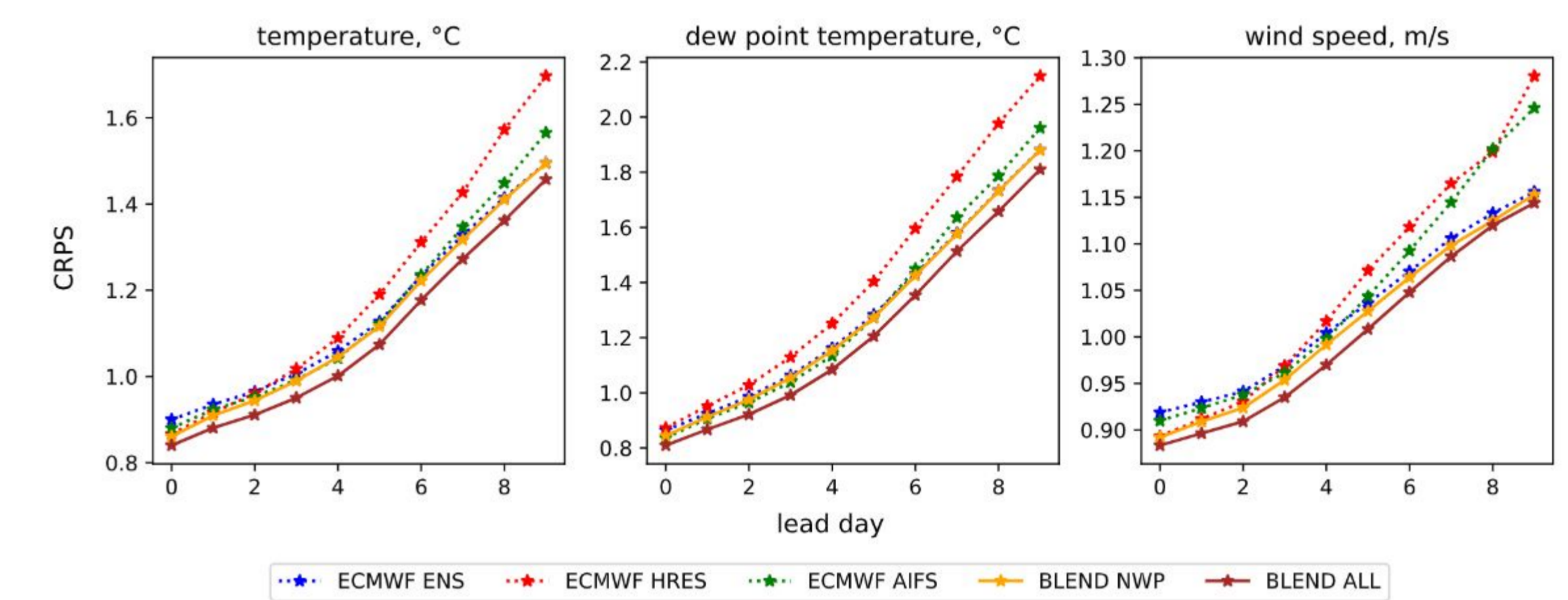
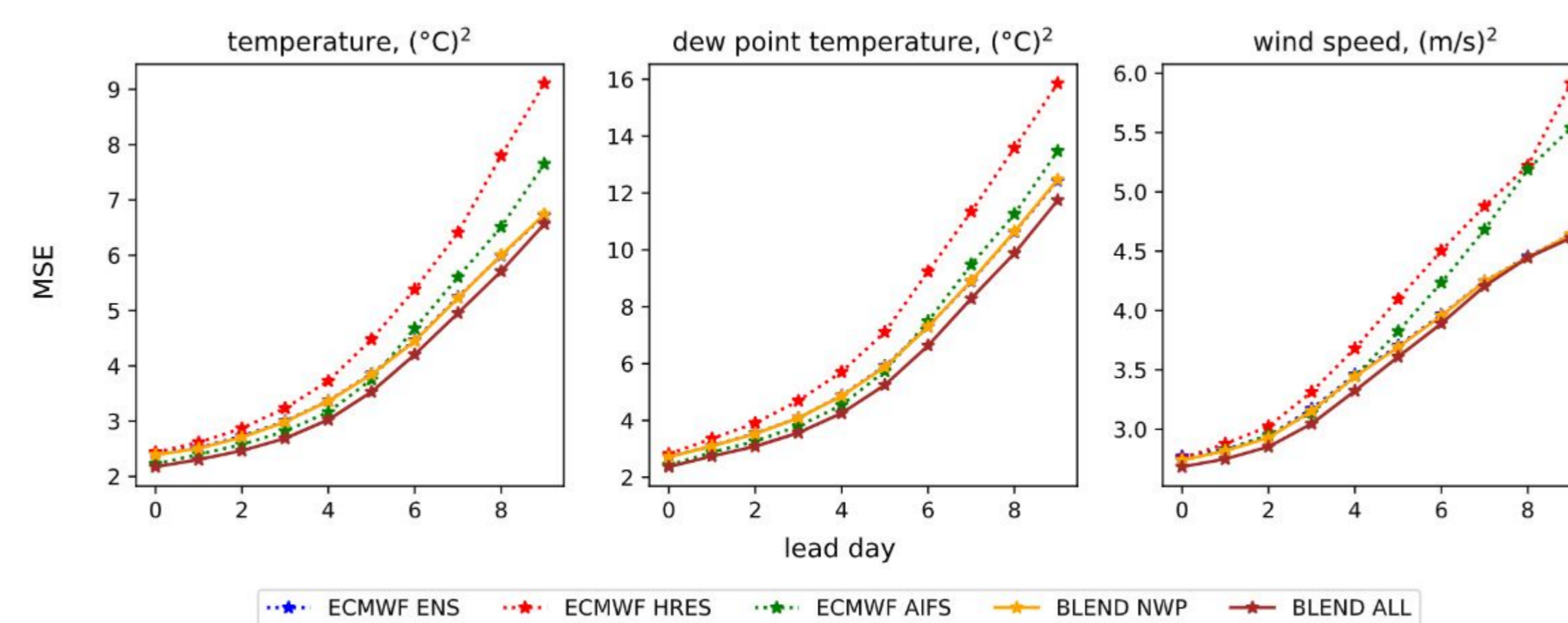
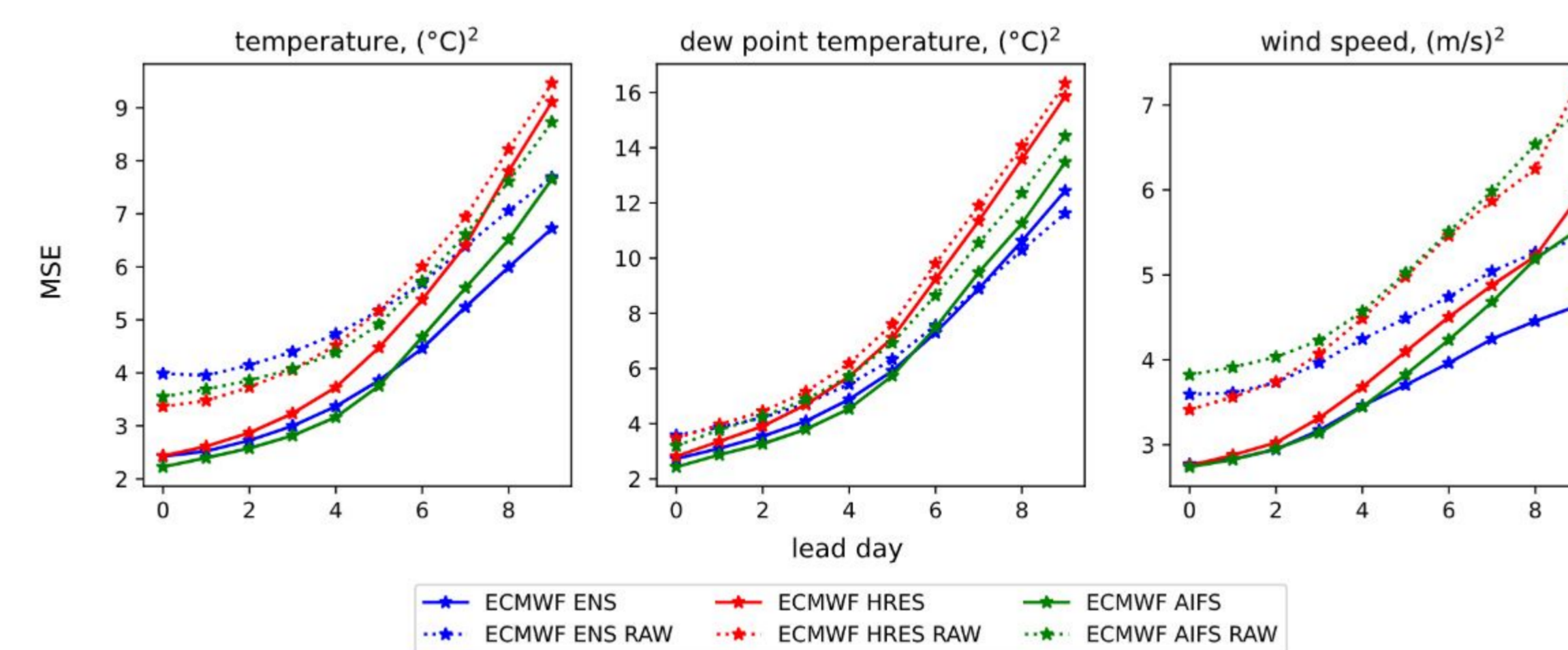
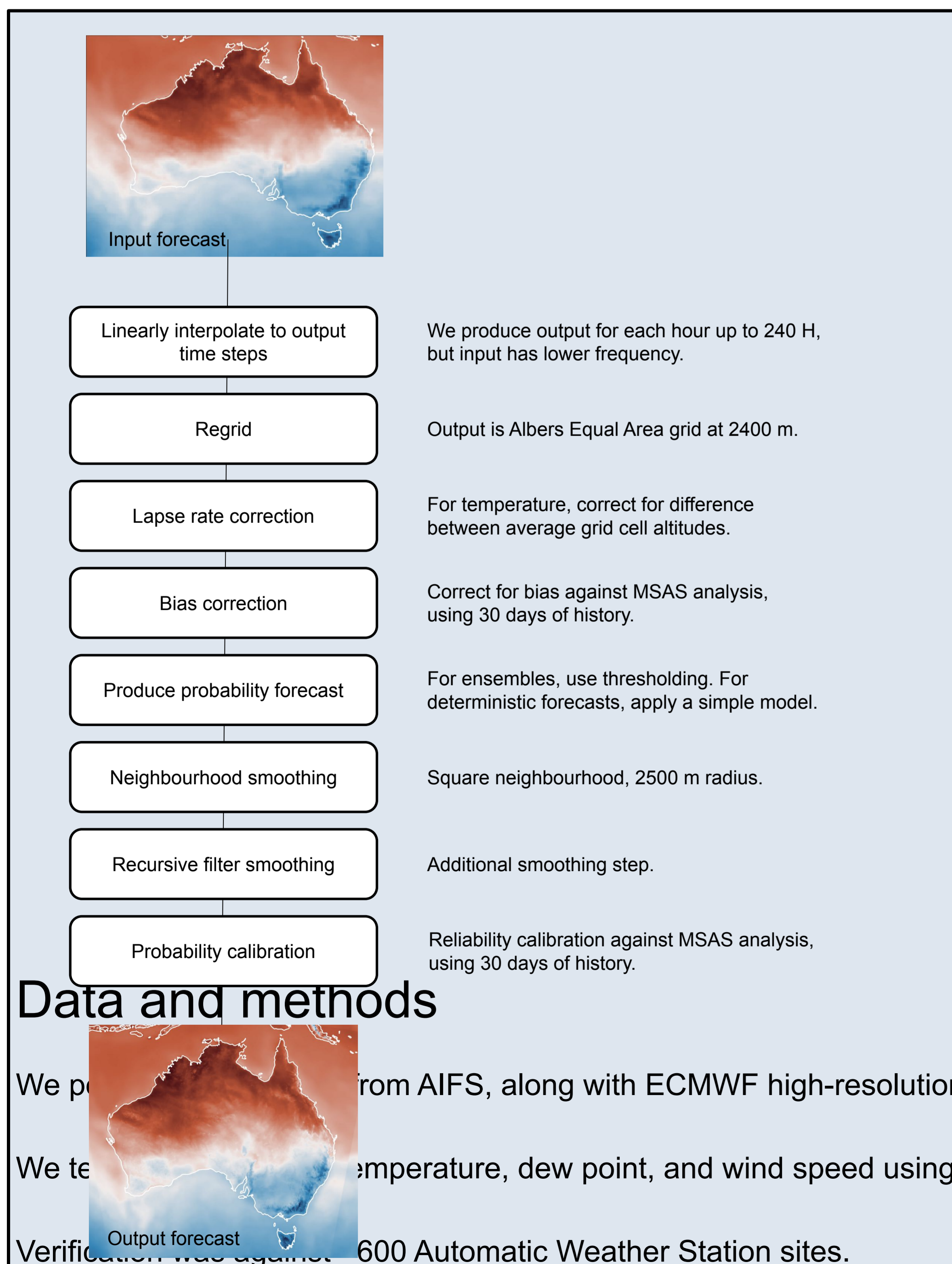
AIFS accuracy rivals ECMWF high-resolution NWP forecast

AIFS (Artificial Intelligence Forecasting System) is ECMWF's new machine learning weather forecast. It is based on a graph transformer neural network. Model accuracy (MSE) is generally better than ECMWF high-resolution forecast based on IFS (Integrated Forecasting System).

Since February 2025, ECMWF has supported AIFS as an operational model. Model data is available since March 2024.

IMPROVER Post-processing system

We prototyped post-processing AIFS with the IMPROVER open-source software.



We used the existing IMPROVER configuration developed for post-processing NWP forecasts at the Bureau.