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## Regime-dependent statistical post-processing of wind speed forecasts

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Raw output from deterministic numerical weather prediction models is typically subject to systematic biases. Although ensemble forecasts provide invaluable information regarding the uncertainty in a prediction, they themselves often misrepresent the weather that occurs. Given their widespread use, the need for high-quality wind speed forecasts is well-documented. Several statistical approaches have therefore been proposed to recalibrate ensembles of wind speed forecasts, including a heteroscedastic censored regression approach. An extension to this method that utilises the prevailing atmospheric flow is implemented here in a quasigeostrophic simulation study and on reforecast data. It is hoped that this regime-dependent framework can alleviate errors owing to changes in the synoptic-scale atmospheric state. When the wind speed strongly depends on the underlying weather regime, the resulting forecasts have the potential to provide substantial improvements in skill upon conventional post-processing techniques. This is particularly pertinent at longer lead times, where there is more improvement to be gained upon current methods, and in weather regimes associated with wind speeds that differ greatly from climatology. In order to realise this potential, however, an accurate prediction of the future atmospheric regime is required.