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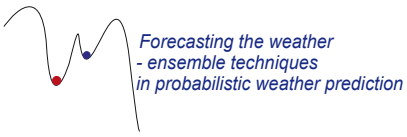

Strategic Intervention – A novel use of Ensembles in Forecast Guidance

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Ensemble forecasts are designed for use in probabilistic prediction, to estimate the probability distribution of forecast states. A common question is the extent to which ensemble members represent alternative forecast scenarios. In general it should be expected that perturbing the best estimate analysis will lead, on average, to a degraded forecast, so using a perturbed ensemble member as a complete forecast scenario is not advisable. However in certain extreme situations, forecasters can identify significant errors in the deterministic model which would have a detrimental impact on the accuracy of downstream products. The Met Office have been considering how to mitigate against this by investigating if the selection of an alternative ensemble member can provide a meteorologically consistent way to correct the error over a limited domain and propagate the correction into automated forecasts. The pros and cons of this approach will be discussed, leading to the development of the strategy of Strategic Intervention which allows forecasters to correct gross errors over the British Isles in a 'change once use many' approach.