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Assessing skill from retrospective forecasts

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The likely skill of seasonal to decadal forecasts is usually assessed by evaluating retrospective forecasts (also known as hindcasts) against observations. However, this evaluation is complicated by many factors, including the need to remove model drifts and biases, trends arising from climate change and/or low frequency variability, the changing observational network, and the impact of ensemble size on skill. Here we illustrate these issues and discuss possible solutions. As an example we compare and evaluate two initialisation strategies, namely the assimilation of full observed values versus assimilation of observed anomalies.