Atmospheric variability on different timescales: Impact on Validation

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The natural variability of the atmosphere has influence on satellite validation since comparison measurements mostly do not exactly match in time and space (miss-time error / miss-distance error). Based on ERA40 data the atmospheric variability was analysed with regard to temperature variations on timescales of hours to days and spatial differences of a few hundred kilometres.
In addition the calculated miss-time error can be used to quantify planetary wave activity. Changes with altitude, season and year are presented.