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Influence of the stratosphere on surface winter climate

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A combination of modelling experiments and observational datasets is used to estimate the influence of stratospheric variability on surface European climate in winter. Stratospheric changes appear to be important for the very rapid warming of Europe in winter between the 1960s and 1990s and associated changes in the frequency of climate extremes such as heavy precipitation events and frosts. The winter of 2005/6 is used as a case study to illustrate how the influence occurs in individual years.