

Influence of the stratosphere on decadal variability of 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 20th Century European winter climate. Stratospheric changes occur via the NAO and 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. The winter of 2005/6 is used as a case study to illustrate how this influence occurs in individual years. We also show how including the stratosphere in climate models can greatly improve the representation of atmospheric blocking frequency.