



Variability and change in the NAO: the role of the stratosphere

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Observations show that variations in the surface NAO and the stratosphere are related. An increase in the surface NAO is typically accompanied by an increase in the stratospheric winter westerly circulation and on seasonal timescales, signals appear to propagate downwards from the stratosphere to the troposphere. Recent GCM experiments suggest that changes in the stratospheric flow were also important for multi-decadal changes in the NAO and European surface climate in recent decades. Here we use GCM experiments with a fully resolved stratosphere to investigate low frequency variability in the NAO over the 20th century and its change under 4xCO₂ conditions.