



## **On the Role of the Stratosphere in Medium-Range and Extended-Range Forecasting**

T Jung (1), J Barkmeijer (2), M Leutbecher (1), T Palmer (1), M Rodwell (1), and F Vitart (1)

(1) ECMWF, (2) KNMI

It is now widely accepted that anomalies in the strength of the stratospheric polar vortex (SPV) subsequently lead to significant tropospheric anomalies. Given the relatively long time scale of stratospheric variations it has been speculated, therefore, that the stratosphere provides a source of extended-range tropospheric predictability. In this study the role of the stratosphere in medium-range and extended-range forecasts of the tropospheric circulation with the ECMWF model is investigated. More specifically, topics being discussed include systematic model error, predictability of Sudden Stratospheric Warmings, the generation of optimal perturbations for ensemble prediction systems and tropical versus stratospheric forcing of the tropospheric circulation.