



Understanding the Origin of the Anomalously Cold European Winter 2005/06 Using Relaxation Experiments

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A set of experiments has been carried out with the ECMWF model in which certain regions of the globe were relaxed towards analysis fields during the course of the integration. In this way it is possible to understand the role that remote regions such as the tropics play in the formation of extratropical circulation anomalies. For the winter of 2005/06 it is found that the tropics were crucial in setting up the observed circulation anomalies in the Euro-Atlantic area. Part of the signal originates from the tropical Indian ocean and part of it can be explained by the presence of the easterly phase of the QBO. The breakdown of the stratospheric polar vortex at the end of January 2006 can also be explained by the tropical forcing. Our results are discussed in the context of operational seasonal forecasts of the winter 2005/06.