



## **Dynamics of Atlantic jet stream regimes**

T. Woollings (1), A. Hannachi (1), C. Franzke (2), B. Hoskins (1), and O. Martius (3)

(1) University of Reading, Reading, United Kingdom (t.j.woollings@rdg.ac.uk), (2) British Antarctic Survey, Cambridge, United Kingdom, (3) ETH, Zurich, Switzerland

The North Atlantic Oscillation describes variations in the eddy-driven jet stream, and is often referred to as the dominant factor influencing European weather patterns. However, the NAO is just one aspect of jet stream variability. Here we present a simple method which identifies jet stream variations directly, rather than via the associated pressure anomalies. This simple analysis strongly suggests that there are three preferred positions of the jet stream in winter, a result which is supported by several different statistical analyses. We investigate the dynamics of these three jet stream regimes, with respect to their persistence, eddy-mean flow forcing, and Rossby wave-breaking characteristics. Time series analysis of the jet stream latitude has clear implications for extended-range weather predictions, as does the finding that there are clearly significant preferred transitions between the three regimes.