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Climate extremes and weather regimes : the exceptional fall-winter 2006 in Europe

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Europe witnessed unprecedented warmth persisting throughout fall and winter 2006, comparable in amplitude to the summer 2003 heat wave. Whether this anomaly and recent warming in Europe can be linked to changes in atmospheric dynamics and weather regimes frequencies is a key question in the climate change prospective. *Vautard et al.* [2007] show, considering temperatures in flow analogues in previous fall-winter seasons, that the atmospheric flow in fall-winter 2006, which was favorable to warmth, cannot explain alone the exceptional observed temperature anomaly. These results suggests that the main drivers of recent European warming are not changes in weather regimes frequencies, contrasting with changes before the 1990's. Analyzing several data from the NCEP/NCAR model, we try to understand what led to such an extreme temperature anomaly in fall-winter 2006, to find out what the drivers of the European climate now are.