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Inconsistency between atmospheric dynamics and temperatures during the exceptional 2006/2007 fall/winter and recent warming in Europe

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Europe witnessed unprecedented warmth persisting throughout fall and winter 2006-2007, with only a few cold breaks. Whether this anomaly and recent warming in Europe can be linked to changes in atmospheric dynamics is a key question in the climate change prospective. We show that despite the fall/winter atmospheric flow was favorable to warmth, it cannot explain alone such an exceptional anomaly. Observed temperatures remained well above those found for analogue atmospheric circulations in other fall and winter seasons. Such an offset is also found during the last decade and culminates in 2006/2007. These observational results suggest that the main drivers of recent European warming are not changes in regional atmospheric flow and weather regimes frequencies, contrasting with observed changes before 1994.