

Recent trends in monthly temperature and precipitation patterns in Europe

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Abstract During past decades climate change has been documented through an observed global temperature increase and changed precipitation regimes. This study aims at detecting the most recent trends in monthly temperature and precipitation in Europe, and if possible, attributing these trends to changes in the frequency of circulation types. Building on previous work that covered only parts of Europe, this study covers all of Europe, using the Watch Forcing Data Interim re-analysis data (1979–2009). The SynopVis Grosswetterlagen (SVG) is used to define circulation types. The study shows that temperature trends in February can be attributed to changes in circulation, but in all other months, circulation changes cannot explain the trends. For precipitation the picture is unclear.

Key words trend detection; attribution; circulation types; Europe; temperature; precipitation