



Northern Europe precipitation extremes in the 20th Century Reanalysis

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Increasing attention is being paid to the climatology of extreme events, with particular focus on the detection of trends. The Twentieth Century Reanalysis (20CR) should provide a unique tool for trend detection, given its exceptionally long time span. However, the quality of this reanalysis is unknown for extreme events at the regional scale.

20CR is analysed over a region of north-western Europe (with particular focus on the UK) through comparison with observations from England and Wales Precipitation and with high quality reanalysis from GPCP and ERA-Interim on daily time-scales, with a focus on detection of extreme precipitation events caused by synoptic-scale systems. The data are found to compare favourably with observations concerning the timing and location of storm systems; however where “extreme” values are described as those exceeding the 98th percentile, 20CR is found to underestimate the intensity of events by approximately one-third. We therefore test the hypothesis that the intensity of extreme events may be accounted for by a method of systematic adjustment.