



A network analysis of global precipitation extremes

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Network analysis has been extensively used in climate science to gain more knowledge on the complex climate system and to better understand and characterise complex spatio-temporal patterns. However, studies have focused on average conditions and have not taken into account extremes. Only recently an effort has been done to investigate networks of climate extremes. Here, we attempt a network analysis of precipitation extremes at the global scale. The approach is mainly based on a recently proposed method for the multivariate nonparametric estimation of the Pickands dependence function. The procedure is tested and applied on monthly precipitation maxima derived from the Global Precipitation Climatology Centre data set (GPCC). It is applied both to extremes occurring in the same month and by allowing for a time-lag of 2 months; thus, to capture specific large scale processes evolving in space and time.