



## Summer precipitation extremes in Yellow River Loop Valley and the possible cause

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The extreme precipitation occupies over 30% of the total summer precipitation in Yellow River Loop Valley. The inter-annual variation of the Yellow River Loop Valley precipitation extremes shows the same sign as that in South China but opposite to that in Yangtze River basin. The summer precipitation extremes (SPE) are mainly short range processes and occur in narrow region. The SPE in Yellow River Loop Valley is mainly connected to the up level high pressure anomaly over Bohai Sea, which is enhanced during the extreme precipitations. The intensification of the Bohai Sea high pressure is due to the eastward propagation of the Rossby wave activity along the summer Asian jet.