

# Characteristics of the diurnal variations flood period precipitation in Anhui during the last 30 years

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The characteristics of flood season daily precipitation were analyzed in the term of rainfall amount, frequency and intensity using the hourly data in Anhui during 1981-2010. The main results are as follows. (1) The daily rainfall amount and frequency have two diurnal peak, one in the early morning and the other in the late afternoon, while the rainfall intensity does not reflect an obvious peak. The peaks of light and moderate rain days lie in afternoon, and there are two peaks in heavy rain days. However, the peak of torrential rain days lies in morning. These differences are due to the different lasting rainfall events. (2) The spatial distributions of rainfall have large diurnal variation with considerable regional features. As amount of daily rainfall increasing, the spatial distribution of peak time performs less consistent. (3) In the 30 years, the annual change of afternoon-peak in rain amount and intensity is almost the same, reflecting an increase between 1993 and 2010. There are more stations of morning peak time in weak monsoon years than strong monsoon years.

Keywords: rainfall diurnal variation, feature of rainfall peak, monsoon