analysis on sub-daily characteristics of one hour precipitation based on observed data

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In order to reveal sub-daily characteristics of precipitation, this study analyzes statistical characteristics of hourly precipitation by using statistical methods. The hourly precipitation observed data was collected from 34 representative precipitation stations of Sichuan Province of China during 2001-2007. The results show that the average one hour precipitation is 0.148 mm, and the probability density function of precipitation intensity is $y = 0.2235e-0.083x$. The average daily precipitation time is 2.6 hours, and the probability of precipitation event each hour follows a sine wave. As well as the maximum probability time when precipitation occurs in a day is 3 AM to 4 AM, and the minimum probability time is 14 PM to 15 PM. It suggests a method for precipitation downscaling from daily into hourly.