

引用本文(Citation):

原韦华, 宇如聪, 傅云飞. 2014. 中国东部夏季持续性降水日变化在淮河南北的差异分析. 地球物理学报, 57(3): 752-759, doi: 10.6038/cjg20140306

YUAN Wei-Hua, YU Ru-Cong, FU Yun-Fei. 2014. Study of different diurnal variations of summer long-duration rainfall between the southern and northern parts of the Huai River. Chinese Journal Geophysics, 57(3): 752-759, doi: 10.6038/cjg20140306

中国东部夏季持续性降水日变化在淮河南北的差异分析

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Study of different diurnal variations of summer long-duration rainfall between the southern and northern parts of the Huai River

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摘要

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摘要

本文利用1961—2006年我国285站观测的逐时降水数据, 分析了中国东部不同地区夏季平均降水日变化随降水持续时间变化特征。虽然整个东部地区都表现为短时降水峰值较一致地出现在下午17时左右, 持续较长时间降水在清晨前后发生峰值降水, 但持续性降水日变化的平均峰值时间以淮河为界存在显著南北差异。北部地区的持续性降水峰值主要出现在02—06时前后; 南部地区的持续性降水峰值时间出现在06—10时。无论是降水强度或频次的日变化峰值的南北差异均较明显, 但降水强度差异更为突出, 且主要表现在持续性强降水中。进一步分析发现: 一方面北部地区持续性强降水开始时间较南部地区更早; 另一方面, 北部地区降水从开始到峰值经历的时间更短。最后, 对持续性强降水峰值时间南北差异的可能原因进行了初步讨论。

关键词 降水日变化, 持续性降水, 南北差异

Abstract:

Using the hourly rain gauge data of 285 stations from 1961—2006, the diurnal variations of rainfall with different duration time over the eastern China was studied. The short-duration rainfall over the whole eastern China presented peaks around 17 Beijing Time (BJT), but the peak time of long-duration rainfall exhibited significant regional differences. Long-duration rainfall over the northern (southern) parts of the Huai River showed the peaks during 02—06 (06—10) BJT. The regional differences existed in both rainfall frequency and intensity, but they were more obvious in the rainfall intensity especially for the long-duration heavy rainfall. Further analysis showed that the differences in rainfall peaks were contributed by the begin time of rainfall events and the time between the start and peak of rainfall jointly. Besides, the possible reasons, accounting for the different diurnal peaks of long-duration rainfall over the southern and northern parts of the Huai River, have also been discussed.

Keywords Rainfall diurnal variation, Long-duration rainfall, Regional differences

Received 2013-05-21;

Fund:

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