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农村发展—生态资源环境

2007年夏季淮河流域多时间尺度降水分布和传播特征

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摘要：

针对2007年夏季淮河流域致洪暴雨，笔者采用美国NCEP/NCAR全球日平均分析场资料，对此次过程进行了详细地分析。Morlet小波分析结果表明：降水存在准35天、准18天和准8天周期变化现象。准35天周期低频降水从西南传播至淮河流域南部，另一方面从西北方向传播至淮河流域中南部；南海为低频降水传播源地也很清楚。降水的周期愈短，传播特征愈不明显。200 hPa与850 hPa水平散度差与降水有很好的对应关系，水平散度差＞0（＜0）对应降水区域（无降水区域），降水的传播与水平散度差基本一致。200 hPa与850 hPa水平散度差是不同时间尺度地面降水的预报因子。

关键词： 小波分析

Distribution and Propagation Features of Multi-time Scale Precipitation over Huaihe River Basin in the Summer of 2007

Abstract:

The research on the heavy rainfall causing the flood Huaihe River basin during May to August in 2007 was focused on, using NCEP/NCAR reanalysis day-to-day data, the distribution and propagation features of multi-time scale precipitation over Huaihe River basin in the summer of 2007 were investigated. Morlet wavelet analysis results showed that there existed periodic change phenomenon of precipitation in quasi-35 days, quasi-18 days and quasi-8 days oscillaation. Periodic low frequency precipitation of quasi-35 days was from southwest propagation to the south of Huaihe River basin, and on the other hand from northwest propagation to the south central Huai River Basin; it was aslo clear that Nanhai was the propagation source of low frequency precipitation. The more short period of precipitation, the propagation features was not obvious. It was a very good corresponding relation that between horizontal divergence balance of from 200 hPa with 850 hPa and precipitation, horizontal divergence balance>0 corresponding to precipitation area, and horizontal divergence balance<0 to no precipitation area. The propagation of precipitation was mainly accord to horizontal divergence balance. The between horizontal divergence balance of from 200 hPa with 850 hPa was predictor of multi-time scale precipitation.

Keywords: Morlet wavelet analysis

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