

论文

2005年8月13日抚顺地区大暴雨天气过程诊断分析

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摘要 利用天气图等实况资料,针对2005年8月13日抚顺大暴雨天气过程,从环流形势特征、不稳定能量、水汽和动力条件等方面入手,寻找形成强降水的物理背景,并对云团演变过程、数值预报产品应用和特殊地形对降水的影响进行分析,探讨降水过程的天气系统演变特征及发生、发展的物理机制,以提高对此类型暴雨天气的认识和预报能力。结果表明:西风槽东移、热带风暴北移,促使副热带高压北上,建立了低空急流;低空急流为大暴雨输送大量水汽和不稳定能量;切变线东南移,携带冷空气与副热带高压边缘不稳定能量在抚顺交汇,对流云团得到强烈发展,触发了副热带高压边缘不稳定能量的释放,因此形成了大暴雨天气;地形辐合抬升,对降水起到了增强作用。

关键词 [大暴雨](#) [副热带高压](#) [不稳定能量](#) [诊断分析](#)

分类号

Diagnostic analysis on "8.13" torrential rainstorm in Fushun in 2005

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Fushun Meteorological Observatory;Fushun 2005

Abstract In term of weather chart and other live data,the primary physical factors forming the "8.13" torrential rainstorm in Fushun in 2005 were analyzed,including the characteristics of circulation,unstable energy,steam and power conditions and so on.And the impacts on evolvement process of cloud cluster,the application of numerical forecasting products and the special terrain to precipitation were also discussed in order to improve the forecasting ability to this kind of weather.The results indicated that west wind trough moved eastwards and tropical storm went northwards,which forced the subtropical high up north,and then the low level airflows were formed.The airflows provided lots of steam and unstable energy for the torrential rainstorm.The cold air converged with unstable energy in Fushun for shear line moved southeastwards,which made convection cloud cluster strong.Then the release of unstable energy around the edge of subtropical high formed the torrential rainstorm and strong thunderstorm weather.The terrain also played an important role.

Key words [Torrential rainstorm](#) [Subtropical high](#) [Unstable energy](#) [Diagnostic analysis](#)

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