

首页

期刊简介

编委会

投稿须知

征稿简则

期刊评价

相关下载

赵娴婷, 苗春生, 于波. "0907"长江下游梅雨锋暴雨的数值模拟和诊断分析. 气象科学, 2012, 32(2):194-201 ZHAO Xianting, MIAO Chunsheng and YU Bo. Numerical simulation and diagnostic analysis of Meiyu front heavy rain over the lower Yangtze River in July of 2009. Journal of the Meteorological Sciences, 2012, 32(2):194-201

"0907"长江下游梅雨锋暴雨的数值模拟和诊断分析

Numerical simulation and diagnostic analysis of Meiyu front heavy rain over the lower Yangtze River in July of 2009

投稿时间: 2010-11-17 最后修改时间: 2011-1-27

DOI: 10.3969/2012.jms.0016

中文关键词: [梅雨锋暴雨](#) [WRF模式](#) [中尺度对流系统](#)

英文关键词: [Meiyu front rainstorm](#) [WRF model](#) [Meso-scale convective system](#)

基金项目: 国家科技支撑计划课题(2007BAC29B06)

作者

单位

E-mail

[赵娴婷](#)

[南京信息工程大学, 南京 210044](#)

[苗春生](#)

[南京信息工程大学, 南京 210044](#)

csmiao@nuist.edu.cn

[于波](#)

[安徽省气象局, 合肥 230061](#)

摘要点击次数: 35

全文下载次数: 17

中文摘要:

利用常规观测资料、卫星 T_{BB} 资料以及客观再分析资料,对2009年7月6—7日(简称"0907")的长江下游梅雨锋暴雨过程进行了数值模拟和天气分析,重点研究了中尺度系统的发生发展机制。结果表明:7月6—7日对流层低层,长江下游北侧存在的一次天气尺度低压,其发展和东移,促使锋生加强,低空急流发生。WRF中尺度模式数值模拟结果显示,在次天气尺度低压的南侧不断形成 β 中尺度和 γ 中尺度对流系统。对其中一个 β 中尺度对流系统的分析研究表明:低空中尺度急流和中尺度辐合首先发生。之后中尺度辐散迅速加强。高层强辐散、低空中尺度急流核和中尺度低涡的相互耦合作用使系统不断发展并东移。高层相对干冷空气的侵入促使系统衰减消亡。

英文摘要:

Based on routine, satellite and objective reanalysis data, a Meiyu front heavy rain occurred over the lower Yangtze River from 6 to 7 July 2009 was simulated and analyzed. The occurrence and development mechanism were emphasized. It was found that a sub-synoptic-scale vortex was on the north side of the lower Yangtze River at low level of troposphere. Its development and eastward movement intensified front and caused the occurrence of low-level jet at lower level. The simulation result provided by WRF meso-scale numerical model shows that several meso- β -scale systems and meso- γ -scale systems continued to form on the south side of sub-synoptic-scale vortex. This paper analyzed one of several meso- β -scale systems. It shows that meso-scale low-level jet and meso-scale convergence first occurred. And then meso-scale convergence enhanced rapidly. The coupling of intense divergence at upper levels, meso-scale jet at lower levels and meso-scale vortex let the system develop and eastward move continuously. The relatively dry and cold air in the upper troposphere entered the system, which caused the system to be weakened.

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

关闭

版权所有:《气象科学》编辑部 苏ICP备11033607号

地址:南京市北极阁2号 电话:025-83287066 邮箱:qxkxbj@126.com 邮政编码:210008

技术支持:北京勤云科技发展有限公司

访问网站总数:101322