



云南大学学报(自然科学版) » 2010, Vol. 32 » Issue (6): 676-679 DOI:

地球科学

最新目录 | 下期目录 | 过刊浏览 | 高级检索

◀ Previous Articles | Next Articles ▶▶

基于CAM3T42的云南5月降水的可预报性试验研究

张万诚¹, 常有礼², 陶云¹

- 1. 云南省气象科学研究所, 云南 昆明 650034;
- 2. 云南大学 大气科学系, 云南 昆明 650091

Predictability study of Yunnan's May precipitation by CAM3T42

ZHANG Wan-cheng¹, CHANG Yiu-li², TAO Yun¹

- 1. Meteorological Institute of Yunnan Province, Kunming 650034;
- 2. Atmospheric Science Department of Yunnan University, Kunming 650091, China

- 摘要
- 参考文献
- 相关文章

全文: PDF (1000 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 取逐月地表温度作外强迫,用NCAR CAM3T42模式积分50a,获得1951~2000年的模式大气环流资料,截取40a的5月500hPa高度场与云南124个测站5月降水资料建立的基于CAM3T42公共预报因子集具有很好的一致性,可以用来讨论云南5月降水的可预报性. CAM3T42的5月500hPa高度场影响云南5月雨量的关键区主要分布在地中海、印度次大陆、西太平洋暖池、东北太平洋、北美等区域以及南印度洋、南太平洋和南大西洋等区域.应用公共预报因子集建立的云南124个测站5月雨量预报试验表明有113个复相关系数通过0.05的显著性检验,占总测站数的91%左右.利用10a样本作为独立预报检验表明复相关系数的量值与非独立样本检验的相比略有减小.试验结果和独立样本检验结果表明:5月CAMT42的500hPa高度场的变化与云南124测站5月降水间具有良好且稳定的关系,CAMT42对云南5月降水具有一定的预报能力.

关键词: NCAR CAM3T42模式 云南5月雨量 独立预报检验 500hPa高度场

Abstract: Using monthly surface temperature as external forcing, we have obtained the atmospheric circumfluence data from 1951~2000 by the 50a simulating integral data of NCAR CAM3T42 model. The set of common predictive factors, which is constituted of 40a simulating integral 500hPa height field in May and 124 stations May precipitation of Yunnan Province, has a good spatial coherence. The predictability of Yunnan's May precipitation may be studied by using this set. There are some key factors influencing Yunnan's May precipitation on the 500hPa height field in May of CAM3T42 model. The key factors mainly lie on the Mediterranean Sea, India Subcontinent, the West Pacific Ocean Warm Pool, the Northeast Pacific Ocean, the North of America, the South Indian Ocean, the South Pacific, the South Atlantic Ocean and so on. Using the common predictive factors set we can establish a set of predictive regression equations to forecast 124 stations May precipitation of Yunnan Province. The predictive results indicated that the coefficient of multiple correlations of 113 stations passed the 0.05 significant test, the ratio to whole province was approximately 91%. The independence prediction test results by 10a samples indicated that the value of coefficient multiple correlations had little decrease compared with that of non-independence prediction test. The research results indicated that there was better stability between the change of 500hPa height field in May of CAM3T42 model and 124 stations May precipitation of Yunnan Province. The CAMT42 model has forecasting ability to predict Yunnan's May precipitation.

Key words:

收稿日期: 2009-08-09;

引用本文:

张万诚,常有礼,陶云. 基于CAM3T42的云南5月降水的可预报性试验研究[J]. 云南大学学报(自然科学版), 2010, 32(6): 676-679 .

\$author.xingMing_EN,\$author.xingMing_EN,\$author.xingMing_EN. Predictability study of Yunnan's May precipitation by CAM3T42[J]. , 2010, 32(6): 676-679 .

没有本文参考文献

没有找到本文相关文献

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章

- ▶ 张万诚
- ▶ 常有礼
- ▶ 陶云

版权所有 © 《云南大学学报(自然科学版)》编辑部

编辑出版: 云南大学学报编辑部 (昆明市翠湖北路2号, 650091)

电话: 0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com