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研究短论

IPCC AR4模式对东亚地区气候模拟能力的分析

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摘要 利用CRU地面温度、降水的陆地月平均观测资料，以及参与IPCC第四次评估报告的22个海气耦合模式的模拟结果，分析了这些模式对东亚地区当前气候的模拟能力。结果表明：虽然所有模式对东亚地区的气候都有一定的模拟能力，但各模式模拟效果差异较大；与单个模式相比，模式集合平均值能更好地反映气候变化趋势；多数模式的温度模拟值偏低，降水模拟值偏高；对1980-1999年20 a平均气候态空间分布、百年时间变化分析可以看出，温度模拟效果比较好，降水模拟较差。

关键词 海气耦合模式 气温 降水 集合平均 东亚

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An Analysis of Climate Change in East Asia by Using the IPCC AR4 Simulations

Abstract Using the CRU monthly data of the surface mean temperature and precipitation, and the output data of 22 AOGCMs participated in IPCC AR4, the preliminary analysis of AOGCMs simulated capability in East Asia for the 20th century has been evaluated in this paper. The results indicate that there are large differences among GCMs, although GCMs have a certain capability to simulate current climate over East Asia. Compared with the single model, the ensemble mean is better. In general, the simulated temperature is lower, and the simulated precipitation is higher than the observations. According to both analyses of spatial distribution of 20-year mean and the time series of the 20th century, the result of simulated temperature is better than that of simulated precipitation.

Key words AOGCM temperature precipitation ensemble mean East Asia

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