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研究短论

1957-2000年东北地区春季极端气温变化及其与北极涛动的关系

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摘要 利用东北地区32个测站1957-2000年逐日气温资料，分析了东北春季极端气温指数的变化特征及其与同期和前期北极涛动指数的关系。结果表明：春季日气温距平值基本上是由高纬向低纬、由东向西增加；44 a来日气温距平强度变化呈现正趋势，春季的冷日和冷夜呈减少趋势，暖日和暖夜呈增加趋势。东北春季气温与春季北极涛动（Arctic Oscillation, AO）在年际时间尺度上具有很强的正相关性，AO和极端气温指数也存在着相同的变化周期和突变时间。

关键词 东北地区 春季气温 日气温距平 偏度系数 极端气温指数 北极涛动指数

分类号

Variations of Spring Extreme Temperature Indexes in Northeast China and Their Relationships with the Arctic Oscillation

Abstract The long-term variation features of the spring temperature and extreme temperature indexes in Northeast China are analyzed and their contemporaneous and time-lagged relationships with the Arctic Oscillation (AO) index are investigated by using the daily temperature data from 1957 to 2000 at 32 stations in Northeast China. The results show that the spring daily temperature anomaly generally increases from higher latitudes to lower latitudes and from the east to the west, and it has been increasing in the recent years. The cold days and cold nights in spring exhibit decreasing tendencies, while the warm days and warm nights increasing ones. There is a closely positive correlation between the spring temperature in Northeast China and the spring AO index on yearly time scale. Besides, AO index and extreme temperature indexes have the same period and abrupt change date.

Key words Northeast China temperature in spring the anomaly of daily temperature skewness coefficient extreme temperature index Arctic oscillation index

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