

其它

近50年山东省蒸发皿蒸发量变化趋势及影响因素分析

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摘要:

以山东省境内18个国家级气象站1961~2008年逐日实测数据为基础,选用统计分析、相关分析和Mann-Kendal非参数检验等方法对近50年来山东省蒸发皿蒸发量及其影响因素的变化趋势进行分析。结果表明:近50年来山东省的蒸发皿蒸发量呈现下降趋势,下降速率为8.78mm/a;尤其在夏季和春季下降最显著;从空间分布看,蒸发皿蒸发减少量由沿海地区向内陆地区逐步加大。通过与同期太阳净辐射、风速、气温和水气压差等气象因素对比分析,认为蒸发的下降是多种因素共同作用的结果,其中主要是由太阳净辐射和风速的下降引起的。

关键词: 蒸发皿蒸发量 变化趋势 影响因素

Change of evaporation in Shandong Province over the past 50 years and associated influencing factors

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Abstract:

Based on the daily measurement data of 18 national meteorological stations in Shandong Province, statistical analysis, correlation analysis and Mann-Kendall trend test methods were selected to calculate and analyze the trend of pan evaporation and its associated influencing factors over the past 50 years. The results showed that the pan evaporation in the area declined during the studying period, the rate of decending was about 8.78mm/year and the decline in summer and spring was particularly significant. Spatially, the evaporation decrement increases gradually from coastal area to the inland. After comparison among the meteorological elements, including net solar radiation, wind speed, temperature and vapor pressure difference, in Shandong Province during the same period, it was inferred that the decline of evaporation is a result of multiple factors, among which the net solar radiation and wind speed are the main factors.

Keywords: pan evaporation changing trend influencing factor

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