

研究论文

青海省气候变化的区域性差异及其成因研究

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**摘要** 利用1961-2006年青海不同区域气象资料, 分析了年平均气温, 年平均最低、最高气温和降水量等气候要素的变化趋势、年代际变化和气候突变前后的差异性, 分析了气候显著变化并存在明显区域性差异的可能成因。结果表明: 近46 a来青海不同区域年平均气温均呈现出显著上升趋势, 其中以柴达木盆地增暖最为明显, 气候倾向率达 $0.44^{\circ}\text{C}/10\text{a}$ ; 降水量变化表现出明显的区域性差异, 柴达木盆地年降水量显著增多, 气候倾向率为 $6.67\text{ mm}/10\text{a}$ , 而东部农业区年降水量则呈现出减少趋势。温室气体浓度的显著增加、云量变化、高空水汽输送的变化以及下垫面状况差异等因素是造成青海气候显著变化并具有明显区域性特征的可能成因。

**Abstract** Based on the meteorological data in different regions of Qinghai Province from 1961 to 2006, tendencies and decadal changes of climatic elements, including annual temperature and precipitation, annual mean maximum and minimum temperatures, and their differences before and after the abrupt climate warming of 1987, were analyzed. In addition, the reasons for significant climate change and its regional differences were discussed. The results show that annual mean temperature increased obviously in various regions of Qinghai in the last 46 years, especially in the Qaidam Basin, the climatological warming trend was  $0.44^{\circ}\text{C}/10\text{a}$ ; the variation of precipitation exhibited distinctly regional differences, with the most significant increasing rate of annual precipitation,  $6.67\text{ mm}/10\text{a}$ , in the Qaidam Basin, and the most distinctive declining rate,  $-5.23\text{ mm}/10\text{a}$ , in eastern agricultural region. The increase of greenhouse gases, changes in cloud amount and upper-level moisture transport, and regional difference of underlying surface might be responsible for climate change and its obvious regional differences in Qinghai in 1961-2006.

**关键词** [气温](#) [降水](#) [气候变化](#) [区域性差异](#) [成因](#) [青海省](#)

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