

研究短论

CO₂倍增对我国东部极端降水的影响

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摘要 利用GFDL-CM2.1耦合模式控制试验和CO₂增长试验逐日降水输出结果, 评估了CO₂浓度加倍对我国极端降水变化的影响。结果表明: CO₂浓度加倍导致我国东部地区年极端降水的强度增强、降水量显著增多及降水频次显著增加(除华北南部外); CO₂浓度加倍对我国春夏季极端降水影响较大, 导致东部多数地区春夏季极端降水频次增加, 强度增强; 而CO₂浓度加倍导致华北南部和长江中下游春夏季雨日减少以及小雨、中雨减少, 从而导致年总降水量减少。

关键词 [极端降水](#) [CO₂浓度加倍的影响](#) [气候变化](#)

分类号

Effect of CO₂ Doubling on Extreme Precipitation in Eastern China

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Abstract Outputs of control experiment and CO₂ increasing experiment from GFDL-CM2.1 coupled model were used to evaluate the effect of CO₂ doubling on the changes in extreme precipitation in China. The results show that CO₂ doubling would cause a prominent increase of annual extreme precipitation amount and precipitation intensity in eastern China, and a prominent increase of annual extreme precipitation frequency except in the south part of North China. Furthermore, CO₂ doubling would bring about severe influence on the distribution of extreme precipitation in spring and summer, leading to the increases of extreme precipitation amount and precipitation intensity, and extreme precipitation frequency in the most parts of eastern China. However, the annual precipitation in the south part of North China and in the mid-lower reaches of the Yangtze River both decreased, due to the decrease of wet days in spring and summer as well as the decreases of light rain and moderate rain.

Key words [extreme precipitation](#) [effect of CO₂ doubling](#) [climate change](#)

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