

气候变化背景下中国农业气候资源变化Ⅷ. 江西省双季稻各生育期热量条件变化特征

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Changes of China agricultural climate resources under the background of climate change. Ⅷ. Change characteristics of heat resources during the growth period of double cropping rice in Jiangxi Province.

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- 摘要
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全文: PDF (2444 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 基于江西省地面气象资料和农业气象试验站数据, 分析了江西省双季稻生育期的变化趋势, 并利用生长期日(GDD)、低温度日(CDD)和高温度日(HDD)对1981—2007年江西省水稻各生育期热量资源的变化趋势进行分析. 结果表明: 气候变暖背景下, 江西省水稻生长季平均气温、平均最低气温和平均最高气温均呈升高趋势, 引起双季稻生长季缩短, 其中, 营养生长期日数减少最明显, 而生殖生长期延长; 生长期日和高温度日均增加, 低温度日减少. 研究期间, 江西省双季稻有效热量资源增加, 低温风险减少, 但高温风险增多; 江西省水稻有效热量资源的空间变化特征表现为东北部的增幅大于西南部, 南部的低温风险大于北部, 中部的高温风险最大.

关键词: 气候变化 生长期日 低温度日 高温度日 双季稻 时空特征

Abstract: Based on the observation data from the meteorological stations and agricultural experimental stations in Jiangxi Province, this paper studied the change trend of the growth period of double cropping rice in the province, and, by using the indices growing degree-days (GDD), cool degree-days (CDD), and heat degree-days (HDD), the change trends of the heat resources at each growth stage of the double cropping rice in 1981-2007 were analyzed. Under the background of climate warming, the mean air temperature, mean minimum air temperature, mean maximum air temperature during the growth period of the double cropping rice all had an increasing trend, leading to the shortening of double cropping rice growth season, with the most obvious decrease of vegetative growth phase and the prolonged reproductive growth phase. In the vegetative growth phase, the GDD and HDD increased, while the CDD decreased. In 1981-2007, the effective heat resources of double cropping rice in Jiangxi Province increased, low temperature risk reduced, while high temperature risk increased. The increment of the effective heat resources for double cropping rice was higher in northeast Jiangxi than in southwest Jiangxi, low temperature risk was higher in south Jiangxi than that in north Jiangxi, and high temperature risk was the highest in middle Jiangxi.

Key words: climate change growing degree-days cool degree-days heat degree-days double cropping rice spatiotemporal characteristics

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