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河南省春季降水与温度变化的时空分布——基于地 析 (PDF)

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Title: Spatiotemporal distribution of precipitation and temperature change in Henan Province in spring:an analysis based on GIS

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关键词: [地理信息系统](#); [降水](#); [温度](#); [时空分布](#)

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摘要: 春季的气候条件异常一直是制约河南省小麦生产的瓶颈之一,春旱作为河南省主要的气象灾害,严重影响了小麦的生长。近几十年来,极端天气事件随着全球气候变暖的加快而越发频繁。春季干旱发生的主要因子降水和温度的变异性显著变大。基于GIS及和河南省30年的气候整编资料,对河南省春季降水、温度及降水温度比的变化趋势及时空变化分布进行了研究。结果表明:豫南春季降水减少最为严重(南阳盆地除外),豫中次之,豫北春季降水稍有增加;从温度的变化分布来看,河南全省春季温度都呈上升趋势,其中,豫南的信阳、驻马店,豫西北的济源、焦作、洛阳、郑州及平顶山地区温度上升趋势较大,南阳盆地、豫东平原及豫北平原地带温度变化相对较小;反应春季气候异常的降水温度比豫南为负向变化最大,豫北为正向变化最大,空间分布与春季降水基本吻合。综合分析说明未来河南地区的气候变化将会更加不稳定。

Abstract: The abnormal climate condition in spring is a "bottleneck" that restricts the wheat production in Henan Province. The probability of spring drought is high and influences the winter wheat growth. The occurrence of natural disaster is increasing along with the accelerated pace of global warming, and the distribution of drought has more uncertainty than ever. The main influence

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factors of the spring drought, precipitation and temperature in springs, is more variable than before. Based on the geographic information system (GIS) and the climate data during the years 1971-2000, the trend and temporal-spatial distribution of the precipitation and temperature change in springs of Henan Province were analyzed. The results show that, the overall precipitation in spring is gradually reduced from 1970 to 2000, where the decrease of precipitation in south Henan is more serious than in other parts (excepted the Nanyang Basin), central Henan takes next place, and north Henan increases a little bit. The temperature shows an increasing trend in the whole province, especially in the areas of Xinyang, Zhumadian, Jiyuan, Jiaozuo, Luoyang and Zhengzhou. For the special terrain condition, the temperature in Nanyang Basin, east Henan Plain and north Henan Plain change less than other places. The distribution of precipitation/temperature ratio reflects the similar feature with precipitation, i.e. positive change in north Henan and negative change in south Henan. The research indicates that the climate in the region will be more uncertain in the future, and extreme weather events will occur more frequently.

参考文献/REFERENCES

- [1] Brian Abrahamson, Brian Abrahamson, Reid Basher, et al. Drought. (2003-5-7). http://www.unccd.int/regional/asia/meetings/regional/TPN5_7_2003/annex3.pdf.
- [2] James Angel. Drought-Hazard Description. (2008-1-5). <http://www.co.sangamon.il.us/NHMP/PDF/Drought-draft.pdf>.
- [3] 程炳岩, 钱晓燕, 朱业玉. 近50年河南干旱过程频率时空分布特征[J]. 河南气象, 1999(1): 24-25. CHENG Bingyan, QIAN Xiaoyan, ZHU Yeyu. The analysis of drought spatial-temp distribution in recent 50a in Henan Province[J]. Henan Meteorology, 1999(1): 24-25. (in Chinese)
- [4] 朱业玉, 程炳岩, 王记芳. 河南旱涝灾害的演变特征分析[J]. 灾害学, 2006, 21(3): 93-97. ZHU Yeyu, CHENG Bingyan, WANG Jifang. Analysis on characteristics of evolution of drought and waterlogging disasters in Henan[J]. Journal of Catastrophology, 2006, 21(3): 93-97. (in Chinese)
- [5] 程炳岩, 钱晓燕, 朱业玉. 河南干旱指标的客观性研究[J]. 河南气象, 2001(1): 32-33. CHENG Bingyan, QIAN Xiaoyan, ZHU Yeyu. The study on the objectivity of drought index in Henan[J]. Henan Meteorology, 2001(1): 32-33. (in Chinese)
- [6] 邓天宏. 河南省农田土壤水分变化规律及动态预报研究. 南京: 南京信息工程大学, 2005. DDENG Tianhong. Study of Soil Moisture Variation and Dynamic Forecasting Model in Farmland of Henan Province. Nanjing: Nanjing University of Information Science and Technology, 2005. (in Chinese)

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