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Evolution of Climate Growth Period in Chinese Based on Coordinated Regional Downscaling Experiment

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Based on the historical measured temperature data (1971 ~ 2010) and the output of coordinated regional downscaling experiment (CORDEX) East Asia, including the climate prediction based on RCP4.5 and RCP8.5, the authors get the evolution pattern of climatic growth period in historical period and future scenarios.. The results show : (1) in the 40 years from 1971 to 2010, the duration of the climatic growth period in most regions of China increased slightly, and the effect of the advance of the start date of the growth period on the climatic growth period was dominant. (2)In RCP4.5, the change of the start date of the climatic growth period is mainly in East China, Central China, Northwestern South China, Northern South China and the Qinghai-Tibet Plateau, while the change of the end date is mainly in the central, southern and eastern parts of the Tibetan Plateau and the mountainous regions of Xinjiang. (3)In RCP8.5, days of change of start date increase significantly. The duration of the climatic growth season in southern South China has remained unchanged, and the rest of the region has been extended for more than 20 days. (4) Although the number of meteorological stations in the Qinghai-Tibet Plateau is relatively small, the terrain is more complex, and the accuracy of the calculation results is affected, the northern Qinghai-Tibet Plateau is the most sensitive to global changes in both historical periods and future scenarios.