

Impacts of climate change on water resources in Huaihe River basin, China

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Abstract Climate change has been becoming a very important environmental issue, which will challenge the existing water resources management practices in many ways. Huaihe River is a major river in China, which frequently undergoes flood and drought hazards in each decade. For the purpose of assessing the implications of climate change on water resources in Huaihe River basin, the VIC model, with resolution of $0.5^\circ \times 0.5^\circ$, was calibrated with 11 well gauged sub-catchments. According to the similarity in climate conditions, soil texture, etc. model parameters were transferred to other poorly gauged areas. Taking runoff during 1961–1990 as baseline, the impact of climate change on runoff under the three scenarios of A2, B2, and A1B was studied with the established VIC model. Although the modelled annual runoff would probably increase for most cases, the situation of regional floods and severe shortage in water resources would probably be exacerbated under the global warming.

Key words climate change; Huaihe River Basin; VIC model; A2; B2; A1B