



Climate Change in Central Taiwan: Impact and Adaptive Capacity

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This study aims to evaluate the spatial vulnerability distribution of water resources and propose the adaptive strategies for central Taiwan. The main tasks of this study are future water demand estimation, Rainfall trend analysis, climate change impact analysis and adaptive strategy proposing. Future water demand estimation considers the impact of GDP and temperature on domestic use water demand. MK Test, MWP Test and KW Test are used to analyze the variation trend of precipitation, intensity and drought day. The water allocation simulation model build by Vensim are used to analyze climate change impact. Based on impact analysis result, multi-criteria analysis is used to optimize optimal adaptive strategies combination. For Miaoli and Nantou, the future demand (2031) can be fulfilled under Tiaihuahu reservoir and Niaozueitan artificial lake is finished. It is not necessary to propose adaptive strategy. For Taichung, the optimal adaptive combinations for A1B worse case are Water Saving and Futian Domestic Wastewater Treatment Plant. For Changhua, the optimal adaptive strategy for A1B worse case is seawater desalination. For Yunlin, the optimal adaptive combinations for A1B worse case are Water Saving and tap water pipe replacement.