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Prioritizing the Best Areas for Treated Wastewater Use Using RCP 8.5

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ABSTRACT

The goal of this study is to develop a new framework that prioritizes the best sites for treated wastewater (TWW) use considering climate change impacts. Fuzzy TOPSIS which is a kind of multi-criteria decision making techniques was introduced to reflect the uncertainty of input data and criteria weighting values. Representative concentration pathway 8.5 scenario was included into the hydrologic simulations for the climate change impact to hydrologic regimes using hydrological simulation program-Fortran (HSPF). Furthermore, all year scenarios were considered to determine the rankings, respectively. It can take into consideration the uncertainty of time periods which always exists in all climate change scenarios. This study can be a baseline to start to combine the fuzzy multi-criteria decision making techniques with robust prioritization for climate change adaptation strategies.

KEYWORDS

Adaptation Strategy, Climate Change; Fuzzy TOPSIS; Representative Concentration Pathway

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