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## Effect of Climate Change on Nutrient Discharge to Coastal area, Western Japan

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This study investigates the effect of climate change on nitrogen and phosphorus discharges from a watershed in western Japan. Numerical simulations for a 30 year period (1977-2007) demonstrate annual precipitation has decreased over the study period as well as loads of nitrogen and phosphorus. Nutrient fluxes were estimated using the SWAT model. The estimated phosphorus flux is more highly correlated with precipitation than nitrogen flux. The results suggest a high correlation between phosphorus and discharge but during high precipitation years phosphorus loads have decreased. A sensitivity analysis of parameters for phosphorus discharge showed the most sensitive parameter is support practice factor. Consequently, phosphorus flux would decrease from the Asahi River watershed in the future, because precipitation has decreased and as such so has the driving force for soil erosion, the primary source of the nutrients.

Keywords: Climate Change, Nutrient, SWAT, Seto Inland Sea, Asahi River