

Assessing nitrate leaching with the GLEAMS model in an agricultural catchment in southeast China

WENZHI CAO & JIPING WANG

State Key Laboratory of Marine Environmental Science, Environmental Science Research Center, Xiamen University, Xiamen 361005, China

wzcao@xmu.edu.cn

Abstract The GLEAMS model was initially introduced to an agricultural catchment in southeast China. After calibration and validation, the model's performance at simulating nitrate leaching was generally acceptable for all land uses except paddy fields. The simulations in 2002 showed that nitrate leaching in the catchment varied from 4.64 to 38.39 kg N ha⁻¹ with different land uses. Sugarcane, banana and vegetable fields had maximum nitrate leaching during July to August. Rainfall, land use and management were significant factors influencing nitrate leaching in the catchment. The model simulations can be used to establish best management practices for nutrient management and pollution mitigation in the catchment.

Key words agricultural catchment; GLEAMS model; nitrate leaching; southeast China
