

## **Nutrient delivery and cycling in the Jiulong River-estuary system, China**

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I will present an integrated research on the Jiulong River-estuary system in southeast China in the context of environmental change and climate perturbation. Combined the results of observation, experiment and modeling, this study examined how human activities and storm events have influenced nutrient (N, P, Si) delivery and cycling along the river-reservoir-estuary-bay continuum. Rapid development and poor management driven by national policies were responsible for increasing riverine N export and over-enrichment in aquatic ecosystems. Construction of cascade reservoirs is likely to enhance nitrification and N<sub>2</sub>O emission while reduce N removal capacity, regulating N delivery to coast. Storm events resulted in strong fluctuation in nutrient concentration, composition and flux. These scientific findings at various spatial-temporal scales provide important implication for integrated watershed-coast management.