Effect of urbanization on nutrient discharge from coastal catchment to ocean

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To evaluate the nutrient emission in various coastal catchments of the inland sea, we conducted the piezometric observations in a tidal flat, runoff measurements in various small catchments and hydrochemical observation in a delta area of a river with a area of 230km2. We detected seepage face of groundwater on the tidal flat and offshore by the measurement of pore water quality. In tidal flat, most of nitrate supplied on a farmland was eliminated before submarine groundwater discharge. In a catchment with shallow valley, narrow width or small area, groundwater discharge is dominant, as compared with river runoff. Nitrate emission from catchments was a little. On the other hand, river runoff is dominant in the large catchment. Nitrate load in the river is dominant but Si and P in the river is not dominant, as compared with groundwater.