

عنوان مقاله:

Risks of Surface Water Pollution in Southern Vietnam

محل انتشار:

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خلاصه مقاله:

The study was carried out to assess surface water quality and ecological risks in water bodies in the southern region of Vietnam. The study used monitoring data at 48 locations, which were collected in March, May, June, July, August, October, November, and December of 2022, with 11 water quality parameters (temperature, pH, DO, TSS, BOD, COD, NH₄⁺-N, NO₃⁻-N, Fe, Pb, and Cd). Comprehensive pollution index (CPI), ecological risk level, and multivariate statistical analysis methods were utilized. The values of CPI showed that the surface water quality was mildly polluted, moderately polluted, and severely polluted, accounting for 37.93, 46.93, and 15.52%, respectively. In particular, heavy pollution was concentrated in the water bodies of the Sai Gon and Vam Co Rivers. TSS, BOD, COD, NH₄⁺-N, and Fe had a moderate to high level of risk, while water samples contaminated with NO₃⁻-N, Pb, and Cd had a level of risk from low to safe. High levels of risk were concentrated in the water bodies of the Sai Gon River and Vam Co River, typically BOD and COD. Based on the impact level, the positions were classified into five groups, with the locations on the Sai Gon River and Vam Co River (Groups 4 and 5) being affected by various waste sources in the inner city of Ho Chi Minh City. The PCA results presented three sources, such as discharge from residential areas, soil erosion, and agriculture, that have caused water quality fluctuations and increased the impact on the water quality of water bodies. Measures to protect water resources according to environmental protection laws must be implemented soon to minimize ecological risks from water-polluting sources. Doi:

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کلمات کلیدی:

.Cluster Analysis; Comprehensive Pollution Index; Ecological Risk; Water Quality

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