# Anthropogenic influence on surface water quality of the Nhue and Day sub-river systems in Vietnam

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Abstract: In order to investigate the temporal and spatial variations of 14 physical and chemical surface water parameters in the Nhue and Day sub-river systems of Vietnam, surface water samples were taken from 43 sampling sites during the dry and rainy seasons in 2007. The results were statistically examined by Mann-Whitney U-test and hierarchical cluster analysis. The results show that water quality of the Day River was significantly improved during the rainy season while this was not the case of the Nhue River. However, the river water did not meet the Vietnamese surface water quality standards for dissolved oxygen (DO), biological oxygen demand ($BOD_5$), chemical oxygen demand (COD), nutrients, total coliform, and fecal coliform. This implies that the health of local communities using untreated river water for drinking purposes as well as irrigation of vegetables may be at risk. Forty-three sampling sites were grouped into four main clusters on the basis of water quality characteristics with particular reference to geographic location and land use and revealed the contamination levels from anthropogenic sources. ?? Springer Science+Business Media B.V. 2009.

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