

Abstract

Examining Spatio-temporal Relationships of Landuse Change, Population Growth and Water Quality in Tampa Bay Area

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Clean water is vital for living organisms. However, industrial, agricultural and urban development in recent years has impacted the water quality of Tampa Bay area located within South West Florida Water Management District of Florida. This study examines the spatio-temporal relationships of surface and ground water quality to the population growth and landuse change as well as physical factors such as soils, digital elevation models (DEMs) and geological formations. The GIS data layers used in this study are: landuse (1970s, 1980s and 1990s), population (1970s, 1980s and 1990s), slopes, soils and water quality data (surface: 1990 - 2000 and ground water 1980 - 2000). Preliminary results show that there is a connection between poor groundwater quality and high population density and urban landuse in the study area.

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