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CHOROPLETH MAPPING AND INTERPOLATION TECHNIQUE TO ANALYZE THE DEMOGRAPHIC INFLUENCE ON KUWAIT'S COASTAL MORPHOLOGICAL LANDSCAPE

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Abstract

The coastal zone accommodates some of the most diverse ecosystems in the world and offers a wide range of ecosystem goods and services; therefore it has become a focal point of human development. Over the last five decades, starting from 1960s, Kuwait has seen a tremendous alteration in the natural coastal morphological landscape (CML) due to the tremendous increase on coastal population that existed 50 years ago to the present manmade environment today. Most of the population is located in Kuwait City and other urban areas along the coastal region. The study attempts to understand the dynamics of demography and its influence over the natural CML of Kuwait. The studies were conducted involving two GIS methods: (1) Choropleth Mapping based on Jenks Natural Breaks Classification Method and (2) Inverse Distance Weighting (IDW) - Interpolation Techniques. Obviously, the coastal areas with the greatest population densities are also those having the most shoreline degradation because of the migration, and the associated demand for economic development along the coastal area. It also includes the filling of shallow shoreline waters used for various purposes associated with commercial, residential, waterfront, and petroleum related development.

Key words: demography, GIS, optimization methods, physical alteration

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