

Coastalization and Urban Sprawl in the Mediterranean: Using High-Resolution Multi-Temporal Data to Identify Typologies of Spatial Development

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Abstract : Coastal urbanization is heavily affecting the Mediterranean, taking the form of linear urban sprawl along the coastal zone. This process is posing extreme pressure on ecosystems, leading to an unsustainable model of growth. The aim of this research is to analyze coastal urbanization patterns in the Mediterranean using High-resolution multi-temporal data provided by the Global Human Settlement Layer (GHSL) database. Methodology involves the estimation of a set of spatial metrics characterizing the density, aggregation/clustering and dispersion of built-up areas. As case study areas, the Spanish Coast and the Adriatic Italian Coast are examined. Coastalization profiles are examined and selected sub-areas massively affected by tourism development and suburbanization trends (Costa Blanca/Murcia, Costa del Sol, Puglia, Emilia-Romagna Coast) are analyzed and compared. Results show that there are considerable differences between the Spanish and the Italian typologies of spatial development, related to the land use structure and planning policies applied in each case. Monitoring and analyzing spatial patterns could inform integrated Mediterranean strategies for coastal areas and redirect spatial/environmental policies towards a more sustainable model of growth

Keywords : coastalization, Mediterranean, multi-temporal, urban sprawl, spatial metrics

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