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Influence of land use on the quantity and quality of runoff along Israel's coastal strip

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This study presents an analysis of the quantity and quality of urban runoff from various land uses by remote-sensing and GIS technology coupled with hydrological and chemical monitoring. The study areas were located in the cities of Herzliya and Ra'anana, in Israel's coastal plain, where extensive urbanization has taken place over the last 30 years. Land uses in urban basins were analyzed; rain and runoff were measured and sampled at measurement stations representing different land uses (residential, industrial, commercial, roads, gas station). The aim was to analyze land uses by different remote-sensing and GIS techniques, to evaluate the quality and quantity of urban storm water from various land uses, and to verify a method for predicting the impact of urban land uses on quantity and quality of urban storm water. The quality of urban storm water from residential areas was generally very high, and the water is suitable for reuse or direct recharge into the local aquifer. In light of the serious state of the Israeli water sector and the large amounts of unused runoff produced by Israel's cities, together with the high quality of urban storm water drained from the residential areas, it is important to exploit this water source