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Spatial and temporal dynamics of groundwater table and salinity in Khorezm (Aral Sea Basin), Uzbekistan

The groundwater table plays a significant role in the waterlogging and salinization problems in irrigated farmland in the Aral Sea Basin. The spatio-temporal dynamics of groundwater table and salinity from 1990 to 2000 were studied in the district of Khorezm at the lower Amu-Darya River. The groundwater table was shallow. During the cropping period, 65-70% of the irrigated area was at potential risk of waterlogging and salinization. Although "hotspots" of high groundwater salinity dynamics were found in areas differing in soil texture, it is the water management practices that are the most decisive factors. Based on this analysis, the study concludes with recommendations for remediation.