



Spatio-temporal Salinity and Mapping of Irrigated Perimeter of Abadla Bechar, SW Algeria

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Abstract: The present study evaluated the spatial variability of soil salinity. This variability was used in the frame of a non-parametric geostatistical interpolation method in order to assess the risk of the soil salinity. A study on a 580 ha field located in the eastern region of Abadla, Sud-West of Algeria, 238 soil samples were taken from irrigated fields at depth of 0.60 cm (the root layer). The statistical analysis showed a high spatial variability with significant differences throughout the experimental field on the parameters, EC, ESP and PH. The EC variogram increased up to distance of 1.22 km or reaches a plateau of 1395 ms/cm, the nugget effect of the order of 120 ms/cm, is small that it represents 8.5%. The pH increased up to a distance of 0.448 km corresponding to a plateau of 1.952. The effect of nugget of 0.256 represented 13.11%. The ESP at a range of 0.42 km, a nugget of 83.3 and a nugget effect of 0.3, weak as compared 0.36% of the landing. The structure and the permeability caused a reduction of the speed of infiltration of waters.

Keywords: Soil salinity, Irrigated perimeter, Abadla, Algeria
