

Using Kriging Interpolation Techniques for Mapping Soil Salinity in Arkansas River Basin

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Abstract: A number of Kriging interpolation techniques have been used to generate soils salinity maps of the Arkansas River Basin in Colorado. The following techniques were evaluated: Kriging, trend surface combined with kriged residuals, disjunctive kriging, and categorical Kriging. The approach involves applying these kriging interpolation techniques in both field scale and sub regional scale studies. These techniques are best used when dealing with collected data on the field scale with small spacing between the collected points and on the regional scale with larger spacing between the collected points. Three different variogram models were used for kriging: spherical, gaussian, and exponential. The best variogram model will be selected based on the smallest (AICC) Akaike Information Corrected Criteria. For the best selected variogram model, the neighborhood number will be selected based on the smallest variance. Using the selected model a set of soil salinity maps were generated.

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