عنوان مقاله:

Subsurface Clay Prediction in an Arid Area

محل انتشار:

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خلاصه مقاله:

This paper attempts to estimate and map the clay content of soil Substrata by using some innovativeinferences in UK system. Therefore, robustness is inferred in trend analysis and variography of UKsystem. The variogram parameters are estimated also by maximum likelihood (ML) and restrictedmaximum likelihood (REML) methods to reduce the probability of biasness of robust variography. Arestriction is added to UK system not to predict outside the physical range. Interpolating the clayamount (%) in second soil layer was carried out on transformed (arc sin (y1/2)) data. The landform mapwas the only remaining fixed effect in the regression model with R2 = 58. The x-validation analysisproved that using RE(ML) methods to estimate the covariance parameters gives more realistic resultsand avoid the bias existing in robust methods of parameter estimation. Due to non-linearity of backtransformation formula of kriging variance, instead of calculating the standard error image the lowerand upper confidence interval boundaries .of predicted variance was calculated for a 0.975 probability

کلمات کلیدی:

DSM applications, Robust regression, Robust variography, ML and REML parameterestimation, Universal Kriging