

The Application of Semi Variogram and Ordinary Kriging in Determining the Cohesion and Clay Percentage Distribution in Hilly Area of Sabah, Malaysia

ABSTRACT

Ordinary Kriging (OK) is one of the geostatistical methods, which were used in the variation types of mapping, which related to the soil. Compliment by semi variogram models, OK has become one of the most sought out method for the digital mapping, which applied Geographical Information System (GIS) as a main approach. Four semi variogram models, which are spherical, exponential, circular and gaussian would be applied to determine the best model for the mapping purposes, with Root-Mean-Squared Error (RMSE) as a performance indicator. The value of the cohesion and clay percentage will be based according to the related depth. Each semi variogram model will be applied to determine the best model for each depth, whether it is cohesion or clay percentage, and producing a map, as a result. This mapping would be an alternative to the geological mapping, whereby it would show the range of the cohesion and clay percentage values rather than soil types.