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Estimate Soil Erodibility Factors Distribution for Maioli Block

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The natural conditions in Taiwan are poor. Because of the steep slopes, rushing river and fragile geology, soil erosion turn into a serious problem. Not only undermine the sloping landscape, but also created sediment disaster like that reservoir sedimentation, river obstruction. . . etc. Therefore, predict and control the amount of soil erosion has become an important research topic. Soil erodibility factor (K) is a quantitative index of distinguish the ability of soil to resist the erosion separation and handling. Taiwan soil erodibility factors have been calculated 280 soil samples' erodibility factors by Wann and Huang (1989) use the Wischmeier and Smith nomorgraph.
221 samples were collected at the Maioli block in Miaoli. The coordinates of every sample point and the land use situations were recorded. The physical properties were analyzed for each sample. Three estimation methods, consist of Kriging, Inverse Distance Weighted (IDW) and Spline, were applied to estimate soil erodibility factors distribution for Maioli block by using 181 points data, and the remaining 40 points for the validation. Then, the SPSS regression analysis was used to comparison of the accuracy of the training data and validation data by three different methods. Then, the best method can be determined. In the future, we can used this method to predict the soil erodibility factors in other areas.