عنوان مقاله:

Application of geostatistical methods for mapping groundwater phosphate concentration in Eyvan plain, Ilam, Iran

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خلاصه مقاله:

The purpose of this study was to evaluate the spatial changes of groundwater phosphate concentrations using geostatistical methods based on data from 10 groundwater wells. One of the conventional tools in decision making on the groundwater management is geostatistical method. To evaluate the spatial changes of phosphate concentrations in groundwater, the universal kriging method with cross-validation was used for mapping and estimating groundwater phosphate concentrations in Eyvan Plain, Iran. Phosphate concentration followed a log-normal distribution and demonstrated a moderate spatial dependence according to the nugget ratio (60%). The experimental variogram of groundwater phosphate concentration was best-fitted by a spherical model. Cross-validation errors were within an acceptable level. According to the spatial distribution map, phosphate pollution in the groundwater occurred mostly in the west of the plain because of the phosphate discharge from the industrial effluents.

کلمات کلیدی:

Decision-Making, Groundwater, Phosphate, Spatial Analysis, Water, Iran

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