

# Review of: "Spatial Analysis of Soil Fertility Using Geostatistical Techniques And Artificial Neural Networks"

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Potential competing interests: No potential competing interests to declare.

Dear Editor

Thank you for selecting me as a peer reviewer for this paper. The study focuses on assessing soil fertility variations for precision agriculture and effective soil management. Conducted in a specific agricultural field in Venezuela, the research involved systematic sampling at 70 sites, analyzing ten soil variables. Geostatistical analysis and interpolation techniques were employed to create thematic maps for individual properties. Artificial intelligence, specifically the Fuzzy Kohonen Clustering Network algorithm, was used to generate soil fertility classes based on the integrated data. The reliability of the maps was generally high, with a cross-validation level exceeding 90% for most variables. The final digital model, combining soil attribute maps and class values, resulted in a map with five soil fertility categories, demonstrating a high degree of homogeneity within the classes and an overall reliability of 86%. This integrated approach provides a valuable foundation for tailored fertilization and amendment plans based on local soil conditions and crop requirements.

I recommended to accept this paper for publication