



## **Clustering of Multivariate Geostatistical Data**

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Multivariate data indexed by geographical coordinates have become omnipresent in the geosciences and pose substantial analysis challenges. One of them is the grouping of data locations into spatially contiguous clusters so that data locations belonging to the same cluster have a certain degree of homogeneity while data locations in the different clusters have to be as different as possible. However, groups of data locations created through classical clustering techniques turn out to show poor spatial contiguity, a feature obviously inconvenient for many geoscience applications. In this work, we develop a clustering method that overcomes this problem by accounting the spatial dependence structure of data; thus reinforcing the spatial contiguity of resulting cluster. The capability of the proposed clustering method to provide spatially contiguous and meaningful clusters of data locations is assessed using both synthetic and real datasets.

Keywords: clustering, geostatistics, spatial contiguity, spatial dependence.