

Assessing the accuracy of sequential gaussian simulation through statistical testing

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© 2016, Springer-Verlag Berlin Heidelberg. Sequential Gaussian simulation is one of the most widespread algorithms for simulating regionalized variables in the earth sciences. Simplicity and flexibility of this algorithm are the most important reasons that make it popular, but its implementation is highly dependent on a screen effect approximation that allows users to use a moving neighborhood instead of a unique neighborhood. Because of this, the size of the moving neighborhood the number of conditioning data and the size of variogram range are important in the simulation process and should be chosen carefully. In this work, different synthetic and real case studies are presented to show the effect of the neighborhood size the number of conditioning data and the size of variogram range on the simulation result, with respect to the reproduction of the model first and second-order parameters. Results indicate that, in both conditional and non-conditional simulation cases, using a neighb