Additional material to
Geostatistics for constrained variables: positive data, compositions and probabilities. Application to environmental hazard

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Errata

This section gathers those errors I found (until now) in my PhD Thesis. I apologize for any inconvenience, and will be very grateful to those readers who notify me other errors they find. I will update this document as often as needed.

page 92 (at the end of the page), the matrix $\underline{\underline{G}}_n$ is defined as

$$\underline{\underline{G}}_n^t = (g_0(\vec{x}_n)\underline{\underline{I}}_D, \ldots, g_A(\vec{x}_n)\underline{\underline{I}}_D),$$

where $\underline{\underline{I}}_D$ is the $D \times D$ *identity* matrix (and not a matrix full of ones, as stated)

page 98 Equation (5.3) should read

$$\mathbf{Z} \in \left(\exp\left(\zeta_{SK}^* - 1.96\sigma_{\zeta,SK}\right); \exp\left(\zeta_{SK}^* + 1.96\sigma_{\zeta,SK}\right)\right). \tag{5.3}$$

page 99 (second paragraph). If interesest is simulation, then (5.1) and (5.2) are seldom used [Deutsch and Journel, 1992, p. 76]. Instead, the kriging prediction (either ζ_{SK} or ζ_{UK}) and its variance $\sigma^2_{\zeta,K}$ are used to simulate normal scores of ζ, that afterwards are transformed to simulations of $\mathbf{Z}$ through $\mathbf{z} = \exp(\zeta)$. This procedure ($\ldots$)

page 106 (item 3), the equation should read

$$\tilde{m}_+(\mathbf{z}) = \mathrm{E}_+\left[\mathbf{Z}|\mathbf{Z} > \mathbf{z}\right] = \exp\left[\frac{1}{T(\mathbf{z})} \int_{\mathbf{z}}^{+\infty} \log \mathbf{Z} \cdot f(\log \mathbf{Z}) \cdot d(\log \mathbf{Z})\right].$$

Related papers published in journals

Tolosana-Delgado, R., Pawlowsky-Glahn, V., Egozcue, J. J. (2007). Indicator kriging without order relation violations. *Mathematical Geology* (accepted).

Tolosana-Delgado, R., Pawlowsky-Glahn, V. (2007) Kriging regionalized positive variables revisited: sample space and scale considerations. *Mathematical Geology* (in press).

Tyutyunnik, Y.G., R. Tolosana-Delgado, V. Pawlowsky-Glahn, Blum, O.B. (2006). Heavy metals as proxies for atmospheric pollution causes in the Ucranian Carpathians (a geostatistical analysis). *Geoecology, Applied Geology, Hydrogeology and Geocryology*, **5**, p. 433-439. ISSN 0869-7803 (in russian).