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Geostatistics for automatic estimation of environmental variables - simple solutions

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It is a part of the INTAMAP project (www.intamap.org) to develop spatial statistical methods for interpolation in the case of a few extreme values. This can for example be relevant in the case of a radioactive release from a nuclear power station or from a dirty bomb. Traditional geostatistical methods will in most cases not be able to handle such cases. We will here discuss the limits of traditional geostatistical methods, and suggest some alternative methods.

The limits are particularly related our abilities of actually finding a representative correlation length of the process, and to the robustness of the estimation method. We will present some simple solutions to the problem, including the use of fixed, predefined weights, and the use of linear variograms.