SM2593

REPLY TO REFEREE #2

1. Page 4, line 99-102, the authors may include a more detailed description of the two designs and why they are chosen for this comparison study instead of other designs.

A more detailed description is now included in section 3.1.

2. Page 5, have the authors considered the possibility of non-stationarity in S(x)?

No, due to the small area of the study we considered it wouldn't be necessary to model local abundance levels.

3. Page 5-6, the discussion of estimating the Box-Cox parameter may be moved to Section 2.2, as in 2.3 only \lambda=0.5 is discussed.

This is already the case. BoxCox is discussed in section 2.2 (section 2.3 of the revised manuscript).

4. Page 6, line 154, the symbol \epsilon has already been used no page 4 for the geostatistical model. The authors may use a different symbol here for the coverage probability. On line 161-162, \xi as is defined should be \epsilon, while \epsilon should be \xi.

The symbol used is not \epsilon but \varepsilon, anyway considering it confused the referee we decided to change to \pi. The change was not at those lines but on line 154. Fixed !

5. Page 7, line 178-179, do you mean "hybrid design had lower sill and range"?

No, the ratio between sill and range gives an indication about the "size" of the spatial structure of the stochastic process. The previous paragraph was sligthly extended to clarify this issue.

6. Page 8, although the results presented in the paper are useful and informative, a better comparison could be made by estimating the covariance parameters using the pooled observations, and do conditional simulation with the pooled parameter estimators to compare the two designs.

The reason for not doing such analysis was the confounding of the sampling designs effect with the covariance between each sampling design and the pooled observation results. Note that comparing the two sampling designs does not have such problem because the regular grid is the same in both cases.