

Supplementary material

Dataset S1: Dataset containing matrices of the local calibration dataset (n=421) including coordinates, taxa abundances and tested environmental variables (Excel-file).

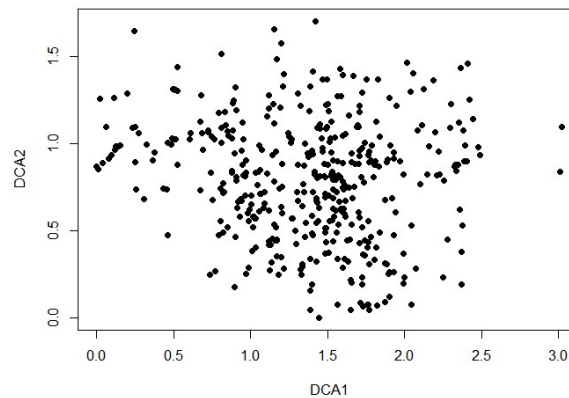


Figure S1: DCA analysis plot for the local dataset.

Script S1: R-Script explaining the variable selection procedure (manual forward selection) extricating independent variables in the local dataset (PDF-file). The script will be available on ZENODO with publication.

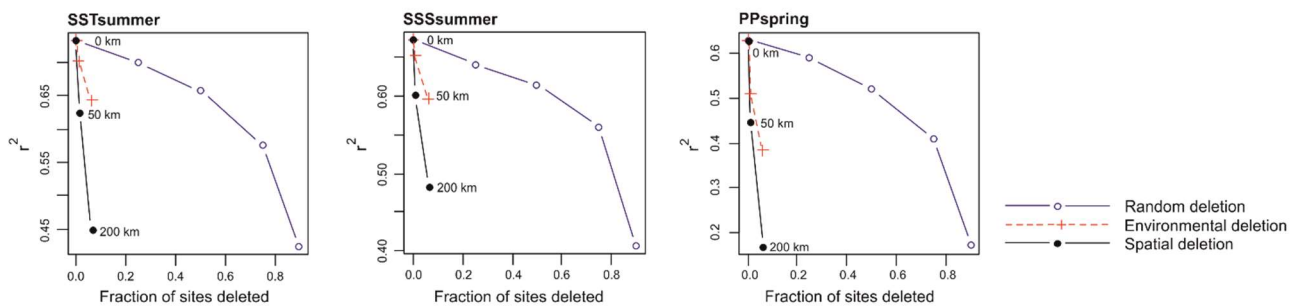


Figure S2: Spatial autocorrelation test. The effect of site deletion on the performance of a test transfer function (leaving-one-out r^2 between observed and predicted values), comparing random site deletion, neighbourhood deletion (testing three distances) and environmental deletion for non-redundant variables. Note that the scale for r^2 is different for each tested variable depending on its performance at the beginning.

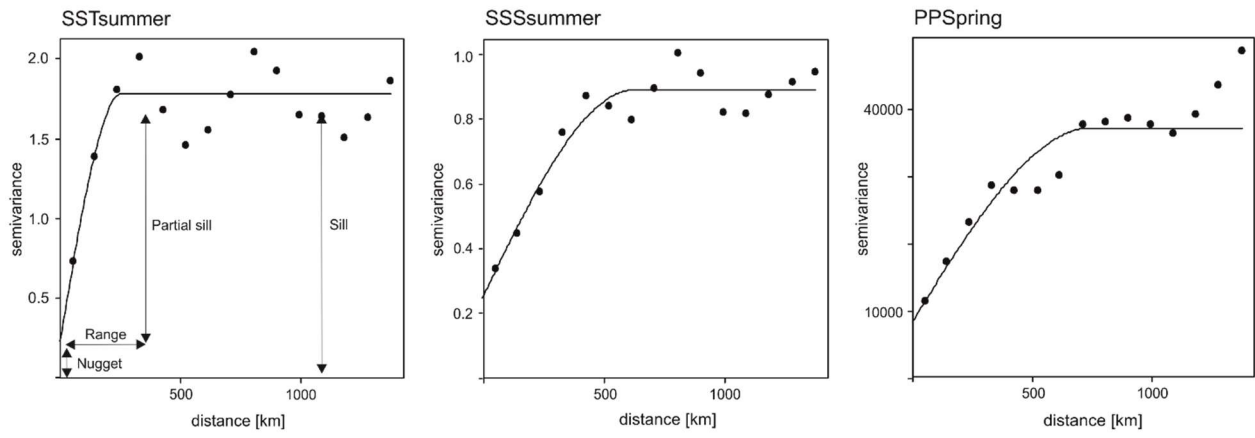


Figure S3: Variogram plots for the estimation of h in the h -block cross-validation.

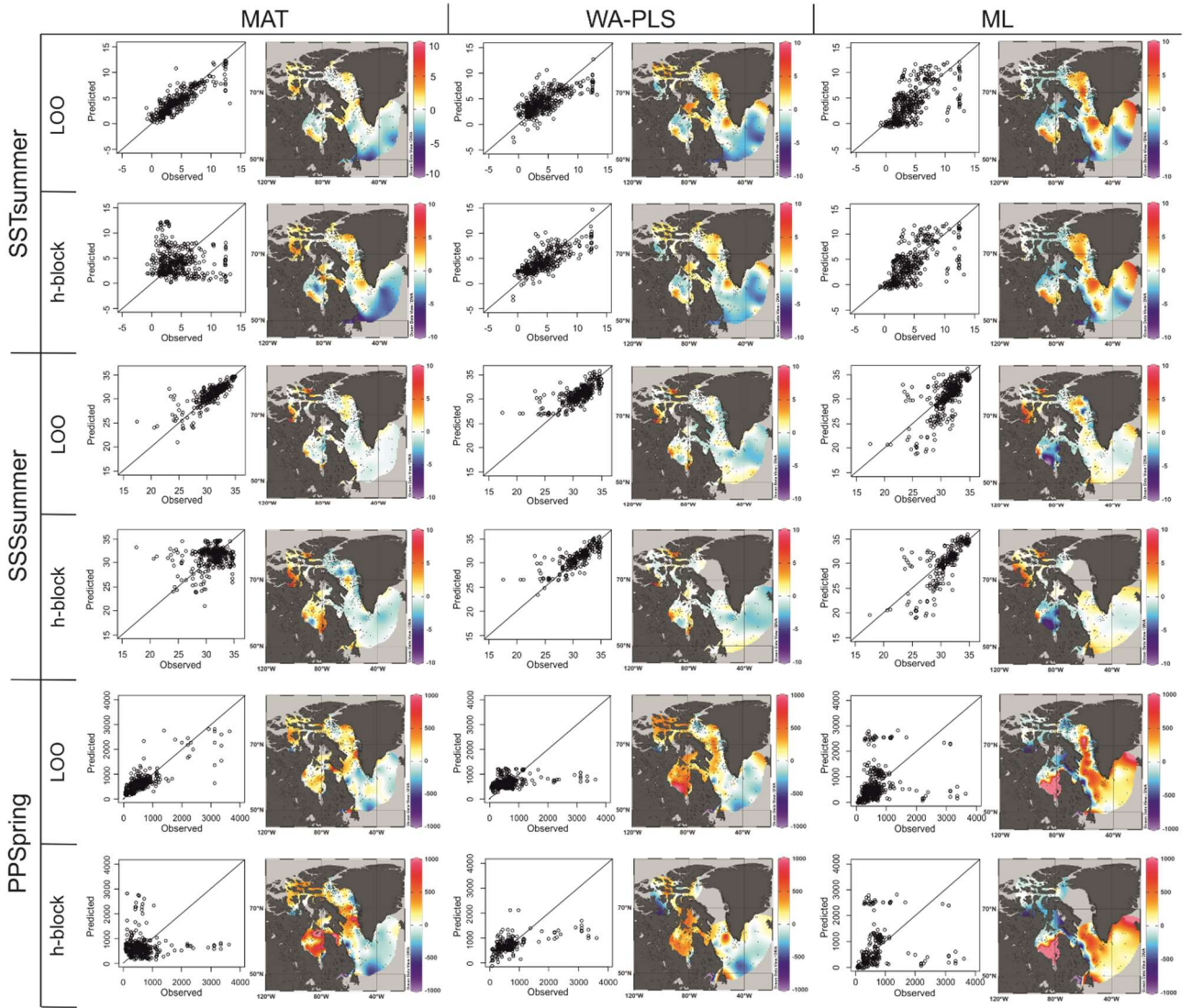


Figure S4: Residuals from leave-one-out and h-block cross-validation for all tested transfer functions shown in cross-plots of predicted vs. observed environmental variables and in maps, indicating overestimation through red colours and underestimation through blue colours. White colour indicates none or little residuals. Residuals gridded using DIVA gridding with Ocean Data View (Schlitzer 2018).