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Corrigendum

Corrigendum to "Nearest neighbor imputation of species-level, plot-scale forest structure attributes from LiDAR data" [Remote Sensing of Environment, 112: 2232–2245]

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The authors regret that an error was discovered in the code within the R software package, yaImpute (Crookston & Finley, 2008), which led to incorrect results reported in the above article. The Most Similar Neighbor (MSN) method computes the distance between reference observations and target observations in a projected space defined using canonical correlation analysis.

A coding error caused the MSN and MSN2 (like MSN, but with canonical correlations weighted by their variances) methods to produce the poorest results of the eight imputation methods tested. After correcting the coding error, the MSN and MSN2 methods produced imputation model error distributions as indicated by the Root Mean Squared Difference (RMSD) statistic that were competitive with the other imputation methods tested (Fig. 6). Correction of the error improved the correlation between imputed and observed total basal area from 0.30 to 0.74 in the case of MSN and from 0.41 to 0.77 in the case of MSN2 (Fig. 7).

These improved MSN and MSN2 results do not alter our conclusions, including the main conclusion that the nonparametric Random Forests algorithms (RF and RF2 methods) are more robust for imputing species-level structural attributes, than MSN, MSN2, or the other parametric methods tested. Following are the updated Figs. 6 and 7, with the corrected MSN and MSN2 results contained therein, as well as the updated reference for the yaImpute package. The code is fixed in yaImpute v1.0-5 and above or if installing R v2.7 and above.

Reference

Crookston, N. L., & Finley, A. (2008). yaImpute: An R package for k-NN imputation. *Journal of Statistical Software*, *23*, 1–16. http://www.jstatsoft.org/v23/i10/paper
Package URL: http://cran.r-project.org/web/packages/yaImpute/index.html

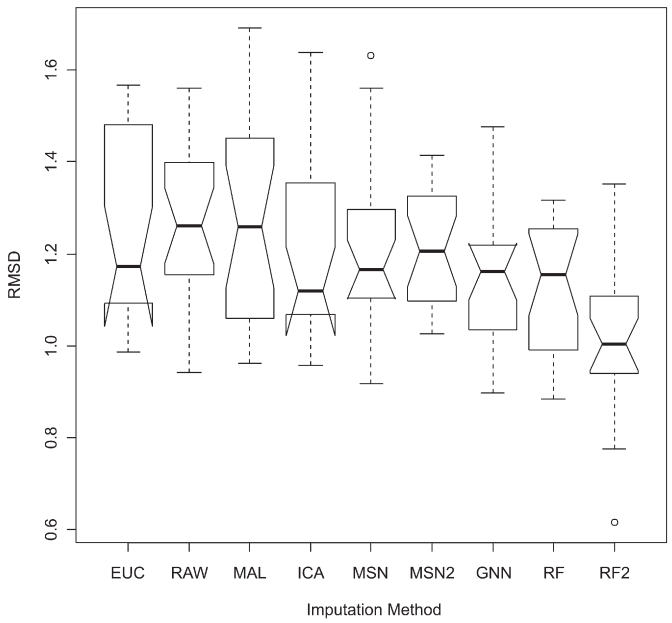

Fig. 6. Scaled RMSD distributions for imputing plot-level BA and TD of 11 conifer species with nine imputation methods, using 12 selected predictor variables. Non-overlapping notches between boxplots suggest that the medians differ significantly.

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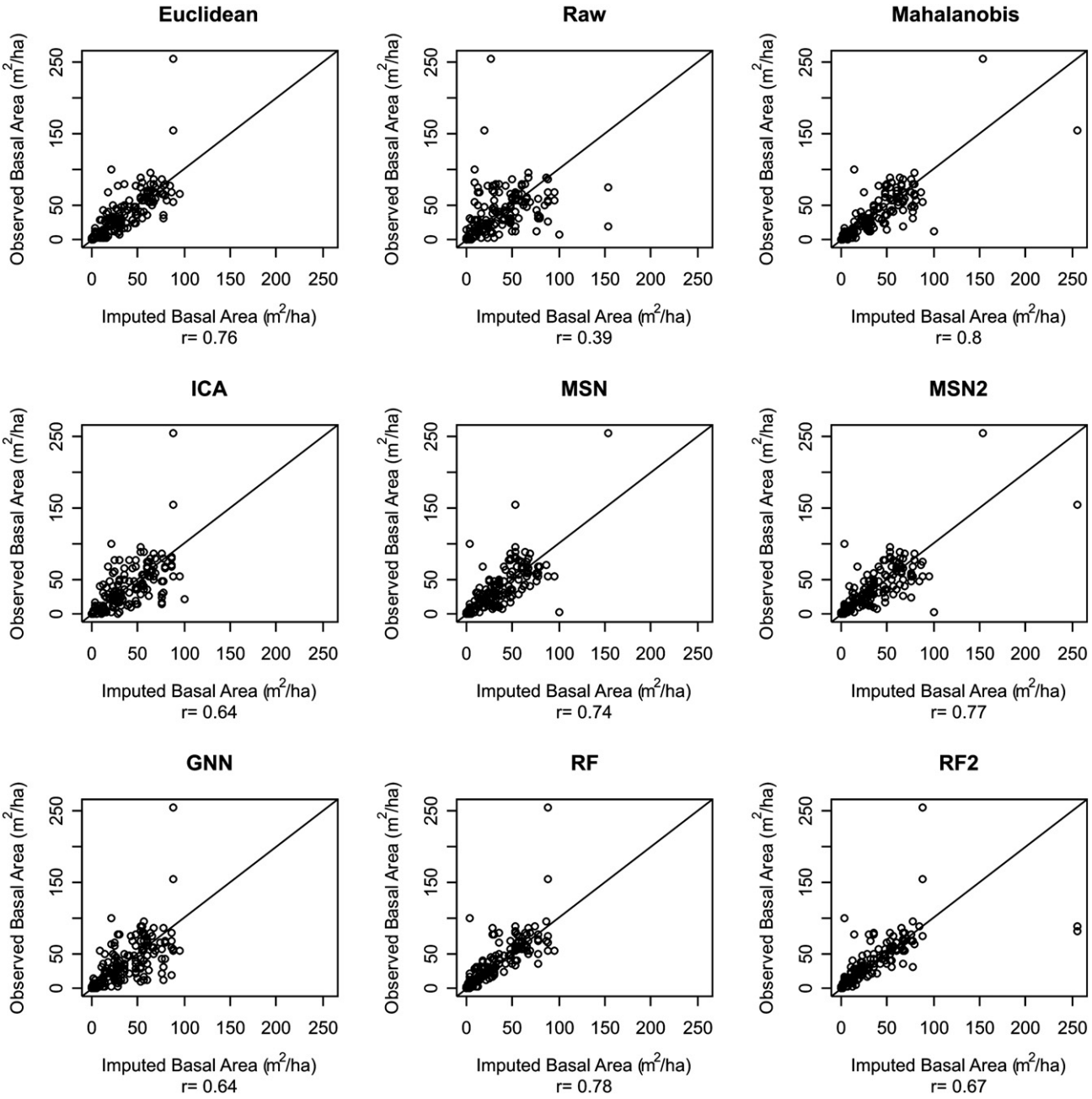

Fig. 7. Scatterplots of imputed versus observed plot-level BA from nine imputation methods. The two largest observations in each scatterplot represent the two old-growth plots. Pearson correlations are provided below each graph.