

*Supplementary Materials for*

**Estimating Gross Primary Productivity (GPP) over rice–wheat-rotation croplands by using Random Forest model and Eddy Covariance Measurements: upscaling and comparison with MODIS Product**

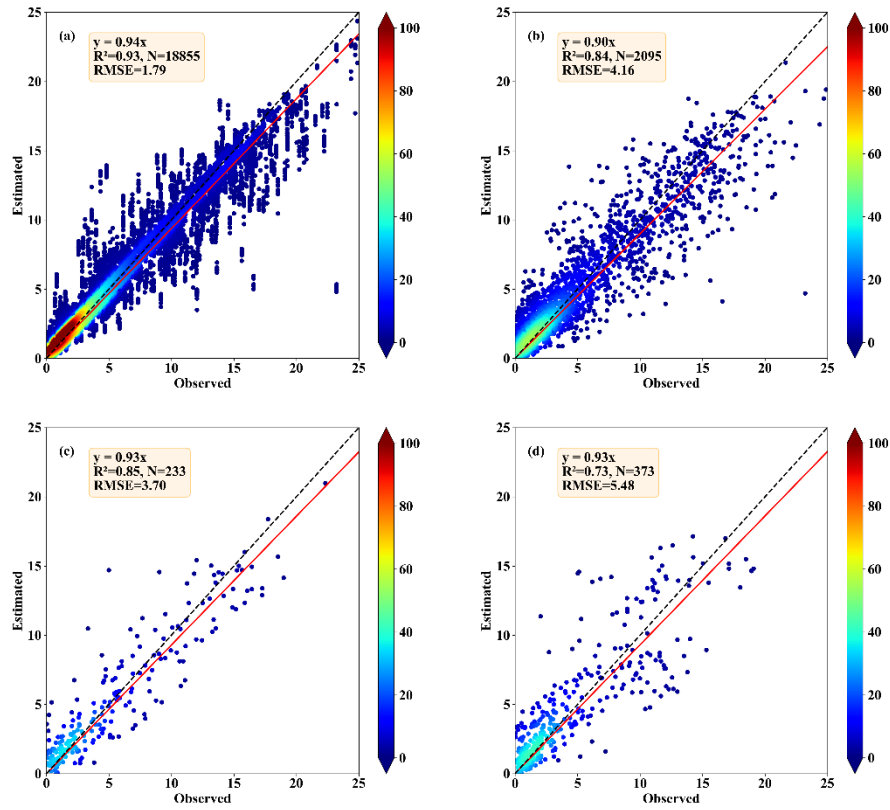
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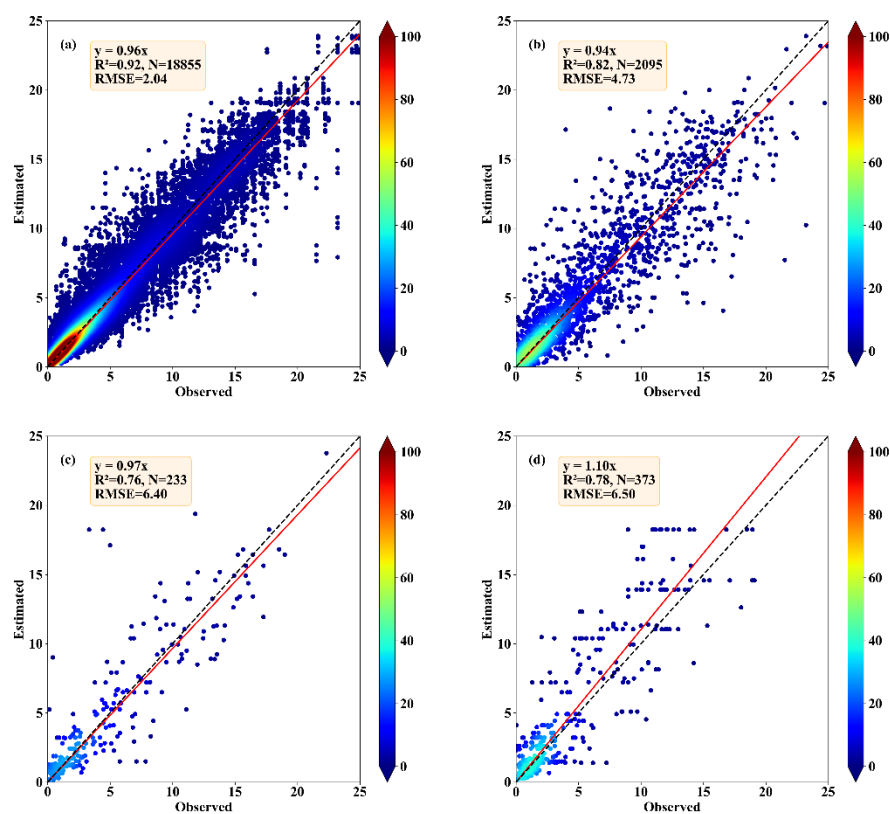
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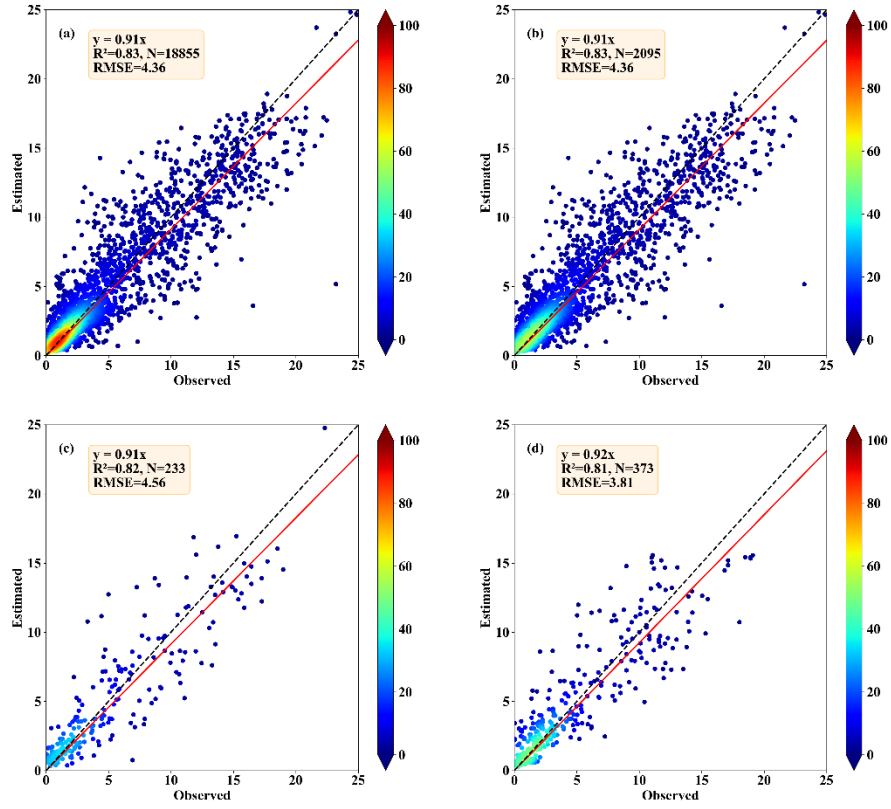
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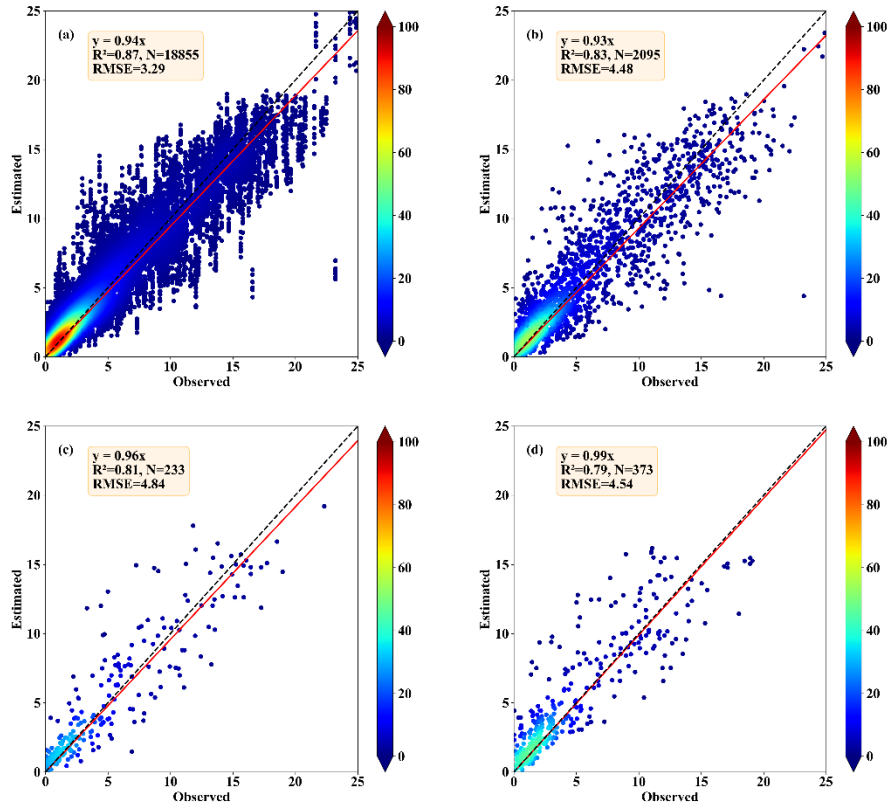
**Figure S1.** Scatter density plots results for the support vector machine model in predicting gross primary productivity in the (a) 10-fold cross-validation training set, (b) 10-fold cross-validation testing set, (c) validation by the rest samples at Shouxian and Dongtai sites, and (d) validation by all samples at Dafeng site.



**Figure S2.** Scatter density plots results for the Decision Tree Regression model in predicting gross primary productivity in the (a) 10-fold cross-validation training set, (b) 10-fold cross-validation testing set, (c) validation by the rest samples at Shouxian and Dongtai sites, and (d) validation by all samples at Dafeng site.



**Figure S3.** Scatter density plots results for the deep belief network model in predicting gross primary productivity in the **(a)** 10-fold cross-validation training set, **(b)** 10-fold cross-validation testing set, **(c)** validation by the rest samples at Shouxian and Dongtai sites, and **(d)** validation by all samples at Dafeng site.



**Figure S4.** Scatter density plots results for the artificial neural network model in predicting gross primary productivity in the **(a)** 10-fold cross-validation training set, **(b)** 10-fold cross-validation testing set, **(c)** validation by the rest samples at Shouxian and Dongtai sites, and **(d)** validation by all samples at Dafeng site.