Supplement of Biogeosciences, 22, 7625–7646, 2025
https://doi.org/10.5194/bg-22-7625-2025-supplement

Biogeosciences Open Access EGU

Supplement of

Multi-source remote sensing for large-scale biomass estimation in Mediterranean olive orchards using GEDI LiDAR and machine learning

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Table S1. Statistics for RFR trained models, including R-squared (R^2), Root Mean Square Error (RMSE), Mean Absolute Error (MAE), and the six most important features for each model, expressed on a per-unit basis.

Model tested	R^2	RMSE	Feature importance	
Optical bands	0.11	6.81	*1) B7*	*0.57*
			2) B5	*0.23*
			3) B4	*0.05*
			4) B6	*0.05*
			5) B1	*0.03*
			6) B3	*0.03*
Spectral indexes	0.02	7.15	*1) NDWI*	*0.65*
			2) MCARI1	*0.12*
			3) GLI	*0.05*
			4) GI	*0.05*
			5) NDVI	*0.04*
			6) SAVI	*0.03*
SAR polarization, textures, and RVI	-0.59	9.10	*1) HV*	*0.60*
			2) HV Inertia	*0.07*
			3) HV Contrast	*0.07*
			4) RVI	*0.04*
			5) HH Correlation	*0.04*
			6) HH	*0.03*
Optical bands, SAR textures, and RVI	-0.09	7.59	*1) B7*	*0.48*
			2) HV	*0.20*
			3) B5	*0.14*
			4) B4	*0.04*
			5) HH	*0.03*
			6) B6	*0.03*
Optical bands and SAR polarization	0.08	6.92	*1) B7*	*0.47*
			2) B5	*0.12*
			3) B4	*0.11*
			4) HV	*0.11*
			5) HH	*0.05*
			6) B6	*0.04*
SAR polarization, textures, RVI, and Topographic data	-0.01	7.25	*1) HV*	*0.45*
			2) Slope	*0.31*
			3) Aspect	*0.04*
			4) Elevation	*0.04*
			5) HH	*0.03*
			6) HH Correlation	*0.02*
Optical bands and Topographic data	0.14	6.69	*1) B7*	*0.42*
			2) Slope	*0.31*
			3) B5	*0.12*
			4) Elevation	*0.04*
			5) B4	*0.03*
			6) B6	*0.02*

Fully Multi-Source	0.14	6.68	*1) NDBI*	*0.42*
			2) Slope	*0.27*
			3) HV	*0.06*
			4) MCARI1	*0.05*
			5) NDVI	*0.02*
			6) Elevation	*0.02*

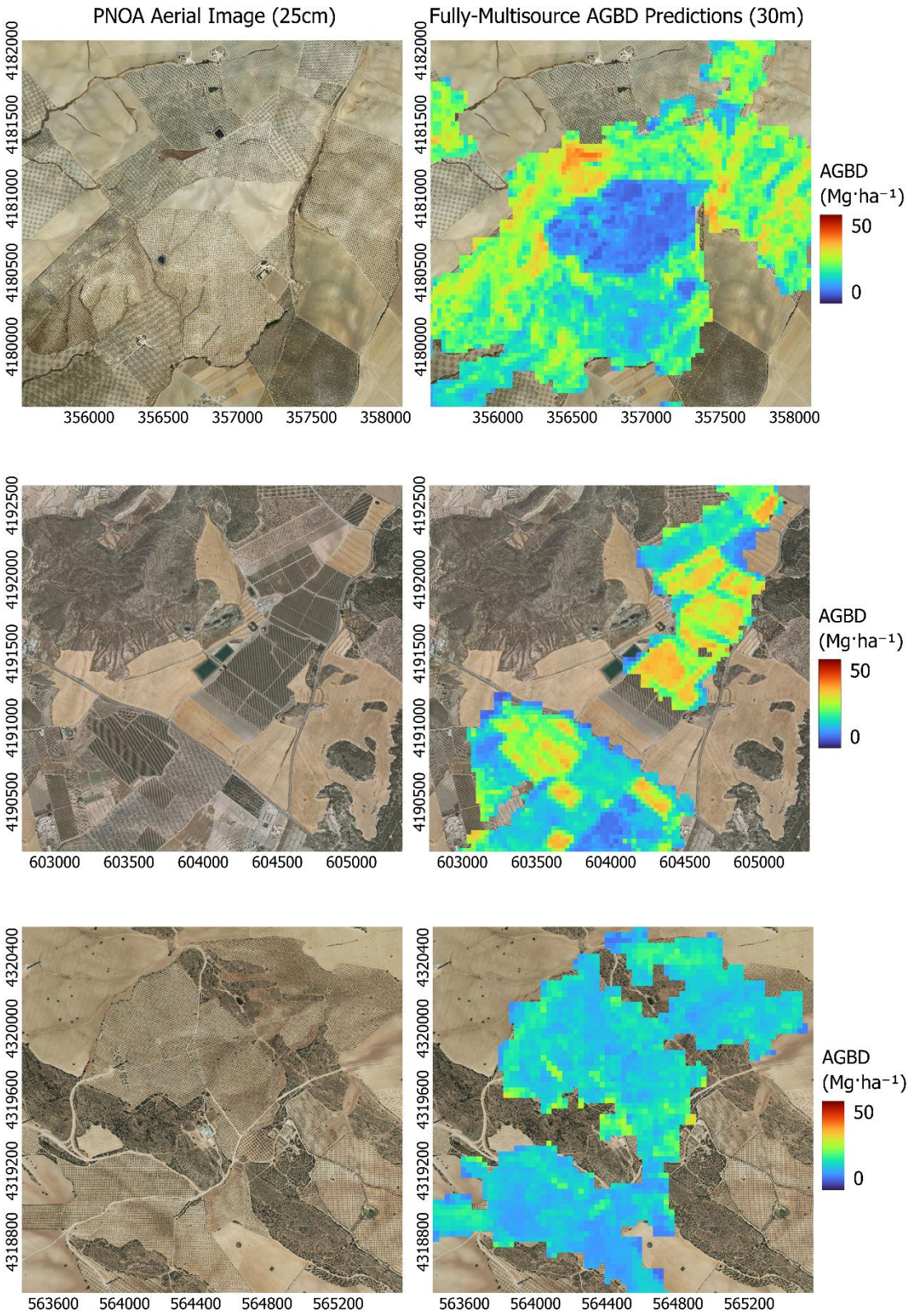

Figure S1. Fully-Multisource model applied to different olive-growing areas at a spatial resolution of 30 meters. The left column shows the aerial imagery from the Spanish National Aerial Orthophotography Plan (PNOA), while the right column displays the predicted AGBD (Mg·ha^{-1}) from the model. Map coordinates are presented in the Universal Transverse Mercator (UTM) system and measured in meters.