Table S1. Coefficient of determination (R^2) and RMSE of the relationship between GPP and the different models according to whether data from before (DOY<182) or after (DOY>182) the summer solstice were used.

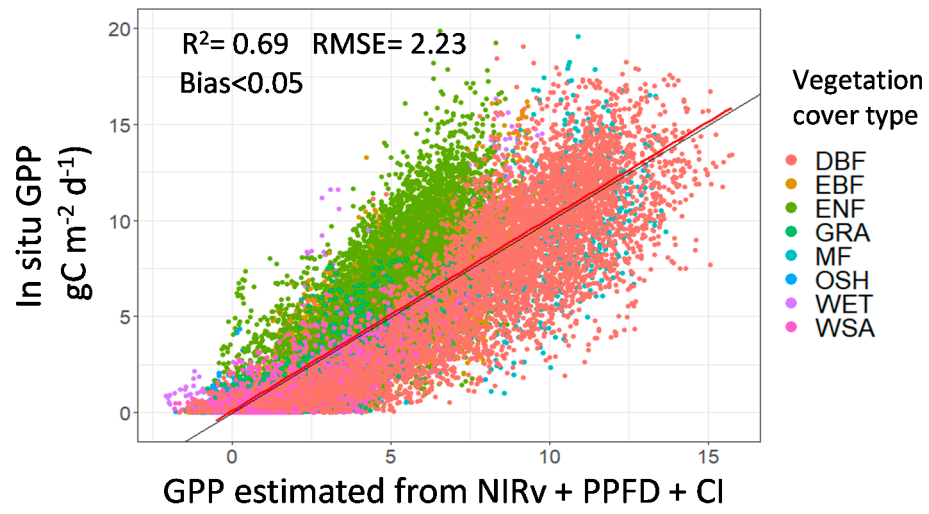| | DOY<182 | | | | | | DOY>182 | | | | | |
| | GPPnirv | | GPPnirppfd | | GPPnirppfdci | | GPPnirv | | GPPnirppfd | | GPPnirppfdci | |
	R^2	RMSE	R^2	RMSE	R^2	RMSE	R^2	RMSE	R^2	RMSE	R^2	RMSE
Low latitudes (30-45°N)	0.63	2.24	0.66	2.14	0.78	1.71	0.54	2.15	0.6	2.01	0.64	1.92
Middle latitudes (45-53°N)	0.48	3.12	0.54	2.94	0.72	2.3	0.31	2.83	0.45	2.53	0.62	2.1
High latitudes (53-70°N)	0.68	1.89	0.7	1.82	0.74	1.71	0.54	2.25	0.58	2.17	0.7	1.8

Figure. S1. Relationship between the measured GPP and the GPP estimated from NIRv+PPFD+CI, for the whole dataset using the 8 days Clumping Index Product (LIS-CI-A1) (Wei & Fang, 2016; Fang & Wei, 2018). Different colours identify the vegetation cover types.
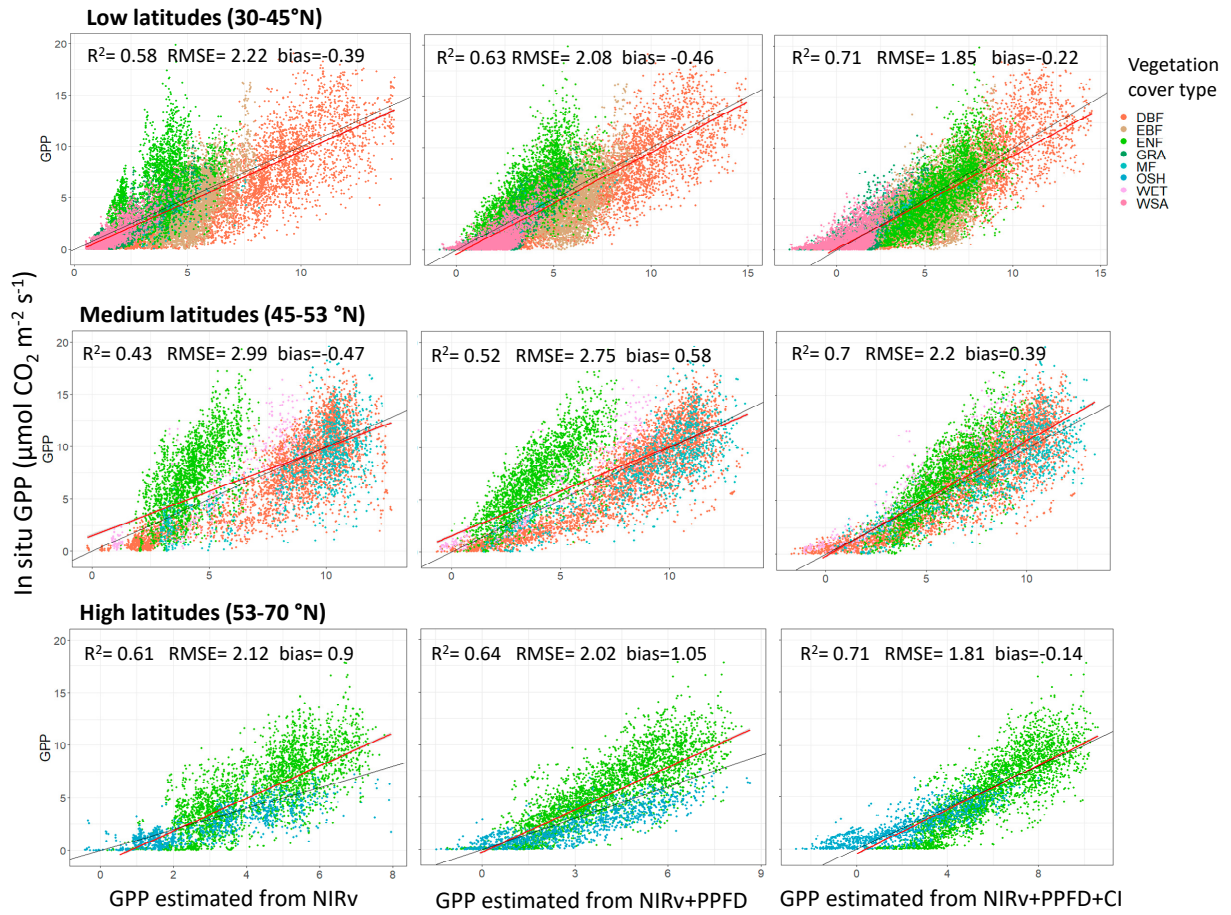
Figure S2. Measured GPP vs. the GPP estimated by the different models after grouping the sites according to latitude. Different colours identify the latitudinal ranges.
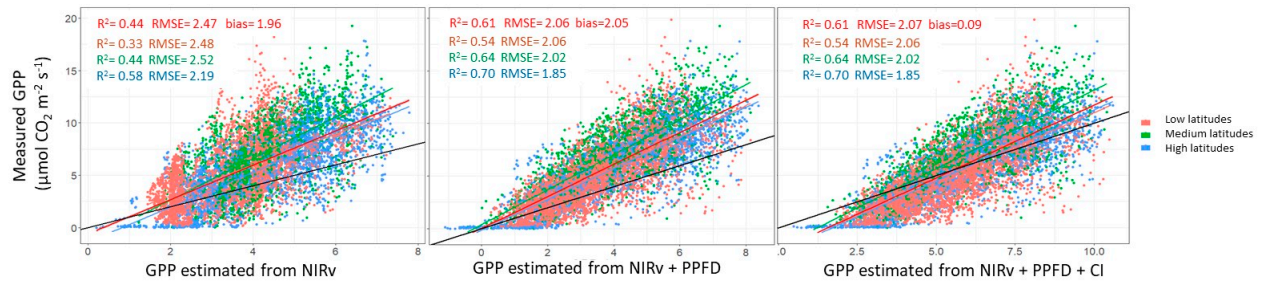
Figure. S3. Measured GPP vs. GPP estimated with NIRv, NIRv+PPFD and NIRv+PPFD+CI fitting the model with the whole dataset and after grouping ENF data according to latitude: low (30–45°, 3 sites), middle (45–53°, 4 sites) and high (53–62°, 3 sites) latitudes. The root mean square error (RMSE), the coefficient of determination (R^2), and the bias are indicated (statistics of the general model are shown in red). The red line corresponds to the linear regression and the black line to the 1:1 line. Different colours identify the latitudinal ranges.