Table S1. Pair-wise seasonal regression slopes during each ACT campaign between CO_{2tot} and CO_{2ff} and CO_{2bio}, and between CO_{2bio} and OCS. Regression slopes were derived using a Model II linear least squares geometric mean regression. Slope uncertainties and coefficient of determination (R^2) are reported for each ACT seasonal campaign, along with the fraction of total samples, F([ ]), with negative derived CO_{2bio} and CO_{2tot}.

	Winter (slope±1σ, $R^2_{(p<0.05)}$)	**Spring** (slope±1σ, $R^2_{(p<0.05)}$)	**Summer** (slope±1σ, $R^2_{(p<0.05)}$)	**Fall** (slope±1σ, $R^2_{(p<0.05)}$)
CO_{2tot}:CO_{2ff}	0.81±0.10, 0.20	0.45±0.06, 0.18	0.26±0.04, 0.18	0.38±0.05, 0.26
CO_{2tot}: CO_{2bio}	0.86±0.10, 0.31	0.88±0.05, 0.73	0.92±0.04, 0.93	0.81±0.05, 0.92
CO_{2bio}:OCS	-0.09±0.14,0.20	0.13±0.02, --	0.12±0.02, 0.11	-0.25±0.05, --
	Winter (Fraction)	**Spring (Fraction)**	**Summer (Fraction)**	**Fall (Fraction)**
F(CO_{2bio}<0)	0.09	0.57	0.82	0.08
F(CO_{2tot}<0)	0.00	0.28	0.62	0.04

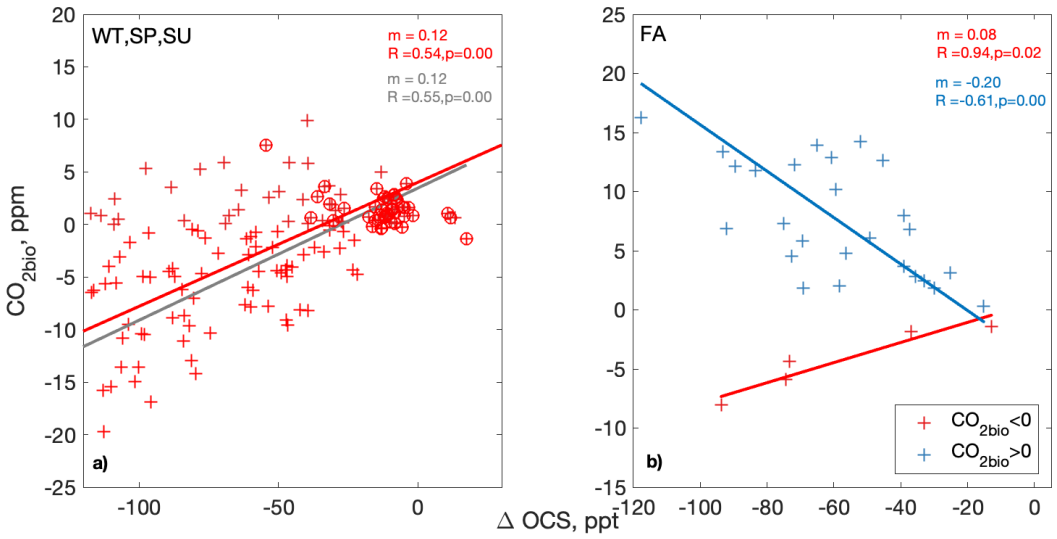

Figure S1. Correlations of CO_{2bio} and OCS ABL-FT differences during seasonal ACT campaigns shown in a) for winter (WT, circled), spring (SP) and summer (SU) seasons (red crosses). The correlation for data points in a) where CO_{2bio} indicates uptake only (CO_{2bio}<0) is shown in grey, providing a similar R value. Slopes for CO_{2bio}:OCS ABL-FT differences for each season are shown separately in Table S1. b) Fall (FA) deployment correlations with OCS distinguished between when CO_{2bio} indicated biogenic respiration (CO_{2bio} >0) and uptake (CO_{2bio}<0).