

Table S1. Additional vegetation indices.

Index	Formula	Reference
SAVI (soil-adjusted vegetation index)	$(1+0.5)(R_{860} - R_{670}) / (R_{860} + R_{670} + 0.5)$	Huete 1988
OSAVI (optimized soil- adjusted vegetation index)	$(1+0.16)(R_{860} - R_{670}) / (R_{860} + R_{670} + 0.16)$	Rondeaux et al. 1996
MSAVI (modified soil- adjusted vegetation index)	$\frac{(2 * R_{860} + 1 - \sqrt{(2 * R_{860} + 1)^2 - 8 * (R_{860} - R_{670})})}{2}$	Qi et al. 1994
ATSAVI (Adjusted transformed soil index)	$[a * (R_{860} - a * R_{670} - b)] / [a * R_{860} + R_{670} - a * b + 0.08 * (1 + a^2)]$ Where a and b are the parameters of the soil line	Baret and Guyot 1991
TVI (triangular vegetation index)	$0.5 * [120 * (R_{750} - R_{550}) - 200 * (R_{670} - R_{550})]$	Broge and Leblanc 2001
TGI (triangular greenness index)	$-0.5 * [(R_{670} - R_{480}) * (R_{570} - R_{550}) - (R_{670} - R_{550}) * (R_{670} - R_{480})]$	Hunt et al. 2011

Table S2. RMSE and R^2 values for fractional cover metrics, ordered by cover type and then from lowest to highest validation library RMSE. This table duplicates Table 4 in the paper, but adds the indices listed in Table S1.

Cover Type	Metric	Training		Validation	
		RMSE	R^2	RMSE	R^2
GV	NDVI	0.115	0.865	0.115	0.845
GV	SFA	0.108	0.880	0.115	0.841
GV	OSAVI	0.123	0.845	0.118	0.836
GV	TVI	0.130	0.826	0.121	0.824
GV	ATSAVI	0.132	0.822	0.122	0.826
GV	PLS	0.075	0.942	0.125	0.807
GV	SAVI	0.134	0.814	0.128	0.807
GV	EVI	0.133	0.817	0.130	0.794
GV	MSAVI	0.139	0.802	0.132	0.794
GV	NDII	0.138	0.805	0.147	0.753
GV	MESMA	0.136	0.846	0.149	0.793
GV	TGI	0.164	0.724	0.175	0.636
NPV	PLS	0.102	0.873	0.164	0.641
NPV	SFA	0.175	0.627	0.176	0.587
NPV	CAI	0.187	0.572	0.177	0.618
NPV	MESMA	0.159	0.711	0.181	0.592
NPV	LCA	0.201	0.509	0.211	0.476
NPV	hSINDRI	0.261	0.167	0.256	0.157
Soil	PLS	0.089	0.933	0.126	0.850
Soil	MESMA	0.144	0.831	0.135	0.832
Soil	1- ($GV_{NDVI} + NPV_{CAI}$)	0.197	0.736	0.141	0.870
Soil	1- ($GV_{SFA} + NPV_{SFA}$)	0.175	0.748	0.167	0.804

References

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