Supplementary Materials: Spatiotemporal Analysis of Landsat-8 and Sentinel-2 Data to Support Monitoring of Dryland Ecosystems

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Table S1. Confusion matrices constructed from random hold-out samples of observed versus mapped values for binary (i.e., cloud, shadow, snow/ice, water (yes), or clear (no)) LaSRC and FMask algorithms developed for (**top**) Landsat-8 OLI and (**bottom**) Sentinel-2 MSI data. Interpretations were made across randomly selected acquisition dates (n = 3) throughout the study period.

		Reference		Row Total	User's Accuracy
		No	Yes		
Map	No	423,098	108,511	531,609	79.6
	Yes	30,969	16,164	47,699	34.3
	Column Total	454,067	124,675	-	-
	Producer's Accuracy	93.2	13	-	-
	Overall Accuracy	-	-	-	75.9

		Reference		Row Total	User's Accuracy
		No	Yes		
Map	No	260,808	767	261,575	99.7
	Yes	38,129	68,336	106,465	64.2
	Column Total	298,937	69,103	-	-
	Producer's Accuracy	87.2	98.9	-	-
	Overall Accuracy	-	-	-	89.4

Table S2. Change in statistical metrics ($Model_{LS}$ (OLI + MSI) versus $Model_{L}$ (OLI)) as computed from observed and predicted normalized difference vegetation index (NDVI × 100) values on a random hold-out sample.

Day of year	064	080	096	112	128	144	160	176	192	208	224	240	256	272	320	All
ΔR^2	0.01	0.00	0.01	0.01	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01
ΔMAE	-0.09	-0.04	-0.22	-0.09	-0.07	-0.19	-0.41	-0.21	-0.09	-0.05	-0.10	-0.11	-0.10	-0.05	-0.39	-0.15
ΔrMAE	-0.01	-0.01	-0.01	0.00	0.00	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01
ΔRMSE	-0.22	-0.11	-0.46	-0.14	-0.13	-0.29	-0.89	-0.42	-0.18	-0.18	-0.33	-0.32	-0.17	-0.10	-0.76	-0.34
n	7329	6165	8172	6066	6165	6503	9280	10,894	10,732	10,758	10,942	9964	8619	7274	9321	125,453

MAE = Mean Absolute Error; rMAE = relative Mean Absolute Error; RMSE = Root-mean Squared Error