Supplementary Materials

Table S1. ANOVA results of different models for Landsat-9 and Sentinel-2.

Models	Variance and Standard Deviation
ANN (Landsat-9)	0.7787 ± 0.0673
ANN (Sentinel-2)	0.7668 ± 0.0773
RF (Landsat-9)	0.7652 ± 0.0662
RF (Sentinel-2)	0.7891 ± 0.0459
SVM (Landsat-9)	0.7596 ± 0.0471
SVM (Sentinel-2)	0.7787 ± 0.0462
ANOVA test	
F value = 0.339, $p < 0.887$	

Table S2. ANOVA for models' accuracy of Sentinel-2 at different resolutions.

Models	Variance and Standard Deviation
ANN (10 M-Sentinel-2)	0.8419 ± 0.0222
ANN (30 M-Sentinel-2)	0.7668 ± 0.0773
RF (10 M-Sentinel-2)	0.8027 ± 0.0236
RF (30 M-Sentinel-2)	0.7891 ± 0.0459
SVM (10 M-Sentinel-2)	0.8436 ± 0.0106
SVM (30 M-Sentinel-2)	0.7787 ± 0.0462
ANOVA test	
F value = 5.542, $p < 0.001$	

Table S3. ANOVA for multi-temporal models' accuracy.

Models	Variance and Standard Deviation
ANN (RGI)	0.8406 ± 0.0381
ANN (NDVI)	0.8197 ± 0.0428
ANN (NDMI)	0.8397 ± 0.0512
ANN (MSI)	0.8437 ± 0.0303
RF (RGI)	0.7674 ± 0.0632
RF (NDVI)	0.7196 ± 0.0389
RF (NDMI)	0.6957 ± 0.0458
RF (MSI)	0.7932 ± 0.0472
SVM (RGI)	0.8595 ± 0.0462
SVM (NDVI)	0.8021 ± 0.0482
SVM (NDMI)	0.8404 ± 0.0417
SVM (MSI)	0.8533 ± 0.0434
ANOVA test	
F value = 13.931, $p < 0.001$	

Table S4. ANOVA on the accuracy of Landsat single-temporal and multi-temporal models.

Models	Variance and Standard Deviation
ANN (RGI difference)	0.8406 ± 0.0381
ANN (single-temporal)	0.7787 ± 0.0673
RF (RGI difference)	0.7674 ± 0.0632
RF (single-temporal)	0.7652 ± 0.0662
SVM (RGI difference)	0.8595 ± 0.0462
SVM (single-temporal)	0.7596 ± 0.0471
ANOVA test	
F value = 6.044, $p < 0.001$	

Table S5. ANOVA for accuracy of three models.

Models	Variance and Standard Deviation
Single-Temporal and Multi-Temporal	0.8826 ± 0.0445
Multi-Temporal	0.8595 ± 0.0462
Single-Temporal	0.7787 ± 0.0459
ANOVA test	
F value = 11.437, $p < 0.001$	