

Supplementary Materials:

S1. Google Earth Engine code for multi-annual CART land use classifications (2001-2019) and validation exercises (2015) for Landsat-7 and Landsat-8 using CART and Random Forest (RF) classifiers respectively.

CART 2015 LS8 VALIDATION:

<https://code.earthengine.google.com/bdc2cb38d7a562c6c45346754509d5e6>

RF 2015 LS8 VALIDATION:

<https://code.earthengine.google.com/6e91b461a15de23a2f731caa46794467>

CART 2015 LS7 VALIDATION

<https://code.earthengine.google.com/0ecaee607bf6da4e16ae98cc76d7f799>

RF 2015 LS7 VALIDATION

<https://code.earthengine.google.com/52604a4867d91186bb95c72b40ce57d8>

CART 2000-2012 LS7 2000-2012

<https://code.earthengine.google.com/71a0330c9b6b39a18613557e28015547>

CART 2013-2017 LS8 2013-2017

<https://code.earthengine.google.com/e7c77ffd36a418b0cabe82e0aa14d718>

S2. Decision rules of the regression tree (CART) build for land use classification (2015) by Landsat-7 and Landsat-8 respectively.

Landsat-7					
Node	Split	N	Cost	Y_{val}	Gini impurity index
1)	root	358	184	0	1.89
2)	nir<=2373.998	183	100	2	1.81
4)	nir<=1262.16	82	0	2	0*
5)	nir>1262.16	101	53	1	1.57
10)	r<=941.656	53	5	1	0.54
20)	b<=417.264	3	0	0	0*
21)	b>417.264	50	2	1	0.24
42)	swir1<=1636.76	48	0	1	0*
43)	swir1>1636.76	2	0	3	0*
11)	r>941.656	48	10	3	0.84
22)	nir<=1731.176	13	4	4	1.14
44)	swir2<=1913.052	4	1	3	0.81
88)	b<=812.112	1	0	2	0*
89)	b>812.112	3	0	3	0*
45)	swir2>1913.052	9	0	4	0*
23)	nir>1731.176	35	0	3	0*
3)	nir>2373.998	175	4	0	0.16
6)	b<=831.008	171	0	0	0*
7)	b>831.008	4	0	3	0*
Landsat-8					
Node	Split	N	Cost	Y_{val}	Gini impurity index
1)	root	361	183	0	1.84
2)	nir<=2811.496	187	103	2	1.77
4)	nir<=1346.478	82	1	2	0.09
8)	swir1<=927.07	80	0	2	0*
9)	swir1>927.07	2	1	2	1
18)	ub<=317.6	1	0	2	0*
19)	ub>317.6	1	0	1	0*
5)	nir>1346.478	105	54	1	1.57
10)	swir1<=1321.536	58	8	1	0.77
20)	nir<=2433.228	53	4	1	0.44
40)	swir1<=414.762	3	0	2	0*
41)	swir1>414.762	50	1	1	0.14
82)	swir2<=649.76	45	0	1	0*
83)	swir2>649.76	5	1	1	0.72
166)	b<=436.584	1	0	3	0*

167)	b>436.584	4	0	1	0*
21)	nir>2433.228	5	1	0	0.72
42)	ub<=192.018	4	0	0	0*
43)	ub>192.018	1	0	1	0*
11)	swir1>1321.536	47	6	3	0.63
22)	nir<=1847.346	11	6	4	1.34
44)	swir2<=1680.84	5	1	3	0.72
88)	nir<=1655.86	4	0	3	0*
89)	nir>1655.86	1	0	1	0*
45)	swir2>1680.84	6	1	4	0.65
90)	ub<=696.216	5	0	4	0*
91)	ub>696.216	1	0	3	0*
23)	nir>1847.346	36	0	3	0*
3)	nir>2811.496	174	0	0	0*