

Supplementary Material

Figure S1: Confusion matrix (or error matrix) for the maximum likelihood classification (per-pixel). Where: Color composition R(4)G(3)B(2); mosaic of reflectance images (path 232; rows 059-060); Landsat 8 sensor (OLI).

Class		Validation (Ground Truth)												Errors (%)		Accuracy (%)	
		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	TOTAL	Commission	Omission	Producer	User
Maximum Likelihood	C1	106	19	0	0	0	4	0	0	36	0	0	165	35.8	11.0	89.0	64.2
	C2	12	95	2	0	0	2	0	0	7	0	0	118	19.5	20.2	79.8	80.5
	C3	0	2	104	1	6	2	0	1	8	0	2	126	17.5	13.3	86.7	82.5
	C4	0	0	0	79	24	4	1	2	5	0	16	131	39.7	34.2	65.8	60.3
	C5	0	0	0	25	85	0	0	0	1	0	7	118	28.0	29.2	70.8	72.0
	C6	0	0	0	0	0	103	0	1	0	0	0	104	1.0	13.5	86.6	99.0
	C7	0	0	0	0	0	0	81	5	0	0	0	86	5.8	32.5	67.5	94.2
	C8	0	2	0	2	0	2	28	81	1	3	4	123	34.2	32.5	67.5	65.9
	C9	1	1	14	6	0	0	2	1	58	0	13	96	39.6	51.7	48.3	60.4
	C10	0	0	0	0	0	0	2	19	0	117	1	139	15.8	2.5	97.5	84.2
C11	0	0	0	7	5	2	6	10	4	0	77	111	31.0	35.8	64.2	69.4	
Overall Accuracy = 75%																	
Kappa Coefficient = 0.72																	

Figure S2: Confusion matrix (or error matrix) for the maximum likelihood classification (per-pixel). Where: Color composition R(5)G(4)B(3); mosaic of reflectance images (path 232; rows 059-060); Landsat 8 sensor (OLI).

Class		Validation (Ground Truth)												Errors (%)		Accuracy (%)	
		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	TOTAL	Commission	Omission	Producer	User
Maximum Likelihood	C1	98	21	0	0	0	3	0	0	29	0	0	151	35.1	17.7	82.4	64.9
	C2	20	97	2	0	0	1	0	0	4	0	0	124	21.8	18.5	81.5	78.2
	C3	0	1	112	1	5	2	0	0	0	0	0	121	7.4	6.7	93.3	92.6
	C4	0	0	1	91	26	1	4	2	0	0	11	136	33.1	24.2	75.8	66.9
	C5	0	0	0	22	83	0	0	0	0	0	6	111	25.2	30.8	69.2	74.8
	C6	0	0	0	0	3	111	0	0	0	0	0	114	2.6	6.7	93.3	97.4
	C7	0	0	0	0	0	0	77	4	0	0	0	81	4.9	35.8	64.2	95.1
	C8	0	0	0	2	0	1	29	73	1	3	3	112	34.8	39.2	60.8	65.2
	C9	1	0	5	0	0	0	1	1	79	0	17	104	24.0	34.2	65.8	76.0
	C10	0	0	0	0	0	0	3	33	0	117	8	161	27.3	2.5	97.5	72.7
C11	0	0	0	4	3	0	6	7	7	0	75	102	26.5	37.5	62.5	73.5	
Overall Accuracy = 77%																	
Kappa Coefficient = 0.75																	

Figure S3: Confusion matrix (or error matrix) for the maximum likelihood classification (per-pixel). Where: Color composition R(6)G(5)B(4); mosaic of reflectance images (path 232; rows 059-060); Landsat 8 sensor (OLI).

Class		Validation (Ground Truth)												Errors (%)		Accuracy (%)	
		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	TOTAL	Commission	Omission	Producer	User
Maximum Likelihood	C1	97	30	2	0	0	2	0	0	32	0	0	163	40.5	18.5	81.5	59.5
	C2	20	85	2	0	0	2	0	0	10	0	0	119	28.6	28.6	71.4	71.4
	C3	1	1	103	1	5	1	2	0	3	0	1	118	12.7	14.2	85.8	87.3
	C4	0	0	2	84	35	0	1	1	0	0	17	140	40.0	30.0	70.0	60.0
	C5	0	0	0	21	75	0	0	0	0	0	7	103	27.2	37.5	62.5	72.8
	C6	0	0	0	1	4	112	0	0	0	0	0	117	4.3	5.9	94.1	95.7
	C7	0	0	0	0	0	1	77	8	0	0	0	86	10.5	35.8	64.2	89.5
	C8	0	0	0	1	1	0	33	71	1	4	1	112	36.6	40.8	59.2	63.4
	C9	1	3	11	1	0	1	0	1	74	1	13	106	30.2	38.3	61.7	69.8
	C10	0	0	0	0	0	0	3	31	0	111	10	155	38.4	7.5	92.5	71.6
	C11	0	0	0	0	11	0	0	4	8	0	4	71	98	27.6	40.8	59.2
Overall Accuracy = 73%																	
Kappa Coefficient = 0.70																	

Figure S4: Confusion matrix (or error matrix) for the GEOBIA. Where: using visible bands (RGB), near and medium infrared bands (NIR, SWIR 1 or MIR), NDVI and NDWI; mosaic of reflectance images (path 232; rows 059-060); Landsat 8 sensor (OLI).

Class		Validation (Ground Truth)												Errors (%)		Accuracy (%)	
		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	TOTAL	Commission	Omission	Producer	User
GEOBIA	C1	106	31	0	0	0	2	0	0	12	0	0	151	29.8	11.7	88.3	70.2
	C2	13	87	1	0	0	0	0	0	2	0	0	103	15.5	27.5	72.5	84.5
	C3	0	2	111	1	1	0	1	1	6	23	3	149	25.5	7.5	92.5	74.5
	C4	0	0	4	80	18	0	6	12	6	20	37	183	56.3	33.3	66.7	43.7
	C5	0	0	0	32	93	0	0	0	0	0	4	129	27.9	22.5	77.5	72.1
	C6	0	0	0	1	7	104	2	0	0	0	1	115	9.6	13.3	86.7	90.4
	C7	0	0	0	4	1	0	90	8	0	0	10	113	20.4	25.0	75.0	79.6
	C8	0	0	0	0	0	0	20	87	0	0	7	114	23.7	27.5	72.5	76.3
	C9	1	0	2	0	0	5	0	0	94	6	0	108	13.0	21.7	78.3	87.0
	C10	0	0	0	0	0	0	0	12	0	71	1	84	15.5	40.8	59.2	84.5
	C11	0	0	0	0	0	0	1	0	0	0	57	58	1.7	52.5	47.5	98.3
Overall Accuracy = 74%																	
Kappa Coefficient = 0.72																	