Table S1: Sample ATCOR-4r (rugged terrain) settings used to process the first CASI HSI of flight line. Visibility, atmospheric profile and aerosol model were consistent for all flight lines.

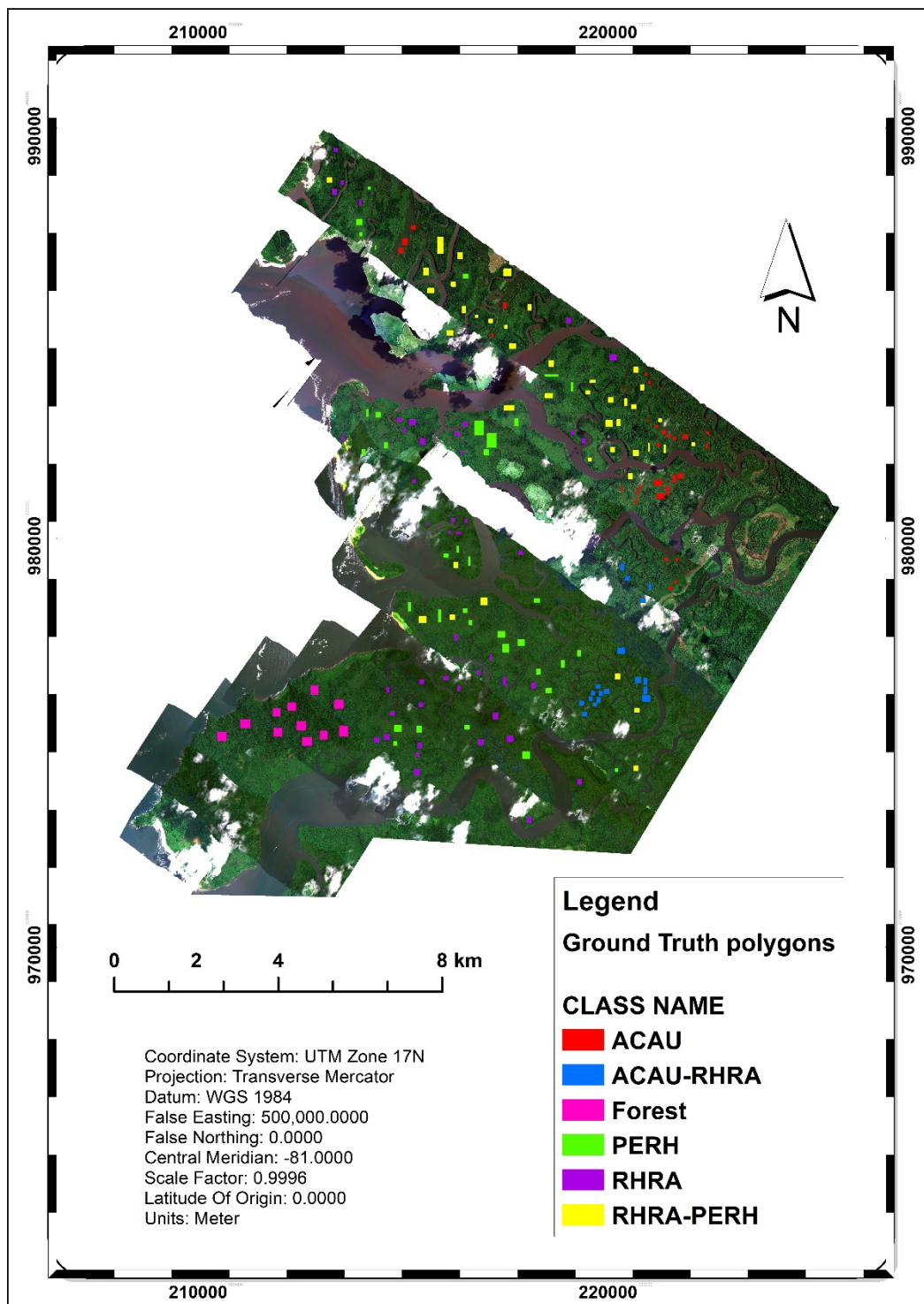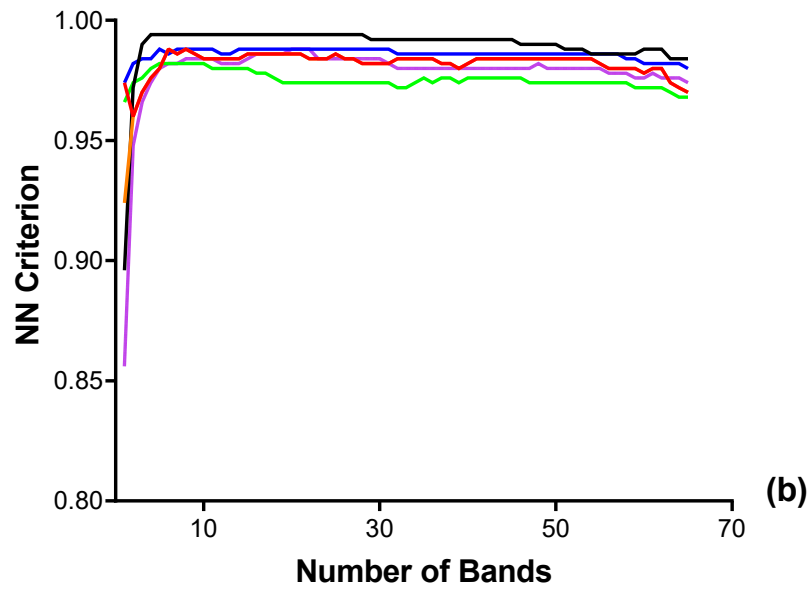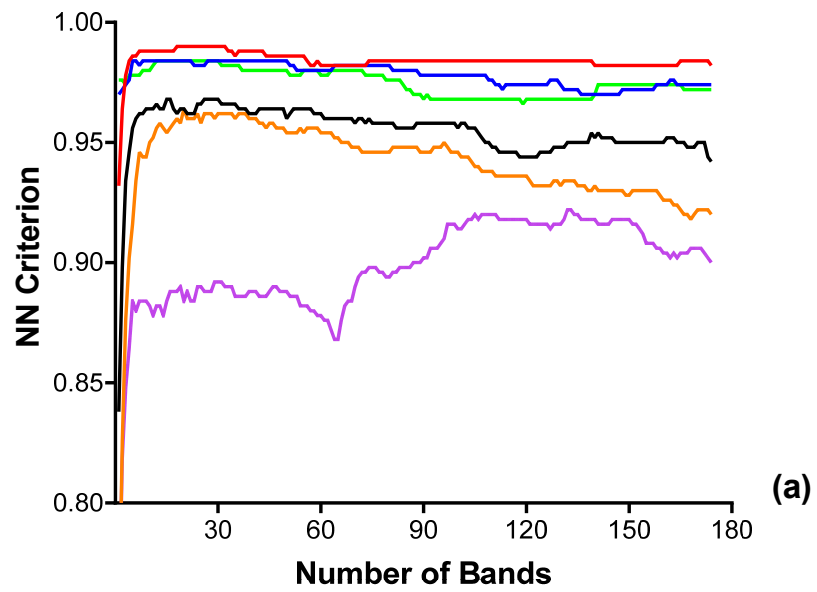| Parameter	Input Value
Flight date (dd-mm-yyyy)	29-04-2013
Flight time (hh:mm:ss)	14:07:14
Flight altitude (km asl)	2.469
Average ground elevation (km)	0.047
Flight heading (degree)	122.8
Solar zenith angle (degree)	50.1
Solar azimuth angle (degree)	78.4
Visibility (km)	100
Atmospheric profile	Tropical
Aerosol model	Maritime

Figure S1: Spatial distribution of ground truth polygons used in this study, 181 polygons made up of ACAU (31 polygons), ACAU-RHRA (18 Polygons), Forest (11 polygons), PERH (36 polygons), RHRA (44 polygons) and RHRA-PERH (41 polygons)

Figure S2: Forward Feature Selection implemented on different window sizes (i.e., 62.5 m, 250 m, 500 m) for mangrove extent classification.

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	
ACAU	62						100.0	
ACAU-RHRA		57	1	3		2	90.5	Overall Accuracy (%) = **84.5**
Forest		1	55		2	4	88.7	
PERH	1			53	5	3	85.5	
RHRA		5	1	3	37	17	58.7	
RHRA-PERH				3	7	53	84.1	
PA (%)	98.4	90.5	96.5	85.5	72.5	67.1		

Figure S3: Confusion matrix showing the best classification performance attained for ME (SWIR) at 25 m spatial resolution using Q-SVM classifier.

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	
ACAU	56	1	1	3		1	90.3	
ACAU-RHRA	1	54	7		1		85.7	Overall Accuracy (%) = **80.0**
Forest	2	4	49		5	3	77.8	
PERH				61		1	98.4	
RHRA		2	2	2	34	22	54.8	
RHRA-PERH	1		1	3	12	46	73.0	
PA (%)	93.3	88.5	81.7	88.4	65.4	63.0		

Figure S4: Confusion matrix showing the best classification performance attained for spatially resampled VNIR reflectance (25 m) using Q-SVM classifier.

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	
ACAU	125						100.0	
ACAU-RHRA		119	6				95.2	
Forest		2	114		5	4	91.2	
PERH				110	3	12	88.0	
RHRA	1		1	3	79	41	63.2	Overall Accuracy (%) = **86.0**
RHRA-PERH	1	2		7	17	98	78.4	
PA (%)	98.4	96.7	94.2	91.7	76.0	63.2		

Figure S5: Confusion matrix showing the best classification performance attained for spatially resampled VNIR reflectance (12.5 m) using Q-SVM classifier.

Predicted Class

(a) Overall Accuracy (%) = 67.1

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	21	1		1			91.3
ACAU-RHRA		4		4	11	5	16.7
Forest		2	24	1		1	85.7
PERH				29	2		93.5
RHRA		2		4	10	13	34.5
RHRA-PERH	1	2		6	2	30	73.2
PA (%)	95.5	36.4	100.0	64.4	40.0	61.2	

Predicted Class

(b) Overall Accuracy (%) = 57.1

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	14		4	3		2	60.9
ACAU-RHRA		6	1	3	9	5	25.0
Forest	1	2	21	1		3	75.0
PERH				26	4	1	83.9
RHRA		3	1	1	11	13	37.9
RHRA-PERH	1	2	4	6	5	22	55.0
PA (%)	87.5	46.2	67.7	65.0	37.9	47.8	

Predicted Class

(c) Overall Accuracy (%) = 63.6

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	18		4			1	78.3
ACAU-RHRA	1	7	1	1	9	6	28.0
Forest	1		24		2	1	85.7
PERH				27	2	2	87.1
RHRA		2		3	13	11	44.8
RHRA-PERH	1	2		6	8	23	57.5
PA (%)	85.7	63.6	82.8	73.0	38.2	52.3	

Figure S6: Confusion matrix showing the classification performance of three classifiers at 62.5 m spatial resolution (a) LDA, (b) k-NN, and (c) Q-SVM trained with spatially resampled reflectance data (VNIR).

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	Overall Accuracy (%) = 54.7
ACAU	4	3	8	6	2		17.4	
ACAU-RHRA	3	10	4	1	2	2	45.5	
Forest	1		28				96.6	
PERH	1			20	1	3	80.0	
RHRA		3		9	3	10	12.0	
RHRA-PERH		4	2	2	5	22	62.9	
PA (%)	44.4	50.0	66.7	52.6	23.1	59.5		

(a)

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	Overall Accuracy (%) = 49.1
ACAU	7	3	7	4	2		30.4	
ACAU-RHRA	3	4	2	4	5	4	18.2	
Forest	1	2	24	1		1	82.8	
PERH	1		1	15	7	1	60.0	
RHRA		2	3	3	10	7	40.0	
RHRA-PERH	1	1	1	6	8	18	51.4	
PA (%)	53.8	33.3	63.2	45.5	31.3	58.1		

(b)

Predicted Class

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)	Overall Accuracy (%) = 53.5
ACAU	11	1	6	4	1		47.8	
ACAU-RHRA	4	7	1	2	2	6	31.8	
Forest	1	2	24	1		1	82.8	
PERH	1		1	17	5	1	68.0	
RHRA		2	3	5	8	7	32.0	
RHRA-PERH	1	2		6	8	18	51.4	
PA (%)	61.1	50.0	68.6	48.6	33.3	54.5		

(c)

Figure S7: Confusion matrix showing the classification performance of three classifiers at 62.5 m spatial resolution (a) LDA, (b) k-NN, and (c) Q-SVM trained with spatially resampled reflectance data (SWIR).

Predicted Class

(a) — Overall Accuracy (%) = 75.6

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	17			6			73.9
ACAU-RHRA		15		1	6	3	60.0
Forest			27		1		96.4
PERH	1	1		27		2	87.1
RHRA		2	2		23	2	79.3
RHRA-PERH		2		4	10	24	60.0
PA (%)	94.4	75.0	93.1	71.1	57.5	77.4	

Predicted Class

(b) — Overall Accuracy (%) = 81.3

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	20			2		1	87.0
ACAU-RHRA		17		1	2	5	68.0
Forest			28				100.0
PERH		2		27		2	87.1
RHRA		3			21	5	72.4
RHRA-PERH		2		1	7	30	75.0
PA (%)	100.0	70.8	100.0	87.1	70.0	69.8	

Predicted Class

(c) — Overall Accuracy (%) = 79.0

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	20			2		1	87.0
ACAU-RHRA		15		3	1	6	60.0
Forest			28				100.0
PERH	1	1		25		4	80.6
RHRA		3			21	5	72.4
RHRA-PERH		4		1	5	30	75.0
PA (%)	95.2	65.2	100.0	80.6	77.8	65.2	

Figure S8: Confusion matrix showing the classification performance of three classifiers at 62.5 m spatial resolution (a) LDA, (b) k-NN, and (c) Q-SVM trained with ME transformed reflectance (VNIR).

Predicted Class

Overall Accuracy (%) = **71.6**

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	14		1	4	3		63.6
ACAU-RHRA	2	12	3			5	54.5
Forest			22			7	75.9
PERH				23	3		88.5
RHRA	1		3	3	12	6	48.0
RHRA-PERH		2	1		2	33	86.8
PA (%)	82.4	85.7	73.3	76.7	60.0	64.7	(a)

Predicted Class

Overall Accuracy (%) = **77.8**

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	16		1	4	1		72.7
ACAU-RHRA		15	3	2		2	68.2
Forest			25			4	86.2
PERH				25	1		96.2
RHRA			3	3	11	8	44.0
RHRA-PERH			3		1	34	89.5
PA (%)	100.0	100.0	71.4	73.5	78.6	70.8	(b)

Predicted Class

Overall Accuracy (%) = **75.3**

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	14	1	1	5	1		63.6
ACAU-RHRA		10	3	3	1	5	45.5
Forest			27			2	93.1
PERH				23	1	2	88.5
RHRA			1	4	12	8	48.0
RHRA-PERH			1	1		36	94.7
PA (%)	100.0	90.9	81.8	63.9	80.0	67.9	(c)

Figure S9: Confusion matrix showing the classification performance of three classifiers at 62.5 m spatial resolution (a) LDA, (b) k-NN, and (c) Q-SVM trained with ME transformed reflectance (SWIR).

Predicted Class

(a)

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	18	1			1	4	75.0
ACAU-RHRA	3	14		1	7		56.0
Forest			27		1		96.4
PERH	1			25	2	3	80.6
RHRA		2			25	1	89.3
RHRA-PERH		3	3	2	6	26	65.0
PA (%)	81.8	70.0	90.0	89.3	59.5	76.5	

Overall Accuracy (%) = 76.7

Predicted Class

(b)

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	22	1			1		91.7
ACAU-RHRA		17			4	4	72.7
Forest			28				100.0
PERH				30		1	96.2
RHRA		3			23	2	91.3
RHRA-PERH		3			6	31	77.1
PA (%)	100.0	70.8	100.0	100.0	67.6	81.6	

Overall Accuracy (%) = 85.8

Predicted Class

(c)

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	21	2		1			87.5
ACAU-RHRA		18		1	5	1	72.0
Forest			27			1	96.4
PERH				28	2	1	90.3
RHRA		2			25	1	89.3
RHRA-PERH		2			3	35	87.5
PA (%)	100.0	75.0	100.0	93.3	71.4	89.7	

Overall Accuracy (%) = 87.5

Figure S10: Confusion matrix showing the classification performance of SCM at 62.5 m spatial resolution (a) LDA (b) k-NN and (c) Q-SVM trained with MIG transformed reflectance (VNIR).

Predicted Class

(a) Overall Accuracy (%) = 64.2

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	12		1	4	5		54.5
ACAU-RHRA	1	11	6	1		2	52.4
Forest			25			4	86.2
PERH	3	3		19	1	1	70.4
RHRA			3	4	13	6	50.0
RHRA-PERH	1	4	4	1	3	24	64.9
PA (%)	70.6	61.1	64.1	65.5	59.1	64.9	

Predicted Class

(b) Overall Accuracy (%) = 80.2

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	18		1		3		81.8
ACAU-RHRA		11	3	3		4	52.4
Forest			27		1	1	93.1
PERH				27			100.0
RHRA				1	17	8	65.4
RHRA-PERH		2			5	30	81.1
PA (%)	100.0	84.6	87.1	87.1	65.4	69.8	

Predicted Class

(c) Overall Accuracy (%) = 72.2

True Class	ACAU	ACAU-RHRA	Forest	PERH	RHRA	RHRA-PERH	UA (%)
ACAU	18		1		2	1	81.8
ACAU-RHRA	2	9	1			9	42.9
Forest			28			1	96.6
PERH	1			22	2	2	81.5
RHRA				3	15	8	57.7
RHRA-PERH		4	1	1	6	25	67.6
PA (%)	85.7	69.2	90.3	84.6	60.0	54.3	

Figure S11: Confusion matrix showing the classification performance of three classifiers of SCM at 62.5 m spatial resolution (a) LDA, (b) KNN and (c) Q-SVM trained with MIG transformed reflectance (SWIR).