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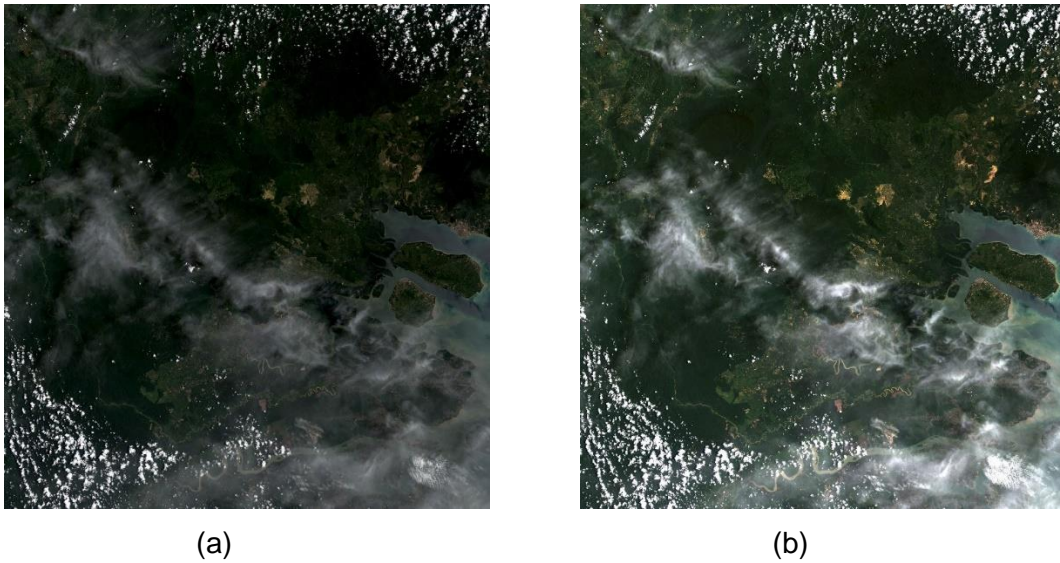
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LAMPIRAN

Lampiran 1. Hasil koreksi Radiometrik



Gambar 22. Citra hasil koreksi radiometrik (a) sebelum dikoreksi (b) setelah dikoreksi

Lampiran 2. Hasil koreksi geometrik

Dari metode *Image to map rectification* pada pengolahan citra berikut nilai RMS error yang diperoleh pada masing-masing titik GCP

Tabel 18. Nilai RMSerror pada titik GCP yang digunakan untuk kalibrasi geometrik

ENVI Ground Control Points Table								
ENVI Image to Map GCP Table								
Map (x,y), Image (x,y), Predict (x,y), Error (x,y), RMS Error								
Total RMS Error: 0,003605								
Map X	Map Y	Image X	Image Y	Predict X	Predict Y	Error X	Error Y	RMS
4070.1600	1117.3600	6049.5000	4881.5000	6049.4989	4561.7518	-0.0011	0.0001	0.0011
3953.8600	1008.1100	5770.0000	4620.5000	5770.0030	4620.5039	0.0030	0.0039	0.0050
3941.7900	997.4300	5741.0000	4595.0000	5740.9975	4594.9944	-0.0025	-0.0056	0.0061
4059.9300	1152.3700	6025.0000	4965.2500	6024.9998	4965.2510	-0.0002	0.0010	0.0010
4041.2400	1093.0800	5980.0000	4823.5000	5980.0027	4823.4976	0.0027	-0.0024	0.0036
3989.9600	1035.6400	5856.7500	4686.2500	5856.7471	4686.2510	-0.0029	0.0010	0.0031
3943.2600	983.5300	5744.5000	4561.7500	5744.5010	4561.7518	0.0010	0.0018	0.0021

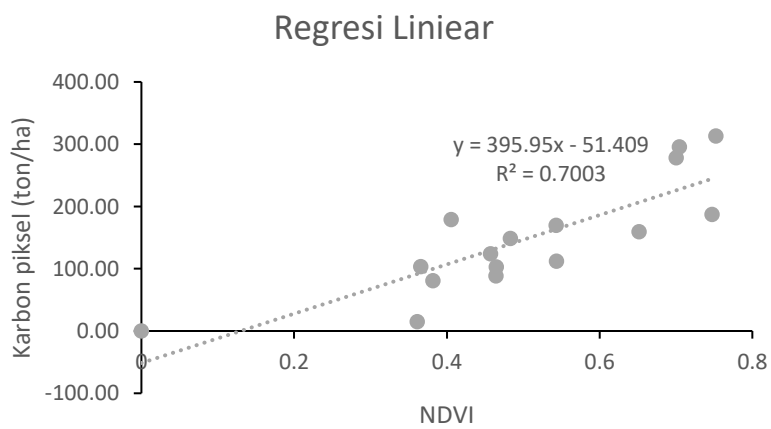


Gambar 23. Sebaran titik GCP

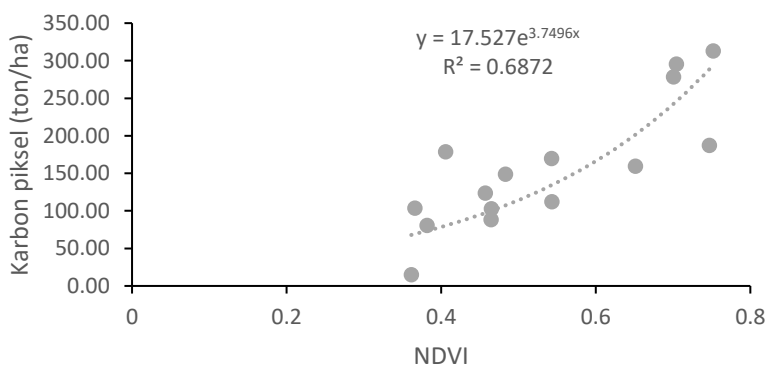
Lampiran 3. Model persamaan estimasi stok karbon

Tabel 19. Persamaan masing-masing regresi untuk seluruh jenis

Regresi	Persamaan	R ²
Linier	$Y = 395.95x - 51.409$	0.7003
Quadratic	$Y = 370.49x^2 + 81.081x + 0.6179$	0.7496
Exponential	$Y = 17.527e^{3.7496x}$	0.5139



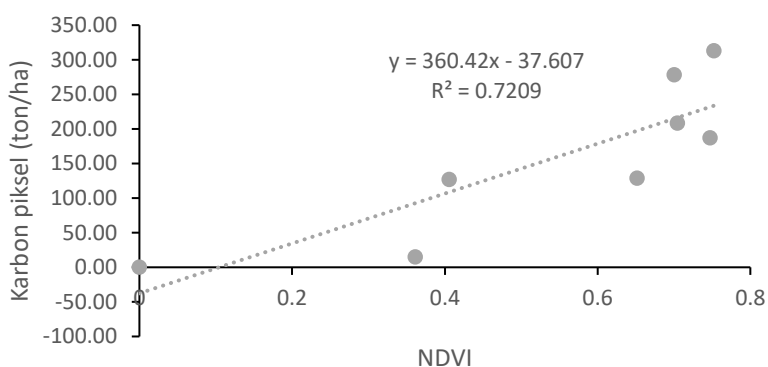
Regresi Eksponensial



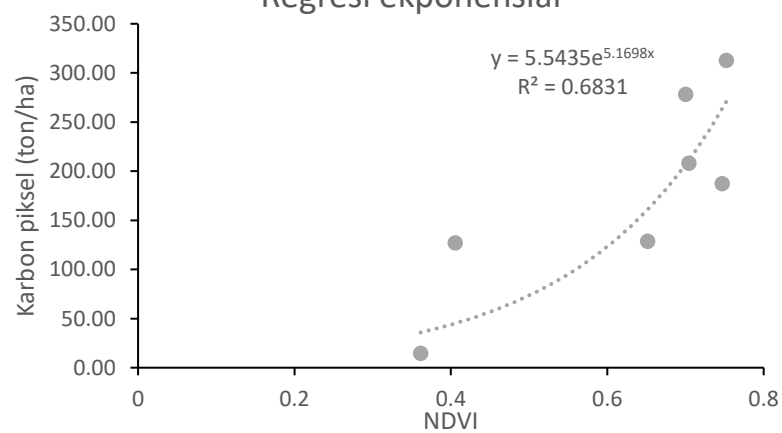
Persamaan masing-masing regresi untuk jenis dominan

Regresi	Persamaan	R ²
Linier	$Y = 360.42x - 37.607$	0.7209
Quadratic	$Y = 478.81x^2 - 23.764x + 0.5703$	0.7803
Exponential	$Y = 5.5435e^{5.1698x}$	0.6679

Regresi linear



Regresi ekponensial



Lampiran 4. Beberapa sampel lapangan sebaran plot pengukuran karbon mangrove

Nama Plot : 1_1

Nama Lokasi : Tanjung Batu

Posisi Geografis/GPS :

X : 117.6253379

Y : 4.12982986

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora mucronata	34	10.83	lumpur berpasir	$B = 0.1466 (D)^{2,3136}$	36.28	17.05
2	Rhizophora mucronata	56	17.83			115.09	54.09
3	Rhizophora mucronata	37	11.78			44.12	20.74
4	Rhizophora mucronata	40	12.74			52.84	24.83
5	Rhizophora mucronata	42	13.38			59.15	27.80
6	Rhizophora mucronata	31	9.87			29.30	13.77
7	Rhizophora mucronata	33	10.51			33.86	15.91
8	Rhizophora mucronata	45	14.33			69.39	32.61
9	Rhizophora mucronata	33	10.51			33.86	15.91
10	Rhizophora mucronata	31	9.87			29.30	13.77
11	Rhizophora mucronata	34	10.83			36.28	17.05
12	Rhizophora mucronata	37	11.78			44.12	20.74
13	Rhizophora mucronata	39	12.42			49.83	23.42
14	Rhizophora mucronata	34	10.83			36.28	17.05
15	Rhizophora mucronata	31	9.87			29.30	13.77
16	Rhizophora mucronata	29	9.24			25.11	11.80
17	Rhizophora mucronata	34	10.83			36.28	17.05
18	Rhizophora mucronata	37	11.78			44.12	20.74
19	Rhizophora mucronata	35	11.15			38.80	18.23
20	Rhizophora mucronata	39	12.42			49.83	23.42
21	Rhizophora mucronata	36	11.46			41.41	19.46
22	Rhizophora mucronata	32	10.19			31.53	14.82
23	Rhizophora mucronata	37	11.78			44.12	20.74
24	Rhizophora mucronata	40	12.74			52.84	24.83

25	Rhizophora mucronata	41	13.06		55.95	26.29
26	Rhizophora mucronata	32	10.19		31.53	14.82
27	Rhizophora mucronata	45	14.33		69.39	32.61
28	Rhizophora mucronata	23	7.32		14.69	6.90
29	Rhizophora mucronata	29	9.24		25.11	11.80
30	Rhizophora mucronata	21	6.69		11.90	5.59
31	Rhizophora mucronata	32	10.19		31.53	14.82
32	Rhizophora mucronata	37	11.78		44.12	20.74
33	Rhizophora mucronata	23	7.32		14.69	6.90
34	Rhizophora mucronata	32	10.19		31.53	14.82
35	Rhizophora mucronata	37	11.78		44.12	20.74
36	Rhizophora mucronata	35	11.15		38.80	18.23
37	Sonneratia Alba	32	10.19	$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$	39.34	18.49
38	Sonneratia Alba	81	25.80		276.83	130.11
39	Sonneratia Alba	25	7.96		23.42	11.01
40	Sonneratia Alba	31	9.87		36.80	17.30
41	Sonneratia Alba	33	10.51		41.97	19.72
42	Sonneratia Alba	30	9.55		34.35	16.14
43	Avicennia marina	11	3.50	$B = 0.1848 (D)^{2.3624}$	3.57	1.68
44	Avicennia marina	20	6.37		14.67	6.89
45	Avicennia marina	19	6.05		12.99	6.11
46	Avicennia marina	21	6.69		16.46	7.74
47	Avicennia marina	25	7.96		24.85	11.68
48	Avicennia marina	21	6.69		16.46	7.74
49	Avicennia marina	24	7.64		22.56	10.60
50	Avicennia officinalis	28	8.92	$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	36.59	17.20
51	Avicennia officinalis	21	6.69		18.03	8.47
Jumlah					2095.27	984.78

Nama Plot : 1_2

Nama Lokasi : Tanjung Cantik

Posisi Geografis/GPS:

X : 117.5964593

Y : 4.05393086

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora apiculata	10	3.18	Lumpur berpasir	$B = 0.043 (D)^{2.63}$	0.90	0.43
2	Rhizophora apiculata	18	5.73			4.25	2.00
3	Rhizophora apiculata	26	8.28			11.17	5.25
4	Rhizophora apiculata	82	26.11			229.02	107.64
5	Rhizophora apiculata	20	6.37			5.60	2.63
6	Rhizophora apiculata	21	6.69			6.37	2.99
7	Rhizophora apiculata	24	7.64			9.05	4.25
8	Rhizophora apiculata	98	31.21			365.99	172.01
9	Rhizophora apiculata	38	12.10			30.30	14.24
10	Rhizophora apiculata	76	24.20			187.54	88.14
11	Rhizophora apiculata	41	13.06			37.00	17.39
12	Rhizophora apiculata	32	10.19			19.28	9.06
13	Rhizophora apiculata	31	9.87			17.73	8.34
14	Rhizophora apiculata	33	10.51			20.90	9.83
15	Rhizophora apiculata	37	11.78			28.24	13.27
16	Rhizophora apiculata	30	9.55			16.27	7.65
17	Rhizophora apiculata	28	8.92			13.57	6.38
18	Rhizophora apiculata	42	13.38			39.42	18.53
19	Rhizophora apiculata	78	24.84			200.79	94.37
20	Rhizophora apiculata	43	13.69			41.93	19.71
21	Rhizophora apiculata	34	10.83			22.61	10.63
22	Rhizophora apiculata	35	11.15			24.40	11.47
23	Rhizophora apiculata	34	10.83			22.61	10.63
24	Rhizophora apiculata	42	13.38			39.42	18.53
25	Rhizophora apiculata	37	11.78			28.24	13.27
26	Rhizophora apiculata	24	7.64			9.05	4.25

27	Rhizophora apiculata	26	8.28	11.17	5.25
28	Rhizophora apiculata	19	6.05	4.89	2.30
29	Rhizophora apiculata	23	7.32	8.09	3.80
30	Rhizophora apiculata	41	13.06	37.00	17.39
31	Rhizophora apiculata	42	13.38	39.42	18.53
32	Rhizophora apiculata	32	10.19	19.28	9.06
33	Rhizophora apiculata	33	10.51	20.90	9.83
34	Rhizophora apiculata	24	7.64	9.05	4.25
35	Rhizophora apiculata	30	9.55	16.27	7.65
36	Rhizophora apiculata	28	8.92	13.57	6.38
37	Rhizophora apiculata	45	14.33	47.26	22.21
38	Rhizophora apiculata	34	10.83	22.61	10.63
39	Rhizophora apiculata	21	6.69	6.37	2.99
40	Rhizophora apiculata	25	7.96	10.07	4.73
41	Rhizophora apiculata	40	12.74	34.67	16.30
42	Rhizophora apiculata	42	13.38	39.42	18.53
43	Rhizophora apiculata	48	15.29	56.00	26.32
44	Rhizophora apiculata	19	6.05	4.89	2.30
45	Rhizophora apiculata	28	8.92	13.57	6.38
46	Rhizophora apiculata	33	10.51	20.90	9.83
47	Rhizophora apiculata	35	11.15	24.40	11.47
48	Rhizophora apiculata	29	9.24	14.88	6.99
49	Rhizophora apiculata	38	12.10	30.30	14.24
50	Rhizophora apiculata	32	10.19	19.28	9.06
51	Rhizophora apiculata	31	9.87	17.73	8.34
Jumlah				1973.65	927.61

Nama Plot : 1_3

Nama Lokasi : Tanjung Cantik

Posisi Geografis/GPS :

X : 117.5965565

Y : 4.05632073

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora apiculata	17	5.41	Lumpur berpasir	$B = 0.043 (D)^{2.63}$	3.65	1.72
2	Rhizophora apiculata	26	8.28			11.17	5.25
3	Rhizophora apiculata	22	7.01			7.20	3.38
4	Rhizophora apiculata	27	8.60			12.33	5.80
5	Rhizophora apiculata	38	12.10			30.30	14.24
6	Rhizophora apiculata	35	11.15			24.40	11.47
7	Rhizophora apiculata	45	14.33			47.26	22.21
8	Rhizophora apiculata	34	10.83			22.61	10.63
9	Rhizophora apiculata	18	5.73			4.25	2.00
10	Rhizophora apiculata	26	8.28			11.17	5.25
11	Rhizophora apiculata	37	11.78			28.24	13.27
12	Rhizophora apiculata	43	13.69			41.93	19.71
13	Rhizophora apiculata	28	8.92			13.57	6.38
14	Rhizophora apiculata	36	11.46			26.28	12.35
15	Rhizophora apiculata	46	14.65			50.07	23.53
16	Rhizophora apiculata	34	10.83			22.61	10.63
17	Rhizophora apiculata	19	6.05			4.89	2.30
18	Rhizophora apiculata	18	5.73			4.25	2.00
19	Rhizophora apiculata	38	12.10			30.30	14.24
20	Rhizophora apiculata	36	11.46			26.28	12.35
21	Rhizophora apiculata	43	13.69			41.93	19.71
22	Rhizophora apiculata	38	12.10			30.30	14.24
23	Rhizophora apiculata	38	12.10			30.30	14.24
24	Rhizophora apiculata	29	9.24			14.88	6.99
25	Rhizophora apiculata	24	7.64			9.05	4.25
26	Rhizophora apiculata	36	11.46			26.28	12.35

27	Rhizophora apiculata	35	11.15	24.40	11.47
28	Rhizophora apiculata	17	5.41	3.65	1.72
29	Rhizophora apiculata	32	10.19	19.28	9.06
30	Rhizophora apiculata	36	11.46	26.28	12.35
31	Rhizophora apiculata	39	12.42	32.44	15.25
32	Rhizophora apiculata	32	10.19	19.28	9.06
33	Rhizophora apiculata	38	12.10	30.30	14.24
34	Rhizophora apiculata	27	8.60	12.33	5.80
35	Rhizophora apiculata	35	11.15	24.40	11.47
36	Rhizophora apiculata	31	9.87	17.73	8.34
37	Rhizophora apiculata	24	7.64	9.05	4.25
38	Rhizophora apiculata	22	7.01	7.20	3.38
39	Rhizophora apiculata	30	9.55	16.27	7.65
40	Rhizophora apiculata	36	11.46	26.28	12.35
41	Rhizophora apiculata	37	11.78	28.24	13.27
42	Rhizophora apiculata	20	6.37	5.60	2.63
43	Rhizophora apiculata	32	10.19	19.28	9.06
44	Rhizophora apiculata	33	10.51	20.90	9.83
45	Rhizophora apiculata	26	8.28	11.17	5.25
46	Rhizophora apiculata	30	9.55	16.27	7.65
47	Rhizophora apiculata	33	10.51	20.90	9.83
48	Rhizophora apiculata	36	11.46	26.28	12.35
49	Rhizophora apiculata	49	15.61	59.12	27.79
50	Rhizophora apiculata	33	10.51	20.90	9.83
51	Rhizophora apiculata	29	9.24	14.88	6.99
52	Rhizophora apiculata	23	7.32	8.09	3.80
53	Rhizophora apiculata	27	8.60	12.33	5.80
54	Rhizophora apiculata	34	10.83	22.61	10.63
55	Rhizophora apiculata	34	10.83	22.61	10.63
56	Rhizophora apiculata	38	12.10	30.30	14.24
57	Rhizophora apiculata	18	5.73	4.25	2.00
58	Rhizophora apiculata	35	11.15	24.40	11.47
59	Rhizophora apiculata	19	6.05	4.89	2.30
60	Rhizophora apiculata	36	11.46	26.28	12.35
61	Rhizophora apiculata	29	9.24	14.88	6.99
62	Rhizophora apiculata	38	12.10	30.30	14.24
63	Rhizophora apiculata	18	5.73	4.25	2.00

64	Rhizophora apiculata	40	12.74		34.67	16.30
				Jumlah	1327.79	624.06

Nama Plot : 1_4

Nama Lokasi : Tanjung Cantik

Posisi Geografis/GPS:

X : 117.5990232

Y : 4.06550866

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora apiculata	61	19.43	Lumpur berpasir	$B = 0.043 (D)^{2.63}$	105.19	49.44
2	Rhizophora apiculata	70	22.29			151.06	71.00
3	Rhizophora apiculata	55	17.52			80.11	37.65
4	Rhizophora apiculata	36	11.46			26.28	12.35
5	Rhizophora apiculata	41	13.06			37.00	17.39
6	Rhizophora apiculata	45	14.33			47.26	22.21
7	Rhizophora apiculata	42	13.38			39.42	18.53
8	Rhizophora apiculata	38	12.10			30.30	14.24
9	Rhizophora apiculata	46	14.65			50.07	23.53
10	Rhizophora apiculata	46	14.65			50.07	23.53
11	Rhizophora apiculata	31	9.87			17.73	8.34
12	Rhizophora apiculata	33	10.51			20.90	9.83
13	Rhizophora apiculata	42	13.38			39.42	18.53
14	Rhizophora apiculata	48	15.29			56.00	26.32
15	Rhizophora apiculata	59	18.79			96.36	45.29
16	Rhizophora apiculata	34	10.83			22.61	10.63
17	Rhizophora apiculata	39	12.42			32.44	15.25
18	Rhizophora apiculata	39	12.42			32.44	15.25
19	Rhizophora apiculata	43	13.69			41.93	19.71
20	Rhizophora apiculata	47	14.97			52.99	24.90
21	Rhizophora apiculata	38	12.10			30.30	14.24
22	Rhizophora apiculata	54	17.20			76.34	35.88
23	Rhizophora apiculata	32	10.19			19.28	9.06
24	Rhizophora apiculata	42	13.38			39.42	18.53
25	Rhizophora apiculata	48	15.29			56.00	26.32
26	Rhizophora apiculata	44	14.01			44.55	20.94

27	Rhizophora apiculata	31	9.87	17.73	8.34	
28	Rhizophora apiculata	38	12.10	30.30	14.24	
29	Rhizophora apiculata	37	11.78	28.24	13.27	
30	Rhizophora apiculata	44	14.01	44.55	20.94	
31	Rhizophora apiculata	33	10.51	20.90	9.83	
32	Rhizophora apiculata	34	10.83	22.61	10.63	
33	Rhizophora apiculata	30	9.55	16.27	7.65	
34	Rhizophora apiculata	37	11.78	28.24	13.27	
35	Rhizophora apiculata	37	11.78	28.24	13.27	
36	Rhizophora apiculata	38	12.10	30.30	14.24	
37	Rhizophora apiculata	48	15.29	56.00	26.32	
38	Rhizophora apiculata	44	14.01	44.55	20.94	
39	Rhizophora apiculata	45	14.33	47.26	22.21	
40	Rhizophora apiculata	25	7.96	10.07	4.73	
41	Rhizophora apiculata	45	14.33	47.26	22.21	
42	Rhizophora apiculata	41	13.06	37.00	17.39	
43	Rhizophora apiculata	31	9.87	17.73	8.34	
44	Rhizophora apiculata	47	14.97	52.99	24.90	
45	Rhizophora apiculata	38	12.10	30.30	14.24	
46	Rhizophora apiculata	32	10.19	19.28	9.06	
47	Rhizophora apiculata	42	13.38	39.42	18.53	
48	Rhizophora apiculata	41	13.06	37.00	17.39	
49	Rhizophora apiculata	45	14.33	47.26	22.21	
50	Rhizophora apiculata	36	11.46	26.28	12.35	
51	Rhizophora apiculata	25	7.96	10.07	4.73	
52	Rhizophora apiculata	35	11.15	24.40	11.47	
53	Rhizophora apiculata	35	11.15	24.40	11.47	
54	Rhizophora apiculata	37	11.78	28.24	13.27	
55	Rhizophora apiculata	33	10.51	20.90	9.83	
56	Rhizophora apiculata	34	10.83	22.61	10.63	
57	Rhizophora apiculata	28	8.92	13.57	6.38	
				Jumlah	2219.44	1043.14

Nama Plot : 1_5

Nama Lokasi : Jl. Lingkar

Posisi Geografis/GPS :

X : 117.6907169

Y : 4.12139154

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Avicennia officinalis	37	11.78	Lumpur berpasir	$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	72.62	34.13
2	Avicennia officinalis	32	10.19			50.81	23.88
3	Avicennia officinalis	36	11.46			67.89	31.91
4	Avicennia officinalis	46	14.65			124.08	58.32
5	Avicennia officinalis	19	6.05			14.09	6.62
6	Avicennia officinalis	33	10.51			54.81	25.76
7	Avicennia officinalis	31	9.87			46.99	22.09
8	Avicennia officinalis	38	12.10			77.55	36.45
9	Avicennia officinalis	25	7.96			27.68	13.01
10	Avicennia officinalis	35	11.15			63.34	29.77
11	Avicennia officinalis	12	3.82			4.55	2.14
12	Avicennia officinalis	11	3.50			3.67	1.73
13	Avicennia marina	14	4.46	$B = 0.1848 (D)^{2.3624}$	6.31	2.97	
14	Avicennia marina	19	6.05		12.99	6.11	
15	Avicennia marina	14	4.46		6.31	2.97	
16	Avicennia marina	38	12.10		66.81	31.40	
17	Avicennia marina	36	11.46		58.80	27.64	
18	Avicennia alba	23	7.32		$B = 0,079211 (D)^{2,470895}$	10.85	5.10
19	Avicennia alba	27	8.60	16.13		7.58	
20	Avicennia alba	21	6.69	8.67		4.07	
21	Avicennia alba	22	7.01	9.73		4.57	
22	Avicennia alba	14	4.46	3.18		1.50	
23	Avicennia alba	17	5.41	5.14		2.42	
24	Sonneratia alba	44	14.01	$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$		76.80	36.10
25	Sonneratia alba	30	9.55		34.35	16.14	
26	Sonneratia alba	46	14.65		84.32	39.63	

27	Sonneratia alba	16	5.10		9.17	4.31
28	Sonneratia alba	28	8.92		29.71	13.97
29	Sonneratia alba	31	9.87		36.80	17.30
30	Sonneratia alba	21	6.69		16.24	7.63
31	Sonneratia alba	24	7.64		21.49	10.10
32	Sonneratia alba	19	6.05		13.16	6.18
33	Sonneratia alba	23	7.32		19.66	9.24
34	Sonneratia alba	26	8.28		25.43	11.95
35	Rhizophora apiculata	17	5.41	B = 0.043 (D) ^{2.63}	3.65	1.72
36	Rhizophora apiculata	26	8.28		11.17	5.25
37	Rhizophora apiculata	22	7.01		7.20	3.38
Jumlah					1202.18	565.03

Nama Plot : 1_6

Nama Lokasi : Jl. Lingkar

Posisi Geografis/GPS:

X : 117.69014

Y : 4.12196291

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora mucronata	26	8.28	Lumpur berpasir	B = 0.1466 (D) ^{2.3136} B = 0.3841(D) ^{2.101} *ρ ρ = 0.780	19.50	9.17
2	Sonneratia alba	31	9.87			36.80	17.30
3	Sonneratia alba	29	9.24			31.99	15.03
4	Sonneratia alba	22	7.01			17.90	8.41
5	Sonneratia alba	22	7.01			17.90	8.41
6	Sonneratia alba	15	4.78			8.01	3.76
7	Sonneratia alba	30	9.55			34.35	16.14
8	Sonneratia alba	22	7.01			17.90	8.41
9	Sonneratia alba	21	6.69			16.24	7.63
10	Sonneratia alba	31	9.87			36.80	17.30
11	Sonneratia alba	17	5.41			10.42	4.90
12	Sonneratia alba	21	6.69			16.24	7.63
13	Sonneratia alba	27	8.60			27.53	12.94
14	Sonneratia alba	40	12.74			62.87	29.55
15	Avicennia officinalis	23	7.32	B = 0.251 ρ (D) ^{2.46} ρ = 0.670	22.55	10.60	
16	Avicennia officinalis	24	7.64		25.04	11.77	
17	Avicennia officinalis	21	6.69		18.03	8.47	
18	Avicennia officinalis	28	8.92		36.59	17.20	
19	Avicennia officinalis	14	4.46		6.65	3.13	
20	Avicennia officinalis	18	5.73		12.34	5.80	
21	Avicennia officinalis	27	8.60		33.45	15.72	
22	avicennia marina	23	7.32		B = 0.1848 (D) ^{2.3624}	20.40	9.59
23	avicennia marina	25	7.96			24.85	11.68
24	avicennia marina	20	6.37			14.67	6.89
25	avicennia marina	30	9.55	38.22		17.96	

26	avicennia marina	23	7.32	20.40	9.59	
27	avicennia marina	21	6.69	16.46	7.74	
28	avicennia marina	16	5.10	8.66	4.07	
29	avicennia marina	29	9.24	35.28	16.58	
30	avicennia marina	31	9.87	41.30	19.41	
				Jumlah	729.32	342.78

Nama Plot : 1_7

Nama Lokasi : Jl. Lingkar

Posisi Geografis/GPS:

X : 117.6918395

Y : 4.12023272

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Avicennia officinalis	15	4.78	Lumpur berpasir	$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	7.88	3.70
2	Avicennia officinalis	13	4.14			5.54	2.60
3	Avicennia officinalis	10	3.18			2.91	1.37
4	Avicennia officinalis	18	5.73			12.34	5.80
5	Avicennia officinalis	19	6.05			14.09	6.62
6	Avicennia officinalis	23	7.32			22.55	10.60
7	Avicennia marina	17	5.41		$B = 0.1848 (D)^{2.3624}$	9.99	4.70
8	Avicennia marina	19	6.05			12.99	6.11
9	Avicennia marina	24	7.64			22.56	10.60
10	Avicennia marina	25	7.96			24.85	11.68
11	Avicennia marina	21	6.69		$B = 0,079211 (D)^{2,470895}$	16.46	7.74
12	Avicennia alba	25	7.96			13.34	6.27
13	Avicennia alba	16	5.10			4.43	2.08
14	Avicennia alba	23	7.32			10.85	5.10
15	Avicennia alba	21	6.69			8.67	4.07
16	Sonneratia alba	70	22.29		$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$	203.72	95.75
17	Sonneratia alba	43	13.69			73.18	34.40
18	Sonneratia alba	31	9.87			36.80	17.30
19	Sonneratia alba	28	8.92			29.71	13.97
20	Sonneratia alba	45	14.33			80.52	37.84
21	Sonneratia alba	32	10.19			39.34	18.49
22	Sonneratia alba	34	10.83			44.68	21.00
23	Sonneratia alba	40	12.74			62.87	29.55
24	Sonneratia alba	21	6.69			16.24	7.63
25	Sonneratia alba	26	8.28			25.43	11.95
26	Sonneratia alba	29	9.24			31.99	15.03

27	Sonneratia alba	21	6.69	16.24	7.63
28	Sonneratia alba	21	6.69	16.24	7.63
29	Sonneratia alba	40	12.74	62.87	29.55
30	Sonneratia alba	43	13.69	73.18	34.40
31	Sonneratia alba	15	4.78	8.01	3.76
32	Sonneratia alba	16	5.10	9.17	4.31
33	Sonneratia alba	19	6.05	13.16	6.18
34	Sonneratia alba	24	7.64	21.49	10.10
Jumlah				1054.27	495.51

Nama Plot : 1_8

Nama Lokasi : Jl. Lingkar

Posisi Geografis/GPS:

X : 117.7027338

Y : 4.10676386

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Sonneratia alba	70	22.29	pasir berlumpur	$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$	203.72	95.75
2	Sonneratia alba	21	6.69			16.24	7.63
3	Sonneratia alba	32	10.19			39.34	18.49
4	Sonneratia alba	25	7.96			23.42	11.01
5	Sonneratia alba	35	11.15			47.49	22.32
6	Rhizophora mucronata	13	4.14		$B = 0.1466 (D)^{2.3136}$	3.92	1.84
7	Rhizophora mucronata	30	9.55			27.16	12.76
8	Rhizophora mucronata	19	6.05			9.44	4.44
9	Avicennia officinalis	25	7.96		$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	27.68	13.01
10	Avicennia officinalis	32	10.19			50.81	23.88
11	Avicennia officinalis	41	13.06			93.49	43.94
12	Avicennia officinalis	20	6.37			15.99	7.52
13	Avicennia officinalis	11	3.50			3.67	1.73
14	Avicennia marina	23	7.32		$B = 0.1848 (D)^{2.3624}$	20.40	9.59
15	Avicennia marina	18	5.73			11.43	5.37
16	Avicennia marina	26	8.28			27.26	12.81
17	Avicennia marina	27	8.60			29.80	14.01
18	Avicennia marina	15	4.78			7.43	3.49
19	Avicennia marina	19	6.05			12.99	6.11
20	Avicennia marina	24	7.64			22.56	10.60
21	Avicennia marina	25	7.96			24.85	11.68
22	Avicennia marina	20	6.37			14.67	6.89
Jumlah						733.76	344.87

Nama Plot : 1_9

Nama Lokasi : Sei Jepun

Posisi Geografis/GPS:

X : 117.7298529

Y : 4.0776575

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Sonneratia alba	30	9.55	Lumpur berpasir	$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$	34.35	16.14
2	Sonneratia alba	23	7.32			19.66	9.24
3	Sonneratia alba	27	8.60			27.53	12.94
4	Sonneratia alba	28	8.92			29.71	13.97
5	Sonneratia alba	23	7.32			19.66	9.24
6	Sonneratia alba	18	5.73			11.74	5.52
7	Sonneratia alba	14	4.46			6.93	3.26
8	Sonneratia alba	20	6.37			14.65	6.89
9	Sonneratia alba	30	9.55			34.35	16.14
10	Sonneratia alba	34	10.83			44.68	21.00
11	Sonneratia alba	21	6.69			16.24	7.63
12	Sonneratia alba	15	4.78			8.01	3.76
13	Sonneratia alba	13	4.14			5.93	2.79
14	Sonneratia alba	19	6.05			13.16	6.18
15	Sonneratia alba	16	5.10			9.17	4.31
16	Sonneratia alba	17	5.41			10.42	4.90
17	Sonneratia alba	20	6.37			14.65	6.89
18	Sonneratia alba	23	7.32			19.66	9.24
19	Sonneratia alba	31	9.87			36.80	17.30
20	Sonneratia alba	28	8.92		29.71	13.97	
21	Avicennia marina	25	7.96	$B = 0.1848 (D)^{2.3624}$	24.85	11.68	
22	Avicennia marina	26	8.28		27.26	12.81	
23	Avicennia marina	9	2.87		2.22	1.05	
24	Avicennia marina	13	4.14		5.30	2.49	
25	Avicennia marina	18	5.73		11.43	5.37	
26	Avicennia marina	23	7.32		20.40	9.59	

27	Avicennia marina	11	3.50	3.57	1.68
28	Avicennia marina	27	8.60	29.80	14.01
29	Avicennia marina	21	6.69	16.46	7.74
30	Avicennia marina	24	7.64	22.56	10.60
Jumlah				570.85	268.30

Nama Plot : 1_10

Nama Lokasi : Mansapa

Posisi Geografis/GPS :

X : 117.7507968

Y : 4.06256754

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Sonneratia alba	97	30.89	Pasir berlumpur	$B = 0.3841(D)^{2.101} \rho$ $\rho = 0.780$	404.29	190.02
2	Sonneratia alba	27	8.60			27.53	12.94
3	Sonneratia alba	19	6.05			13.16	6.18
4	Avicennia officinalis	41	13.06		$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	93.49	43.94
5	Avicennia officinalis	18	5.73			12.34	5.80
6	Avicennia marina	7	2.23		$B = 0.1848 (D)^{2.3624}$	1.23	0.58
7	Avicennia marina	18	5.73			11.43	5.37
8	Avicennia alba	31	9.87		$B = 0,079211 (D)^{2,470895}$	22.69	10.67
9	Sonneratia alba	26	8.28			25.43	11.95
10	Sonneratia alba	20	6.37			14.65	6.89
Jumlah						626.25	294.34

Nama Plot : 1_11

Nama Lokasi : Mansapa

Posisi Geografis/GPS :

X : 117.7509332

Y : 4.06124934

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Avicennia officinalis	27	8.60	Lumpur berpasir	$B = 0.251 \rho (D)^{2.46}$ $p = 0.670$ $B = 0.1848 (D)^{2.3624}$	33.45	15.72
2	Avicennia officinalis	36	11.46			67.89	31.91
3	Avicennia marina	25	7.96			24.85	11.68
4	Avicennia marina	22	7.01			18.37	8.63
5	Avicennia marina	27	8.60			29.80	14.01
6	Avicennia marina	21	6.69			16.46	7.74
7	Avicennia marina	11	3.50			3.57	1.68
8	Avicennia marina	24	7.64			22.56	10.60
9	Rhizophora apiculata	15	4.78	$B = 0.043 (D)^{2.63}$	2.63	1.24	
10	Rhizophora apiculata	18	5.73		4.25	2.00	
11	Rhizophora apiculata	20	6.37		5.60	2.63	
12	Rhizophora apiculata	37	11.78		28.24	13.27	
13	Rhizophora apiculata	12	3.82		1.46	0.69	
14	Rhizophora apiculata	20	6.37		5.60	2.63	
15	Rhizophora apiculata	36	11.46		26.28	12.35	
16	Rhizophora apiculata	30	9.55		16.27	7.65	
17	Rhizophora apiculata	24	7.64		9.05	4.25	
18	Rhizophora apiculata	47	14.97		52.99	24.90	
19	Rhizophora apiculata	24	7.64		9.05	4.25	
20	Rhizophora apiculata	28	8.92		13.57	6.38	
21	Rhizophora apiculata	29	9.24		14.88	6.99	
22	Rhizophora apiculata	20	6.37		5.60	2.63	
23	Rhizophora apiculata	37	11.78		28.24	13.27	
24	Rhizophora apiculata	23	7.32		8.09	3.80	
25	Rhizophora apiculata	38	12.10		30.30	14.24	
26	Rhizophora apiculata	34	10.83		22.61	10.63	

27	Rhizophora apiculata	26	8.28	11.17	5.25	
28	Rhizophora apiculata	25	7.96	10.07	4.73	
29	Rhizophora apiculata	15	4.78	2.63	1.24	
30	Rhizophora apiculata	29	9.24	14.88	6.99	
31	Rhizophora apiculata	34	10.83	22.61	10.63	
32	Rhizophora apiculata	23	7.32	8.09	3.80	
33	Rhizophora apiculata	32	10.19	19.28	9.06	
34	Rhizophora apiculata	29	9.24	14.88	6.99	
35	Rhizophora apiculata	18	5.73	4.25	2.00	
36	Rhizophora apiculata	26	8.28	11.17	5.25	
37	Rhizophora apiculata	16	5.10	3.11	1.46	
38	Rhizophora apiculata	32	10.19	19.28	9.06	
39	Rhizophora apiculata	30	9.55	16.27	7.65	
40	Rhizophora apiculata	28	8.92	13.57	6.38	
41	Rhizophora apiculata	29	9.24	14.88	6.99	
42	Rhizophora apiculata	36	11.46	26.28	12.35	
43	Rhizophora apiculata	43	13.69	41.93	19.71	
44	Rhizophora apiculata	39	12.42	32.44	15.25	
45	Rhizophora apiculata	46	14.65	50.07	23.53	
46	Rhizophora apiculata	34	10.83	22.61	10.63	
47	Rhizophora apiculata	28	8.92	13.57	6.38	
48	Rhizophora apiculata	34	10.83	22.61	10.63	
49	Rhizophora apiculata	25	7.96	10.07	4.73	
50	Rhizophora apiculata	39	12.42	32.44	15.25	
51	Rhizophora apiculata	22	7.01	7.20	3.38	
52	Rhizophora apiculata	30	9.55	16.27	7.65	
53	Rhizophora apiculata	20	6.37	5.60	2.63	
54	Rhizophora apiculata	43	13.69	41.93	19.71	
55	Rhizophora apiculata	35	11.15	24.40	11.47	
56	Rhizophora apiculata	31	9.87	17.73	8.34	
57	Rhizophora apiculata	45	14.33	47.26	22.21	
58	Rhizophora apiculata	38	12.10	30.30	14.24	
				Jumlah	1130.51	531.34

Nama Plot : 1_12

Nama Lokasi : Mansapa

Posisi Geografis/GPS:

X : 117.7491447

Y : 4.06089598

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Sonneratia alba	116	36.94	Pasir berlumpur	$B = 0.3841(D)^{2.101} \cdot \rho$ $\rho = 0.780$	588.73	276.703
2	Sonneratia alba	30	9.55			34.35	16.1443
3	Sonneratia alba	33	10.51			41.97	19.72356
4	Sonneratia alba	20	6.37			14.65	6.887341
5	Sonneratia alba	40	12.74			62.87	29.54715
6	Ceriops tagal	5	1.59		$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.803$	0.63	0.297513
7	Ceriops tagal	10	3.18			3.48	1.636968
8	Ceriops tagal	3	0.96			0.18	0.084676
9	Ceriops tagal	8	2.55			2.01	0.945457
10	Ceriops tagal	13	4.14			6.64	3.121338
11	Ceriops tagal	9	2.87	2.69	1.263214		
12	Lumnitzera littorea	5	1.59		$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.565$	0.45	0.209334
13	Lumnitzera littorea	8	2.55			1.42	0.665234
14	Xylocarpus granatum	28	8.92			23.06	10.83997
15	Xylocarpus granatum	21	6.69		$B = 0.1832D^{2.21}$	12.21	5.740021
Jumlah						795.34	373.809

Nama Pilot : 1_13

Nama Lokasi : Mansapa

Posisi Geografis/GPS:

X : 117.7424124

Y : 4.06642401

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora Apiculata	7	2.23	Lumpur berpasir	$B = 0.043 (D)^{2.63}$	0.35	0.17
2	Rhizophora Apiculata	12	3.82			1.46	0.69
3	Rhizophora Apiculata	23	7.32			8.09	3.80
4	Rhizophora Apiculata	13	4.14			1.80	0.85
5	Rhizophora Apiculata	17	5.41			3.65	1.72
6	Rhizophora Apiculata	21	6.69			6.37	2.99
7	Rhizophora Apiculata	23	7.32			8.09	3.80
8	Rhizophora Apiculata	19	6.05			4.89	2.30
9	Rhizophora Apiculata	23	7.32			8.09	3.80
10	Rhizophora Apiculata	26	8.28			11.17	5.25
11	Rhizophora Apiculata	20	6.37			5.60	2.63
12	Rhizophora Apiculata	22	7.01			7.20	3.38
13	Rhizophora Apiculata	18	5.73			4.25	2.00
14	Rhizophora Apiculata	23	7.32			8.09	3.80
15	Rhizophora Apiculata	26	8.28			11.17	5.25
16	Rhizophora Apiculata	22	7.01			7.20	3.38
17	Rhizophora Apiculata	15	4.78			2.63	1.24
18	Rhizophora Apiculata	18	5.73			4.25	2.00
19	Acrostichum sp						
Jumlah						104.34	49.04

Nama Plot : 1_14

Nama Lokasi : Tanjung Harapan

Posisi Geografis/GPS :

X : 117.7385282

Y : 4.02925705

No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	avicennia officinalis	20	6.37	Lumpur berpasir	$B = 0.251 \rho (D)^{2.46}$ $\rho = 0.670$	15.99	7.52
2	avicennia officinalis	25	7.96			27.68	13.01
3	avicennia officinalis	12	3.82			4.55	2.14
4	avicennia officinalis	15	4.78			7.88	3.70
5	avicennia officinalis	29	9.24			39.88	18.75
6	avicennia officinalis	30	9.55			43.35	20.38
7	Sonneratia alba	23	7.32		$B = 0.3841(D)^{2.101*\rho}$ $\rho = 0.780$	19.66	9.24
8	Sonneratia alba	31	9.87			36.80	17.30
9	Sonneratia alba	28	8.92			29.71	13.97
10	Sonneratia alba	56	17.83			127.48	59.91
11	Sonneratia alba	67	21.34			185.81	87.33
12	Sonneratia alba	43	13.69	73.18	34.40		
13	Avicennia alba	21	6.69		$B = 0,079211 (D)^{2,470895}$	8.67	4.07
14	Avicennia alba	24	7.64			12.06	5.67
15	Avicennia alba	23	7.32			10.85	5.10
16	Avicennia alba	16	5.10			4.43	2.08
17	Avicennia alba	13	4.14			2.65	1.25
18	Avicennia alba	15	4.78			3.78	1.77
19	Avicennia alba	24	7.64			12.06	5.67
20	Avicennia marina	50	15.92			$B = 0.1848 (D)^{2.3624}$	127.76
21	Avicennia marina	25	7.96	24.85	11.68		
22	Avicennia marina	17	5.41	9.99	4.70		
23	Avicennia marina	9	2.87	2.22	1.05		
24	Avicennia marina	21	6.69	16.46	7.74		
25	Avicennia marina	27	8.60	29.80	14.01		
Jumlah						877.55	412.45

Nama Plot : 1_15

Nama Lokasi : Mamolo

Posisi Geografis/GPS:

X : 117.6644523

Y : 3.96818901

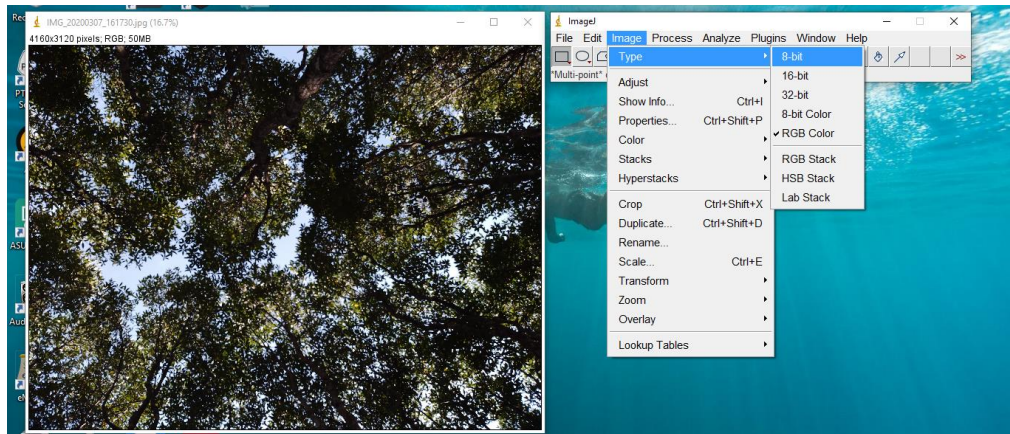
No	Jenis	Lingkar batang (cm)	DBH (cm)	Substrat	Persamaan Alometrik	Biomassa Atas (Kg/m ²)	Karbon (Kg/m ²)
1	Rhizophora apiculata	37	11.78	Lumpur		28.24	13.27
2	Rhizophora apiculata	45	14.33			47.26	22.21
3	Rhizophora apiculata	22	7.01			7.20	3.38
4	Rhizophora apiculata	32	10.19			19.28	9.06
5	Rhizophora apiculata	24	7.64			9.05	4.25
6	Rhizophora apiculata	27	8.60			12.33	5.80
7	Rhizophora apiculata	33	10.51			20.90	9.83
8	Rhizophora apiculata	54	17.20			76.34	35.88
9	Rhizophora apiculata	43	13.69			41.93	19.71
10	Rhizophora apiculata	18	5.73			4.25	2.00
11	Rhizophora apiculata	10	3.18			0.90	0.43
12	Rhizophora apiculata	23	7.32			8.09	3.80
13	Rhizophora apiculata	27	8.60			12.33	5.80
14	Rhizophora apiculata	34	10.83		$B = 0.043 (D)^{2.63}$	22.61	10.63
15	Rhizophora apiculata	37	11.78			28.24	13.27
16	Rhizophora apiculata	31	9.87			17.73	8.34
17	Rhizophora apiculata	64	20.38			119.34	56.09
18	Rhizophora apiculata	24	7.64			9.05	4.25
19	Rhizophora apiculata	27	8.60			12.33	5.80
20	Rhizophora apiculata	32	10.19			19.28	9.06
21	Rhizophora apiculata	38	12.10			30.30	14.24
22	Rhizophora apiculata	29	9.24			14.88	6.99
23	Rhizophora apiculata	25	7.96			10.07	4.73
24	Rhizophora apiculata	24	7.64			9.05	4.25
25	Rhizophora apiculata	38	12.10			30.30	14.24
26	Rhizophora apiculata	46	14.65			50.07	23.53

27	Rhizophora apiculata	40	12.74		34.67	16.30
28	Rhizophora apiculata	42	13.38		39.42	18.53
29	Rhizophora apiculata	37	11.78		28.24	13.27
30	Rhizophora apiculata	42	13.38		39.42	18.53
31	Rhizophora apiculata	33	10.51		20.90	9.83
32	Rhizophora apiculata	38	12.10		30.30	14.24
33	Rhizophora apiculata	34	10.83		22.61	10.63
34	Rhizophora apiculata	19	6.05		4.89	2.30
35	Rhizophora apiculata	15	4.78		2.63	1.24
36	Rhizophora apiculata	20	6.37		5.60	2.63
37	Rhizophora apiculata	26	8.28		11.17	5.25
38	Sonneratia Alba	45	14.33	$B = 0.3841(D)^{2.101} \cdot \rho$	80.52	37.84
39	Sonneratia Alba	39	12.42	$\rho = 0.780$	59.61	28.02
40	Sonneratia Alba	58	18.47		137.23	64.50
41	Sonneratia Alba	47	14.97		88.22	41.46
Jumlah					1266.79	595.39

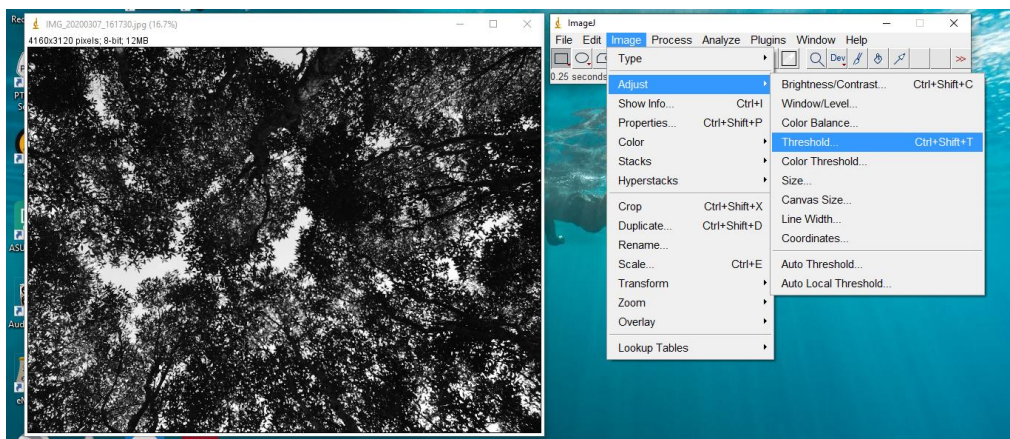
Perhitungan nilai karbon

Stasiun	NDVI	Biomassa 10x10 (kg/ 100m ²)	Biomassa 30x30 (kg/900m ²)	Biomassa 10x10 (toh/ha)	Biomassa pixel 30x30 (ton/ha)	Nilai Karbon (kg/100m ²)	Nilai karbon (ton/ha)	Nilai karbon pixel 30x30 (ton/ha)
1_1	0.704577	2095.27	6285.81	209.53	628.58	984.78	98.48	295.43
1_2	0.700498	1973.65	5920.94	197.36	592.09	927.61	92.76	278.28
1_3	0.747117	1327.79	3983.36	132.78	398.34	624.06	62.41	187.22
1_4	0.752172	2219.44	6658.31	221.94	665.83	1043.14	104.31	312.94
1_5	0.542992	1202.18	3606.55	120.22	360.66	565.03	56.50	169.51
1_6	0.464823	729.32	2187.95	72.93	218.80	342.78	34.28	102.83
1_7	0.483382	1054.27	3162.81	105.43	316.28	495.51	49.55	148.65
1_8	0.365965	733.76	2201.29	73.38	220.13	344.87	34.49	103.46
1_9	0.381934	570.85	1712.55	57.08	171.25	268.30	26.83	80.49
1_10	0.464463	626.25	1878.74	62.62	187.87	294.34	29.43	88.30
1_11	0.651494	1130.51	3391.52	113.05	339.15	531.34	53.13	159.40
1_12	0.543351	795.34	2386.02	79.53	238.60	373.81	37.38	112.14
1_13	0.361292	104.34	313.01	10.43	31.30	49.04	4.90	14.71
1_14	0.457184	877.55	2632.66	87.76	263.27	412.45	41.25	123.74
1_15	0.405776	1266.79	3800.36	126.68	380.04	595.39	59.54	178.62

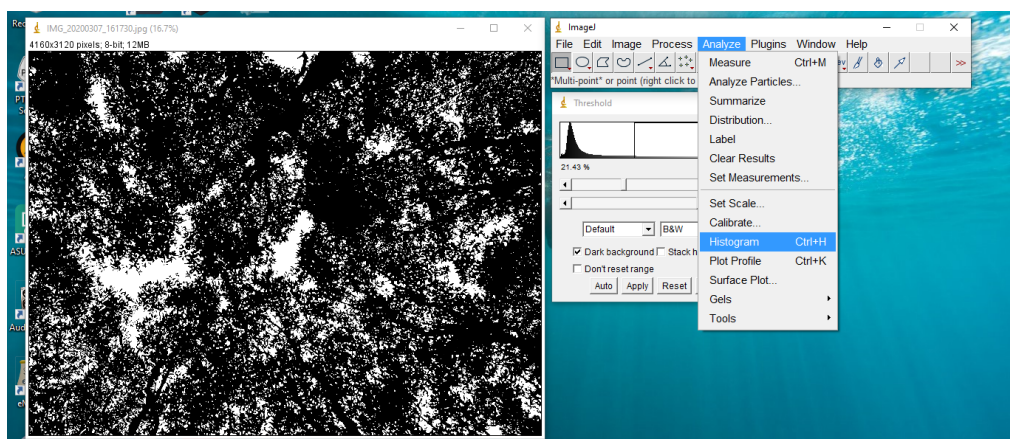
Lampiran 5. Penggunaan perangkat lunak ImageJ untuk menghitung persentase tutupan kanopi



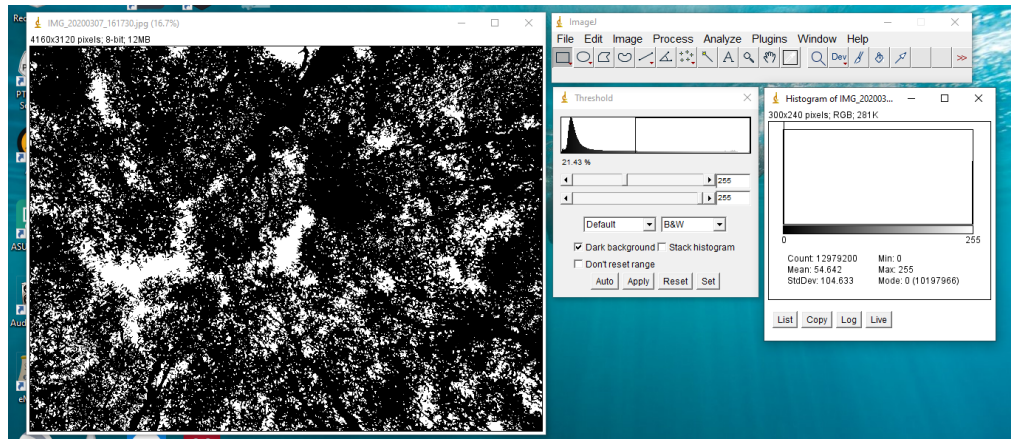
Mengubah foto menjadi format 8-bit



Mengatur ambang batas foto (*Threshold*)



Histogram foto



Keterangan pada histogram: Count adalah jumlah piksel. Mode 0 adalah jumlah piksel bernilai 0 atau piksel berwarna hitam

Lampiran 6. Dokumentasi survei lapangan



Pemasangan tali transek



Pengukuran lingkaran batang pohon mangrove