

DAFTAR PUSTAKA

- Agustina., Andi Utomo, M, D& Damis. 2023. Dampak Penambangan Pasir Terhadap Abrasi Pantai Di Pantai Galesong Kabupaten Takalar Provinsi Sulawesi Selatan. *Jurnal Sains dan Teknologi Perikanan*. Vol. 3 No, : 9-18.
- Aryastana, P., Gusti Agung Putu Eryani, I., & Windy Candrayana, K. 2016. Perubahan Garis Pantai Dengan Citra Satelit Di Kabupaten Gianyar. *Paduraksa*, 5.
- Dahuri, Rohmin Jacob Rais, Sapta Putra Ginting, dan M.J. Sitepu. 2001. Pengelolaan Sumberdaya Wilayah Pesisir dan Lautan Secara Terpadu. Pradnya Paramita. Jakarta.
- Damayanti, A., Ayuningtyas, R., dan Dyah, A. 2010. Pemanfaatan Pantai Karst Kabupaten Gunung Kidul. I-Geography, Fakultas Matematika dan Ilmu Pengetahuan Alam. Universitas Indonesia. *Jurnal Pendidikan MIPA*. Vol 1 (1): 2-8.
- Darmiati, Nurjaya, I. W., & Atmadipoera, A. S. 2020. Analisis Perubahan Garis Pantai Di Wilayah Pantai Barat Kabupaten Tanah Laut Kalimantan Selatan. *Jurnal Ilmu dan Teknologi Kelautan Tropis* vol.12, no.1: 211–222.
- Firdaus, Chaerul, M., & Gusty, S. 2022. Analisis Pengurangan Risiko Bencana Abrasi Pantai DI Kecamatan Galesong Utara Kabupaten Takalar.
- Gemilang, Aulia Surya., Kunarso, dan Gentur Handoyo. 2017. Pola Arus Laut Permukaan Sebelum dan Sesudah Pembangunan Pelabuhan Tanjung Bonang Kabupaten Rembang. *Jurnal Oseanografi*. Vol. 6, no. 2: 359-365.
- Gormant, Laurel., Andrew Morangt, and Robert Larson. 1998. Monitoring the Coastal Environment; Part IV: Mapping, Shoreline Changes, and Bathymetric Analysis. *Journal of Coastal Research*. Vol. 14, no. 1: 61-92.
- Hidayah, Z., dan Suharyo, O. S. 2018. Analisis Perubahan Penggunaan Lahan Wilayah Pesisir Selatan Madura. *Jurnal Ilmiah Rekayasa*. Vol 11, no. 1: 19-30.
- Hidayati.N. 2017. Dinamika Pantai. UB Media: Malang.
- Hutabarat dan Evans. 2012. Pengantar Oseanografi. UI Press: Jakarta.
- Hutabarat S. & S.M. Evans. 1985. Pengantar Oseanografi. UI-Press. Jakarta. 159 hal.
- Isdianto, A., Asyari, I. M., Fairuz Haykal, M., Adibah, F., Irsyad, M. J., & Supriyadi, D. 2020. Analisis Perubahan Garis Pantai dalam Mendukung Ketahanan Ekosistem Pesisir *Analysis Of Shoreline Change In Supporting Coastal Ecosystem Resilience*. *Jukung Jurnal Teknik Lingkungan*, vol. 6, no. 2: 168–181.
- Kalay, Degen E., Villian F.L., dan Yunita A. Noya. 2018. Analisis Kemiringan Lereng Pantai dan Distribusi Sedimen Pantai Perairan Negeri Waai Kecamatan Salahutu Provinsi Maluku. *Jurnal Triton*. Vol. 14, no. 1 : 10-18.
- Kermani, Saci., Makhlof Boutiba, Mostefa Guendouz, Mohamed Said Guettouche, Dalila Khelfani. 2016. *Detection and analysis of shoreline changes using geospatial tools and automatic computation: Case of jijelian sandy coast (East Algeria)*. *Journal Ocean & Coastal Management*. Vol. 1, no.32: 46 – 58.

- Komar, P.D., 1976, *Beach Processes and Sedimentation*. Practice Hall, New Jersey, 429 ha.
- Lubis, Darwin P., Mbina Pinem, dan M.Ali N Simanjuntak. 2017. Analisis Perubahan Garis Pantai dengan Menggunakan Citra Penginderaan Jauh (Studi Kasus Di Kecamatan Talawi Kabupaten Batubara). *Jurnal Geografi*. Vol 9, no. 1: 21 – 31.
- Maiti, Sabyasachi & Amit K. Bhattacharya. 2009. *Shoreline Change Analysis And Its Application To Prediction: A Remote Sensing And Statistics Based Approach*. *Jurnal Marine Geology*. 257 Hal: 11–23.
- Martoyo, E., Hidayat, M., Achmad, R. T., & Abdu, M. S. 2017. Membandingkan Ketelitian Citra Google Earth Terhadap Hasil Pengukuran Lapangan. *Geoplanart*. Vol 1, no. 2: 21-35.
- Murphey PL, Fonseca MS.1995. *Role of high and low energy seagrass beds as nursery areas for Penaeus duorarum in North Carolina*. *MarEco1Prog Ser* 121:91-98.
- Muthmainnah, M., Rudi, L & Rimba, A. 2022. Upaya Mitigasi Bencana Abrasi Pada Kawasan Pesisir Desa Aeng Batu-Batu, Kecamatan Galesong Utara, Kabupaten Takalar. *Journal of Urban Planning Studies*. Vol 2, no, 3. Hal: 208-218.
- Mutmainah, H., Christiana, D. W., & Kusumah, G. 2016. Tsunami Mentawai 25 Oktober 2010 (Simulasi Comcot 1.7) dan Dampaknya Kini terhadap Pantai Barat Mentawai. *Jurnal Kelautan: Indonesian Journal of Marine Science and Technology*. Vol.9, no. 2: 175–187.
- Opa, E. T. 2011. Perubahan Garis Pantai Desa Bentenan Kecamatan Pusomaen, Minahasa Tenggara. *Jurnal Perikanan dan Kelautan Tropis*. Vol 7, no. 3: 109-114.
- Pananrangi, A. I. 2011. Pemanfaatan Lahan Kawasan Pesisir Galesong Berbasis Analisis Resiko Bencana Abrasi. UIN Alauddin Makassar.
- Pethick. 1997. *An Introduction to Coastal Geomorphology*. Edward Arnold a Division of Holder and Stoughton. London. 260 Pages.
- Purba, M. & Jaya, I. 2004. Analisis Perubahan Garis Pantai dan Penutupan Lahan antara Way Penet dan Way Sekampung, Kabupaten Lampung Timur. *Jurnal Ilmu Perairan dan Perikanan Indonesia*. 11(2):109-121.
- Qhomariyah Lailatul & Yuwono. 2016. Analisa Hubungan antara Pasang Surut Air Laut dengan Sedimentasi yang Terbentuk. *Jurnal Teknik ITS*. Vol 5, no 1: 2337-3539.
- Rifardi. 2012. *Ekologi Sedimen Laut Modern*. Ur Press: Riau.
- Risnawati. 2021. Arah Pemanfaatan Lahan di Pesisir Pantai Galesong Utara Kabupaten Takalar. Jurusan Teknik PWK. Fakultas Sains dan Teknologi UIN Alauddin Makassar.
- Sari, L.P., Muliadi, dan Risiko. 2020. Estimasi Tinggi Gelombang Laut di Perairan Pantai Kijing Kabupaten Mempawah Kalimantan Barat. *Prisma Fisika*. Vol. 8, no. 1: Hal. 50 —56.
- Setiani, M. F. D.A. 2017. Deteksi Perubahan Garis Pantai Menggunakan Digitasi Shoreline Analysis System (DSAS) di Pesisir Timur Kabupaten Probolinggo, Jawa Timur. Universitas Brawijaya.

- Suharyo, O. S., & Hidayah, Z. 2019. Pemanfaatan Citra Satelit Resolusi Tinggi Untuk Identifikasi Perubahan Garis Pantai Pesisir Utara Surabaya. *Jurnal Kelautan: Indonesian Journal of Marine Science and Technology*. Vol. 12, no. 1: 89-72.
- Sutikno, 1993. Karakteristik Bentuk dan Geologi Pantai di Indonesia. DIKLAT PU WIL III. Dirjen Pengairan Pepartemen PU. Bentuk dan Geologi Pantai di Indonesia. DIKLAT PU WIL III. Dirjen Pengairan Pepartemen PU. Yogyakarta. 51 Hal.
- Tokndekut. R. 2013. Distribusi Spasial Sedimen Pesisir Pada Teluk Ambon Dalam. Skripsi. Fakultas Perikanan dan Ilmu Kelautan. Universitas Pattimura Ambon.
- Trenggono M. 2009. Transformasi gelombang laut dan pengaruhnya terhadap dinamika Pantai Muara Ajkwa tahun 1993 – 2007. Bogor : Institut Pertanian Bogor.
- Triatmodjo, B. 1999. Teknik Pantai. Beta Offset. Yogyakarta.
- Umami, K., Harahap, S. A., Syamsudin, M. L., & Sunarto. 2018. Aplikasi Citra Landsat dalam Analisis Perubahan Garis Pantai (Studi Kasus di Pesisir Sayung, Kabupaten Demak, Jawa Tengah). *Seminar Nasional Geomatika*, 919-928.
- Umar, Zahrul., Wan Abdul Aziz Wan Mohd Akib & Anuar Ahmad. 2013. *Monitoring Shoreline Change using Remote Sensing and GIS: A Case Study of Padang 46 Coastal Area, Indonesia. IEEE 9th International Colloquium on Signal Processing and its Applications*. Hal 280 – 284.
- Wahyuni. 2018. Perilaku Masyarakat Nelayan Di Desa Tamasaju Kecamatan Galesong Utara Kabupaten Takalar. Skripsi. Jurusan Agribisnis, Fakultas Pertanian Universitas Muhammadiyah Makassar.
- Wisha, U. J., & Aida, H. (2016a). Analysis of Tidal Range and Its Effect on Distribution of Total Suspended Solid (TSS) in the Pare Bay Waters. *Jurnal Kelautan*.9(1), 23-31.
- Sudarsono, B. (2011). Inventarisasi Perubahan Wilayah Pantai dengan Metode Penginderaan Jauh (Studi Kasus Kota Semarang). *TEKNIK*, 32(2), 162–169.
- Arief, M., Winarso, G., & Prayogo, T. (2011). Kajian Perubahan Garis Pantai Menggunakan Data Satelit Landsat di Kabupaten Kendal. *Jurnal Penginderaan Jauh*, 8, 71–80.
- Shuhendry. 2004. Tesis: Abrasi Pantai di Wilayah Pesisir Kota Bengkulu (Analisis Faktor Penyebab dan Konsep Penanggulangannya). Universitas Diponegoro, Semarang

LAMPIRAN

Lampiran 1. Data Primer Pengukuran Gelombang

Keadaan Menuju Pasang Hari 1

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	ST 1	ST 2	ST 3	ST 4
1	98	97	98	96	96	93	95	93	1	2	3	2
2	103	102	107	102	98	96	101	97	1	5	2	4
3	102	100	103	100	102	99	98	95	2	3	3	3
4	98	96	106	101	100	97	102	98	2	5	3	4
5	100	98	101	97	97	95	101	95	2	4	2	6
6	106	101	100	97	98	96	96	92	5	3	2	4
7	105	100	100	97	101	97	99	95	5	3	4	4
8	100	98	101	98	98	96	97	94	2	3	2	3
9	104	102	103	100	101	97	97	95	2	3	4	2
10	106	101	103	99	99	98	100	95	5	4	1	5
11	100	98	100	98	97	94	100	93	2	2	3	7
12	102	99	98	96	100	97	100	94	3	2	3	6
13	103	102	101	96	102	99	100	97	1	5	3	3
14	106	103	103	100	102	97	101	92	3	3	5	9
15	98	95	101	100	103	98	100	94	3	1	5	6
16	100	97	103	100	100	97	97	92	3	3	3	5
17	100	97	103	97	97	93	99	94	3	6	4	5
18	103	100	103	100	103	98	106	98	3	3	5	8
19	104	102	105	103	98	95	100	93	2	2	3	7
20	100	98	105	103	101	99	96	94	2	2	2	2
21	100	97	105	102	98	96	97	93	3	3	2	4

22	106	102	105	102	96	93	99	98	4	3	3	1
23	108	103	101	99	101	99	99	95	5	2	2	4
24	99	96	103	100	103	100	97	93	3	3	3	4
25	102	100	104	100	104	102	100	97	2	4	2	3
26	103	99	100	97	102	98	97	94	4	3	4	3
27	101	97	103	100	98	96	94	90	4	3	2	4
28	100	98	100	97	98	93	99	97	2	3	5	2
29	103	96	101	98	101	97	100	96	7	3	4	4
30	100	99	101	99	101	98	101	98	1	2	3	3
31	102	90	106	105	97	95	98	96	12	1	2	2
32	103	101	104	101	98	95	97	95	2	3	3	2
33	104	99	101	98	98	95	100	98	5	3	3	2
34	108	102	100	96	102	100	103	97	6	4	2	6
35	102	98	105	102	103	100	107	99	4	3	3	8
36	100	99	103	100	105	102	101	97	1	3	3	4
37	100	97	100	98	104	101	101	97	3	2	3	4
38	104	95	104	101	104	100	104	101	9	3	4	3
39	103	99	101	97	102	97	103	99	4	4	5	4
40	101	99	100	97	96	93	101	97	2	3	3	4
41	102	99	103	98	98	94	98	96	3	5	4	2
42	104	102	104	101	100	97	103	96	2	3	3	7
43	107	100	107	104	99	95	95	92	7	3	4	3
44	101	97	101	97	99	97	103	96	4	4	2	7
45	104	102	105	103	100	97	96	95	2	2	3	1
46	106	101	103	100	99	98	98	93	5	3	1	5
47	101	97	102	97	107	102	103	92	4	5	5	11
48	106	104	101	98	103	99	98	96	2	3	4	2

49	108	106	98	95	95	93	96	93	2	3	2	3
50	101	99	104	100	94	92	98	97	2	4	2	1
51	99	98	104	101	99	97	99	96	1	3	2	3
H 1/3	T	T1/3										
5,76471	3,64706	4,01176										
0,17647	2,47059	2,71765										
0,17647	1,76471	1,94118										
0,29412	2,58824	2,84706										

Keadaan Menuju Pasang Hari 2

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	ST 1	ST 2	ST 3	ST 4
1	112	111	119	101	118	109	114	103	1	18	9	11
2	111	106	113	111	118	114	113	105	5	2	4	8
3	112	109	111	110	118	112	106	102	3	1	6	4
4	109	107	112	109	120	113	111	106	2	3	7	5
5	112	111	109	107	113	111	108	105	1	2	2	3
6	111	105	112	105	119	108	109	104	6	7	11	5
7	110	106	115	107	118	111	111	105	4	8	7	6
8	112	108	113	110	118	115	109	105	4	3	3	4
9	115	110	110	105	115	112	108	106	5	5	3	2
10	114	112	112	106	117	112	112	107	2	6	5	5
11	111	105	114	106	117	112	110	101	6	8	5	9
12	120	105	108	107	114	109	111	105	15	1	5	6
13	105	103	114	110	117	112	109	103	2	4	5	6

14	108	106	111	109	119	114	110	102	2	2	5	8
15	116	111	111	109	117	110	111	108	5	2	7	3
16	113	110	116	109	115	112	110	107	3	7	3	3
17	113	110	109	103	119	115	114	106	3	6	4	8
18	115	112	109	103	115	111	108	103	3	6	4	5
19	112	109	111	106	117	108	110	107	3	5	9	3
20	111	108	114	110	118	111	109	102	3	4	7	7
21	110	108	110	105	116	114	112	107	2	5	2	5
22	114	107	110	106	119	115	118	109	7	4	4	9
23	112	110	108	106	115	112	109	102	2	2	3	7
24	117	109	116	111	119	109	115	103	8	5	10	12
25	110	109	111	107	116	112	113	106	1	4	4	7
26	110	109	118	107	115	114	111	107	1	11	1	4
27	111	105	107	102	114	110	113	101	6	5	4	12
28	112	109	115	102	115	108	109	102	3	13	7	7
29	115	112	124	119	122	113	112	108	3	5	9	4
30	118	113	118	114	113	111	111	105	5	4	2	6
31	115	106	114	106	114	111	107	103	9	8	3	4
32	108	106	110	105	120	108	114	102	2	5	12	12
33	111	109	105	103	123	114	112	104	2	2	9	8
34	110	107	113	111	114	112	110	109	3	2	2	1
35	114	106	113	112	115	113	111	105	8	1	2	6
36	111	110	118	110	116	111	112	105	1	8	5	7
37	112	107	110	106	115	112	110	103	5	4	3	7
38	112	109	116	105	116	113	112	109	3	11	3	3
39	112	106	108	105	120	111	109	107	6	3	9	2

40	112	108	119	113	114	110	115	111	4	6	4	4
41	115	112	113	108	114	112	111	106	3	5	2	5
42	115	111	115	111	118	111	112	109	4	4	7	3
43	111	108	113	109	116	112	115	101	3	4	4	14
44	110	108	115	106	116	112	114	106	2	9	4	8
45	108	105	116	107	115	111	111	106	3	9	4	5
46	112	110	115	112	115	112	114	107	2	3	3	7
47	113	111	118	105	116	114	112	108	2	13	2	4
48	111	108	113	106	117	109	109	107	3	7	8	2
49	112	109	114	106	113	109	114	106	3	8	4	8
50	112	109	117	108	119	111	110	108	3	9	8	2
51	115	112	113	108	118	111	112	107	3	5	7	5
H	T	T1/3										
6,352941	2,811765	3,092941										
9,411765	2,894118	3,183529										
8,411765	2,752941	3,028235										
9,117647	2,917647	3,209412										

Keadaan Menuju Pasang Hari 3

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	ST 1	ST 2	ST 3	ST 4
1	106	102	111	107	104	102	108	103	4	4	2	5
2	102	99	107	98	102	100	108	98	3	9	2	10
3	103	97	111	105	105	100	111	102	6	6	5	9
4	109	103	111	102	104	100	104	102	6	9	4	2
5	103	101	108	105	110	98	110	105	2	3	12	5

6	108	101	113	110	102	99	106	103	7	3	3	3
7	111	98	110	104	107	104	108	105	13	6	3	3
8	106	102	111	104	104	97	105	103	4	7	7	2
9	102	99	104	101	103	100	106	102	3	3	3	4
10	106	94	106	102	108	105	111	103	12	4	3	8
11	104	100	113	111	105	100	103	102	4	2	5	1
12	105	101	111	104	108	99	113	104	4	7	9	9
13	108	102	112	111	109	100	104	102	6	1	9	2
14	102	97	111	106	100	98	104	100	5	5	2	4
15	108	98	106	102	103	99	111	110	10	4	4	1
16	109	103	102	101	105	102	111	106	6	1	3	5
17	105	100	116	112	102	100	106	102	5	4	2	4
18	112	100	112	105	108	98	103	102	12	7	10	1
19	107	96	112	106	109	96	109	106	11	6	13	3
20	115	99	122	105	111	98	106	100	16	17	13	6
21	112	101	108	102	103	99	107	104	11	6	4	3
22	106	104	112	102	107	102	104	102	2	10	5	2
23	104	102	115	112	102	96	104	102	2	3	6	2
24	104	102	112	108	107	102	113	107	2	4	5	6
25	107	102	110	108	102	100	107	103	5	2	2	4
26	107	103	108	105	105	102	109	103	4	3	3	6
27	107	102	113	108	109	100	103	100	5	5	9	3
28	106	103	108	104	105	102	110	103	3	4	3	7
29	108	105	116	105	107	104	108	106	3	11	3	2
30	105	102	110	100	104	98	106	102	3	10	6	4
31	109	107	108	103	103	102	112	105	2	5	1	7

32	107	102	111	107	105	102	106	105	5	4	3	1
33	102	100	116	111	107	99	109	108	2	5	8	1
34	106	102	111	106	104	102	108	100	4	5	2	8
35	106	104	109	106	106	103	108	99	2	3	3	9
36	104	98	106	102	103	99	111	107	6	4	4	4
37	113	102	113	108	106	103	109	102	11	5	3	7
38	113	99	108	102	103	97	114	107	14	6	6	7
39	109	100	115	106	106	102	107	102	9	9	4	5
40	108	100	106	102	102	100	112	102	8	4	2	10
41	111	109	114	106	115	102	108	102	2	8	13	6
42	109	103	109	105	104	103	103	102	6	4	1	1
43	103	101	111	105	106	103	104	96	2	6	3	8
44	109	105	108	102	105	102	113	104	4	6	3	9
45	105	100	108	107	103	102	111	105	5	1	1	6
46	107	104	111	110	103	100	108	100	3	1	3	8
47	108	99	113	102	103	100	105	100	9	11	3	5
48	105	99	112	104	107	105	110	102	6	8	2	8
49	113	100	104	101	105	102	108	104	13	3	3	4
50	115	102	113	108	102	100	104	102	13	5	2	2
51	109	99	108	105	104	100	107	106	10	3	4	1
H	T	T1/3										
10,88235	2,694118	2,963529										
8,647059	2,635294	2,898824										
8,294118	2,482353	2,730588										
8	2,541176	2,795294										

Keadaan Pasang Hari 1

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	100	97	97	94	102	100	103	98	3	3	2	5
2	97	96	100	99	104	100	106	103	1	1	4	3
3	99	95	99	96	100	97	104	101	4	3	3	3
4	101	99	98	95	101	98	100	97	2	3	3	3
5	110	96	96	95	101	97	98	94	14	1	4	4
6	99	96	100	98	104	92	98	96	3	2	12	2
7	97	96	98	96	102	100	106	104	1	2	2	2
8	100	98	100	95	105	103	106	103	2	5	2	3
9	100	98	98	95	100	97	106	103	2	3	3	3
10	97	96	97	94	99	97	104	102	1	3	2	2
11	103	101	101	99	100	99	101	100	2	2	1	1
12	111	109	104	101	99	97	99	96	2	3	2	3
13	109	108	100	96	105	102	97	94	1	4	3	3
14	110	107	96	93	101	97	96	94	3	3	4	2
15	107	104	99	96	100	98	102	99	3	3	2	3
16	108	106	97	95	102	99	104	101	2	2	3	3
17	102	99	97	94	100	95	100	99	3	3	5	1
18	100	98	101	99	108	105	97	95	2	2	3	2
19	100	98	101	97	105	101	103	98	2	4	4	5
20	100	96	97	94	100	98	100	97	4	3	2	3
21	98	95	112	99	99	97	107	104	3	13	2	3
22	97	95	99	97	103	101	101	100	2	2	2	1
23	100	98	97	94	101	99	106	101	2	3	2	5

24	99	95	97	96	100	98	100	97	4	1	2	3
25	96	95	99	96	104	102	97	95	1	3	2	2
26	100	97	97	95	100	99	99	97	3	2	1	2
27	97	95	112	97	99	97	100	96	2	15	2	4
28	99	97	97	93	105	101	98	94	2	4	4	4
29	99	98	103	102	100	97	99	97	1	1	3	2
30	113	96	101	96	99	95	103	101	17	5	4	2
31	100	96	96	93	104	102	101	99	4	3	2	2
32	97	95	97	95	105	101	98	96	2	2	4	2
33	98	97	99	98	99	95	99	96	1	1	4	3
34	100	97	98	96	105	99	103	100	3	2	6	3
35	99	96	97	95	101	97	105	101	3	2	4	4
36	99	97	101	99	104	99	102	98	2	2	5	4
37	102	99	102	98	103	100	99	96	3	4	3	3
38	99	95	99	96	100	97	99	96	4	3	3	3
39	97	95	98	96	100	97	106	103	2	2	3	3
40	106	103	98	96	102	99	104	95	3	2	3	9
41	103	100	99	93	100	98	99	95	3	6	2	4
42	97	96	98	96	102	98	97	96	1	2	4	1
43	100	98	98	96	102	97	102	101	2	2	5	1
44	99	96	103	99	99	96	106	101	3	4	3	5
45	103	99	96	93	101	97	103	100	4	3	4	3
46	99	96	101	97	102	98	105	102	3	4	4	3
47	96	94	97	93	101	99	102	98	2	4	2	4
48	104	101	102	100	103	99	100	95	3	2	4	5
49	101	97	100	96	102	98	101	99	4	4	4	2
50	98	95	98	95	101	95	104	96	3	3	6	8

51	99	97	101	98	98	94	105	103	2	3	4	2
H	T	T1/3										
4,882353	1,588235	1,747059										
5,176471	1,529412	1,682353										
4,882353	1,870588	2,057647										
4,647059	0,658824	0,724706										

Keadaan Pasang Hari 2

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	94	93	110	107	99	96	111	90	1	3	3	21
2	98	95	114	103	100	98	97	94	3	11	2	3
3	100	96	106	102	98	96	99	97	4	4	2	2
4	97	95	108	105	103	96	98	92	2	3	7	6
5	99	92	106	102	98	95	108	95	7	4	3	13
6	98	96	114	102	99	94	99	97	2	12	5	2
7	99	97	114	107	101	97	97	94	2	7	4	3
8	97	96	106	102	94	93	103	95	1	4	1	8
9	101	96	108	102	99	96	104	96	5	6	3	8
10	96	94	106	103	100	98	103	93	2	3	2	10
11	101	98	113	101	102	100	98	96	3	12	2	2
12	102	96	111	106	109	93	101	96	6	5	16	5
13	97	92	108	105	103	96	97	95	5	3	7	2
14	102	99	106	103	98	97	97	96	3	3	1	1
15	107	102	108	105	98	94	98	95	5	3	4	3
16	99	93	102	99	102	96	101	98	6	3	6	3

17	101	98	103	98	99	96	98	96	3	5	3	2
18	98	96	106	103	102	97	103	99	2	3	5	4
19	101	99	109	101	100	95	99	96	2	8	5	3
20	100	99	103	101	98	94	101	99	1	2	4	2
21	101	95	114	106	99	93	98	94	6	8	6	4
22	103	97	111	102	101	99	104	92	6	9	2	12
23	99	94	110	102	104	101	97	96	5	8	3	1
24	104	99	104	101	101	93	98	96	5	3	8	2
25	99	96	111	108	104	96	101	94	3	3	8	7
26	101	98	106	102	100	98	102	99	3	4	2	3
27	104	100	108	103	101	96	101	93	4	5	5	8
28	100	96	112	101	99	94	106	92	4	11	5	14
29	96	94	103	102	104	93	105	98	2	1	11	7
30	102	96	111	98	104	94	103	96	6	13	10	7
31	97	94	104	101	101	95	96	94	3	3	6	2
32	95	93	107	102	99	96	100	96	2	5	3	4
33	104	101	119	105	104	95	94	91	3	14	9	3
34	102	98	111	102	101	96	105	93	4	9	5	12
35	103	98	105	99	105	97	98	95	5	6	8	3
36	98	96	118	105	100	97	99	94	2	13	3	5
37	97	95	117	111	100	96	97	93	2	6	4	4
38	104	97	103	98	100	98	104	95	7	5	2	9
39	96	94	111	99	99	96	97	92	2	12	3	5
40	101	96	115	109	104	102	104	93	5	6	2	11
41	110	105	113	106	108	97	97	94	5	7	11	3
42	107	102	112	104	98	94	103	99	5	8	4	4
43	95	93	106	101	98	96	99	92	2	5	2	7

44	95	93	110	102	103	99	100	98	2	8	4	2
45	101	96	108	103	98	95	102	101	5	5	3	1
46	100	94	112	104	104	101	102	97	6	8	3	5
47	97	94	112	103	101	97	98	94	3	9	4	4
48	105	100	109	106	99	93	100	96	5	3	6	4
49	102	97	111	107	109	93	101	95	5	4	16	6
50	110	104	110	102	101	96	100	99	6	8	5	1
51	104	99	119	102	103	97	98	96	5	17	6	2
H	T	T1/3										
5,647059	1,494118	1,643529										
10,70588	2,847059	3,131765										
8,588235	2,6	2,86										
9,764706	2,470588	2,717647										

Keadaan Pasang Hari 3

NO	St 1		St 2		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	94	93	110	107	99	96	99	96	111	90	5	3	3	2
2	98	95	114	103	100	98	100	98	97	94	3	2	1	2
3	100	96	106	102	98	96	98	96	99	97	4	2	2	3
4	97	95	108	105	103	96	103	96	98	92	5	3	3	5
5	99	92	106	102	98	95	98	95	108	95	3	3	1	1
6	98	96	114	102	99	94	99	94	99	97	12	3	3	4
7	99	97	114	107	101	97	101	97	97	94	1	4	2	3
8	97	96	106	102	94	93	94	93	103	95	2	9	2	4
9	101	96	108	102	99	96	99	96	104	96	4	4	5	8

10	96	94	106	103	100	98	100	98	103	93	3	6	3	3
11	101	98	113	101	102	100	102	100	98	96	4	4	2	6
12	102	96	111	106	109	93	109	93	101	96	2	3	2	4
13	97	92	108	105	103	96	103	96	97	95	1	5	2	2
14	102	99	106	103	98	97	98	97	97	96	3	2	1	4
15	107	102	108	105	98	94	98	94	98	95	5	3	2	4
16	99	93	102	99	102	96	102	96	101	98	5	3	1	3
17	101	98	103	98	99	96	99	96	98	96	2	3	3	2
18	98	96	106	103	102	97	102	97	103	99	2	4	2	2
19	101	99	109	101	100	95	100	95	99	96	3	3	2	4
20	100	99	103	101	98	94	98	94	101	99	3	3	3	4
21	101	95	114	106	99	93	99	93	98	94	1	5	3	3
22	103	97	111	102	101	99	101	99	104	92	7	3	4	3
23	99	94	110	102	104	101	104	101	97	96	2	2	2	2
24	104	99	104	101	101	93	101	93	98	96	3	3	5	8
25	99	96	111	108	104	96	104	96	101	94	4	4	3	4
26	101	98	106	102	100	98	100	98	102	99	4	9	1	6
27	104	100	108	103	101	96	101	96	101	93	5	4	4	3
28	100	96	112	101	99	94	99	94	106	92	3	4	4	2
29	96	94	103	102	104	93	104	93	105	98	3	4	2	1
30	102	96	111	98	104	94	104	94	103	96	2	6	2	6
31	97	94	104	101	101	95	101	95	96	94	6	8	8	3
32	95	93	107	102	99	96	99	96	100	96	7	4	4	3
33	104	101	119	105	104	95	104	95	94	91	5	3	3	3
34	102	98	111	102	101	96	101	96	105	93	3	2	2	9
35	103	98	105	99	105	97	105	97	98	95	3	3	5	6
36	98	96	118	105	100	97	100	97	99	94	7	6	9	4

37	97	95	117	111	100	96	100	96	97	93	2	2	3	2
38	104	97	103	98	100	98	100	98	104	95	6	4	3	2
39	96	94	111	99	99	96	99	96	97	92	3	3	4	9
40	101	96	115	109	104	102	104	102	104	93	4	3	5	2
41	110	105	113	106	108	97	108	97	97	94	4	5	2	5
42	107	102	112	104	98	94	98	94	103	99	2	4	1	5
43	95	93	106	101	98	96	98	96	99	92	2	8	1	2
44	95	93	110	102	103	99	103	99	100	98	3	3	3	7
45	101	96	108	103	98	95	98	95	102	101	3	6	2	2
46	100	94	112	104	104	101	104	101	102	97	3	20	6	3
47	97	94	112	103	101	97	101	97	98	94	3	10	2	2
48	105	100	109	106	99	93	99	93	100	96	2	10	6	3
49	102	97	111	107	109	93	109	93	101	95	4	6	3	4
50	110	104	110	102	101	96	101	96	100	99	3	4	2	6
51	104	99	119	102	103	97	103	97	98	96	1	2	1	5
H	T	T1/3												
5,588235	2	2,2												
7,470588	1,494118	1,643529												
4,764706	1,364706	1,501176												
6,058824	1,529412	1,682353												

Keadaan Menuju Surut Hari 1

NO	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	103	90	97	95	101	97	100	89	13	2	4	11
2	94	89	107	100	108	101	103	91	5	7	7	12

3	90	89	106	97	101	96	91	90	1	9	5	1
4	99	87	97	95	105	103	101	93	12	2	2	8
5	100	89	105	100	103	93	107	91	11	5	10	16
6	103	93	100	98	109	101	91	87	10	2	8	4
7	96	94	107	102	101	89	101	96	2	5	12	5
8	98	95	101	99	108	101	101	92	3	2	7	9
9	98	83	109	100	101	97	97	93	15	9	4	4
10	110	81	110	102	112	97	98	95	29	8	15	3
11	100	90	103	99	100	90	98	88	10	4	10	10
12	102	91	99	98	108	102	101	92	11	1	6	9
13	91	86	104	101	102	97	94	90	5	3	5	4
14	105	87	101	97	103	96	99	93	18	4	7	6
15	105	91	105	100	103	94	101	92	14	5	9	9
16	91	85	100	99	107	98	99	93	6	1	9	6
17	102	89	106	99	110	94	93	91	13	7	16	2
18	102	98	103	98	106	98	100	94	4	5	8	6
19	98	85	107	96	100	98	97	94	13	11	2	3
20	98	97	104	99	102	95	97	96	1	5	7	1
21	99	95	101	97	102	98	100	91	4	4	4	9
22	98	89	104	102	107	101	95	91	9	2	6	4
23	107	82	105	99	101	100	97	91	25	6	1	6
24	105	87	101	98	102	97	97	96	18	3	5	1
25	99	90	110	100	104	95	103	96	9	10	9	7
26	90	88	105	100	110	96	100	97	2	5	14	3
27	102	96	100	98	96	94	97	80	6	2	2	17
28	100	94	110	102	101	98	101	92	6	8	3	9

29	94	90	102	98	105	100	100	87	4	4	5	13
30	100	94	109	101	104	95	97	96	6	8	9	1
31	94	87	101	99	105	97	100	89	7	2	8	11
32	98	97	104	100	106	95	99	88	1	4	11	11
33	99	93	104	100	97	93	102	94	6	4	4	8
34	93	90	105	98	106	98	97	95	3	7	8	2
35	99	95	107	104	107	98	99	88	4	3	9	11
36	95	93	104	100	113	92	93	86	2	4	21	7
37	93	90	100	95	106	99	98	94	3	5	7	4
38	97	84	107	101	101	96	94	87	13	6	5	7
39	101	91	105	98	101	99	95	92	10	7	2	3
40	102	94	111	102	104	96	100	90	8	9	8	10
41	94	91	102	97	96	94	99	92	3	5	2	7
42	97	93	104	101	102	99	102	91	4	3	3	11
43	99	87	108	104	99	95	95	92	12	4	4	3
44	101	88	109	105	104	90	103	91	13	4	14	12
45	109	96	105	99	108	100	100	92	13	6	8	8
46	96	94	103	102	100	98	93	87	2	1	2	6
47	95	91	111	105	105	99	94	86	4	6	6	8
48	99	84	107	104	99	97	101	91	15	3	2	10
49	105	87	104	98	100	98	96	86	18	6	2	10
50	88	86	108	101	101	97	97	88	2	7	4	9
51	101	84	101	97	104	86	98	92	17	4	18	6
H	T	T1/3										
15,94118	1,647059	18,11765										
7,705882	2,505882	27,56471										
11,88235	1,411765	15,52941										

11,29412	1,823529	20,05882
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Keadaan Menuju Surut Hari 2

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	107	105	114	111	115	113	112	108	13	2	4	11
2	110	109	119	115	111	109	113	106	5	7	7	12
3	113	110	111	106	115	112	112	110	1	9	5	1
4	114	112	112	109	115	106	114	107	12	2	2	8
5	114	110	113	111	111	109	115	112	11	5	10	16
6	114	113	114	112	112	108	118	111	10	2	8	4
7	110	109	113	107	108	103	113	108	2	5	12	5
8	110	108	107	104	114	110	115	112	3	2	7	9
9	116	110	120	117	112	108	112	108	15	9	4	4
10	113	111	119	114	113	110	110	108	29	8	15	3
11	113	110	115	113	112	108	110	105	10	4	10	10
12	110	98	128	113	113	109	108	105	11	1	6	9
13	115	111	106	103	119	117	113	105	5	3	5	4
14	112	109	119	108	117	112	113	110	18	4	7	6
15	121	109	113	111	111	105	118	113	14	5	9	9
16	109	107	115	113	114	110	115	107	6	1	9	6
17	109	107	123	116	116	107	111	106	13	7	16	2
18	109	107	118	112	110	109	117	108	4	5	8	6
19	115	112	113	112	111	108	113	107	13	11	2	3
20	111	109	117	113	114	110	112	107	1	5	7	1
21	115	103	113	107	111	107	113	110	4	4	4	9

22	117	112	112	106	112	108	109	104	9	2	6	4
23	114	111	123	114	114	111	113	110	25	6	1	6
24	111	110	115	110	115	112	122	107	18	3	5	1
25	112	110	118	111	113	110	110	107	9	10	9	7
26	118	110	111	108	111	102	114	108	2	5	14	3
27	110	108	110	108	111	108	111	108	6	2	2	17
28	110	106	114	111	113	110	114	110	6	8	3	9
29	114	107	110	107	115	112	110	108	4	4	5	13
30	118	110	120	111	113	109	115	110	6	8	9	1
31	116	110	116	113	111	108	116	113	7	2	8	11
32	114	106	112	109	110	107	114	108	1	4	11	11
33	118	114	110	108	111	107	113	109	6	4	4	8
34	118	115	120	111	112	110	112	109	3	7	8	2
35	119	111	110	109	115	113	111	108	4	3	9	11
36	113	109	117	115	113	106	112	107	2	4	21	7
37	110	107	120	118	110	108	112	107	3	5	7	4
38	112	110	117	112	112	109	110	106	13	6	5	7
39	114	112	113	110	111	109	112	110	10	7	2	3
40	115	107	114	111	110	107	117	111	8	9	8	10
41	109	106	115	111	112	109	111	106	3	5	2	7
42	111	110	113	107	112	108	110	108	4	3	3	11
43	120	112	111	109	110	103	114	109	12	4	4	3
44	113	104	120	117	118	112	114	111	13	4	14	12
45	119	116	112	109	117	113	113	109	13	6	8	8
46	116	107	120	116	114	113	115	110	2	1	2	6
47	109	108	112	109	110	108	109	108	4	6	6	8

48	115	109	117	112	114	110	115	111	15	3	2	10
49	112	108	114	113	112	110	113	110	18	6	2	10
50	114	108	114	112	110	107	114	112	2	7	4	9
51	115	114	115	109	110	105	115	110	17	4	18	6
H	T	T1/3										
8,117647	1,294118	1,423529										
7,235294	1,364706	1,501176										
5,647059	1,294118	1,423529										
6,764706	1,294118	1,423529										

Keadaan Menuju Surut Hari 3

NO	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEBAH	PUNCAK	LEBAH	PUNCAK	LEBAH	PUNCAK	LEBAH	ST 1	ST 2	ST 3	ST 4
1	94	93	110	107	99	96	111	90	2	11	2	15
2	98	95	114	103	100	98	97	94	2	3	3	8
3	100	96	106	102	98	96	99	97	4	8	4	2
4	97	95	108	105	103	96	98	92	3	6	2	5
5	99	92	106	102	98	95	108	95	4	6	5	7
6	98	96	114	102	99	94	99	97	5	2	3	7
7	99	97	114	107	101	97	97	94	6	23	6	5
8	97	96	106	102	94	93	103	95	6	5	10	5
9	101	96	108	102	99	96	104	96	5	3	13	4
10	96	94	106	103	100	98	103	93	17	3	19	10
11	101	98	113	101	102	100	98	96	7	16	5	6
12	102	96	111	106	109	93	101	96	8	13	2	4
13	97	92	108	105	103	96	97	95	2	12	3	8

14	102	99	106	103	98	97	97	96	3	4	10	3
15	107	102	108	105	98	94	98	95	3	3	11	16
16	99	93	102	99	102	96	101	98	4	17	5	15
17	101	98	103	98	99	96	98	96	12	3	2	4
18	98	96	106	103	102	97	103	99	14	4	18	3
19	101	99	109	101	100	95	99	96	5	2	13	9
20	100	99	103	101	98	94	101	99	7	9	15	12
21	101	95	114	106	99	93	98	94	2	2	15	8
22	103	97	111	102	101	99	104	92	8	9	2	7
23	99	94	110	102	104	101	97	96	8	14	12	4
24	104	99	104	101	101	93	98	96	3	10	3	4
25	99	96	111	108	104	96	101	94	3	4	3	5
26	101	98	106	102	100	98	102	99	17	3	11	11
27	104	100	108	103	101	96	101	93	11	2	4	3
28	100	96	112	101	99	94	106	92	4	6	7	8
29	96	94	103	102	104	93	105	98	1	5	5	4
30	102	96	111	98	104	94	103	96	2	32	7	5
31	97	94	104	101	101	95	96	94	3	4	11	3
32	95	93	107	102	99	96	100	96	6	2	2	2
33	104	101	119	105	104	95	94	91	6	11	4	2
34	102	98	111	102	101	96	105	93	19	19	3	10
35	103	98	105	99	105	97	98	95	22	9	6	2
36	98	96	118	105	100	97	99	94	2	2	9	11
37	97	95	117	111	100	96	97	93	8	6	15	10
38	104	97	103	98	100	98	104	95	6	2	6	22
39	96	94	111	99	99	96	97	92	2	4	6	7
40	101	96	115	109	104	102	104	93	9	10	3	2

41	110	105	113	106	108	97	97	94	8	5	5	18
42	107	102	112	104	98	94	103	99	4	5	6	6
43	95	93	106	101	98	96	99	92	4	8	5	4
44	95	93	110	102	103	99	100	98	1	2	14	18
45	101	96	108	103	98	95	102	101	7	12	6	19
46	100	94	112	104	104	101	102	97	8	6	15	12
47	97	94	112	103	101	97	98	94	7	3	9	14
48	105	100	109	106	99	93	100	96	6	12	10	12
49	102	97	111	107	109	93	101	95	3	6	5	13
50	110	104	110	102	101	96	100	99	8	4	3	6
51	104	99	119	102	103	97	98	96	10	29	7	8
H	T	T1/3										
11,41176	1,4	1,54										
15,23529	1,388235	1,527059										
13	2,235294	2,458824										
14	1,223529	1,345882										

Keadaan Surut Hari 1

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	PUNCAK	LEMBAH	ST 1	ST 2	ST 3	ST 4
1	94	93	110	107	99	96	111	90	1	3	3	21
2	98	95	114	103	100	98	97	94	3	11	2	3
3	100	96	106	102	98	96	99	97	4	4	2	2
4	97	95	108	105	103	96	98	92	2	3	7	6
5	99	92	106	102	98	95	108	95	7	4	3	13
6	98	96	114	102	99	94	99	97	2	12	5	2

7	99	97	114	107	101	97	97	94	2	7	4	3
8	97	96	106	102	94	93	103	95	1	4	1	8
9	101	96	108	102	99	96	104	96	5	6	3	8
10	96	94	106	103	100	98	103	93	2	3	2	10
11	101	98	113	101	102	100	98	96	3	12	2	2
12	102	96	111	106	109	93	101	96	6	5	16	5
13	97	92	108	105	103	96	97	95	5	3	7	2
14	102	99	106	103	98	97	97	96	3	3	1	1
15	107	102	108	105	98	94	98	95	5	3	4	3
16	99	93	102	99	102	96	101	98	6	3	6	3
17	101	98	103	98	99	96	98	96	3	5	3	2
18	98	96	106	103	102	97	103	99	2	3	5	4
19	101	99	109	101	100	95	99	96	2	8	5	3
20	100	99	103	101	98	94	101	99	1	2	4	2
21	101	95	114	106	99	93	98	94	6	8	6	4
22	103	97	111	102	101	99	104	92	6	9	2	12
23	99	94	110	102	104	101	97	96	5	8	3	1
24	104	99	104	101	101	93	98	96	5	3	8	2
25	99	96	111	108	104	96	101	94	3	3	8	7
26	101	98	106	102	100	98	102	99	3	4	2	3
27	104	100	108	103	101	96	101	93	4	5	5	8
28	100	96	112	101	99	94	106	92	4	11	5	14
29	96	94	103	102	104	93	105	98	2	1	11	7
30	102	96	111	98	104	94	103	96	6	13	10	7
31	97	94	104	101	101	95	96	94	3	3	6	2
32	95	93	107	102	99	96	100	96	2	5	3	4
33	104	101	119	105	104	95	94	91	3	14	9	3

34	102	98	111	102	101	96	105	93	4	9	5	12
35	103	98	105	99	105	97	98	95	5	6	8	3
36	98	96	118	105	100	97	99	94	2	13	3	5
37	97	95	117	111	100	96	97	93	2	6	4	4
38	104	97	103	98	100	98	104	95	7	5	2	9
39	96	94	111	99	99	96	97	92	2	12	3	5
40	101	96	115	109	104	102	104	93	5	6	2	11
41	110	105	113	106	108	97	97	94	5	7	11	3
42	107	102	112	104	98	94	103	99	5	8	4	4
43	95	93	106	101	98	96	99	92	2	5	2	7
44	95	93	110	102	103	99	100	98	2	8	4	2
45	101	96	108	103	98	95	102	101	5	5	3	1
46	100	94	112	104	104	101	102	97	6	8	3	5
47	97	94	112	103	101	97	98	94	3	9	4	4
48	105	100	109	106	99	93	100	96	5	3	6	4
49	102	97	111	107	109	93	101	95	5	4	16	6
50	110	104	110	102	101	96	100	99	6	8	5	1
51	104	99	119	102	103	97	98	96	5	17	6	2
H	T	T1/3										
5,647059	1,494118	1,643529										
10,70588	2,847059	3,131765										
8,588235	2,6	2,86										
9,764706	2,470588	2,717647										

Keadaan Surut Hari 2

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	ST 1	ST 2	ST 3	ST 4
1	100	98	109	105	108	106	105	102	2	4	2	3
2	97	93	108	105	107	105	102	99	4	3	2	3
3	94	92	106	103	106	104	99	97	2	3	2	2
4	99	97	104	102	108	106	101	99	2	2	2	2
5	98	96	102	100	110	107	106	103	2	2	3	3
6	96	95	103	101	108	105	107	102	1	2	3	5
7	98	96	102	100	106	102	102	100	2	2	4	2
8	100	97	101	97	108	105	103	100	3	4	3	3
9	99	96	101	98	106	101	102	98	3	3	5	4
10	97	93	104	92	109	105	101	98	4	12	4	3
11	93	91	103	100	110	105	104	101	2	3	5	3
12	100	98	105	103	111	105	106	101	2	2	6	5
13	100	96	103	102	112	106	102	98	4	1	6	4
14	98	95	111	106	109	104	105	102	3	5	5	3
15	99	97	107	101	107	102	103	100	2	6	5	3
16	98	96	101	95	105	102	104	101	2	6	3	3
17	100	98	101	93	105	101	107	102	2	8	4	5
18	100	92	110	105	106	103	103	100	8	5	3	3
19	93	92	105	102	106	103	102	99	1	3	3	3
20	101	100	102	99	115	104	104	100	1	3	11	4
21	102	98	102	99	107	105	104	100	4	3	2	4
22	99	97	105	102	108	106	102	100	2	3	2	2
23	100	97	104	102	107	102	107	105	3	2	5	2

24	99	97	102	101	109	106	109	103	2	1	3	6
25	98	95	104	103	108	103	106	104	3	1	5	2
26	97	94	104	102	104	102	104	102	3	2	2	2
27	98	96	111	99	103	101	103	100	2	12	2	3
28	111	96	111	98	107	101	104	102	15	13	6	2
29	101	99	105	102	108	106	102	100	2	3	2	2
30	99	96	106	103	109	105	107	105	3	3	4	2
31	98	93	107	103	109	105	106	101	5	4	4	5
32	94	92	104	102	111	103	106	101	2	2	8	5
33	99	96	109	102	109	103	106	101	3	7	6	5
34	100	96	104	101	114	108	109	103	4	3	6	6
35	94	93	100	99	111	102	105	102	1	1	9	3
36	96	95	104	102	112	106	105	102	1	2	6	3
37	97	94	105	101	109	107	106	102	3	4	2	4
38	99	96	108	95	108	104	104	100	3	13	4	4
39	98	95	105	103	105	102	110	107	3	2	3	3
40	99	96	105	102	105	102	107	103	3	3	3	4
41	103	101	103	99	111	107	105	102	2	4	4	3
42	101	95	103	100	107	103	110	104	6	3	4	6
43	111	98	104	100	113	107	106	102	13	4	6	4
44	97	93	107	103	106	105	108	105	4	4	1	3
45	101	98	105	102	108	104	110	106	3	3	4	4
46	97	95	110	103	110	107	108	103	2	7	3	5
47	96	93	104	102	108	103	107	102	3	2	5	5
48	99	95	105	102	110	104	103	102	4	3	6	1
49	97	94	101	99	109	106	107	102	3	2	3	5
50	100	97	101	98	110	96	107	104	3	3	14	3

51	98	95	107	103	110	97	107	105	3	4	13	2
H	T	T1/3										
5,647059	1,494118	1,643529										
10,70588	2,847059	3,131765										
8,588235	2,6	2,86										
9,764706	2,470588	2,717647										

Keadaan Surut Hari 3

No	St 1		St 2		St 3		St 4		Tinggi Ombak (H)			
	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	Puncak	Lembah	ST 1	ST 2	ST 3	ST 4
1	105	102	113	107	98	92	104	101	3	6	6	15
2	106	102	112	110	98	96	103	98	4	2	2	8
3	106	100	110	105	101	98	106	103	6	5	3	2
4	111	107	113	109	98	97	105	101	4	4	1	5
5	107	101	110	107	102	97	106	102	6	3	5	7
6	105	103	107	104	97	94	102	97	2	3	3	7
7	111	105	111	107	98	95	98	97	6	4	3	5
8	105	102	108	106	99	96	103	100	3	2	3	5
9	107	102	110	108	100	97	109	102	5	2	3	4
10	109	101	113	106	98	95	102	98	8	7	3	10
11	108	100	106	105	99	96	102	100	8	1	3	6
12	111	107	108	105	99	96	105	100	4	3	3	4
13	107	105	109	105	105	94	107	97	2	4	11	8
14	109	102	112	110	97	95	105	99	7	2	2	3
15	107	101	111	107	100	96	107	102	6	4	4	16
16	108	101	108	107	103	95	102	101	7	1	8	15

17	108	100	110	108	102	96	104	98	8	2	6	4
18	111	103	108	105	100	97	99	98	8	3	3	3
19	107	103	111	107	97	95	100	98	4	4	2	9
20	108	107	107	103	101	97	103	101	1	4	4	12
21	108	101	112	105	99	94	106	100	7	7	5	8
22	108	101	114	110	98	97	105	98	7	4	1	7
23	111	105	110	106	101	98	102	97	6	4	3	4
24	108	102	108	106	99	96	105	102	6	2	3	4
25	105	104	114	110	98	94	103	100	1	4	4	5
26	105	104	110	103	99	98	106	99	1	7	1	11
27	107	102	106	102	99	98	103	100	5	4	1	3
28	106	105	110	107	101	98	106	103	1	3	3	8
29	111	105	107	105	101	93	100	97	6	2	8	4
30	105	103	111	108	98	93	102	100	2	3	5	5
31	109	102	108	102	102	98	100	96	7	6	4	3
32	108	102	111	108	100	97	106	103	6	3	3	2
33	104	100	108	106	97	94	105	99	4	2	3	2
34	107	105	111	107	100	98	105	101	2	4	2	10
35	108	106	113	111	98	95	101	96	2	2	3	2
36	108	105	111	105	105	98	107	102	3	6	7	11
37	105	100	106	105	104	97	102	100	5	1	7	10
38	105	100	111	108	101	99	104	102	5	3	2	22
39	112	103	110	106	99	96	105	100	9	4	3	7
40	108	100	109	105	101	98	100	99	8	4	3	2
41	110	102	108	103	101	97	105	102	8	5	4	18
42	105	100	113	108	100	96	102	100	5	5	4	6
43	110	102	108	105	102	97	103	102	8	3	5	4

44	109	105	111	108	98	95	102	100	4	3	3	18
45	108	107	111	105	99	96	106	101	1	6	3	19
46	106	99	108	106	98	97	105	100	7	2	1	12
47	101	99	111	107	103	96	100	99	2	4	7	14
48	112	107	111	106	99	97	108	102	5	5	2	12
49	107	105	113	110	98	93	100	99	2	3	5	13
50	115	107	110	107	100	96	104	102	8	3	4	6
51	107	100	112	110	103	97	102	99	7	2	6	8
H	T	T1/3										
7,529412	3,882353	4,270588										
5,235294	3,176471	3,494118										
6,058824	2,541176	2,795294										
14	2,470588	2,717647										

Lampiran 2. Data Primer Pengukuran Kecepatan Arah Arus

	Stasiun	Keadaan	Jarak	Waktu		Kecepatan	Arah
				Waktu (m)	Waktu (s)		
H 1 3/6/2023	S1	MP	10	4,2	242	0,041322	193 S
		P	10	4,16	256	0,039063	353 U
		MS	10	3,1	181	0,055249	346 U
		S	10	5,35	335	0,029851	349 U
	S2	MP	10	2,7	127	0,07874	180 S
		P	10	3,9	189	0,05291	340 U
		MS	10	2,40	160	0,0625	293 BL
		S	10	3,5	185	0,054054	349 U
	S3	MP	10	1,2	62	0,16129	203 BD
		P	10	2,2	122	0,081967	345 U
		MS	10	4,8	248	0,040323	341 U
		S	10	5,4	304	0,032895	291 B
	S4	MP	10	1,12	72	0,138889	279 B
		P	10	2,3	123	0,081301	284 B
		MS	10	1,4	64	0,15625	235 BD
		S	10	1,2	62	0,16129	303 BL
H 2 4/6/2023	S1	MP	10	3,4	184	0,054348	174 S
		P	10	6,8	368	0,027174	198 S
		MS	10	1,52	112	0,089286	12 U
		S	10	5,55	355	0,028169	233 BD
	S2	MP	10	4,4	244	0,040984	192 S
		P	10	4,43	283	0,035336	230 BD
		MS	10	3,15	195	0,051282	37 U
		S	10	4,47	287	0,034843	220 BL
	S3	MP	10	4,16	256	0,039063	186 S
		P	10	6,2	362	0,027624	223 BD
		MS	10	3,27	207	0,048309	34 TL
		S	10	3,13	193	0,051813	293 BL
	S4	MP	10	1,1	61	0,163934	168 S
		P	10	2,14	134	0,074627	168 S
		MS	10	2,4	124	0,080645	275 B
		S	10	1,5	65	0,153846	213 BD
H 3 5/6/2023	S1	MP	10	4,12	252	0,039683	274 B
		P	10	5,55	355	0,028169	205 B
		MS	10	2,13	133	0,075188	340 U
		S	10	2,25	145	0,068966	232 BD
	S2	MP	10	1,2	62	0,16129	271 B
		P	10	2,00	120	0,083333	218 BD
		MS	10	1,45	105	0,095238	326 BL
		S	10	2,57	177	0,056497	199 S
	S3	MP	10	3,27	207	0,048309	240 BD

	P	10	4,3	243	0,041152	210 BD
	MS	10	1,3	63	0,15873	0 U
	S	10	2,28	148	0,067568	196 S
S4	MP	10	1,38	98	0,102041	289 B
	P	10	1,45	105	0,095238	277 B
	MS	10	1,27	87	0,114943	16 U
	S	10	1,58	118	0,084746	202 S

Lampiran 3. Data Primer Pengolahan Pasang Surut

Waktu Pengamatan	Raw	MSL
00.00	0,610	0,8958
01.00	0,770	0,8958
02.00	0,975	0,8958
03.00	1,115	0,8958
04.00	1,280	0,8958
05.00	1,400	0,8958
06.00	1,440	0,8958
07.00	1,380	0,8958
08.00	1,325	0,8958
09.00	1,215	0,8958
10.00	1,150	0,8958
11.00	1,115	0,8958
12.00	1,045	0,8958
13.00	0,960	0,8958
14.00	0,895	0,8958
15.00	0,840	0,8958
16.00	0,685	0,8958
17.00	0,650	0,8958
18.00	0,515	0,8958
19.00	0,385	0,8958
20.00	0,310	0,8958
21.00	0,245	0,8958
22.00	0,340	0,8958
23.00	0,445	0,8958
00.00	0,560	0,8958
01.00	0,710	0,8958
02.00	0,950	0,8958
03.00	1,085	0,8958
04.00	1,310	0,8958
05.00	1,455	0,8958
06.00	1,525	0,8958
07.00	1,565	0,8958
08.00	1,430	0,8958

09.00	1,345	0,8958
10.00	1,215	0,8958
11.00	1,185	0,8958
12.00	1,075	0,8958
13.00	1,005	0,8958
14.00	0,950	0,8958

Lampiran 4. Data Primer Kelandaian Pantai

Stasiun	Y (Lebar jarak antar tiang)	X (Ketinggian)	Kemiringan Lereng Pantai	Kategori
Stasiun 1	33,6	0,81	2,41	Lereng datar
Stasiun 2	36,6	1,62	4,43	Lereng landai
Stasiun 3	21,5	1,59	7,40	Lereng landai
Stasiun 4	46,6	1,43	3,07	Lereng landai

Lampiran 5. Data Primer Jumlah Angkutan Sedimen

Qu-Qs	(Qu-Qs) ²	Qb-Qt	(Qb-Qt) ²	(Qu-Qt) ² +(Qb-Qt) ²	SQRT
-150	22500	-116	13456	35956	189,620674
-16,73	279,8929	-88,7	7867,69	8147,5829	90,26396235
117,56	13820,354	26,4	696,96	14517,3136	120,4878152
86	7396	-50	2500	9896	99,47864092

Lampiran 6. Data Primer Akumulasi Sedimen (Gram/Hari)

Stasiun	Kecepatan Akumulasi Sedimen (gr/cm ₃ /hari)				
	U	S	T	B	V
1	0,2407342	0,36611666	0,201447749	0,122874768	0,21983717
2	0,2386111	0,25259542	0,226674691	0,120626243	0,194769046
3	0,1904141	0,09214772	0,112442951	0,109776485	0,08770918
4	0,2156578	0,14377184	0,139592424	0,070214153	0,112008292

Lampiran 7. Data Primer Kekeruhan

Stasiun	Nilai Kekeruhan
I	14,98
II	8,68
II	19,47
IV	5,68

Lampiran 8. Data Ukur Butir

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	257,905	0,889	0,345	0,345			2 mm	229,339	0,965	0,421	0,421
	1 mm		1,386	0,538	0,884			1 mm		1,25	0,546	0,967
1V	0,5 mm		70,256	27,291	28,174		2V	0,5 mm		80,599	35,176	36,143
	0,25 mm		127,439	49,503	77,678			0,25 mm		90,622	39,551	75,694
	0,125 mm		46,568	18,089	95,767			0,125 mm		32,735	14,287	89,981
	0,063 mm		10,408	4,043	99,810			0,063 mm		22,800	9,951	99,931
	<0,063 mm		0,49	0,190	100,000			<0,063 mm		0,157	0,069	100,000
Total Berat Akhir			257,436	100,000	402,657		Total Berat Akhir			229,128	100,000	403,137

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	98,385	0,526	0,535	0,535			2 mm	133,612	0,417	0,312	0,312
	1 mm		1,061	1,080	1,615			1 mm		1,138	0,852	1,165
3V	0,5 mm		5,872	5,975	7,590		4V	0,5 mm		28,880	21,632	22,796
	0,25 mm		27,071	27,547	35,137			0,25 mm		82,286	61,633	84,430
	0,125 mm		50,655	51,545	86,682			0,125 mm		16,233	12,159	96,588
	0,063 mm		12,909	13,136	99,818			0,063 mm		3,840	2,876	99,464
	<0,063 mm		0,179	0,182	100,000			<0,063 mm		0,715	0,536	100,000
Total Berat Akhir			98,273	100,000	331,377		Total Berat Akhir			133,509	100,000	404,755

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	414,225	4,254	1,027	1,027			2 mm	291,825	1,272	0,436	0,436
	1 mm		2,484	0,600	1,627			1 mm		2,476	0,849	1,285
1S	0,5 mm		69,312	16,735	18,362		2S	0,5 mm		2,056	0,705	1,990
	0,25 mm		258,266	62,356	80,718			0,25 mm		250,173	85,774	87,763
	0,125 mm		59,658	14,404	95,121			0,125 mm		29,388	10,076	97,839
	0,063 mm		19,521	4,713	99,835			0,063 mm		5,882	2,017	99,856
	<0,063 mm		0,685	0,165	100,000			<0,063 mm		0,42	0,144	100,000
Total Berat Akhir			414,18	100,000	396,689		Total Berat Akhir			291,667	100,000	389,170

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	278, 233	2,784	1,001	1,001			2 mm	259,25	1,193	0,460	0,460
	1 mm		2,185	0,786	1,787			1 mm		2,452	0,946	1,407
1U	0,5 mm		1,687	0,607	2,394		2U	0,5 mm		10,773	4,158	5,565
	0,25 mm		216,985	78,038	80,431			0,25 mm		141,306	54,542	60,107
	0,125 mm		44,675	16,067	96,498			0,125 mm		40,503	15,634	75,741
	0,063 mm		9,160	3,294	99,793			0,063 mm		62,322	24,055	99,796
	<0,063 mm		0,576	0,207	100,000			<0,063 mm		0,528	0,204	100,000
Total Berat Akhir			278,052	100,000	381,905		Total Berat Akhir			259,077	100,000	343,077

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	207,44	1,073	0,518	0,518			2 mm	243,944	2,424	0,996	0,996
	1 mm		2,25	1,086	1,604			1 mm		2,823	1,159	2,155
3U	0,5 mm		1,781	0,860	2,464		4U	0,5 mm		102,866	42,248	44,403
	0,25 mm		159,960	77,222	79,686			0,25 mm		92,048	37,805	82,209
	0,125 mm		26,265	12,680	92,366			0,125 mm		31,905	13,104	95,313
	0,063 mm		15,524	7,494	99,860			0,063 mm		10,514	4,318	99,631
	<0,063 mm		0,289	0,140	100,000			<0,063 mm		0,899	0,369	100,000
Total Berat Akhir			207,142	100,000	376,499		Total Berat Akhir			243,479	100,000	424,706

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	101,853	0,873	0,859	0,859			2 mm	225,798	4,02	1,786	1,786
	1 mm		1,451	1,427	2,286			1 mm		2,955	1,313	3,100
3S	0,5 mm		3,749	3,687	5,973		4S	0,5 mm		138,325	61,469	64,569
	0,25 mm		67,171	66,061	72,034			0,25 mm		55,894	24,838	89,407
	0,125 mm		17,131	16,848	88,882			0,125 mm		18,206	8,090	97,498
	0,063 mm		10,976	10,795	99,676			0,063 mm		4,681	2,080	99,578
	<0,063 mm		0,329	0,324	100,000			<0,063 mm		0,95	0,422	100,000
Total Berat Akhir			101,68	100,000	369,709		Total Berat Akhir			225,031	100,000	455,938

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	248,322	2,346	0,945	0,945			2 mm	263,58	1,093	0,415	0,415
	1 mm		1,956	0,788	1,732			1 mm		2,423	0,919	1,334
1T	0,5 mm		2,904	1,169	2,902		2T	0,5 mm		3,002	1,139	2,473
	0,25 mm		154,226	62,108	65,010			0,25 mm		170,560	64,717	67,191
	0,125 mm		63,999	25,773	90,783			0,125 mm		63,99	24,280	91,471
	0,063 mm		21,689	8,734	99,518			0,063 mm		22,233	8,436	99,907
	<0,063 mm		1,198	0,482	100,000			<0,063 mm		0,245	0,093	100,000
Total Berat Akhir			248,318	100,000	360,890		Total Berat Akhir			263,546	100,000	362,791

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	132,547	1,156	0,873	0,873			2 mm	167,658	2,406	1,435	1,435
	1 mm		1,155	0,872	1,745			1 mm		3,331	1,987	3,423
3T	0,5 mm		1,522	1,149	2,894		4T	0,5 mm		53,384	31,850	35,273
	0,25 mm		2,336	1,764	4,657			0,25 mm		86,375	51,533	86,805
	0,125 mm		100,326	75,742	80,400			0,125 mm		17,28	10,310	97,115
	0,063 mm		25,689	19,394	99,794			0,063 mm		4,285	2,556	99,671
	<0,063 mm		0,273	0,206	100,000			<0,063 mm		0,551	0,329	100,000
Total Berat Akhir			132,457	100,000	290,362		Total Berat Akhir			167,612	100,000	423,722

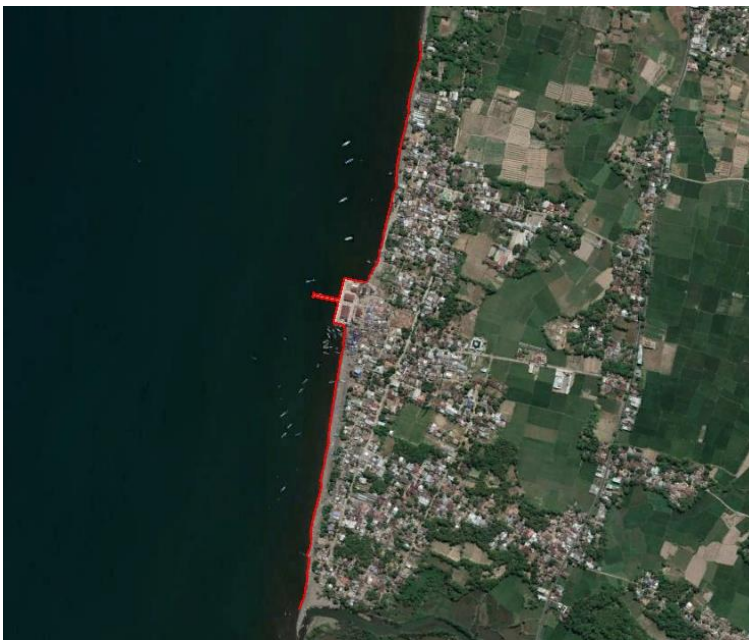
Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	136,541	1,339	0,983	0,983			2 mm	136,18	2,33	1,712	1,712
	1 mm		2,021	1,483	2,466			1 mm		5,021	3,690	5,402
1B	0,5 mm		1,508	1,107	3,573		2B	0,5 mm		1,709	1,256	6,658
	0,25 mm		72,372	53,122	56,695			0,25 mm		58,452	42,954	49,611
	0,125 mm		48,418	35,540	92,235			0,125 mm		47,814	35,136	84,747
	0,063 mm		9,826	7,212	99,447			0,063 mm		20,505	15,068	99,816
	<0,063 mm		0,753	0,553	100,000			<0,063 mm		0,251	0,184	100,000
Total Berat Akhir			136,237	100,000	355,400		Total Berat Akhir			136,082	100,000	347,946

Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif		Stasiun	Ukuran Butir Sedimen	Berat Awal	Berat Sedimen	%Berat Sedimen	%Kumulatif
	2 mm	127,882	0	0,000	0,000			2 mm	141,287	2,048	1,450	1,450
	1 mm		1,121	0,878	0,878			1 mm		5,58	3,950	5,400
3B	0,5 mm		2,422	1,897	2,775		4B	0,5 mm		26,146	18,508	23,908
	0,25 mm		50,570	39,612	42,388			0,25 mm		78,672	55,691	79,599
	0,125 mm		45,967	36,007	78,395			0,125 mm		20,865	14,770	94,369
	0,063 mm		27,360	21,432	99,826			0,063 mm		6,769	4,792	99,161
	<0,063 mm		0,222	0,174	100,000			<0,063 mm		1,185	0,839	100,000
Total Berat Akhir			127,662	100,000	324,262		Total Berat Akhir			141,265	100,000	403,888

Lampiran 9. Data Sekunder pasang surut

Jam Tanggal	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
01-Jun-23	70	70	80	90	100	110	120	120	110	110	100	90	90	80	80	70	70	70	70	60	60	60	50	60
02-Jun-23	60	70	90	100	120	140	140	150	140	130	110	100	90	80	70	70	60	60	60	50	50	40	30	50
03-Jun-23	40	60	80	100	120	140	150	160	150	140	130	110	90	80	70	70	70	60	60	50	40	30	20	30
04-Jun-23	30	40	60	90	120	140	160	170	160	150	140	120	100	90	80	80	70	70	60	50	40	30	20	20
05-Jun-23	20	30	50	70	100	130	150	170	170	160	150	130	110	100	90	80	80	70	70	60	50	30	20	10
06-Jun-23	10	10	30	60	90	120	140	160	170	170	160	140	120	110	100	90	90	80	80	70	60	40	30	10
07-Jun-23	10	10	20	40	70	100	130	150	160	160	150	140	130	110	100	90	90	90	90	80	70	60	40	20
08-Jun-23	20	10	20	30	60	80	110	130	140	150	150	140	130	110	100	90	90	90	90	90	80	70	60	30
09-Jun-23	30	20	20	30	50	70	90	120	130	140	140	130	120	110	100	90	90	90	90	90	90	80	70	40
10-Jun-23	50	40	40	40	50	70	90	100	120	130	130	120	110	100	90	80	80	80	80	90	90	90	80	60
11-Jun-23	70	60	60	60	60	70	90	100	110	120	120	110	100	90	80	80	70	70	70	80	80	80	90	80
12-Jun-23	80	80	80	80	80	90	90	100	110	110	110	110	100	90	80	70	60	60	60	60	70	70	80	80
13-Jun-23	90	90	90	100	100	100	110	110	110	110	110	100	90	80	80	70	60	50	50	50	50	60	70	80
14-Jun-23	80	90	100	110	120	120	120	120	120	110	110	100	90	80	80	70	60	50	50	40	40	40	50	70
15-Jun-23	70	90	100	110	130	130	140	140	130	120	110	100	90	90	80	70	60	50	50	40	30	30	30	60
16-Jun-23	60	70	90	110	130	140	150	150	140	130	120	110	100	90	80	70	70	60	50	40	30	30	20	40
17-Jun-23	40	60	80	100	120	140	150	160	150	140	130	110	100	90	80	80	70	60	60	50	40	30	20	30
18-Jun-23	30	40	60	90	120	140	150	160	160	150	140	120	100	90	80	80	70	70	60	60	40	30	20	20
19-Jun-23	20	30	50	80	100	130	150	160	160	160	140	130	110	90	80	80	80	70	70	60	50	40	30	20
20-Jun-23	20	20	40	60	90	120	140	160	160	160	150	130	110	100	90	80	80	70	70	70	60	50	40	20
21-Jun-23	20	20	30	50	80	100	130	150	160	160	150	130	120	100	90	80	70	70	70	70	70	60	50	30
22-Jun-23	30	30	30	50	70	90	120	140	150	150	150	140	120	100	90	80	70	70	70	70	70	70	60	40
23-Jun-23	40	40	40	50	60	80	110	130	140	150	140	130	120	100	90	80	70	70	70	70	80	70	70	50
24-Jun-23	50	50	50	50	60	80	100	120	130	140	140	130	120	100	90	80	70	70	70	70	80	80	70	60
25-Jun-23	60	60	60	60	70	80	100	110	120	130	130	120	110	100	90	80	70	70	70	70	70	80	80	70
26-Jun-23	70	70	70	70	80	90	100	110	110	120	120	110	100	90	80	70	70	60	60	70	70	70	80	80
27-Jun-23	80	80	80	80	90	90	100	110	110	110	110	110	100	90	80	70	60	60	60	60	60	70	80	80
28-Jun-23	80	90	90	100	100	110	110	110	120	110	110	100	90	80	70	60	50	50	50	50	60	60	70	80
29-Jun-23	80	90	100	110	120	120	120	130	120	120	110	100	90	80	70	60	50	50	40	40	40	50	60	80
30-Jun-23	80	90	100	110	120	120	110	110	100	90	90	80	80	70	70	70	70	60	60	60	50	60	60	70

Lampiran 10. Data Hasil Digitasi Citra 2016,2019



**Lampiran 11. Data Panjang Transek DSAS
2013-2016**

Object Identifier	Geometry	Transectid	NSM	SHAPE_Length	Keterangan
1	Polyline	1	-6,39213	6,392125	Abrasi
2	Polyline	2	-6,22749	6,227488	Abrasi
3	Polyline	3	-5,86059	5,860589	Abrasi
4	Polyline	4	-5,84489	5,844886	Abrasi
5	Polyline	5	-6,11452	6,11452	Abrasi
6	Polyline	6	-7,90484	7,904837	Abrasi
7	Polyline	7	-9,84977	9,849773	Abrasi

8	Polyline	8	-11,3608	11,36079	Abrasi
9	Polyline	9	-11,2935	11,29355	Abrasi
10	Polyline	10	-11,4025	11,40248	Abrasi
11	Polyline	11	-10,7876	10,78759	Abrasi
12	Polyline	12	-10,255	10,25504	Abrasi
13	Polyline	13	-10,4873	10,48729	Abrasi
14	Polyline	14	-10,0543	10,05428	Abrasi
15	Polyline	15	-10,3245	10,32455	Abrasi
16	Polyline	16	-10,8645	10,8645	Abrasi
17	Polyline	17	-10,2195	10,21946	Abrasi
18	Polyline	18	-10,5729	10,57294	Abrasi
19	Polyline	19	-9,35628	9,35628	Abrasi
20	Polyline	20	-6,89571	6,895706	Abrasi
21	Polyline	21	-5,14838	5,148377	Abrasi
22	Polyline	22	-2,73616	2,736164	Abrasi
23	Polyline	23	-0,62933	0,629329	Abrasi
24	Polyline	24	-4,90308	4,903077	Abrasi
25	Polyline	25	-9,21292	9,212921	Abrasi
26	Polyline	26	-8,74298	8,74298	Abrasi
27	Polyline	27	-10,7789	10,77895	Abrasi
28	Polyline	28	-11,579	11,57903	Abrasi
29	Polyline	29	-15,7809	15,78095	Abrasi
30	Polyline	30	-14,7626	14,76255	Abrasi
31	Polyline	31	-13,3674	13,36736	Abrasi
32	Polyline	32	-14	14,00005	Abrasi
33	Polyline	33	-14,9774	14,97738	Abrasi
34	Polyline	34	-15,9873	15,9873	Abrasi
35	Polyline	35	-15,9973	15,99728	Abrasi
36	Polyline	36	-16,7531	16,75314	Abrasi
37	Polyline	37	-18,5143	18,5143	Abrasi
38	Polyline	38	-18,9652	18,96522	Abrasi
39	Polyline	39	-19,5383	19,53826	Abrasi
40	Polyline	40	-14,6024	14,60241	Abrasi
41	Polyline	41	-10,8106	10,81063	Abrasi
42	Polyline	42	-10,4181	10,41808	Abrasi
43	Polyline	43	-9,66069	9,660689	Abrasi
44	Polyline	44	-13,3089	13,3089	Abrasi
45	Polyline	45	-14,2053	14,20534	Abrasi
46	Polyline	46	-12,6699	12,66985	Abrasi
47	Polyline	47	-10,3446	10,34463	Abrasi
48	Polyline	48	-8,06122	8,061219	Abrasi
49	Polyline	49	-5,52954	5,52954	Abrasi
50	Polyline	50	-4,12663	4,126625	Abrasi
51	Polyline	51	-5,0054	5,005401	Abrasi
52	Polyline	52	-1,95253	1,952531	Abrasi

53	Polyline	53	-2,65921	2,659209	Abrasi
54	Polyline	54	-3,68278	3,682778	Abrasi
55	Polyline	55	-3,39704	3,397044	Abrasi
56	Polyline	56	-0,08193	0,081932	Abrasi
57	Polyline	57	-5,66615	5,666145	Abrasi
58	Polyline	58	-9,92399	9,923992	Abrasi
59	Polyline	59	-9,20334	9,203338	Abrasi
60	Polyline	60	-10,2486	10,24863	Abrasi
61	Polyline	61	-7,83372	7,833723	Abrasi
62	Polyline	62	-5,00794	5,007938	Abrasi
63	Polyline	63	-4,11588	4,115875	Abrasi
64	Polyline	64	-1,52129	1,521292	Abrasi
65	Polyline	65	-1,14989	1,149891	Abrasi
66	Polyline	66	67,28577	67,28577	Akresi
67	Polyline	67	68,49327	68,49327	Akresi
68	Polyline	68	69,23397	69,23397	Akresi
69	Polyline	69	70,24171	70,24171	Akresi
70	Polyline	70	70,61025	70,61025	Akresi
71	Polyline	71	139,8085	139,8085	Akresi
72	Polyline	72	71,7046	71,7046	Akresi
73	Polyline	73	71,42042	71,42042	Akresi
74	Polyline	74	71,86033	71,86033	Akresi
75	Polyline	75	73,07074	73,07074	Akresi
76	Polyline	76	73,49126	73,49126	Akresi
77	Polyline	77	72,14177	72,14177	Akresi
78	Polyline	78	26,42905	26,42905	Akresi
79	Polyline	79	25,51918	25,51918	Akresi
80	Polyline	80	24,82707	24,82707	Akresi
81	Polyline	81	24,32982	24,32982	Akresi
82	Polyline	82	23,03075	23,03075	Akresi
83	Polyline	83	21,5323	21,5323	Akresi
84	Polyline	84	18,64775	18,64775	Akresi
85	Polyline	85	17,18489	17,18489	Akresi
86	Polyline	86	18,59803	18,59803	Akresi
87	Polyline	87	18,67894	18,67894	Akresi
88	Polyline	88	19,62376	19,62376	Akresi
89	Polyline	89	19,19084	19,19084	Akresi
90	Polyline	90	18,24241	18,24241	Akresi
91	Polyline	91	20,02907	20,02907	Akresi
92	Polyline	92	20,63684	20,63684	Akresi
93	Polyline	93	20,96399	20,96399	Akresi
94	Polyline	94	21,13039	21,13039	Akresi
95	Polyline	95	20,03963	20,03963	Akresi
96	Polyline	96	19,17338	19,17338	Akresi
97	Polyline	97	18,70428	18,70428	Akresi

98	Polyline	98	20,02578	20,02578	Akresi
99	Polyline	99	19,5461	19,5461	Akresi
100	Polyline	100	19,75973	19,75973	Akresi
101	Polyline	101	19,37423	19,37423	Akresi
102	Polyline	102	20,45261	20,45261	Akresi
103	Polyline	103	20,19727	20,19727	Akresi
104	Polyline	104	19,33191	19,33191	Akresi
105	Polyline	105	18,58814	18,58814	Akresi
106	Polyline	106	17,68042	17,68042	Akresi
107	Polyline	107	14,88889	14,88889	Akresi
108	Polyline	108	12,00705	12,00705	Akresi
109	Polyline	109	10,60138	10,60138	Akresi
110	Polyline	110	9,787765	9,787765	Akresi
111	Polyline	111	10,80054	10,80054	Akresi
112	Polyline	112	11,51495	11,51495	Akresi
113	Polyline	113	11,99691	11,99691	Akresi
114	Polyline	114	12,61001	12,61001	Akresi
115	Polyline	115	12,74078	12,74078	Akresi
116	Polyline	116	12,70346	12,70346	Akresi
117	Polyline	117	11,1485	11,1485	Akresi
118	Polyline	118	9,646331	9,646331	Akresi
119	Polyline	119	8,602116	8,602116	Akresi
120	Polyline	120	8,366054	8,366054	Akresi
121	Polyline	121	10,95908	10,95908	Akresi
122	Polyline	122	12,50781	12,50781	Akresi
123	Polyline	123	13,78605	13,78605	Akresi
124	Polyline	124	13,21904	13,21904	Akresi
125	Polyline	125	14,33062	14,33062	Akresi
126	Polyline	126	12,32618	12,32618	Akresi
127	Polyline	127	12,42828	12,42828	Akresi
128	Polyline	128	13,45653	13,45653	Akresi
129	Polyline	129	12,45222	12,45222	Akresi
130	Polyline	130	9,530469	9,530469	Akresi
131	Polyline	131	8,547028	8,547028	Akresi
132	Polyline	132	8,444604	8,444604	Akresi
133	Polyline	133	9,07349	9,07349	Akresi
134	Polyline	134	9,578864	9,578864	Akresi
135	Polyline	135	9,352022	9,352022	Akresi
136	Polyline	136	9,686084	9,686084	Akresi
137	Polyline	137	10,92188	10,92188	Akresi
138	Polyline	138	15,84836	15,84836	Akresi
139	Polyline	139	14,79367	14,79367	Akresi
140	Polyline	140	-8,65221	8,652213	Abrasi
141	Polyline	141	-9,07487	9,074872	Abrasi
142	Polyline	142	-10,2409	10,24092	Abrasi

143	Polyline	143	-8,95272	8,952721	Abrasi
144	Polyline	144	-8,78312	8,783115	Abrasi
145	Polyline	145	-8,35114	8,351137	Abrasi
146	Polyline	146	-5,31719	5,317193	Abrasi
147	Polyline	147	-3,54882	3,548817	Abrasi
148	Polyline	148	-5,11704	5,117038	Abrasi
149	Polyline	149	-9,70473	9,704734	Abrasi
150	Polyline	150	-13,867	13,86703	Abrasi
151	Polyline	151	-14,1948	14,19475	Abrasi
152	Polyline	152	-10,0815	10,08154	Abrasi
153	Polyline	153	-7,46132	7,461317	Abrasi

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object identifier *	geometry *	TransectID	NSM	SHAPE_Length	Keterangan
1	Polyline	1	-1,08294	1,082942	Abrasi
2	Polyline	2	0,206305	0,206305	Akresi
3	Polyline	3	3,021744	3,021744	Akresi
4	Polyline	4	2,947003	2,947003	Akresi
5	Polyline	5	4,531544	4,531544	Akresi
6	Polyline	6	3,287695	3,287695	Akresi
7	Polyline	7	1,562525	1,562525	Akresi
8	Polyline	8	-2,70889	2,708888	Abrasi
9	Polyline	9	-3,87428	3,874279	Abrasi
10	Polyline	10	-5,14517	5,145167	Abrasi
11	Polyline	11	-5,2896	5,289598	Abrasi
12	Polyline	12	-5,75015	5,750153	Abrasi
13	Polyline	13	-4,83751	4,837511	Abrasi
14	Polyline	14	-4,83553	4,83553	Abrasi
15	Polyline	15	-4,63564	4,635638	Abrasi
16	Polyline	16	-5,66392	5,66392	Abrasi
17	Polyline	17	-5,59665	5,596648	Abrasi
18	Polyline	18	-4,87969	4,879685	Abrasi
19	Polyline	19	-1,82057	1,820566	Abrasi
20	Polyline	20	0,206943	0,206943	Akresi
21	Polyline	21	0,005626	0,005626	Akresi
22	Polyline	22	0,611131	0,611131	Akresi
23	Polyline	23	6,716131	6,716131	Akresi
24	Polyline	24	1,433709	1,433709	Akresi
25	Polyline	25	0,0916	0,0916	Akresi
26	Polyline	26	-3,78256	3,782556	Abrasi
27	Polyline	27	-6,44198	6,441979	Abrasi
28	Polyline	28	-6,92444	6,924436	Abrasi

29	Polyline	29	-12,4766	12,47657	Abrasi
30	Polyline	30	-11,7582	11,75816	Abrasi
31	Polyline	31	-9,94769	9,947694	Abrasi
32	Polyline	32	-9,2313	9,231304	Abrasi
33	Polyline	33	-9,59769	9,597686	Abrasi
34	Polyline	34	-11,0441	11,04409	Abrasi
35	Polyline	35	-9,54639	9,546386	Abrasi
36	Polyline	36	-8,65413	8,654128	Abrasi
37	Polyline	37	-7,20881	7,208807	Abrasi
38	Polyline	38	-6,3527	6,352696	Abrasi
39	Polyline	39	-3,20857	3,20857	Abrasi
40	Polyline	40	0,066332	0,066332	Akresi
41	Polyline	41	-0,50602	0,506022	Abrasi
42	Polyline	42	-0,40881	0,40881	Abrasi
43	Polyline	43	-0,76631	0,766307	Abrasi
44	Polyline	44	-0,67215	0,672145	Abrasi
45	Polyline	45	-5,08677	5,086765	Abrasi
46	Polyline	46	-6,43228	6,432281	Abrasi
47	Polyline	47	-4,56616	4,566164	Abrasi
48	Polyline	48	-2,85064	2,850643	Abrasi
49	Polyline	49	-1,74164	1,741641	Abrasi
50	Polyline	50	0,195953	0,195953	Akresi
51	Polyline	51	-0,33182	0,331822	Abrasi
52	Polyline	52	1,5448	1,5448	Akresi
53	Polyline	53	0,281127	0,281127	Akresi
54	Polyline	54	-0,01911	0,019114	Abrasi
55	Polyline	55	-0,06937	0,06937	Abrasi
56	Polyline	56	0,265405	0,265405	Akresi
57	Polyline	57	0,087148	0,087148	Akresi
58	Polyline	58	-5,94037	5,940366	Abrasi
59	Polyline	59	-9,11802	9,118024	Abrasi
60	Polyline	60	-7,52496	7,524956	Abrasi
61	Polyline	61	-7,44507	7,445069	Abrasi
62	Polyline	62	-7,83591	7,835905	Abrasi
63	Polyline	63	-8,6411	8,641104	Abrasi
64	Polyline	64	-8,16924	8,169239	Abrasi
65	Polyline	65	-7,12029	7,120292	Abrasi
66	Polyline	66	-7,23178	7,231782	Abrasi
67	Polyline	67	-9,14248	9,142482	Abrasi
68	Polyline	68	-9,28463	9,284626	Abrasi
69	Polyline	69	-9,25352	9,253521	Abrasi
70	Polyline	70	-2,92373	2,92373	Abrasi
71	Polyline	71	1,060773	1,060773	Akresi
72	Polyline	72	1,132385	1,132385	Akresi
73	Polyline	73	0,039272	0,039272	Akresi

74	Polyline	74	0,033999	0,033999	Akresi
75	Polyline	75	0,028678	0,028678	Akresi
76	Polyline	76	0,023392	0,023392	Akresi
77	Polyline	77	0,018071	0,018071	Akresi
78	Polyline	78	0,024399	0,024399	Akresi
79	Polyline	79	0,026681	0,026681	Akresi
80	Polyline	80	0,026863	0,026863	Akresi
81	Polyline	81	0,027046	0,027046	Akresi
82	Polyline	82	0,027228	0,027228	Akresi
83	Polyline	83	0,027411	0,027411	Akresi
84	Polyline	84	0,027563	0,027563	Akresi
85	Polyline	85	0,013736	0,013736	Akresi
86	Polyline	86	0,037983	0,037983	Akresi
87	Polyline	87	0,04502	0,04502	Akresi
88	Polyline	88	0,042451	0,042451	Akresi
89	Polyline	89	0,042277	0,042277	Akresi
90	Polyline	90	0,042108	0,042108	Akresi
91	Polyline	91	0,041904	0,041904	Akresi
92	Polyline	92	0,04173	0,04173	Akresi
93	Polyline	93	0,04156	0,04156	Akresi
94	Polyline	94	-0,24032	0,240321	Abrasi
95	Polyline	95	-0,18496	0,184958	Abrasi
96	Polyline	96	-0,12959	0,129594	Abrasi
97	Polyline	97	-0,07423	0,074231	Abrasi
98	Polyline	98	-0,01886	0,018856	Abrasi
99	Polyline	99	0,036519	0,036519	Akresi
100	Polyline	100	0,044882	0,044882	Akresi
101	Polyline	101	0,044847	0,044847	Akresi
102	Polyline	102	0,044824	0,044824	Akresi
103	Polyline	103	-12,6262	12,62618	Abrasi
104	Polyline	104	-11,5528	11,55278	Abrasi
105	Polyline	105	-10,3718	10,37175	Abrasi
106	Polyline	106	-10,4183	10,41832	Abrasi
107	Polyline	107	-11,3943	11,39433	Abrasi
108	Polyline	108	-9,49346	9,493456	Abrasi
109	Polyline	109	-11,3833	11,38331	Abrasi
110	Polyline	110	-12,7247	12,72471	Abrasi
111	Polyline	111	-11,4536	11,4536	Abrasi
112	Polyline	112	-10,6213	10,62132	Abrasi
113	Polyline	113	-9,26913	9,269133	Abrasi
114	Polyline	114	-9,08277	9,082773	Abrasi
115	Polyline	115	-8,7292	8,729198	Abrasi
116	Polyline	116	-6,30635	6,306345	Abrasi
117	Polyline	117	-5,01103	5,011027	Abrasi
118	Polyline	118	-6,46867	6,468666	Abrasi

119	Polyline	119	-4,76102	4,761015	Abrasi
120	Polyline	120	-4,20792	4,207919	Abrasi
121	Polyline	121	-5,53666	5,536659	Abrasi
122	Polyline	122	-6,22035	6,220351	Abrasi
123	Polyline	123	-5,36587	5,365874	Abrasi
124	Polyline	124	-6,24739	6,247394	Abrasi
125	Polyline	125	-5,15579	5,155793	Abrasi
126	Polyline	126	-4,46795	4,467945	Abrasi
127	Polyline	127	-3,69436	3,694364	Abrasi
128	Polyline	128	-3,47745	3,477447	Abrasi
129	Polyline	129	-1,89835	1,898354	Abrasi
130	Polyline	130	-1,41793	1,417931	Abrasi
131	Polyline	131	-1,44125	1,441252	Abrasi
132	Polyline	132	-1,84925	1,849249	Abrasi
133	Polyline	133	-1,96762	1,967621	Abrasi
134	Polyline	134	-2,52523	2,525229	Abrasi
135	Polyline	135	-3,08884	3,088844	Abrasi
136	Polyline	136	-4,57758	4,577579	Abrasi
137	Polyline	137	-5,09926	5,09926	Abrasi
138	Polyline	138	-5,20515	5,205152	Abrasi
139	Polyline	139	-4,7917	4,791695	Abrasi
140	Polyline	140	-4,73032	4,730323	Abrasi
141	Polyline	141	-5,66713	5,667126	Abrasi
142	Polyline	142	-5,14911	5,149105	Abrasi
143	Polyline	143	-5,03095	5,030946	Abrasi
144	Polyline	144	-5,13068	5,130684	Abrasi
145	Polyline	145	-2,44927	2,449271	Abrasi
146	Polyline	146	0,50061	0,50061	Akresi
147	Polyline	147	1,24205	1,24205	Akresi
148	Polyline	148	1,32448	1,32448	Akresi
149	Polyline	149	-0,18545	0,185454	Abrasi
150	Polyline	150	-0,59214	0,592144	Abrasi
151	Polyline	151	-2,55721	2,557212	Abrasi
152	Polyline	152	-3,26909	3,269094	Abrasi
153	Polyline	153	-3,8573	3,857303	Abrasi
154	Polyline	154	-5,65476	5,654762	Abrasi
155	Polyline	155	-7,44725	7,447252	Abrasi
156	Polyline	156	-9,02545	9,025448	Abrasi
157	Polyline	157	-8,25371	8,253714	Abrasi
158	Polyline	158	-6,42624	6,426237	Abrasi
159	Polyline	159	-3,50403	3,504031	Abrasi
160	Polyline	160	-3,06776	3,067755	Abrasi
161	Polyline	161	-0,93563	0,935633	Abrasi
162	Polyline	162	0,995821	0,995821	Akresi
163	Polyline	163	4,755831	4,755831	Akresi

164	Polyline	164	2,140672	2,140672	Akresi
165	Polyline	165	-15,512	15,51201	Abrasi
166	Polyline	166	-14,261	14,26097	Abrasi
167	Polyline	167	-15,0162	15,01622	Abrasi
168	Polyline	168	-14,6479	14,64787	Abrasi
169	Polyline	169	-14,6073	14,6073	Abrasi
170	Polyline	170	-13,4253	13,42529	Abrasi
171	Polyline	171	-9,0145	9,014498	Abrasi
172	Polyline	172	-9,54163	9,541634	Abrasi
173	Polyline	173	-10,6664	10,66639	Abrasi
174	Polyline	174	-12,7683	12,76833	Abrasi
175	Polyline	175	-15,2138	15,21382	Abrasi
176	Polyline	176	-19,119	19,11899	Abrasi
177	Polyline	177	-24,7575	24,7575	Abrasi

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object identifier *	geometry *	TransectID	NSM	SHAPE_Length	Keterangan
1	Polyline	1	-7,83661	7,836605	Abrasi
2	Polyline	2	-9,16019	9,160185	Abrasi
3	Polyline	3	-11,4676	11,46756	Abrasi
4	Polyline	4	-13,58	13,57996	Abrasi
5	Polyline	5	-13,6778	13,67778	Abrasi
6	Polyline	6	-14,4914	14,49136	Abrasi
7	Polyline	7	-11,5484	11,54836	Abrasi
8	Polyline	8	-9,03378	9,033778	Abrasi
9	Polyline	9	-8,3511	8,351097	Abrasi
10	Polyline	10	-8,17885	8,178852	Abrasi
11	Polyline	11	-6,85469	6,854693	Abrasi
12	Polyline	12	-5,74683	5,746832	Abrasi
13	Polyline	13	-6,74839	6,74839	Abrasi
14	Polyline	14	-6,65963	6,65963	Abrasi
15	Polyline	15	-6,17501	6,175008	Abrasi
16	Polyline	16	-5,15529	5,155293	Abrasi
17	Polyline	17	-5,81253	5,812529	Abrasi
18	Polyline	18	-5,33619	5,336187	Abrasi
19	Polyline	19	-7,21074	7,210742	Abrasi
20	Polyline	20	-10,4214	10,42144	Abrasi
21	Polyline	21	-8,47588	8,475881	Abrasi
22	Polyline	22	-6,32543	6,325429	Abrasi
23	Polyline	23	-8,57253	8,572532	Abrasi
24	Polyline	24	-5,72967	5,729665	Abrasi
25	Polyline	25	-3,91657	3,916569	Abrasi

26	Polyline	26	-3,53083	3,530831	Abrasi
27	Polyline	27	-4,35947	4,359469	Abrasi
28	Polyline	28	-4,21341	4,213406	Abrasi
29	Polyline	29	-3,23517	3,235169	Abrasi
30	Polyline	30	-3,14706	3,147064	Abrasi
31	Polyline	31	-4,17583	4,175826	Abrasi
32	Polyline	32	-3,6898	3,689804	Abrasi
33	Polyline	33	-2,43332	2,433324	Abrasi
34	Polyline	34	-4,24613	4,246127	Abrasi
35	Polyline	35	-4,12674	4,126736	Abrasi
36	Polyline	36	-4,56245	4,562454	Abrasi
37	Polyline	37	-4,64601	4,646012	Abrasi
38	Polyline	38	-5,60531	5,605312	Abrasi
39	Polyline	39	-7,87074	7,870739	Abrasi
40	Polyline	40	-9,84773	9,847734	Abrasi
41	Polyline	41	-3,17737	3,177365	Abrasi
42	Polyline	42	-2,13706	2,137056	Abrasi
43	Polyline	43	-0,65622	0,656218	Abrasi
44	Polyline	44	-1,07033	1,070329	Abrasi
45	Polyline	45	-0,62	0,620002	Abrasi
46	Polyline	46	0,745478	0,745478	Akresi
47	Polyline	47	2,656761	2,656761	Akresi
48	Polyline	48	3,107704	3,107704	Akresi
49	Polyline	49	3,399595	3,399595	Akresi
50	Polyline	50	2,424485	2,424485	Akresi
51	Polyline	51	1,312696	1,312696	Akresi
52	Polyline	52	1,473113	1,473113	Akresi
53	Polyline	53	1,736127	1,736127	Akresi
54	Polyline	54	-1,54955	1,549554	Abrasi
55	Polyline	55	-2,04485	2,044851	Abrasi
56	Polyline	56	0,092382	0,092382	Akresi
57	Polyline	57	2,154452	2,154452	Akresi
58	Polyline	58	1,475785	1,475785	Akresi
59	Polyline	59	3,269841	3,269841	Akresi
60	Polyline	60	3,554887	3,554887	Akresi
61	Polyline	61	6,514593	6,514593	Akresi
62	Polyline	62	9,723153	9,723153	Akresi
63	Polyline	63	4,378802	4,378802	Akresi
64	Polyline	64	0,687876	0,687876	Akresi
65	Polyline	65	-2,60035	2,600354	Abrasi
66	Polyline	66	-1,26623	1,266229	Abrasi
67	Polyline	67	0,17153	0,17153	Akresi
68	Polyline	68	0,166853	0,166853	Akresi
69	Polyline	69	0,167623	0,167623	Akresi
70	Polyline	70	0,168442	0,168442	Akresi

71	Polyline	71	0,169225	0,169225	Akresi
72	Polyline	72	0,169996	0,169996	Akresi
73	Polyline	73	0,170828	0,170828	Akresi
74	Polyline	74	0,144653	0,144653	Akresi
75	Polyline	75	0,118055	0,118055	Akresi
76	Polyline	76	0,09142	0,09142	Akresi
77	Polyline	77	0,064809	0,064809	Akresi
78	Polyline	78	0,000108	0,000108	Akresi
79	Polyline	79	-0,01458	0,014576	Abrasi
80	Polyline	80	-0,0142	0,014202	Abrasi
81	Polyline	81	-0,01386	0,013864	Abrasi
82	Polyline	82	-0,01349	0,01349	Abrasi
83	Polyline	83	-0,01309	0,013091	Abrasi
84	Polyline	84	-0,0565	0,0565	Abrasi
85	Polyline	85	-0,04531	0,04531	Abrasi
86	Polyline	86	-0,03814	0,038136	Abrasi
87	Polyline	87	-0,02132	0,021318	Abrasi
88	Polyline	88	-0,01934	0,019344	Abrasi
89	Polyline	89	-0,01975	0,019745	Abrasi
90	Polyline	90	-0,02019	0,020194	Abrasi
91	Polyline	91	-0,02064	0,020643	Abrasi
92	Polyline	92	-0,02108	0,02108	Abrasi
93	Polyline	93	-0,02153	0,021529	Abrasi
94	Polyline	94	-0,02197	0,021966	Abrasi
95	Polyline	95	-0,03159	0,03159	Abrasi
96	Polyline	96	-0,04165	0,041651	Abrasi
97	Polyline	97	-0,05169	0,051688	Abrasi
98	Polyline	98	-0,06175	0,061745	Abrasi
99	Polyline	99	2,609781	2,609781	Akresi
100	Polyline	100	3,748313	3,748313	Akresi
101	Polyline	101	3,839179	3,839179	Akresi
102	Polyline	102	3,960844	3,960844	Akresi
103	Polyline	103	3,91197	3,91197	Akresi
104	Polyline	104	3,594919	3,594919	Akresi
105	Polyline	105	4,633343	4,633343	Akresi
106	Polyline	106	4,759342	4,759342	Akresi
107	Polyline	107	5,901054	5,901054	Akresi
108	Polyline	108	5,484665	5,484665	Akresi
109	Polyline	109	6,74731	6,74731	Akresi
110	Polyline	110	8,541017	8,541017	Akresi
111	Polyline	111	8,438651	8,438651	Akresi
112	Polyline	112	9,604804	9,604804	Akresi
113	Polyline	113	8,855855	8,855855	Akresi
114	Polyline	114	9,890589	9,890589	Akresi
115	Polyline	115	9,699218	9,699218	Akresi

116	Polyline	116	9,29328	9,29328	Akresi
117	Polyline	117	9,433266	9,433266	Akresi
118	Polyline	118	10,6323	10,6323	Akresi
119	Polyline	119	10,32482	10,32482	Akresi
120	Polyline	120	10,34971	10,34971	Akresi
121	Polyline	121	8,882596	8,882596	Akresi
122	Polyline	122	8,517515	8,517515	Akresi
123	Polyline	123	8,982711	8,982711	Akresi
124	Polyline	124	9,096785	9,096785	Akresi
125	Polyline	125	7,95854	7,95854	Akresi
126	Polyline	126	6,318997	6,318997	Akresi
127	Polyline	127	6,259189	6,259189	Akresi
128	Polyline	128	5,650631	5,650631	Akresi
129	Polyline	129	4,60946	4,60946	Akresi
130	Polyline	130	2,851668	2,851668	Akresi
131	Polyline	131	1,966049	1,966049	Akresi
132	Polyline	132	-0,15611	0,15611	Abrasi
133	Polyline	133	0,05106	0,05106	Akresi
134	Polyline	134	-0,03444	0,034443	Abrasi
135	Polyline	135	-2,30562	2,305616	Abrasi
136	Polyline	136	-0,47794	0,477941	Abrasi
137	Polyline	137	-0,18026	0,180257	Abrasi
138	Polyline	138	-0,30009	0,300087	Abrasi
139	Polyline	139	-2,43652	2,43652	Abrasi
140	Polyline	140	-1,40622	1,406223	Abrasi
141	Polyline	141	-0,68964	0,689637	Abrasi
142	Polyline	142	-1,57158	1,571582	Abrasi
143	Polyline	143	-1,21371	1,213711	Abrasi
144	Polyline	144	-1,42267	1,422674	Abrasi
145	Polyline	145	-5,59928	5,599277	Abrasi
146	Polyline	146	-7,22178	7,221779	Abrasi
147	Polyline	147	-7,82217	7,822172	Abrasi
148	Polyline	148	-7,77268	7,77268	Abrasi
149	Polyline	149	-6,46298	6,462981	Abrasi
150	Polyline	150	-6,72877	6,728771	Abrasi
151	Polyline	151	-6,42249	6,422487	Abrasi
152	Polyline	152	-7,32382	7,323822	Abrasi
153	Polyline	153	-7,92501	7,925014	Abrasi
154	Polyline	154	-8,84072	8,840722	Abrasi
155	Polyline	155	-8,16985	8,169845	Abrasi
156	Polyline	156	-7,72916	7,729158	Abrasi
157	Polyline	157	-7,94325	7,943252	Abrasi
158	Polyline	158	-8,86424	8,864243	Abrasi
159	Polyline	159	-11,0778	11,07779	Abrasi
160	Polyline	160	-12,5976	12,59761	Abrasi

161	Polyline	161	-13,9007	13,90066	Abrasi
162	Polyline	162	-15,6529	15,65293	Abrasi
163	Polyline	163	-16,5636	16,56359	Abrasi
164	Polyline	164	-10,3002	10,30016	Abrasi
165	Polyline	165	0,487346	0,487346	Akresi
166	Polyline	166	1,217763	1,217763	Akresi
167	Polyline	167	1,755881	1,755881	Akresi
168	Polyline	168	5,546228	5,546228	Akresi
169	Polyline	169	9,024116	9,024116	Akresi
170	Polyline	170	11,33058	11,33058	Akresi
171	Polyline	171	15,92136	15,92136	Akresi
172	Polyline	172	15,11503	15,11503	Akresi
173	Polyline	173	18,38563	18,38563	Akresi
174	Polyline	174	22,47345	22,47345	Akresi
175	Polyline	175	27,21978	27,21978	Akresi
176	Polyline	176	32,8147	32,8147	Akresi
177	Polyline	177	39,32748	39,32748	Akresi
178	Polyline	178	45,43145	45,43145	Akresi

2013-2022

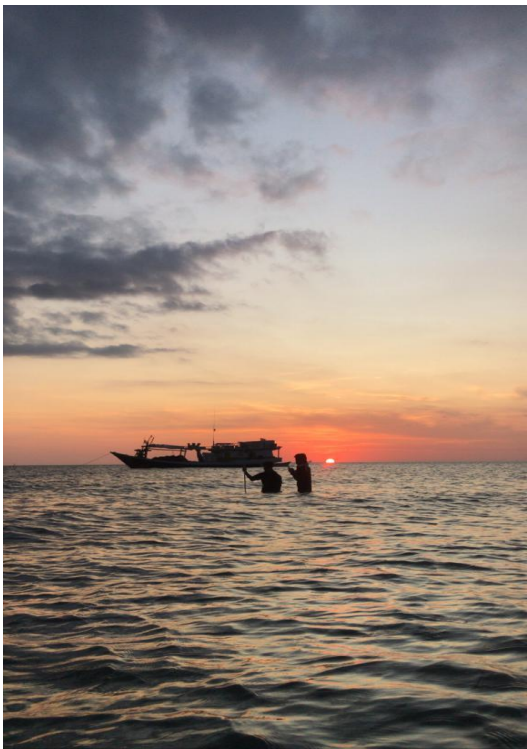
object identifier	geometry	TransectID	NSM	SHAPE_Length	Keterangan
1	Polyline	1	3,494163	3,494163	Akresi
2	Polyline	2	3,414092	3,414092	Akresi
3	Polyline	3	3,108843	3,108843	Akresi
4	Polyline	4	4,509481	4,509481	Akresi
5	Polyline	5	3,951106	3,951106	Akresi
6	Polyline	6	2,25662	2,25662	Akresi
7	Polyline	7	-0,53448	0,53448	Abrasi
8	Polyline	8	-0,41764	0,417637	Abrasi
9	Polyline	9	0,176049	0,176049	Akresi
10	Polyline	10	1,150102	1,150102	Akresi
11	Polyline	11	1,141939	1,141939	Akresi
12	Polyline	12	1,106171	1,106171	Akresi
13	Polyline	13	1,400029	1,400029	Akresi
14	Polyline	14	1,171069	1,171069	Akresi
15	Polyline	15	-0,1838	0,183797	Abrasi
16	Polyline	16	0,914433	0,914433	Akresi
17	Polyline	17	0,355605	0,355605	Akresi
18	Polyline	18	-0,31339	0,313389	Abrasi
19	Polyline	19	1,049983	1,049983	Akresi
20	Polyline	20	2,946468	2,946468	Akresi
21	Polyline	21	2,27134	2,27134	Akresi
22	Polyline	22	1,111794	1,111794	Akresi

23	Polyline	23	0,803211	0,803211	Akresi
24	Polyline	24	-1,10821	1,108213	Abrasi
25	Polyline	25	-1,77916	1,779155	Abrasi
26	Polyline	26	-0,40837	0,408371	Abrasi
27	Polyline	27	0,551724	0,551724	Akresi
28	Polyline	28	-0,56999	0,569989	Abrasi
29	Polyline	29	0,000379	0,000379	Akresi
30	Polyline	30	-0,98496	0,984955	Abrasi
31	Polyline	31	-1,11439	1,114392	Abrasi
32	Polyline	32	-1,13494	1,134935	Abrasi
33	Polyline	33	-1,54755	1,547553	Abrasi
34	Polyline	34	-1,74499	1,744988	Abrasi
35	Polyline	35	-2,19478	2,194779	Abrasi
36	Polyline	36	-4,6149	4,6149	Abrasi
37	Polyline	37	-6,44017	6,440173	Abrasi
38	Polyline	38	-7,73715	7,737145	Abrasi
39	Polyline	39	-7,36267	7,362674	Abrasi
40	Polyline	40	-8,04576	8,045764	Abrasi
41	Polyline	41	-7,82479	7,824793	Abrasi
42	Polyline	42	-9,07865	9,078651	Abrasi
43	Polyline	43	-8,74589	8,745885	Abrasi
44	Polyline	44	-8,02031	8,020308	Abrasi
45	Polyline	45	-7,64368	7,643677	Abrasi
46	Polyline	46	-8,3009	8,3009	Abrasi
47	Polyline	47	-9,03302	9,033019	Abrasi
48	Polyline	48	-8,85956	8,859564	Abrasi
49	Polyline	49	-7,95498	7,954976	Abrasi
50	Polyline	50	-6,27197	6,27197	Abrasi
51	Polyline	51	-5,32468	5,324675	Abrasi
52	Polyline	52	-4,23618	4,236183	Abrasi
53	Polyline	53	-3,95075	3,950749	Abrasi
54	Polyline	54	-0,71428	0,71428	Abrasi
55	Polyline	55	-1,03947	1,03947	Abrasi
56	Polyline	56	-1,79801	1,79801	Abrasi
57	Polyline	57	-2,2843	2,284302	Abrasi
58	Polyline	58	-3,64133	3,641332	Abrasi
59	Polyline	59	-4,59961	4,599612	Abrasi
60	Polyline	60	-6,9928	6,992803	Abrasi
61	Polyline	61	-6,93412	6,934121	Abrasi
62	Polyline	62	-5,50413	5,504129	Abrasi
63	Polyline	63	1,15885	1,15885	Akresi
64	Polyline	64	6,414358	6,414358	Akresi
65	Polyline	65	8,418688	8,418688	Akresi
66	Polyline	66	67,2321	67,2321	Akresi
67	Polyline	67	68,34536	68,34536	Akresi

68	Polyline	68	69,12477	69,12477	Akresi
69	Polyline	69	69,98945	69,98945	Akresi
70	Polyline	70	70,40436	70,40436	Akresi
71	Polyline	71	139,7637	139,7637	Akresi
72	Polyline	72	71,99117	71,99117	Akresi
73	Polyline	73	71,62975	71,62975	Akresi
74	Polyline	74	72,07412	72,07412	Akresi
75	Polyline	75	73,2227	73,2227	Akresi
76	Polyline	76	73,54173	73,54173	Akresi
77	Polyline	77	72,06338	72,06338	Akresi
78	Polyline	78	36,7887	36,7887	Akresi
79	Polyline	79	33,46579	33,46579	Akresi
80	Polyline	80	31,29558	31,29558	Akresi
81	Polyline	81	29,70657	29,70657	Akresi
82	Polyline	82	28,88155	28,88155	Akresi
83	Polyline	83	25,19302	25,19302	Akresi
84	Polyline	84	23,34001	23,34001	Akresi
85	Polyline	85	22,30878	22,30878	Akresi
86	Polyline	86	22,05802	22,05802	Akresi
87	Polyline	87	20,95239	20,95239	Akresi
88	Polyline	88	20,1901	20,1901	Akresi
89	Polyline	89	18,63268	18,63268	Akresi
90	Polyline	90	17,30806	17,30806	Akresi
91	Polyline	91	17,29042	17,29042	Akresi
92	Polyline	92	16,94454	16,94454	Akresi
93	Polyline	93	16,66154	16,66154	Akresi
94	Polyline	94	15,62237	15,62237	Akresi
95	Polyline	95	13,82647	13,82647	Akresi
96	Polyline	96	14,60051	14,60051	Akresi
97	Polyline	97	16,0214	16,0214	Akresi
98	Polyline	98	16,76057	16,76057	Akresi
99	Polyline	99	16,52697	16,52697	Akresi
100	Polyline	100	17,42654	17,42654	Akresi
101	Polyline	101	17,19549	17,19549	Akresi
102	Polyline	102	18,62459	18,62459	Akresi
103	Polyline	103	17,0106	17,0106	Akresi
104	Polyline	104	16,60091	16,60091	Akresi
105	Polyline	105	16,55478	16,55478	Akresi
106	Polyline	106	16,87062	16,87062	Akresi
107	Polyline	107	16,03195	16,03195	Akresi
108	Polyline	108	14,10455	14,10455	Akresi
109	Polyline	109	12,76512	12,76512	Akresi
110	Polyline	110	13,59955	13,59955	Akresi
111	Polyline	111	16,16891	16,16891	Akresi
112	Polyline	112	17,05317	17,05317	Akresi

113	Polyline	113	17,79327	17,79327	Akresi
114	Polyline	114	19,13919	19,13919	Akresi
115	Polyline	115	18,87657	18,87657	Akresi
116	Polyline	116	19,10901	19,10901	Akresi
117	Polyline	117	17,61171	17,61171	Akresi
118	Polyline	118	16,20422	16,20422	Akresi
119	Polyline	119	14,3961	14,3961	Akresi
120	Polyline	120	15,45713	15,45713	Akresi
121	Polyline	121	17,42104	17,42104	Akresi
122	Polyline	122	18,66311	18,66311	Akresi
123	Polyline	123	20,22777	20,22777	Akresi
124	Polyline	124	20,452	20,452	Akresi
125	Polyline	125	20,92017	20,92017	Akresi
126	Polyline	126	20,78533	20,78533	Akresi
127	Polyline	127	22,91108	22,91108	Akresi
128	Polyline	128	25,27369	25,27369	Akresi
129	Polyline	129	26,24606	26,24606	Akresi
130	Polyline	130	25,57393	25,57393	Akresi
131	Polyline	131	25,26008	25,26008	Akresi
132	Polyline	132	25,01516	25,01516	Akresi
133	Polyline	133	23,98927	23,98927	Akresi
134	Polyline	134	24,0568	24,0568	Akresi
135	Polyline	135	25,14239	25,14239	Akresi
136	Polyline	136	24,49363	24,49363	Akresi
137	Polyline	137	25,18664	25,18664	Akresi
138	Polyline	138	26,99825	26,99825	Akresi
139	Polyline	139	28,87497	28,87497	Akresi
140	Polyline	140	5,428303	5,428303	Akresi
141	Polyline	141	1,935772	1,935772	Akresi
142	Polyline	142	-3,26081	3,260806	Abrasi
143	Polyline	143	-5,48313	5,483134	Abrasi
144	Polyline	144	-10,1609	10,16094	Abrasi
145	Polyline	145	-12,2682	12,2682	Abrasi
146	Polyline	146	-14,2895	14,28953	Abrasi
147	Polyline	147	-16,4342	16,43415	Abrasi
148	Polyline	148	-21,7607	21,76072	Abrasi
149	Polyline	149	-29,5741	29,57407	Abrasi
150	Polyline	150	-36,2936	36,29355	Abrasi
151	Polyline	151	-38,35	38,35002	Abrasi

Lampiran 12. Dokumentasi Pengambilan Data Laoangan



Lampiran 13. Dokumentasi Analisis Di Laboratorium

