DAFTAR PUSTAKA

Adi, W. 2014. Kajian perubahan luasan padang lamun dengan penginderaan jauh di pulau lepar provinsi kepulauan bangka belitung. Manajemen Sumberdaya Perairan, Fakultas Pertanian, Perikanan, dan Biologi Universitas Bangka Belitung

Amran, M.A. 2011. Estimasi Kondisi Padang Lamun Berbasis Transformasi Nilai Radiansi Citra Quickbird Dan Alos Anvir-2 Studi Kasus: Wilayah Perairan sekitar Pulau Kodingareng Lompo, Pulau Barrangcaddi, dan Pulau Bonetambung, Makassar. (Disertasi). Teknik Geodesi dan Geomatika Institut Teknologi Bandung: Bandung.

Amran, M.A. 2010. Estimation of Seagrass Coverage by Depth Invariant Indices on Quickbird Imagery. Journal Biotropia Vol. 17 No. 1, 42-50. Departement of Marine Science: Hasanuddin University.

Anderson, J. R. 1976. A Land Use Cover Classification System for Use With Remote Sensor Data. Geological Survei Profesional Paper 946. Washington

Arief, M. 2013. Pengembangan Metode Lyzenga untuk Deteksi Terumbu Karang di Kepulauan Seribu dengan Menggunakan Data Satelit AVNIR-2.Jurnal Statistika, Vol. 13 No. 2, 55-64.

Assuyuti Y.M, Alfan Farhan Rijaluddin, Firdaus Ramadhan, Reza Bayu Zikrillah. 2016. Estimasi jumlah biomassa lamun di Pulau Pramuka, Karya dan Kotok Besar, Kepulauan Seribu, Jakarta.

Azilzah, Nunung N, Vincentius Paulus Siregar, Syamsul Bahri Agus, Agnestesya Manuputty. 2016. Analisa Spasial Luas Tutupan Lamun. Pulau Tunda Serang, Banten.

Coles R, L. Mckenzie, S. Campbell, J. Mellores, M. Waycott, dan L. Goggin. 2004. *Seagrasses in Queenland Waters*. Current State of Knowledge. CRC Reef Research Center. Australia.

Dahuri, R. 2001. Pengelolaan Sumber Daya Wilayah Pesisir dan Lautan Secara Terpadu.Penerbit Pradnya Paramita. Jakarta.

Duarte, C.M. & J. Cebrian. 1996. The fate of marine autotrophic production. Limnology and Oceanography.

Duarte C.M, Elizabeth Mcleod, Gail L Chmura, Steven Bouillon, Rodney Salm, Mats Björk, Catherine E Lovelock, William H Schlesinger, Brian R Silliman. 2011. A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO_2

Ekadinata, A., Dewi, S., Hadi, D.P., Nugroho, D.K. & Johana, F. 2008. Sistem Informasi Geografis untuk Pengelolaan Bentang Lahan Berbasis Sumber Daya Alam. Bogor: World Agroforestry Centre (ICRAF).

English, S., C. Wilkinson, & V. Baker. 1994. Survey Manual for Tropical Marine Resources. ASEAN-Australia marine Science Project: Living Coastal Resources. Australian Institute of Marine Science, Townsville.368 pp.

Faizal, A & Jompa. 2010. Pemanfaatan Citra Alos Avnir II dalam Pemetaan Kondisi Terumbu Karang di Taman Wisata Alam Laut Kapoposang, Sulawesi 56 Selatan. Laporan Penelitian, Lembaga Penelitian, Universitas Hasanuddin. Makassar.

Fatoyinbo, T. E., & Armstrong, A. H. (2010). Remote Characterization of Biomass Measureroents:Case Study of Mangrove Forests. In M. Momba, & F. Bux (Eds.), Biomass. Croatia: Sciyo.

Fatoyinbo, T., Simard, M., & Washington-Allen, R. A. (2008). Landscape scale height, biomass and carbon estimation of mangrove forests with Shuttle Radar Topography Mission elevation data. Journalfor Geophysical Research-Biogeosciences, 113.

Green & Short. 2003. World Atlas of Seagrasses Berkeley, University of California Press.

Hafizt, M. 2017. Kajian Estimasi Standing Carbon Stock Padang Lamun Menggunakan Citra Quickbird. Universitas Gadjah Mada.

Hemminga, M.A., Duarte, C.M. 2000. Seagrass Ecology. Cambridge University Press.

Jaya, I N S. 2010. Analisi Citra Digital : Perspektif Penginderaan Jauh untuk Pengelolaan Sumberdaya Alam. Bogor (ID) : Institut Pertanian Bogor.

Kawaroe, M., Nugraha, A. H., Juraij, J., & Tasabaramo, I. A. 2016. Seagrass Biodiversity at Three Marine Ecoregions of Indonesia: Sunda Shelf, Sulawesi. Jurnal.LAPAN. 2015. Pedoman Pengolahan Data Penginderaan Jauh Landsat 8. Jakarta: PUSFATJA.

Kawaroe, M 2009. Luas Tutupan Lamun di Pulau Pari Berkurang. Coremap.

Kusumowidagdo, M., Budi, T., Bunowati, E., Liesnoor, D. 2007. Penginderaan Jauh dan Interpretasi Citra.Pusat data penginderaan jauh Lapan dan Jurusan Geografi. Universitas Semarang.

Komiyama, A., Ong, J., & Poungpam, S. (2008). Allometry, biomass, and productivity of mangrove forests: A review. Aquatic Botany, 89, 128-137.

Komiyama, A., Poungparn, S., & Kato, S. (2005). Common allometric equations for estimating the tree weight of mangroves. Journal of Tropical Ecology, 21,471-477.
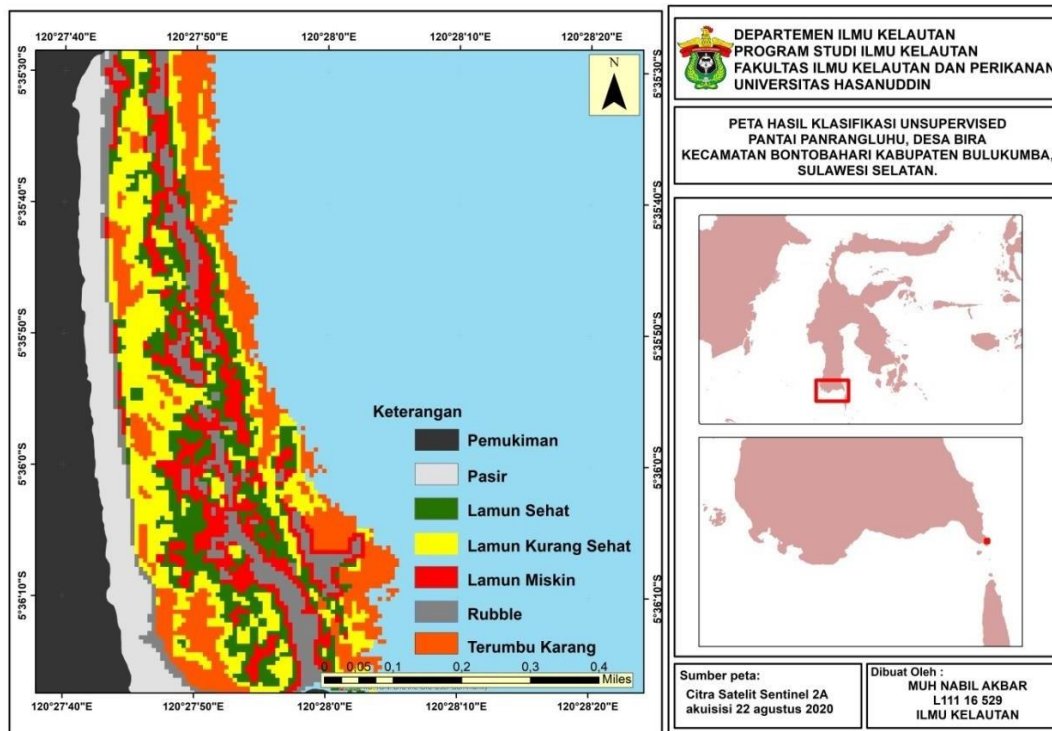
Laffoley, D., & Grimsditch, G. (2009). The management of natural coastal carbon sinks. (G. Grimsditch, Ed.) Gland, Switzerland: IUCN.

Larkum AWD, Orth RJ, Duarte CM, editor. 2006. Seagrasses: Biology, Ecology and Conservation. Dordrecht: Springer.

Lyons, M. B., Phinn, S. R., & Roelfsema, C. M. (20 (2). Long term land cover and seagrass mapping using Landsat and object-based image analysis from 1972 to 20 lOin the coastal environment of South East Queensland, Australia. ISPRS Journal of Photogrammetry and Remote Sensing, 71, 34-46.

Lyons, M., Phinn, S., & Roe1fsema, C. (2011). Integrating Quickbird Multi-Spectral Satellite and Field Data: Mapping Bathymetry, Seagrass Cover, Seagrass Species and Change in Moreton Bay, Australia in 2004 and 2007. Remote sensing, 3,42-64.

Lillesand T.M. & R. W. Kiefer. 1987. Remote Sensing and Image Interpretation. Second Edition. Canada.

Liliesand, T.M., & Kiefer., 1999. Penginderaan Jauh dan Interpretasi Citra, Terjemahan. Gadjah Mada University Press. Yogyakarta.

Lyzenga, D. R., 1978. Passive Remote Sensing Techniques for Mapping Water Depth and Bottom Features, Applied Optics, 17(3), 379–83. Retrieved from http:// www.ncbi.nlm.nih.gov/pubmed/20174418

Lyzenga, D. R., 1981. Remote Sensing Of Bottom Reflectance And Water Attenuation Parameters In Shallow Water Using Aircraft And Landsat Data, International Journal of Remote Sensing.

Lillesand, T.M. dan Kiefer, R.W. 1999. Penginderaan Jauh dan Interpretasi Citra.Gadjah Mada University Press: Yogyakarta.

Maritorena, S., 1996. Remote Sensing of the Water Attenuation in Coral Reefs: a Case Study in French Polynesia, International Journal of Remote Sensing, 17(1), 155–166. http:// doi.org/10.1080/01431169608948992.

Mashoreng S., Selamat M.B., Amri K., dan La Nafie Y.A. 2018. *Hubungan Antara Persen Penutupan dan Simpanan Karbon Lamun. Jurnal Akuatika Indonesia Vol. 3 No. 1/ Maret 2018 (74-83) ISSN : 2528-052X*. Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin : Makassar.

Mashoreng S., Rahima R., Rahman N.A., dan Rahman F.N. 2019. *Serapan Karbon Lamun Thalassodendron ciliatum di Perairan Panrangluhu Kabupaten Bulukumba Propinsi Sulawesi Selatan. ISBN 978-602-71759-6-9*. Departemen Ilmu Kelautan, Fakultas Ilmu Kelautan dan Perikanan-Universitas Hasanuddin : Makassar

Mc Kenzie, Campbell, S.J., Roder, C.A. 2003. Seagrass Watch: Manual For Mapping & Monitoring Seagrass Resources By Community (Citizen) Volunteers 2sd Edition. The state of Queensland, Departement of Primary Industries, CRC Reef. Queensland. Pp 104.

Nellemann, C., E. Corcorn, C.M. Duarte, L. Valdés, C. DeYoung, L. Fonseca & G. Grimsditch. 2009. Blue carbon. A rapid response assessment. United Nations Environment Programme. Norway. 78 pp.

Prawira, M. O. 2013. Dinamika Karakteristik Bioekologi Lamun di Nusa Lembongan Provinsi Bali. (Skripsi). Ilmu Kelautan Universitas Padjadjaran.

Phinn, S. R, Roelfsema, C. M., Brando, V., & Anstee, J. 2008. Mapping seagrass species, cover and biomass in shallow waters: An assessment of satellite multi-spectral and airborne hyper-spectral imaging systems in Moreton Bay (Australia). Remote Sensing of Environment, 112, 3413-3425.

Rahmawati, S & W. Kiswara. 2012. Cadangan Karbon dan Kemampuan Sebagai Penyimpan Karbon pada Vegetasi Tunggal Enhalus acoroides di Pulau Pari, Jakarta. Jurnal Oseanologi dan Limnologi di Indonesia Vol. 38, 1-12.

Rianzani, D. S. Darmawan. R. Hernawati, dan M.T. Indra. 2016. Estimasi biomassa mangrove berbasis pengindraan jauh (studi kasus Kabupaten Subang), Jawa Barat). Jurnal Seminar Nasional ITENAS:D23–D32

Roelfsema, C. M., Phinn, S. R, Udy, N., & Maxwell, P. (2009). An Integrated Field and Remote Sensing Approach for Mapping Seagrass Cover, Moreton Bay, Australia. Spatial Science, 54 (1), 45-62.

Romimohtarto, K. dan Juwana, S. 2001. Biologi Laut: Ilmu Pengetahuan Tentang Biota Laut. Djambatan: Jakarta.

Simard, M., Zhang, K., Rivera-Monroy, V. H., Ross, M. S., Ruiz, P. L., Castaiieda-Moya, E., et a!. (2006). Mapping Height and Biomass of Mangrove Forests in Everglades National Park with SRTM Elevation Data. Photogrammetric Engineering & Remote Sensing, 72.(3),299-311.

Supriadi, Richardus F. Kaswadji, Dietrich G. Bengen, and Malikusworo Hutomo (2014) Carbon Stock of Seagrass Community in Barranglompo Island, Makassar.

Supriadi, Yayu A. La Nafie dan Andi Iqbal Burhanuddin (2004) Inventarisasi jenis, kelimpahan dan biomas ikan di padang lamun Pulau Barranglompo Makassar.

Thalib, M.S. 2017. Klasifikasi Tutupan Lamun menggunakan Data Citra Sentinel 2A di Pulau Bontosua, Kepulauan Spermonde. (Skripsi). Departemen Ilmu Kelautan, Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin: Makassar.

Wahiddin, N. 2015. Klasifikasi ekosistem terumbu karang berbasis objek dan piksel di Pulau Morotai. Disertasi. Institut Pertanian Bogor. Bogor. 102 hlm.

Wicaksono, P., & Hafizt, M. (2013). Mapping seagrass from space: Addressing the complexity of sea grass LAI mapping. European Journal of Remote Sensing, 46, 18-39.

Wicaksono,' P., Danoedoro, P., Hartono, Nehren, U., & Ribbe, L. (2011). Preliminary work of mangrove ecosystem carbon stock mapping in small island using remote sensing: above and below ground carbon stock mapping 00 medium resolution satellite image. Proc. SPIE 8174, Remote Sensingfor Agriculture, Ecosystems, and Hydrology Xlll, 81741 B. Prague: SPIE Remote Sensing.

LAMPIRAN

Lampiran 1. Peta hasil klasifikasi (metode unsupervised) Pantai panrangluhu

Lampiran 2. Nilai Ki/Kj pada algoritma Lyzenga

Varians B2 = 0,0008

Varians B3 = 0,0014
Covarians B2B3 = 0,0010

$$\underline{\hspace{4cm}}$$

$$\underline{\hspace{4cm}}$$

$$\underline{\hspace{2cm}} = -0,3064$$

Ki/kj = a + $\sqrt{\underline{\hspace{2cm}}}$

=-0,3064+ $\sqrt{\underline{\hspace{3cm}}}$

= 0,7395

Lampiran 3. *Kruskall wallis test* pada perbedaan rata-rata kandungan karbon dari masing-masing kategori kondisi lamun

Ranks

	kategori	N	Mean Rank
Karbon	Sehat	10	21.20
	Kurang Sehat	16	15.19
	Miskin	4	2.50
Total		30	

Test Statistics[a,b]

	Karbon
Chi-Square	12.938
df	2
Asymp. Sig.	.002

a. Kruskal Wallis Test

b. Grouping Variable: kategori

Lampiran 4. Hasil uji lanjut *Kruskal-Wallis test* dengan menggunakan *Dunn's Multiple Comparison Tests*

Kruskal-Wallis test	
P-value	0,0029
Exact or approximate p value?	Gaussian Approximation
P value summary	**
Do the medians vary signif. (P < 0,05)	Yes
Number of groups	3
Kruskal-Wallis statistic	12

Dunn's Multiple Comparison Test	Difference in rank sum	Significant? P < 0,05?	Summary
Miskin vs Sedang	-13	Yes	*
Miskin vs Kaya	-18	Yes	**
Sedang vs Kaya	-4,6	No	ns