

DAFTAR PUSTAKA

- Abdullah, A. A. (2011). Teknik Budidaya Rumput Laut (*Kappaphycus alvarezii*) dengan Metode Rakit Apung Technique Culture of Seaweed (*Kappaphycus alvarezii*) with Floating Raft Method in Tanjung Village, Saronggi Sub District, Sumenep Regency, East Java. *Jurnal Ilmiah Perikanan Dan Kelautan*, 3(1).
- Agustang, Mulyani, S., & Indrawati, E. (2021). *Budidaya Rumput Laut; Potensi Perairan Kabupaten Sinjai, Sulawesi Selatan*. Pusaka Almada.
- Alam, M., Wang, J. F., Guangpei, C., Yunrong, L., & Chen, Y. (2021). Convolutional Neural Network for the Semantic Segmentation of Remote Sensing Images. *Mobile Networks and Applications*, 26(1), 200–215. <https://doi.org/10.1007/s11036-020-01703-3>
- Al-Amri, S. S. (2011). Contrast Stretching Enhancement in Remote Sensing Image. *BIOINFO Sensor Networks*, 1(1), 06–09. <http://www.bioinfo.in/contents.php?id=301>
- Andréfouët, S., Dewantama, I. M. I., & Ampou, E. E. (2021). Seaweed farming collapse and fast changing socio-ecosystems exacerbated by tourism and natural hazards in Indonesia: A view from space and from the households of Nusa Lembongan island. *Ocean and Coastal Management*, 207. <https://doi.org/10.1016/j.ocecoaman.2021.105586>
- Ateweberhan, M., Rougier, A., & Rakotomahazo, C. (2015). Influence of environmental factors and farming technique on growth and health of farmed *Kappaphycus alvarezii* (*cottonii*) in south-west Madagascar. *Journal of Applied Phycology*, 27(2), 923–934. <https://doi.org/10.1007/s10811-014-0378-3>
- Atmadja, W. S., Kadi, A., Sulistijo, & Satari, R. (1996). *Pengenalan jenis-jenis rumput laut Indonesia* (Vol. 191). Puslitbang Oseanologi-LIPI.
- Badan Penelitian dan Pengembangan Daerah (Batlingbang). (2019). *Laporan Hasil Penelitian Kajian Tatakelola Budidaya dan Pemasaran Rumput Laut (Strategi Pengelolaan Budidaya, Pengolahan dan Pemasaran Rumput Laut)*.

- Badan Pusat Statistik (BPS). (2021). *Hasil Survei Komoditas Perikanan Potensi Rumput Laut Provinsi Sulawesi Selatan 2021*.
- Balado, J., Olabarria, C., Martínez-Sánchez, J., Rodríguez-Pérez, J. R., & Pedro, A. (2021). Semantic segmentation of major macroalgae in coastal environments using high-resolution ground imagery and deep learning. *International Journal of Remote Sensing*, 42(5), 1785–1800. <https://doi.org/10.1080/01431161.2020.1842543>
- Bellman, R. (1978). *An Introduction to Artificial Intelligence: Can Computers Think?* Boyd & Fraser Publishing Company.
- Borja, Á., Fontán, A., & Muxika, I. (2013). Interactions between climatic variables and human pressures upon a macroalgae population: Implications for management. *Ocean & Coastal Management*, 76, 85–95. <https://doi.org/10.1016/J.OCECOAMAN.2013.02.023>
- Buslaev, A., Parinov, A., Khvedchenya, E., Iglovikov, V. I., & Kalinin, A. A. (2018). *Albumentations: fast and flexible image augmentations*. <https://doi.org/10.3390/info11020125>
- Cera, F. P., Danoedoro, P., Wicaksono, P., & Yasir, M. (2023). Random Forests Algorithm for Two Levels of Coral Reef Ecosystem Mapping Using Planetscope Image in Malalayang Beach, Manado. *Jurnal Geografi*, 15(2), 135. <https://doi.org/10.24114/jg.v15i2.30795>
- Cheng, J., Jia, N., Chen, R., Guo, X., Ge, J., & Zhou, F. (2022). High-Resolution Mapping of Seaweed Aquaculture along the Jiangsu Coast of China Using Google Earth Engine (2016–2022). *Remote Sensing*, 14(24). <https://doi.org/10.3390/rs14246202>
- Congalton, R. G., & Green, K. (2019). *Assessing the Accuracy of Remotely Sensed Data Principles and Practices* (Third). CRC Press, Taylor & Francis Group.
- Dang, L., Weng, L., Dong, W., Li, S., & Hou, Y. (2022). Spectral-Spatial Attention Transformer with Dense Connection for Hyperspectral Image Classification. *Computational Intelligence and Neuroscience*, 2022. <https://doi.org/10.1155/2022/7071485>
- Danoedoro, P. (2012). *Pengantar Penginderaan Jauh Digital*. ANDI OFFSET.

- Dinas Kelautan Perikanan (DKP). (2022). *Data Sementara Produksi Komoditas Unggulan Perikanan Budidaya Provinsi Sulawesi Selatan 2022*.
- Farahnakian, F., Heikkonen, J., & Jafarzadeh, P. (2023). Deep Learning and Computer Vision in Remote Sensing. In *Remote Sensing*. MDPI. www.mdpi.com/journal/remotesensing
- Ferreira, R. E. P., Lee, Y. J., & Dórea, J. R. R. (2023). Using pseudo-labeling to improve performance of deep neural networks for animal identification. *Scientific Reports*, 13(1). <https://doi.org/10.1038/s41598-023-40977-x>
- Ginting, D. N. B., & Arjasakusuma, S. (2021). Pemetaan Lamun Menggunakan Machine Learning Dengan Citra PlanetScope Di Nusa Lembongan. *Jurnal Kelautan Tropis*, 24(3), 323–332. <https://doi.org/10.14710/jkt.v24i3.11180>
- Hedley, J. D., Harborne, A. R., & Mumby, P. J. (2005). Simple and robust removal of sun glint for mapping shallow-water benthos. *International Journal of Remote Sensing*, 26(10), 2107–2112. <https://doi.org/10.1080/01431160500034086>
- Hendrawati, T. Y. (2016). *Pengolahan Rumput Laut dan Kelayakan Industrinya (I)*. UMJ Press.
- Heryadi, Y., & Irwansyah, E. (2020). *Deep Learning: Aplikasinya di Bidang Geospasial*. AWI Technology Press.
- Hu, C., Zhang, S., Barnes, B. B., Xie, Y., Wang, M., Cannizzaro, J. P., & English, D. C. (2023). Mapping and quantifying pelagic Sargassum in the Atlantic Ocean using multi-band medium-resolution satellite data and deep learning. *Remote Sensing of Environment*, 289. <https://doi.org/10.1016/j.rse.2023.113515>
- Janga, B., Asamani, G. P., Sun, Z., & Cristea, N. (2023). A Review of Practical AI for Remote Sensing in Earth Sciences. In *Remote Sensing* (Vol. 15, Issue 16). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/rs15164112>
- Jensen, J. R. (2005). *Introductory Digital Image Processing: A Remote Sensing Perspective* (3th ed.). Prentice Hall.
- Jin, R., Ye, Z., Chen, S., Gu, J., He, J., Huang, L., Christakos, G., Agusti, S., Duarte, C. M., & Wu, J. (2023). Accurate mapping of seaweed farms with high-

- resolution imagery in China. *Geocarto International*, 38(1).
<https://doi.org/10.1080/10106049.2023.2203114>
- Juhasz-Dora, T., Lindberg, S. K., James, P., & Wang, X. (2024). Assessing the potential of fluorescence as a monitoring tool for reproductive tissue in selected macroalgae species. *Journal of Applied Phycology*.
<https://doi.org/10.1007/s10811-024-03211-3>
- Kementerian Kelautan dan Perikanan (KKP). (2018). *Profil Peluang Investasi Komoditas Rumput Laut*. www.kkp.go.id
- Khorrarn, S., Koch, F. H., Wiele, C. F. van, & Nelson, S. A. C. (2012). *Remote Sensing* (J. N. Pelton, Ed.). Springer. <https://doi.org/10.1007/978-1-4614-3103-9>
- Kington, J., & Collison, A. (2022). *Scene Level Normalization and Harmonization of Planet Dove Imagery*.
- Kirillov, A., Mintun, E., Ravi, N., Mao, H., Rolland, C., Gustafson, L., Xiao, T., Whitehead, S., Berg, A. C., Lo, W.-Y., Dollár, P., & Girshick, R. (2023). *Segment Anything*. <http://arxiv.org/abs/2304.02643>
- Langford, A., Waldron, S., Sulfahri, & Saleh, H. (2021). Monitoring the COVID-19-affected Indonesian seaweed industry using remote sensing data. *Marine Policy*, 127. <https://doi.org/10.1016/j.marpol.2021.104431>
- Langford, Z., Waldron, S., Nuryartono, N., Pasaribu, S., Julianto, B. S., Siradjuddin, I., Ruhon, R., Walyandra, Z. Z., Laping, M. I., Armis, R. A., & Zhang, J. (2023). *Peningkatan industri rumput laut Sulawesi Selatan secara berkelanjutan*.
- Langley, P., & Simon, H. A. (1995). *Applications of Machine Learning and Rule Induction*. 38(11). <http://robotics.stanford.edu/peo->
- LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. In *Nature* (Vol. 521, Issue 7553, pp. 436–444). Nature Publishing Group.
<https://doi.org/10.1038/nature14539>
- Li, Y., Zhang, H., Xue, X., Jiang, Y., & Shen, Q. (2018). Deep learning for remote sensing image classification: A survey. In *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery* (Vol. 8, Issue 6). Wiley-Blackwell.
<https://doi.org/10.1002/widm.1264>

- Lillesand, T. M., Kiefer, R. W., & Chipman, J. W. (2015). *Remote Sensing and Image Interpretation* (Seventh). Wiley.
- Liu, J., Lu, Y., Guo, X., & Ke, W. (2023). A Deep Learning Method for Offshore Raft Aquaculture Extraction Based on Medium Resolution Remote Sensing Images. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. <https://doi.org/10.1109/JSTARS.2023.3291499>
- 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*, 2(1), 71–82. <https://doi.org/10.1080/01431168108948342>
- Ma, L., Liu, Y., Zhang, X., Ye, Y., Yin, G., & Johnson, B. A. (2019). Deep learning in remote sensing applications: A meta-analysis and review. In *ISPRS Journal of Photogrammetry and Remote Sensing* (Vol. 152, pp. 166–177). Elsevier B.V. <https://doi.org/10.1016/j.isprsjprs.2019.04.015>
- Marquez, L., Fragkopoulou, E., Cavanaugh, K. C., Houskeeper, H. F., & Assis, J. (2022). Artificial intelligence convolutional neural networks map giant kelp forests from satellite imagery. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-26439-w>
- Mei, X., Pan, E., Ma, Y., Dai, X., Huang, J., Fan, F., Du, Q., Zheng, H., & Ma, J. (2019). Spectral-Spatial Attention Networks for Hyperspectral Image Classification. *Remote Sensing*, 11(8). <https://doi.org/10.3390/rs11080963>
- Nurdin, N., Alevizos, E., Syamsuddin, R., Asis, H., Zainuddin, E. N., Aris, A., Oiry, S., Brunier, G., Komatsu, T., & Barillé, L. (2023). Precision Aquaculture Drone Mapping of the Spatial Distribution of *Kappaphycus alvarezii* Biomass and Carrageenan. *Remote Sensing*, 15(14). <https://doi.org/10.3390/rs15143674>
- Nuryartono, N., Waldron, S., Tarman, K., Siregar, U. J., Pasaribu, S. H., Langford, A., Farid, M., & Sulfahri. (2021). *Analisis Diagnostik Industri Rumput Laut Sulawesi Selatan*.
- Oktay, O., Schlemper, J., Folgoc, L. Le, Lee, M., Heinrich, M., Misawa, K., Mori, K., McDonagh, S., Hammerla, N. Y., Kainz, B., Glocker, B., & Rueckert, D.

- (2018). *Attention U-Net: Learning Where to Look for the Pancreas*.
<http://arxiv.org/abs/1804.03999>
- Osco, L. P., Wu, Q., de Lemos, E. L., Gonçalves, W. N., Ramos, A. P. M., Li, J., & Junior, J. M. (2023). *The Segment Anything Model (SAM) for Remote Sensing Applications: From Zero to One Shot*. <http://arxiv.org/abs/2306.16623>
- Paredes-Trejo, F. J., Barbosa, H. A., & Lakshmi Kumar, T. V. (2017). Validating CHIRPS-based satellite precipitation estimates in Northeast Brazil. *Journal of Arid Environments*, 139, 26–40.
<https://doi.org/10.1016/J.JARIDENV.2016.12.009>
- Parenrengi, A., Rachmansyah, & Suryati, E. (2012). *Budidaya Rumput Laut Penghasil Karaginan (KaraginoFit)* (H. Mansur & Rosmiati, Eds.; Ketiga). Badan Penelitian dan Pengembangan Kelautan dan Perikanan Kementerian Kelautan dan Perikanan.
- Parenrengi, A., & Sulaeman. (2007). Mengenal rumput laut, *Kappaphycus alvarezii*. *Media Akuakultur*, 2(1), 142–146.
- Peraturan Presiden Republik Indonesia No. 33. (2019). *Peta Panduan (Road Map) Pengembangan Industri Rumput Laut Nasional Tahun 2018-2021*.
- Planet. (2023). *Planet Imagery Product Specifications*.
- Pratama, I., & Albasri, H. (2021). Mapping and estimating harvest potential of seaweed culture using Worldview-2 Satellite images: A case study in Nusa Lembongan, Bali - Indonesia. *Aquatic Living Resources*, 34.
<https://doi.org/10.1051/alr/2021015>
- Priono, B. (2013). Budidaya rumput laut dalam upaya peningkatan industrialisasi perikanan. *Media Akuakultur*, 8(1).
- Purnamasari, E., Kamal, M., & Wicaksono, P. (2021). Comparison of vegetation indices for estimating above-ground mangrove carbon stocks using PlanetScope image. *Regional Studies in Marine Science*, 44.
<https://doi.org/10.1016/j.rsma.2021.101730>
- Putra, J. W. G. (2020). *Pengenalan Konsep Pembelajaran Mesin dan Deep Learning Edisi 1.4* (1.4).
- Richards, J. A. (2013). *Remote Sensing Digital Image Analysis* (5th ed.). Springer.
<https://doi.org/10.1007/978-3-642-30062-2>

- Ronneberger, O., Fischer, P., & Brox, T. (2015). U-net: Convolutional networks for biomedical image segmentation. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 9351, 234–241. https://doi.org/10.1007/978-3-319-24574-4_28
- Rusli, A., Ikkal Ilijas, M., Alias, M., & Budiman. (2020). Strategi pengelolaan budidaya rumput laut *Kappaphycus alvarezii* di Kabupaten Pangkep, Sulawesi Selatan. *Agrokompleks*, 20(1).
- Sammartino, M., Aronica, S., Santoleri, R., & Nardelli, B. B. (2022). Retrieving Mediterranean Sea Surface Salinity Distribution and Interannual Trends from Multi-Sensor Satellite and In Situ Data | Enhanced Reader. *Remote Sens*, 14(2502). <https://doi.org/10.3390/rs14102502>
- Simul Bhuyan, M. (2023). *Kappaphycus Rhodora Azanza Summary Datasheet Type(s) Preferred Scientific Name*.
- Soebroto, A. A. (2019). *Buku Ajar AI, Machine Learning & Deep Learning*. <https://www.researchgate.net/publication/348003841>
- Sumerah, S. S., Andaki, J. A., & Dien, ; Christian. (2020). Analisis Sensitivitas Usaha Budidaya Rumput Laut di Desa Nain Kecamatan Wori Kabupaten Minahasa Utara. *AKULTURASI Jurnal Ilmiah Agrobisnis Perikanan*, 8(1). <http://ejournal.unsrat.ac.id/index.php/akulturasi>
- Sun, H., Zheng, X., Lu, X., & Wu, S. (2020). Spectral-Spatial Attention Network for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, 58(5), 3232–3245. <https://doi.org/10.1109/TGRS.2019.2951160>
- Takahashi, R., Matsubara, T., & Uehara, K. (2015). Data Augmentation using Random Image Cropping and Patching for Deep CNNs. *Journal Of Latex Class Files*, 14(8). <https://doi.org/10.1109/TCSVT.2019.2935128>
- Tonion, F., & Pirotti, F. (2022). Seaweed Presence Detection Using Machine Learning and Remote Sensing. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, 43(B3-2022), 1011–1017. <https://doi.org/10.5194/isprs-archives-XLIII-B3-2022-1011-2022>

- Wang, X., Wang, X., Zhao, K., Zhao, X., & Song, C. (2022). FSL-Unet: Full-Scale Linked Unet With Spatial-Spectral Joint Perceptual Attention for Hyperspectral and Multispectral Image Fusion. *IEEE Transactions on Geoscience and Remote Sensing*, 60. <https://doi.org/10.1109/TGRS.2022.3208125>
- Wicaksono, P. (2012). The Effect of Sunlight on Satellite-Based Benthic Habitat Identification. In *International Journal of Advanced Research in Computer and Communication Engineering* (Vol. 1). www.ijarcce.com
- Wicaksono, P., Maishella, A., Arjasakusuma, S., Lazuardi, W., & Harahap, S. D. (2022). Assessment of WorldView-2 images for aboveground seagrass carbon stock mapping in patchy and continuous seagrass meadows. *International Journal of Remote Sensing*, 43(8), 2915–2941. <https://doi.org/10.1080/01431161.2022.2074809>
- Woo, S., Park, J., Lee, J.-Y., & Kweon, I. S. (2018). *CBAM: Convolutional Block Attention Module*. <http://arxiv.org/abs/1807.06521>
- Wu, Q., & Osco, L. P. (2023). samgeo: A Python package for segmenting geospatial data with the Segment Anything Model (SAM). *Journal of Open Source Software*, 8(89), 5663. <https://doi.org/10.21105/joss.05663>
- WWF Indonesia. (2014). *Budidaya Rumput Laut Kotoni (Kappaphycus alvarezii), Sacol (Kappaphycus striatum) dan Spinosum (Euचेuma denticulatum)* (Vol. 1).
- Yan, S., Xu, L., Yu, G., Yang, L., Yun, W., Zhu, D., Ye, S., & Yao, X. (2021). Glacier classification from Sentinel-2 imagery using spatial-spectral attention convolutional model. *International Journal of Applied Earth Observation and Geoinformation*, 102. <https://doi.org/10.1016/j.jag.2021.102445>
- Zhang, D., Zhao, J., Chen, J., Zhou, Y., Shi, B., & Yao, R. (2022). Edge-aware and spectral-spatial information aggregation network for multispectral image semantic segmentation. *Engineering Applications of Artificial Intelligence*, 114. <https://doi.org/10.1016/j.engappai.2022.105070>
- Zhao, Z., Chen, Y., Li, K., Ji, W., & Sun, H. (2024). Extracting Photovoltaic Panels From Heterogeneous Remote Sensing Images With Spatial and Spectral Differences. *IEEE Journal of Selected Topics in Applied Earth Observations*

and Remote Sensing, 17, 5553–5564.
<https://doi.org/10.1109/JSTARS.2024.3369660>

Zhu, M., Jiao, L., Liu, F., Yang, S., & Wang, J. (2021). Residual Spectral-Spatial Attention Network for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, 59(1), 449–462.
<https://doi.org/10.1109/TGRS.2020.2994057>