

DAFTAR PUSTAKA

- Abdalla, F. (2012). Mapping of groundwater prospective zones using remote sensing and GIS techniques: A case study from the Central Eastern Desert, Egypt. *Journal of African Earth Sciences*, 70, 8–17. <https://doi.org/10.1016/j.jafrearsci.2012.05.003>
- Abdulkareem, J. H., Sulaiman, W. N. A., Pradhan, B., & Jamil, N. R. (2018). Relationship between design floods and land use land cover (LULC) changes in a tropical complex catchment. *Arabian Journal of Geosciences*, 11(14), 1–17. <https://doi.org/10.1007/s12517-018-3702-4>
- Ahmad, A., & Quegan, S. (2012). Analysis of maximum likelihood classification on multispectral data. *Applied Mathematical Sciences*, 6(129–132), 6425–6436.
- Ahmadlou, M., Al-Fugara, A., Al-Shabeeb, A. R., Arora, A., Al-Adamat, R., Pham, Q. B., Al-Ansari, N., Linh, N. T. T., & Sajedi, H. (2021). Flood susceptibility mapping and assessment using a novel deep learning model combining multilayer perceptron and autoencoder neural networks. *Journal of Flood Risk Management*, 14(1), 1–22. <https://doi.org/10.1111/jfr3.12683>
- Aksoy, H., Ozgur Kirca, V. S., Burgan, H. I., & Kellecioglu, D. (2016). Hydrological and hydraulic models for determination of flood-prone and flood inundation areas. *IAHS-AISH Proceedings and Reports*, 373, 137–141. <https://doi.org/10.5194/piahs-373-137-2016>
- Ali, M., Hadi, S., & Sulistyantara, B. (2016). Study on Land Cover Change of Ciliwung Downstream Watershed with Spatial Dynamic Approach. *Procedia - Social and Behavioral Sciences*, 227(November 2015), 52–59. <https://doi.org/10.1016/j.sbspro.2016.06.042>
- Anusha, N., & Bharathi, B. (2020). Flood detection and flood mapping using multi-temporal synthetic aperture radar and optical data. *Egyptian Journal of Remote Sensing and Space Science*, 23(2), 207–219. <https://doi.org/10.1016/j.ejrs.2019.01.001>
- Apollonio, C., Balacco, G., Novelli, A., Tarantino, E., & Piccinni, A. F. (2016). Land use change impact on flooding areas: The case study of Cervaro Basin (Italy). *Sustainability (Switzerland)*, 8(10), 1–18. <https://doi.org/10.3390/su8100996>
- Araújo, M. B., & Guisan, A. (2006). Five (or so) challenges for species distribution modelling. *Journal of Biogeography*, 33(10), 1677–1688. <https://doi.org/10.1111/j.1365-2699.2006.01584.x>
- Arief, M., Anggraini, N., Adawiah, S. W., Hartuti, M., & Suwargana, N. (2017). Aplikasi Data Satelit Radar Sentinel-1A Guna Deteksi Hutan Mangrove Studi Kasus : Segara Anakan , Kabupaten Cilacap. *Seminar Nasional Penginderaan Jauh Ke-4 Tahun 2017, 1982*, 277–289.
- Asdak, C. (2007). *Hidrologi dan Pengelolaan Daerah Aliran Sungai*. Gadjah Mada University Press.
- Asdak, C. (2020). *Hidrologi dan Pengelolaan Daerah Aliran Sungai*. Gadjah Mada University Press.

- Ballerine, C. (2017). Topographic Wetness Index Urban Flooding Awareness Act Action Support. In *Contract Report 2017-02* (Issue April). Will & DuPage Counties, Illinois. <https://www.isws.illinois.edu/pubdoc/CR/ISWSCR2017-02.pdf>
- Bangare, S. L., Dubal, A., Bangare, P. S., & Patil, S. T. (2015). Reviewing otsu's method for image thresholding. *International Journal of Applied Engineering Research*, 10(9), 21777–21783. <https://doi.org/10.37622/ijaer/10.9.2015.21777-21783>
- Baz, I., Geymen, A., & Er, S. N. (2009). Development and application of GIS-based analysis/synthesis modeling techniques for urban planning of Istanbul Metropolitan Area. *Advances in Engineering Software*, 40(2), 128–140. <https://doi.org/10.1016/j.advengsoft.2008.03.016>
- Berhitu, P. T., & Mulyono, R. . (2014). Luas Daerah Pengaliran. *Jurnal TEKNOLOGI*, 11(2), 2045–2053.
- BPBD. (2020). *Fenomena La Nina Menghampiri Kulonprogo*. <https://bpbd.kulonprogokab.go.id/detil/385/fenomena-la-nina-menghampiri-kulon-progo>
- Buchanan, B. P., Schneider, R. L., Richards, B. K., & Archibald, J. (2014). *Evaluating topographic wetness indices across Central New York agricultural landscapes*. September 2016. <https://doi.org/10.5194/hess-18-3279-2014>
- Cao, C., Xu, P., Wang, Y., Chen, J., Zheng, L., & Niu, C. (2016). Flash flood hazard susceptibility mapping using frequency ratio and statistical index methods in coalmine subsidence areas. *Sustainability (Switzerland)*, 8(9). <https://doi.org/10.3390/su8090948>
- Cao, H., Zhang, H., Wang, C., & Zhang, B. (2019). Operational flood detection using Sentinel-1 SAR data over large areas. *Water (Switzerland)*, 11(4), 1–21. <https://doi.org/10.3390/w11040786>
- Charlton, R., Fealy, R., Moore, S., & Sweeney, J. (2006). *AND FLOOD HAZARD IN IRELAND USING STATISTICAL DOWNSCALING AND HYDROLOGICAL MODELLING TECHNIQUES*. 475–491. <https://doi.org/10.1007/s10584-006-0472-x>
- Clement, M. A., Kilsby, C. G., & Moore, P. (2018). Multi-temporal synthetic aperture radar flood mapping using change detection. *Journal of Flood Risk Management*, 11(2), 152–168. <https://doi.org/10.1111/jfr3.12303>
- Dadhich, G., Miyazaki, H., & Babel, M. (2019). Applications of sentinel-1 synthetic aperture radar imagery for floods damage assessment: A case study of nakhon si thammarat, Thailand. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, 42(2/W13), 1927–1931. <https://doi.org/10.5194/isprs-archives-XLII-2-W13-1927-2019>
- Danoedoro, P. (2012). *Pengantar Penginderaan Jauh Digital*. Andi Offset.
- Darmawan, K., Hani'ah, & Suprayogi, A. (2017). Analisis Tingkat Kerawanan Banjir di Kabupaten Sampang Menggunakan Metode Overlay dengan Scoring Berbasis Sistem Informasi Geografis. *Jurnal Geodesi Undip*, 6, 31–40.
- Das, S. (2018). Geographic information system and AHP-based flood hazard

- zonation of Vaitarna basin, Maharashtra, India. *Arabian Journal of Geosciences*, 11(19). <https://doi.org/10.1007/s12517-018-3933-4>
- Direktorat Jenderal Sumber Daya Air. (2010). *Pengelolaan Sumber Daya Air Wilayah Sungai Progo-Opak-Serang*. [http://sda.pu.go.id/produk/mfhandler.php?file=2010_Pola PSDA Progo-Opak-Serang.pdf&table=newsmain&field=Attachment&pageType=list&key1=137](http://sda.pu.go.id/produk/mfhandler.php?file=2010_Pola_PSDA_Progo-Opak-Serang.pdf&table=newsmain&field=Attachment&pageType=list&key1=137)
- Du, Y., Zhang, Y., Ling, F., Wang, Q., Li, W., & Li, X. (2016). Water bodies' mapping from Sentinel-2 imagery with Modified Normalized Difference Water Index at 10-m spatial resolution produced by sharpening the swir band. *Remote Sensing*, 8(4). <https://doi.org/10.3390/rs8040354>
- Duarte, D. C., Zanetti, J., Gripp Junior, J., & Medeiros, N. (2018). Comparison of supervised classification methods of Maximum Likelihood, Minimum Distance, Parallelepiped and Neural Network in images of Unmanned Air Vehicle (UAV) in Viçosa - MG. *Revista Brasileira de Cartografia*, 70(2), 437–452. <https://doi.org/10.14393/rbcv70n2-45377>
- Erena, S. H., & Worku, H. (2019). Urban flood vulnerability assessments: the case of Dire Dawa city, Ethiopia. *Natural Hazards*, 97(2), 495–516. <https://doi.org/10.1007/s11069-019-03654-9>
- ESA, E. S. A. (2013). Sentinel-2 User Handbook. In *Industrial and Engineering Chemistry*. <https://doi.org/10.1021/ie51400a018>
- Ezemonye, M., & Emeribe, C. (2011). Flood Characteristics and Management Adaptations in Parts of the Imo River System. *Ethiopian Journal of Environmental Studies and Management*, 4(3). <https://doi.org/10.4314/ejesm.v4i3.8>
- Falah, F., Rahmati, O., Rostami, M., Ahmadisharaf, E., Daliakopoulos, I. N., & Pourghasemi, H. R. (2019). Artificial Neural Networks for Flood Susceptibility Mapping in Data-Scarce Urban Areas. *Spatial Modeling in GIS and R for Earth and Environmental Sciences*, February, 323–336. <https://doi.org/10.1016/b978-0-12-815226-3.00014-4>
- Geospasial, B. I. (2018). DEMNAS. <https://tanahair.indonesia.go.id/demnas/#/>
- Glenn, E. P., Morino, K., Nagler, P. L., Murray, R. S., Pearlstein, S., & Hultine, K. R. (2012). Roles of saltcedar (*Tamarix* spp.) and capillary rise in salinizing a non-flooding terrace on a flow-regulated desert river. *Journal of Arid Environments*, 79, 56–65. <https://doi.org/10.1016/j.jaridenv.2011.11.025>
- Haas, J. (2010). *Soil moisture modelling using TWI and satellite imagery in the Stockholm region*. March, 103. <http://www.diva-portal.org/smash/record.jsf?pid=diva2:460111>
- Iswari, M. Y., & Anggraini, K. (2018). Demnas: Model Digital Ketinggian Nasional Untuk Aplikasi Kepesisiran. *Oseana*, 43(4). <https://doi.org/10.14203/oseana.2018.vol.43no.4.2>
- Jahangir, M. H., Mousavi Reineh, S. M., & Abolghasemi, M. (2019). Spatial predication of flood zonation mapping in Kan River Basin, Iran, using artificial neural network algorithm. *Weather and Climate Extremes*, 25(July), 100215. <https://doi.org/10.1016/j.wace.2019.100215>
- Jensen, J. R. (2016). *Introductory Digital Image Processing: A Remote Sensing*

- Perspective, 4th Edition*. Pearson Education Limited.
- Jordan, G., Meijninger, B. M. L., & Hinsbergen, D. J. J. Van. (2005). *Extraction of morphotectonic features from DEMs : Development and applications for study areas in Hungary and NW Greece*. 7, 163–182. <https://doi.org/10.1016/j.jag.2005.03.003>
- Khosravi, K., Nohani, E., Maroufinia, E., & Pourghasemi, H. R. (2016). A GIS-based flood susceptibility assessment and its mapping in Iran: a comparison between frequency ratio and weights-of-evidence bivariate statistical models with multi-criteria decision-making technique. *Natural Hazards*, 83(2), 947–987. <https://doi.org/10.1007/s11069-016-2357-2>
- Kia, M. B., Pirasteh, S., Pradhan, B., Mahmud, A. R., Sulaiman, W. N. A., & Moradi, A. (2012). An artificial neural network model for flood simulation using GIS: Johor River Basin, Malaysia. *Environmental Earth Sciences*, 67(1), 251–264. <https://doi.org/10.1007/s12665-011-1504-z>
- Kodoatie, R. J., & Sugiyanto. (2001). *Banjir*.
- Kodoatie, R. J., & Sugiyanto. (2002). *Banjir, Beberapa Penyebab dan Metode Pengendaliannya dalam Perspektif Lingkungan*. Pustaka Pelajar.
- Kordelas, G. A., Manakos, I., Aragonés, D., Díaz-Delgado, R., & Bustamante, J. (2018). Fast and automatic data-driven thresholding for inundation mapping with Sentinel-2 data. *Remote Sensing*, 10(6), 1–23. <https://doi.org/10.3390/rs10060910>
- Lestari, A. D., Suriani, M., & Julismin, J. (2013). Analisis Tingkat Kerentanan Banjir Dengan Pendekatan Geoekosistem Di Sub Das Babura Provinsi Sumatera Utara. *Jupiis: Jurnal Pendidikan Ilmu-Ilmu Sosial*, 5(1), 19–31. <https://doi.org/10.24114/jupiis.v5i1.472>
- Li, J., & Wang, S. (2015). An automatic method for mapping inland surface waterbodies with Radarsat-2 imagery. *International Journal of Remote Sensing*, 36(5), 1367–1384. <https://doi.org/10.1080/01431161.2015.1009653>
- Li, Y., Martinis, S., Plank, S., & Ludwig, R. (2018). An automatic change detection approach for rapid flood mapping in Sentinel-1 SAR data. *International Journal of Applied Earth Observation and Geoinformation*, 73(August), 123–135. <https://doi.org/10.1016/j.jag.2018.05.023>
- Liuzzo, L., Sammartano, V., & Freni, G. (2019). Comparison between Different Distributed Methods for Flood Susceptibility Mapping. *Water Resources Management*, 33(9), 3155–3173. <https://doi.org/10.1007/s11269-019-02293-w>
- Luk, K. C., Ball, J. E., & Sharma, A. (2001). An application of artificial neural networks for rainfall forecasting. *Mathematical and Computer Modelling*, 33(6–7), 683–693. [https://doi.org/10.1016/S0895-7177\(00\)00272-7](https://doi.org/10.1016/S0895-7177(00)00272-7)
- Mahmon, N. A., Ya’Acob, N., & Yusof, A. L. (2015). Differences of image classification techniques for land use and land cover classification. *Proceedings - 2015 IEEE 11th International Colloquium on Signal Processing and Its Applications, CSPA 2015*, 90–94. <https://doi.org/10.1109/CSPA.2015.7225624>
- Manap, M. A., Nampak, H., Pradhan, B., Lee, S., Sulaiman, W. N. A., & Ramli, M. F. (2014). Application of probabilistic-based frequency ratio model in

- groundwater potential mapping using remote sensing data and GIS. *Arabian Journal of Geosciences*, 7(2), 711–724. <https://doi.org/10.1007/s12517-012-0795-z>
- Marques, O. (2011). Practical Image and Video Processing Using MATLAB®. In *Practical Image and Video Processing Using MATLAB®*. <https://doi.org/10.1002/9781118093467>
- Miardini, A., & Saragih, G. S. (2019). Penentuan Prioritas Penanganan Banjir Genangan Berdasarkan Tingkat Kerawanan Menggunakan Topographic Wetness Index Studi Kasus di Das Solo. *Jurnal Ilmu Lingkungan*, 17(1), 113. <https://doi.org/10.14710/jil.17.1.113-119>
- Moore, I. D., Grayson, R. B., & Ladson, A. R. (1991). Digital terrain modelling: A review of hydrological, geomorphological, and biological applications. *Hydrological Processes*, 5(1), 3–30. <https://doi.org/10.1002/hyp.3360050103>
- Mosavi, A., Ozturk, P., & Chau, K. W. (2018). Flood prediction using machine learning models: Literature review. *Water (Switzerland)*, 10(11), 1–40. <https://doi.org/10.3390/w10111536>
- N, T., & M, N. (2021). *ALOS-2 and Sentinel-1 Backscattering Coefficients for Water and Flood Detection in Nakhon Phanom Province , Northeastern Thailand*. 17(3), 39–48.
- Notohadiprawiro, T. (1988). *Tanah, Tataguna Lahan dan Tata Ruang dalam Analisis Dampak Lingkungan*. PPLHUGM, Yogyakarta.
- Pothiraj, P., & Baskaran, R. (2014). A GIS and remote sensing based evaluation of groundwater potential zones in a hard rock terrain of Vaigai. December 2011. <https://doi.org/10.1007/s12517-011-0512-3>
- Pourali, S. H., Arrowsmith, C., Chrisman, N., Matkan, A. A., & Mitchell, D. (2014). Topography Wetness Index Application in Flood-Risk-Based Land Use Planning. *Applied Spatial Analysis and Policy*, 9(1), 39–54. <https://doi.org/10.1007/s12061-014-9130-2>
- Prasad, G., Vinod, P. G., & John, S. E. (2018). Delineation of ground water potential zones using GIS and remote sensing - A case study from midland region of Vamanapuram river basin, Kerala, India. *AIP Conference Proceedings*, 1952. <https://doi.org/10.1063/1.5031990>
- Rahayu, H. P. (2009). *Banjir dan Upaya penanggulanganya*. Promise Indonesia.
- Rejith, R. G., Anirudhan, S., & Sundararajan, M. (2019). Delineation of groundwater potential zones in hard rock terrain using integrated remote sensing, GIS and MCDM techniques: A case study from vamanapuram river basin, Kerala, India. In *GIS and Geostatistical Techniques for Groundwater Science*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-815413-7.00025-0>
- Safitri, S. (2015). El Nino , La Nina dan Dampaknya Terhadap Kehidupan. *Jurnal Criksetra*, 4(8), 153.
- Setyowati, L. . (2010). *Hubungan Hujan dan Limpasan pada Berbagai Dinamika Spasial Penggunaan Lahan di DAS Kreo Jawa Tengah*. Universitas Gadjah Mada.
- Setyowati, L. . (2011). Antisipasi Penduduk Dalam Menghadapi Banjir Kali Garang Kota Semarang. *Forum Ilmu Sosial*, 35(2), 171–181. <https://doi.org/10.15294/fis.v35i2.1294>

- Seyhan. (1990). *Dasar-Dasar Hidrologi*. Translation Copyright. Gadjah Mada University Press.
- Shafian, S., Rajan, N., Schnell, R., Bagavathiannan, M., Valasek, J., Shi, Y., & Olsenholler, J. (2018). Unmanned aerial systems-based remote sensing for monitoring sorghum growth and development. *PLoS ONE*, 13(5). <https://doi.org/10.1371/journal.pone.0196605>
- Shahabi, H., Shirzadi, A., Ghaderi, K., Omidvar, E., Al-Ansari, N., Clague, J. J., Geertsema, M., Khosravi, K., Amini, A., Bahrami, S., Rahmati, O., Habibi, K., Mohammadi, A., Nguyen, H., Melesse, A. M., Ahmad, B. Bin, & Ahmad, A. (2020). Flood detection and susceptibility mapping using Sentinel-1 remote sensing data and a machine learning approach: Hybrid intelligence of bagging ensemble based on K-Nearest Neighbor classifier. *Remote Sensing*, 12(2). <https://doi.org/10.3390/rs12020266>
- Soewarno. (1991). *Hidrologi: Pengukuran dan Pengolahan Data Aliran Sungai (Hidrometri)*. Nova.
- Sukowati, K. A. D., & Kusratmoko, E. (2019). Analysis of the distribution of flood area in Karawang Regency using SAR Sentinel 1A image. *IOP Conference Series: Earth and Environmental Science*, 311(1). <https://doi.org/10.1088/1755-1315/311/1/012085>
- Tehrany, M. S., Pradhan, B., & Jebur, M. N. (2013). Spatial prediction of flood susceptible areas using rule based decision tree (DT) and a novel ensemble bivariate and multivariate statistical models in GIS. *Journal of Hydrology*, 504, 69–79. <https://doi.org/10.1016/j.jhydrol.2013.09.034>
- Tiwari, V., Kumar, V., Matin, M. A., Thapa, A., Ellenburg, W. L., Gupta, N., & Thapa, S. (2020). Flood inundation mapping-Kerala 2018; Harnessing the power of SAR, automatic threshold detection method and Google Earth Engine. *PLoS ONE*, 15(8 August), 1–17. <https://doi.org/10.1371/journal.pone.0237324>
- Utama, A. G., Wijaya, A. P., & Sukmono, A. (2016). KAJIAN KERAPATAN SUNGAI DAN INDEKS PENUTUPAN LAHAN SUNGAI MENGGUNAKAN PENGINDERAAN JAUH (Studi Kasus : DAS Juana). *Jurnal Geodesi Undip*, 5(1), 285–293.
- Wakabayashi, H., Motohashi, K., Kitagami, T., Tjahjono, B., Dewayani, S., Hidayat, D., & Hongo, C. (2019). Flooded area extraction of rice paddy field in Indonesia using sentinel-1 SAR data. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, 42(3/W7), 73–76. <https://doi.org/10.5194/isprs-archives-XLII-3-W7-73-2019>
- Wang, Z., Lai, C., Chen, X., Yang, B., Zhao, S., & Bai, X. (2015). Flood hazard risk assessment model based on random forest. *JOURNAL OF HYDROLOGY*, 527, 1130–1141. <https://doi.org/10.1016/j.jhydrol.2015.06.008>
- Zevenbergen, L. W., & Thorne, C. R. (1987). Quantitative analysis of land surface topography. *Earth Surface Processes and Landforms*, 12(1), 47–56. <https://doi.org/10.1002/esp.3290120107>