

DAFTAR PUSTAKA

- Aly, M.H., Giardino, J.R., Klein, A.G., 2005. Suitability assessment for New Minia City, Egypt: A GIS approach to engineering geology. *Environ. Eng. Geosci.* 11, 259–269. <https://doi.org/10.2113/11.3.259>
- Badan Standarisasi Nasional, 2012. SNI 1726-2012 tentang Tata Cara Perencanaan Ketahanan Gempa Untuk Struktur Bangunan Gedung dan Non Gedung. <https://doi.org/10.1080/0893569032000131613>
- Banai, R., 2005. Land resource sustainability for urban development: Spatial decision support system prototype. *Environ. Manage.* 36, 282–296. <https://doi.org/10.1007/s00267-004-1047-0>
- Bathrellos, G.D., Kalivas, D.P., Skilodimou, H.D., 2009. GIS-based landslide susceptibility mapping models applied to natural and urban planning in Trikala, central Greece. *Estud. Geol.* 65, 49–65. <https://doi.org/10.3989/egeol.08642.036>
- Bathrellos, G.D., Papanastassiou, K.G., Skilodimou, H.D., Papanastassiou, D., Chousianitis, K.G., 2012. Potential Suitability for Urban Planning and Industry Development Using Natural Hazard Maps and Geological–Geomorphological Parameters. *Environ. Earth Sci.* 66, 537–548. <https://doi.org/10.1007/s12665-011-1263-x>
- Bathrellos, G.D., Skilodimou, H.D., Chousianitis, K., Youssef, A.M., Pradhan, B., 2017. Suitability estimation for urban development using multi-hazard assessment map. *Sci. Total Environ.* 575, 119–134. <https://doi.org/10.1016/j.scitotenv.2016.10.025>
- BNPB, 2018. Indeks Risiko Bencana Indonesia.
- Carver, S.J., 1991. Integrating Multi-Criteria Evaluation with Geographical Information Systems. *Int. J. Geogr. Inf. Syst.* 5, 321–339. <https://doi.org/10.1080/02693799108927858>
- Cengiz, T., Akbulak, C., 2009. Application of analytical hierarchy process and geographic information systems in land-use suitability evaluation: A case study of Dümrek village (Çanakkale, Turkey). *Int. J. Sustain. Dev. World Ecol.* 16, 286–294. <https://doi.org/10.1080/13504500903106634>
- Chand, F., 1999. Environmental Geology in Urban Development. *Bull. Geol. Soc. Malaysia* 43, 329–335. <https://doi.org/10.7186/bgsm43199932>

- Chen, C., Huang, C., 2004. A multiple criteria evaluation of high-tech industries for the science-based industrial park in Taiwan. *Inf. Manag.* 41, 839–851. <https://doi.org/10.1016/j.im.2003.02.002>
- Chen, Y., Ma, C., 2013. Geological environment suitability evaluation and function regionalization in Zhongyuan Urban Agglomeration. *Appl. Mech. Mater.* 368–370, 340–345. <https://doi.org/10.4028/www.scientific.net/AMM.368-370.340>
- Collins, M.G., Steiner, F.R., Rushman, M.J., 2001. Land-Use Suitability Analysis in The United States: Historical Development and Promising Technological Achievements. *Environ. Manage.* 28, 611–621. <https://doi.org/10.1007/s002670010247>
- Cruden, D.M., 1991. A simple definition of a landslide. *Bull. Int. Assoc. Eng. Geol. - Bull. l'Association Int. Géologie l'Ingénieur* 43, 27–29. <https://doi.org/10.1007/BF02590167>
- Dai, F.C., Lee, C.F., Zhang, X.H., 2001. GIS-Based Geo-Environmental Evaluation for Urban Land-Use Planning: A Case Study. *Eng. Geol.* 61, 257–271. [https://doi.org/10.1016/S0013-7952\(01\)00028-X](https://doi.org/10.1016/S0013-7952(01)00028-X)
- Doyle, P., 2005. Environmental Geology. *Enycl. Geol.* 25–33. <https://doi.org/10.1016/B0-12-369396-9/00204-5>
- Duc, T.T., 2006. Using GIS and AHP Technique for Land-Use Suitability Analysis, in: *International Symposium on Geoinformatics for Spatial Infrastructure Development in Earth and Allied Sciences*. pp. 1–6.
- Eastman, J.R., Jiang, H., Toledano, J., 1998. Multi-criteria and multi-objective decision making for land allocation using GIS 227–251. https://doi.org/10.1007/978-94-015-9058-7_13
- Fedeski, M., Gwilliam, J., 2007. Urban sustainability in the presence of flood and geological hazards: The development of a GIS-based vulnerability and risk assessment methodology. *Landsc. Urban Plan.* 83, 50–61. <https://doi.org/10.1016/j.landurbplan.2007.05.012>
- Fisher, R. V., 1966. Rocks composed of volcanic fragments and their classification. *Earth Sci. Rev.* [https://doi.org/10.1016/0012-8252\(66\)90010-9](https://doi.org/10.1016/0012-8252(66)90010-9)
- Girard, L.F., Toro, P. De, 2007. Integrated spatial assessment: A multicriteria approach to sustainable development of cultural and environmental heritage in San Marco dei Cavoti, Italy. *Cent. Eur. J. Oper. Res.* 15, 281–299. <https://doi.org/10.1007/s10100-007-0031-1>
- Guo, L., Guo, X., Wu, B., Yang, P., Kou, Y., Li, N., Tang, H., 2020. Geo-

- environmental suitability assessment for tunnel in sub-deep layer in Zhengzhou. *Eur. J. Remote Sens.* 1–7. <https://doi.org/10.1080/22797254.2020.1788994>
- Hill, M.J., Braaten, R., Veitch, S.M., Lees, B.G., Sharma, S., 2005. Multi-criteria decision analysis in spatial decision support: The ASSESS analytic hierarchy process and the role of quantitative methods and spatially explicit analysis. *Environ. Model. Softw.* 20, 955–976. <https://doi.org/10.1016/j.envsoft.2004.04.014>
- Hiscock, K.M., Lovett, A.A., Brainard, J.S., Parfitt, J.P., 1995. Groundwater Vulnerability Assessment: Two Case Studies Using GIS Methodology. *Q. J. Eng. Geol.* 28, 179–194. <https://doi.org/10.1144/gsl.qjgeh.1995.028.p2.09>
- Hopkins, L.D., 1977. Methods for Generating Land Suitability Maps: A Comparative Evaluation. *J. Am. Plan. Assoc.* 43, 386–400. <https://doi.org/10.1080/01944367708977903>
- Ikatan Ahli Geologi Indonesia (IAGI), 1996. *Sandi Stratigrafi Indonesia Edisi 1996*, 1996th ed. Jakarta.
- Indrastomo, F.D., Sukadana, I.G., Suharji, S., 2017. Identifikasi Pola Struktur Geologi Sebagai Pengontrol Sebaran Mineral Radioaktif Berdasarkan Kelurusan Pada Citra Landsat-8 di Mamuju, Sulawesi Barat. *Eksplorium* 38, 71. <https://doi.org/10.17146/eksplorium.2017.38.2.3874>
- Irigaray, C., 1994. GIS Geotechnical and Environmental Assessment of Site Selection for Urban Waste Disposal in the Granada District (Spain), in: *Proceedings Seventh International Congress International Association Of Engineering Geology*.
- Ju, C.Y., Jia, Y.G., Shan, H.X., Tang, C.W., Ma, W.J., 2012. GIS-Based Coastal Area Suitability Assessment of Geo-Environmental Factors In Laoshan District, Qingdao. *Nat. Hazards Earth Syst. Sci.* 12, 143–150. <https://doi.org/10.5194/nhess-12-143-2012>
- Liu, R., Zhang, K., Zhang, Z., Borthwick, A.G.L., 2014. Land-use suitability analysis for urban development in Beijing. *J. Environ. Manage.* 145, 170–179. <https://doi.org/10.1016/j.jenvman.2014.06.020>
- Lyle, J., Stutz, F.P., 1983. Computerised land use suitability mapping. *Cartogr. J.* 20, 39–49. <https://doi.org/10.1179/caj.1983.20.1.39>
- Malczewski, J., 2004. GIS-based land-use suitability analysis: a critical overview. *Prog. Plann.* 62, 3–65.

<https://doi.org/10.1016/j.progress.2003.09.002>

Menteri Pekerjaan Umum RI, 2007. Peraturan Menteri Pekerjaan Umum Nomor 22/PRT/M/2007 tentang Pedoman Penataan Ruang Kawasan Rawan Bencana Longsor.

Miller, W., Collins, M.G., Steiner, F.R., Cook, E., 1998. An approach for greenway suitability analysis. *Landsc. Urban Plan.* 42, 91–105. [https://doi.org/10.1016/S0169-2046\(98\)00080-2](https://doi.org/10.1016/S0169-2046(98)00080-2)

Moghaddam, K.R., Karami, E., 2008. A multiple criteria evaluation of sustainable agricultural development models using AHP. *Environ. Dev. Sustain.* 10, 407–426. <https://doi.org/10.1007/s10668-006-9072-1>

Noor, D., 2006. *Geologi Lingkungan*, Edisi pert. ed. Graha Ilmu, Yogyakarta.

Peraturan Daerah Provinsi Sulawesi Barat Nomor 1 Tahun 2014 tentang Rencana Tata Ruang Wilayah Provinsi Sulawesi Barat Tahun 2014-2034, 2014.

Peraturan Menteri Kesehatan RI Nomor 492/PERMENKES/PER/IV/2010 tentang Persyaratan Kualitas Air Minum, 2010.

Peraturan Menteri Pekerjaan Umum No. 22/PRT/M/2007 tentang Pedoman Penataan Ruang Kawasan Rawan Bencana Longsor, 2007.

Peraturan Pemerintah Republik Indonesia Nomor 13 Tahun 2017 Tentang Perubahan Atas Peraturan Pemerintah Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional, 2017.

Peraturan Pemerintah Republik Indonesia Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional, 2008.

Peraturan Pemerintah Republik Indonesia Nomor 36 Tahun 2005 Tentang Pelaksanaan Undang-Undang No.28 Tahun 2002 Tentang Bangunan Gedung., 2005.

Prakash, T.N., 2003. Land suitability analysis for agricultural crops: A fuzzy Multicriteria Decision Making Approach. Thesis. International Institute for Geo-information Science and Earth Observation.

Ratman, N. dan Atmawinata, S., 1993. *Peta Geologi Indonesia Lembar Mamuju, Sulawesi*. Bandung.

Saaty, R.W., 1987. The analytic hierarchy process-what it is and how it is used. *Math. Model.* 9, 161–176. <https://doi.org/10.1016/0270->

0255(87)90473-8

- Saaty, T.L., 2004. Decision making — the Analytic Hierarchy and Network Processes (AHP/ANP). *J. Syst. Sci. Syst. Eng.* 13, 1–35. <https://doi.org/10.1007/s11518-006-0151-5>
- Saaty, T.L., 1977a. A scaling method for priorities in hierarchical structures. *J. Math. Psychol.* 15, 234–281. [https://doi.org/10.1016/0022-2496\(77\)90033-5](https://doi.org/10.1016/0022-2496(77)90033-5)
- Saaty, T.L., 1977b. A scaling method for priorities in hierarchical structures. *J. Math. Psychol.* 15, 234–281. [https://doi.org/10.1016/0022-2496\(77\)90033-5](https://doi.org/10.1016/0022-2496(77)90033-5)
- Selley, R.C., 1976. *Introduction to Sedimentology*, Academic Press. <https://doi.org/10.1017/s0016756800050834>
- Sharma, A., Miyazaki, H., 2019. Multi-hazard risk assessment in urban planning and development using AHP. *Int. Arch. Photogramm. Remote Sens. Spat. Inf. Sci. - ISPRS Arch.* 42, 363–371. <https://doi.org/10.5194/isprs-archives-XLII-3-W8-363-2019>
- Sidarto, 2008. Sesar Baratlaut-Tenggara Di Daerah Mamuju dan Sekitarnya Dan Hubungannya Dengan Pembentukan Cekungan Karama. *JSDG* 18.
- Sukadana, I.G., Harijoko, A., Setijadji, L.D., 2015a. Tataan Tektonika Batuan Gunung Api di Komplek Adang Kabupaten Mamuju Provinsi Sulawesi Barat. *Eksplorium* 36, 31–44. <https://doi.org/10.17146/eksplorium.2015.36.1.2769>
- Sukadana, I.G., Indrastomo, F., Syaeful, H., 2015b. Geology and Radionuclide Ratio Mapping For Radioaktif Mineral Exploration in Mamuju West Sulawesi, in: *Prosiding Seminar Nasional Teknologi Energi Nuklir 2015*. pp. 140–147.
- Tajo, A., Zubair, H., Imran, A.M., 2013. Kajian Potensi Banjir Kota Mamuju Propinsi Sulawesi Barat. *Geosains* 09, 1–14.
- Thirumalaivasan, D., Karmegam, M., Venugopal, K., 2003. AHP-DRASTIC: Software for specific aquifer vulnerability assessment using DRASTIC model and GIS. *Environ. Model. Softw.* 18, 645–656. [https://doi.org/10.1016/S1364-8152\(03\)00051-3](https://doi.org/10.1016/S1364-8152(03)00051-3)
- Travis, R.B., 1955. *Classification of Rocks*. Colorado School of Mines, Colorado.
- Tudes, S., Yigiter, N.D., 2010. Preparation of land use planning model

- using GIS based on AHP: Case study Adana-Turkey. *Bull. Eng. Geol. Environ.* 69, 235–245. <https://doi.org/10.1007/s10064-009-0247-5>
- Undang-Undang Republik Indonesia Nomor 26 Tahun 2007 tentang Penataan Ruang, 2007. . Indonesia.
- Undang-Undang Republik Indonesia Nomor 28 Tahun 2002 tentang Bangunan Gedung, 2002.
- Uy, P.D., Nakagoshi, N., 2008. Application of land suitability analysis and landscape ecology to urban greenspace planning in Hanoi, Vietnam. *Urban For. Urban Green.* 7, 25–40. <https://doi.org/10.1016/j.ufug.2007.09.002>
- Wang, X.D., Zhong, X.H., Liu, S.Z., Liu, J.G., Wang, Z.Y., Li, M.H., 2008. Regional assessment of environmental vulnerability in the Tibetan Plateau: Development and application of a new method. *J. Arid Environ.* 72, 1929–1939. <https://doi.org/10.1016/j.jaridenv.2008.06.005>
- Weiss, E.N., 1987. Using the analytic hierarchy process in a dynamic environment. *Math. Model.* 9, 211–216. [https://doi.org/10.1016/0270-0255\(87\)90478-7](https://doi.org/10.1016/0270-0255(87)90478-7)
- Wentworth, C.K., 1922. A Scale of Grade and Class Terms for Clastic Sediments. *Univ. Chicago Press* 30, 377–392.
- Wind, Y., Saaty, T.L., 1980. Marketing Applications of the Analytic Hierarchy Process. *Manage. Sci.* <https://doi.org/10.1287/mnsc.26.7.641>
- Xu, K., Kong, C., Li, J., Zhang, L., Wu, C., 2011. Suitability Evaluation of Urban Construction Land Based on Geo-Environmental Factors of Hangzhou, China. *Comput. Geosci.* 37, 992–1002. <https://doi.org/10.1016/j.cageo.2011.03.006>
- Zhang, X., Fang, C., Wang, Z., Ma, H., 2013. Urban construction land suitability evaluation based on improved multi-criteria evaluation based on GIS (MCE-GIS): Case of New Hefei City, China. *Chinese Geogr. Sci.* 23, 740–753. <https://doi.org/10.1007/s11769-013-0609-6>
- Zuidam, R.A.V., 1986. Aerial photo-interpretation in terrain analysis and geomorphologic mapping., *ITC.* <https://doi.org/10.2307/634926>
- Zuidam, R.A. Van, 1986. Aerial photo-interpretation in terrain analysis and geomorphologic mapping. *Aer. photo-interpretation terrain Anal. Geomorphol. mapping.* <https://doi.org/10.2307/634926>