

## DAFTAR PUSTAKA

- Abdelmadjid. B. dan Omar, S. (2013). Assessment of Groundwater Pollution by Nitrates Using Intrinsic Vulnerability Methods: A Case Study of the Nil Valley Groundwater (Jijel, North-East Algeria). *African Journal of Environmental Science and Technology*, 7 (10) : 949-960
- Adji, T. N., Haryono, E., Suprojo. S.W., (1999). Kawasan Karst dan Prospek Pengembangannya di Indonesia, *Prosiding Seminar PIT IGI di Universitas Indonesia*, 26-27 Oktober 1999
- Aller L, Bennett T, Lehr J, Petty J (1987) *DRASTIC: A Standardised System for Evaluating Groundwater Pollution Potential Using Hydrogeologic Settings*. Oklahoma : US Environmental Protection Agency,
- Andreo B, Goldscheider N, Vadillo I, Vías JM, Neukum C, Sinreich M, Jiménez P, Brechenmacher J, Carrasco F, Hötzl H, Perles MJ, Zwahlen F (2006) Karst Groundwater Protection: First Application of A Pan-European Approach to Vulnerability, Hazard and Risk Mapping in the Sierra De Líbar (Southern Spain). *Sci Total Environ* 357(1–3):54–73
- Appelo, C.A.J and Postma, D. (2005). *Geochemistry, Groundwater and Pollution*, 2nd ed. Rotterdam: Balkema Publishers.
- Asdak, C. (2014). *Hidrologi dan Pengelolaan Daerah Sungai*. Yogyakarta : Gadjah Mada University Press
- Bagherzadeh, S., Kalantari, N., Nobandegani, A. F., Derakhshan, Z., Conti, G. O., Ferrante, M., & Malekahmadi, R. (2018). Groundwater Vulnerability Assessment in Karstic Aquifers Using COP Method. *Environmental Science and Pollution Research*, 25 (19), 18960–18979. <https://doi.org/10.1007/s11356-018-1911-8>
- Bakalowicz, M. (2005). Karst Groundwater: A Challenge for New Resources. *Hydrogeol J*, 13 :148–160
- Bera, A. Mukhopadhy, B. Chowdhury, P. Ghosh, A. dan Biswas, S. (2021). Groundwater Vulnerability Assessment Using GIS-Based DRASTIC Model in Nangasai River Basin, India with Special Emphasis on Agricultural

- Contamination. *Ecotoxicology and Environment Safety*, 214: 1-14
- Bottrell, S. H., Ford, D., dan Williams, P. (1991). Karst Geomorphology and Hydrology. In *The Geographical Journal*, 157 (1).  
<https://doi.org/10.2307/635167>
- Cahyadi, A. 2014. Keunikan Hidrologi Kawasan Karst : Suatu Tinjauan dalam Sudarmadji, E. Haryono, T.N. Adji, M. Widyastuti, R. Harini, E. Nurjani, A.Cahyadi, H.Nugraha. 2013. *Ekologi Lingkungan Kawasan Karst Indonesia : Menjaga Asa Kelestarian Kawasan Karst Indonesia*. Sleman : Dee Publish
- Civita M (1994) Le Carte Della Vulnerabilità Degli Acquiferi All'inquinamento. In: Studio Sulla Vulnerabilità Degli Acquiferi. Teoria & Practica. Pitagora Editrice, *Bolonia*, p 325
- Civita M, De Regibus C (1995) Sperimentazione Di Alcune Metodologie Per La Valutazione Della Vulnerabilità Degli Aquiferi. *Q Geol Appl* 3:63–71
- Cronin, A. A., & Lerner, D. N. (2004). *Mature Industrial Cities*. In D. N. Lerner, *Urban Groundwater Pollution* (pp 109-130). Tokyo: A.A. Balkema publishers.
- Damayanti, S. (2014). Kajian Morfologi Karst di Ledok Wonosari Kabupaten Gunungkidul Daerah Istimewa Yogyakarta. *Skripsi*. Universitas Gadjah Mada
- Diah, H. (2021). Kajian Morfologi di Daerah Peralihan Antara Karst Gunungsewu Dan Ledok Wonosari. *Thesis*. Yogyakarta : Universitas Gadjah Mada
- Doerfliger N (1996) Advances in Karst Groundwater Protection Strategy Using Artificial Tracer Test Analysis on A Multiattribute Vulnerability Mapping (EPIK Method). *Doctoral Thesis, Universidad de Neuchâtel, Suiza*, 30 p
- Doerfliger N, Jauffret D, Loubier S (2004) Cartographie De La Vulnérabilité Des Aquifères Karstiques En Franche Comté, Avec La Collaboration De V. Petit. *Rapport BRGM RP-53576- FR*, p 140
- Doerfliger N. (2005). Guide Méthodologique, Cartographie De La Vulnérabilité En Vue De La Délimitation Des Périmètres De Protection En Milieu Karstique. *Annexe du rapport BRGM/RP53576-FR*, p 247
- Doerfliger N, Plagnes V. (2009) Cartographie De La Vulnérabilité Des Aquifères

- Karstiques, Guide Méthodologique De La Méthode PaPRIKa. BRGM RP-57527-FR. France, p 148
- ESDM. *Laporan Akhir Survey Eksplorasi Detail Geologi Lingkungan Air Tanah Kabupaten Gunungkidul Tahun 2020*. PT. Hegar Daya, Yogyakarta. (2020).
- Febriarta, E. 2011. Sistem Drainase Karst Basin Wonosari. *Skripsi*. Yogyakarta : Universitas Gadjah Mada
- Febriarta, E., MarfaI, M.A., Wacano, D., Larasati, A., dan Hizbaron, D.R. 2022. Pemetaan Zona Kerentanan Airtanah Pesisir Formasi Batugamping Terhadap Pencemaran Nitrat Di Kapanewon Sepulu Madura, *Jurnal Ilmu Lingkungan*. 20 (2) : 219-230.
- Field, M. S. (1999). *A Lexicon of Cave and Karst Terminology with Special Reference to Environmental Karst Hydrology*. Washington DC : US Environmental Protection Agency.
- Foster, S. (1987): Fundamental Concepts in Aquifer Vulnerability, Pollution Risk And Protection Strategy. In Vulnerability of Soil and Groundwater to Pollutants. In: W. Van Duijvenbooden And H.G. Van Waegeningh. (Eds.), Proceedings and information, vol. 38., 69-86, TNO *Committee on hydrological research*, The Hague.
- Gautam, S. K. Singh, S. K, dan Rawat, K.S. (2021). Intrinsic Vulnerability Evaluation of Groundwater Nitrate Pollution Along a Course of the Subarnarekha River in Jharkhand, India. *Water Conservation Science and Engineering*, 6 : 55-66
- Goldscheider, N., Klute, M., Sturm, S. & Hötzl, H. (2000): The PI Method – A Gis-Based Approach to Mapping Groundwater Vulnerability with Special Consideration of Karst Aquifers. *Z. angew. Geol.*, 46 (3), 157-166.
- Goldscheider N, Hunkeler D, Rossi P (2006) Review: Microbial Biocenoses in Pristine Aquifers and An Assessment of Investigative Methods. *Hydrogeol J* 14:926–941
- Goldscheider, N., dan Drew, D. (2014). Methods in Karst Hydrogeology. In *Methods in Karst Hydrogeology*. Taylor & Francis. <https://doi.org/10.1201/9781482266023>

- Gunn, J. 2004. *Encyclopedia of Caves and Karst Science*. London : Taylor and Francis Group
- Harter, T., dan Walker, L.G. (2001). *Booklet: Assessing Vulnerability of Groundwater*. California Departement of Health Services.
- Haryono, E., dan Adj, T. N. (2017). *Geomorfologi Dan Hidrologi Karst*. <https://doi.org/10.31227/osf.io/7jtgx>
- Haryono, E. Adj, T.N. Cajyadi, A. Widyastuti, M. Listyaningsih, U. dan Sulistyowati, E. Groundwater and livelihood in Gunungsewu karst area, Indonesia dalam Re, V. Manzione, R.L. Abiye, T.A. Mukherji, A. dan MacDonald, A. 2022. *Groundwater for Sustainable Livelihoods and Equitable Growth*. Taylor & Francis Group.
- Haryono, E. Barianto, D. dan Cahyadi, A. (2017). Petunjuk Kegiatan Lapangan Hidrogeologi Kawasan Karst Gunungsewu. *Pekan Ilmiah Tahunan Perhimpunan Ahli Airtanah Indonesia (PIT PAAI)*.
- Haryono et al., (2016). *Pedoman Praktis Survei Terintegrasi Kawasan Karst*. Yogyakarta : Badan Penerbit Fakultas Geografi (BPFG) Universitas Gadjah Mada.
- Harriyadi. (2020). Pengaruh Lingkungan dalam Pemilihan Cekungan Wonosari sebagai Hunian pada Masa Awal Sejarah. *Berkala Geologi*, 40 (2) : 219-242
- Hinkle, DE. Wiersma, W. dan Jurs, SG. (2003). *Applied Statisticks for the Behavioral Sciences, Edisi 5*. Boston : Houghton Mifflin.
- Hölting B, Haertle T, Hohberger KH, Nachtigall KH, Villinger E, Weinzierl W, Wrobel JP. (1995). Concept for the Determination of the Protective Effectiveness of the Cover Above the Groundwater Against Pollution. *Ad-hoc Working Group on Hydrogeology*, Hannover, p 28
- Indarto. (2010). *Hidrologi : Dasar Teori dan Contoh Aplikasi Model Hidrologi*. Jakarta : PT. Bumi Aksara
- Jain, S. (2014). *Fundamentals of Physical Geology*. <https://doi.org/10.1007/978-81-322-1539-4>
- Jimenez-Madrid A, Carrasco F, Martinez C, Gogu RC (2013) DRISTPI, A New Groundwater Vulnerability Mapping Method for Use in Karstic and Non-

- Karstic Aquifers. *Q J Eng Geol Hydrogeol* 46:245–255.  
<https://doi.org/10.1144/qjegh2012-038>
- Jiménez-Madrid, A., Gogu, R., Martínez-Navarrete, C., dan Carrasco, F. (2019). *Groundwater for Human Consumption in Karst Environment: Vulnerability, Protection, and Management*, Karst Water Environment, The Handbook of Environmental Chemistry 68, Springer International Publishing AG
- Karmono, Jamulya dan Suratman. (1980). *Tuntunan Diskripsi Tanah di Lapangan*. Yogyakarta : Fakultas Geografi UGM
- Kiraly L (2003) Karstification and Groundwater Flow. *Speleogenesis Evol Karst Aquifers* 1(3):26
- Kovács, A. (2021). Quantitative Classification of Carbonate Aquifers Based on Hydrodynamic Behaviour. *Hydrogeology Journal*, 29 : 33-52  
<https://doi.org/10.1007/s10040-020-02285-w>
- Marín, A. I., & Andreo, B. (2015). *Vulnerability to Contamination of Karst Aquifers* (pp. 251–266). [https://doi.org/10.1007/978-3-319-12850-4\\_8](https://doi.org/10.1007/978-3-319-12850-4_8)
- Moraru, C., & Hannigan, R. (2018). *Basic Principles of Hydrogeology for Hydrogeochemical Vulnerability*. [https://doi.org/10.1007/978-3-319-70960-4\\_3](https://doi.org/10.1007/978-3-319-70960-4_3)
- Mukaka, M.M. (2012). Statistics Corner: A Guide to Appropriate Use of Correlation Coefficient in Medical Research. *Malawi Medical Journal*, 24(3) : 69 - 71
- Munawir, A. Jauhari, A. Kurniawan, M. O, dan Muhammad, A. N. (2019). Analisis Akuifer Anggota Batugamping Lam Kabeu-Pidie dengan Metode Porositas Sekunder. *Prosiding Seminar Nasional FKIP UMP*, pp 289-300
- Notosiswoyo, S. dan Kusumayudha, S. B. (1999). Hydrogeology of the Gunungsewu Karstic Area, Central Java, Indonesia : A Conceptual Model. *CEOSEA '98 Proceedings, Geol. Soc. Malaysia Bull.* 45, December 1999 : 551 -358
- Pemerintah Kabupaten Gunungkidul. (2007). Laporan Status Lingkungan Hidup Daerah Kabupaten Gunungkidul tahun 2007. Gunungkidul : PemKab Gunungkidul

- Peraturan Menteri Kesehatan Nomor 32 Tahun 2017 tentang Baku Mutu Kesehatan Lingkungan dan Persyaratan Kesehatan Air untuk Keperluan Hygiene Sanitasi, Kolam Renang, Slous Per Aqua, dan Pemandian Umum.
- Petelet Giraud E, Doerfliger N, Crochet P (2000) RISKE: Méthode D'évaluation Multicritère De La Cartographie De La Vulnérabilité Des Aquifères Karstiques. *Aplications aux systèmes des Fontanilles et Cent-Fonts (Hérault, France)*. *Hydrogéologie* 4:71–88
- Purnama, S. (2016). *Hidrologi Airtanah*. Yogyakarta : PT Kanisius
- Purnama, S. (2019). *Airtanah dan Intrusi Air Laut*. Yogyakarta : PT Kanisius
- Qiu, Y., Ma, C., Qian, J., & Wang, X. (2021). Comparison of Different Groundwater Vulnerability Evaluation Models of Typical Karst Areas in North China: A Case of Hebi City. *Environmental Science and Pollution Research*.
- Rahmadi, C., Wiantoro, S., dan Nugroho, H. (2018). *Sejarah Alam Gunung Sewu*. LIPI Press.
- Riyanto, I. A., Widyastuti, M., Cahyadi, A., Agniy, R. F., dan Adji, T. N. (2020). Groundwater Management Based on Vulnerability to Contamination in the Tropical Karst Region of Guntur Spring, Gunungsewu Karst, Java Island, Indonesia. *Environmental Processes*, 7 (4): 1277–1302. <https://doi.org/10.1007/s40710-020-00460-5>
- Romanazzi, A. Gentile, F. dan Polemio, M. (2015). Modelling and Management Of A Mediterranean Karstic Coastal Aquifer Under the Effects of Seawater Intrusion and Climate Change. *Environ Earth Sci*, 74:115–128
- Rosillo, S. Ramon, A. G. Jimenez, P. Duran. J.J. Andreo, B. dan Molero, E. (2015). Synthesis of Groundwater Recharge of Carbonate Aquifers in the Betic Cordillera (Southern Spain). *Environmental Earth Science* 1 : 91 - 102
- Sartohadi, J. Suratman. Jamulya. dan Dewi, N.I.S. 2012. Pengantar Geografi Tanah. Yogyakarta : Pustaka Pelajar
- Setiawan, T. dan Asgaf, M. (2016). Analisis Karakteristik Akuifer dan Zonasi Kuantitas Airtanah di Dataran Kars Wonosari dan Sekitarnya, Kabupaten Gunungkidul, Provinsi Daerah Istimewa Yogyakarta. *Jurnal Lingkungan dan*

*Bencana Geologi*, 7 (3) : 145 - 154

Sket, B. Dinaric Karst, Diversity in. dalam White, W.B. dan Culver, D.C. (2005).

*Encyclopedia of Caves*. US : Elsevier.

Sudarmadji. Suprayogi, S. Widyastuti, M. dan Harinim R. (2011). Konservasi Mata Air Berbasis Masyarakat di Unit Fisiografi Pegunungan Baturagung, Ledok Wonosari dan Perbukitan Karst Gunungsewu, Kabupaten Gunungkidul. *Jurnal Teknosains*, 1(1) : 1 - 69.

Sutanto, R. (2005). Dasar-dasar Ilmu Tanah. Yogyakarta : Kanisius

Sresto, M. A. Siddika, S. Haque, M. N. dan Saroar, M. (2021). Groundwater Vulnerability Assessment in Khulna District of Bangladesh by Integrating Fuzzy Algorithm and DRASTIC (DRASTIC-L) Model. *Modeling Earth Systems and Environment*, <https://doi.org/10.1007/s40808-021-01270-w>

Sudarmadji, Hadi, P., dan Widyastuti, M. (2013). *Pengelolaan Sumberdaya Air Terpadu*. Yogyakarta: Gadjah Mada University Press

Surono. (2009). Lithostratigrafi Pegunungan Selatan Bagian Timur Daerah Istimewa Yogyakarta dan Jawa Tengah. *JSDG*, 9 (3) : 209-221

Susanto et al. (2011). *Ekspedisi Geografi Indonesia Karst Gunungsewu*. Jakarta : PSSDAD Bakosurtanal

Tayer, T. de C., & Velásques, L. N. M. (2017). Assessment of Intrinsic Vulnerability to the Contamination of Karst Aquifer Using the COP Method in the Carste Lagoa Santa Environmental Protection Unit, Brazil. *Environmental Earth Sciences*, 76(13). <https://doi.org/10.1007/s12665-017-6760-0>

Todd, D. K. (1980). *Groundwater Hydrology*, 2<sup>nd</sup> ed. California : John Wiley & Sons

USGS. (2021). Carbonate- Rock Aquifers. [https://www.usgs.gov/mission-areas/water-resources/science/carbonate-rock-aquifers?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/mission-areas/water-resources/science/carbonate-rock-aquifers?qt-science_center_objects=0#qt-science_center_objects) Diakses pada 5 Oktober 2021

Van Stempvoort, D., Ewert, L. & Wassenaar, L. (1993): Aquifer Vulnerability Index (AVI): A GIS Compatible Method for Groundwater Vulnerability



- Mapping. *Canadian Water Resources Journal*, 18, 25-37.
- Widyastuti, M. (2014). Kajian Kerentanan Airtanah terhadap Pencemaran di Daerah Karst Gunungsewu (Studi di Daerah Aliran Sungai Bawah Tanah Bribin Kabupaten Gunungkidul dan Wonogiri). *Disertasi*. Yogyakarta : Universitas Gadjah Mada.
- White, W. (1969). Conceptual Models for Carbonate Aquifers. *Groundwater Featured Reprint*, 7 (3) : 180-186
- White et al. (2018), *Karst Groundwater Contamination and Public Health, Advances in Karst Science*, Doi 10.1007/978-3-319-51070-5\_1
- Worthington, S. R. H. Jeannin, P. Alexander, E. C. Davies. G. J. dan Schindel, G. M. (2017). Contrasting Definitions for the Term 'Karst Aquifers'. *Hydrogeol J*, 15 : 1237 - 1240
- Yogafanny, Ekha, Titi Tiara Anastasia, and Vindy Fadia Utama. (2020). Zonasi Kerentanan Air Tanah Menggunakan Metode COP dan APLIS di Daerah Aliran Sungai Gremeng, Desa Umbulrejo, Ponjong, Gunungkidul. *JPPDAS* 4 (2): 103–20.
- Zwahlen, F. (2003). *Vulnerability and Risk Mapping for the Protection of Carbonate (Karst) Aquifers, Final Report*. Neuchâtel : European Communities COST Action 620.