

DAFTAR PUSTAKA

- Adji, T. N. (2009a). Kajian Variasi Spasial-Temporal Hidrogeokimia dan Sifat Aliran untuk Karakterisasi Perilaku Sistem Karst Dinamis (SKD) Spenjang Sungai Bawah Tanah (SBT) Bribin. *Disertasi*. Yogyakarta: Program Pasca Sarjana UGM.
- Adji, T. N. (2009b). Kondisi Daerah Tangkapan Sungai Bawah Tanah Karst Gunungsewu Dan Kemungkinan Dampak Lingkungannya Terhadap Sumber Daya Air (Hidrologis) Karena Aktivitas Manusia. *Seminar UGK-BP DAS SOP Dengan Tema: "Pelestarian Sumber Daya Airtanah Kawasan Karst Gunung Kidul"*, 2(Oktober 2009), 1–10.
- Adji, T. N. (2019). *Laporan Kegiatan Studi Water Tracing di Daerah Tangkapan Air Kali Sirah dan Mataair Jumbleng*. Yogyakarta: Kelompok Studi Karst Fakultas Geografi Universitas Gadjah Mada.
- Adji, T. N., Cahyadi, A., Ramadhan, G. S., Haryono, E., Purnama, S., Tastian, N. F., Acitya, R., & Putra, R. D. (2023). Analisis Dampak Aktivitas Antropogenik Terhadap Kualitas Air Sungai Bawah Tanah Seropan, Kawasan Karst Gunungsewu, Kabupaten Gunungkidul. *Jurnal Geografi, Edukasi Dan Lingkungan*, 7(1), 1–17.
- Adji, T. N., & Haryono, E. (2004). *Geomorfologi dan Hidrologi Karst*. Yogyakarta: Fakultas Geografi Universitas Gadjah Mada, Oktober 2004.
- Aires, A., Carvalho, R., Rosa, E. A. S., & Saavedra, M. J. (2013). Effects of agriculture production systems on nitrate and nitrite accumulation on baby-leaf salads. *Food Science & Nutrition*, 1(1), 3–7.
- Ashari, A. (2015). Kajian Geomorfologi Kompleks Gua Seplawan Kawasan Karst Jonggrangan. *Geomedia: Majalah Ilmiah Dan Informasi Kegeografian*, 11(1), 52–64.
- Back, W., & Hanshaw, B. (1965). Chemical Geohydrology. *Advanced in Hydroscience*, 2(49), 109.
- Badan Standardisasi Nasional. (2002). *SNI 03-2398-2002*. 2398.
- Bakalowicz, M. (2005). *Karst groundwater: a challenge for new resources*. 13, 148–160.

- Bartoli, M., Racchetti, E., Delconte, C. A., Sacchi, E., Soana, E., Laini, A., Longhi, D., & Viaroli, P. (2012). Nitrogen Balance And Fate In A Heavily Impacted Watershed (Oglio River, Northern Italy): In Quest Of The Missing Sources And Sinks. *Biogeosciences*, 9, 361–373.
- Bartram, J., & Balance, R. (1996). *Water Quality Monitoring*. UNEP & WHO Press.
- Bemmelen, R. W. . (1949). *The Geology of Indonesia. Vol. 1A. General Geology of Indonesia and Adjacent Archipelagoes*. Government Printing Office.
- Bogli, A. (1980). *Karst Hydrology and Physical Speleology* (1st ed.). Springer-Verlag Berlin Heidelberg.
- Bonacci, O. (2004). Hazards Caused By Natural And Anthropogenic Changes Of Catchment Area In Karst. *Natural Hazards and Earth System Sciences*, 4(5/6), 655–661.
- Bonacci, O., Jukić, D., & Ljubenkovic, I. (2006). Definition Of Catchment Area In Karst: Case Of The Rivers Krčić And Krka, Croatia. *Hydrological Sciences Journal*, 51(4), 682–699.
- Boyer, E. W., Howarth, R. W., Galloway, J. N., Dentener, F. J., Green, P. A., & Vörösmarty, C. J. (2006). Riverine Nitrogen Export From The Continents To The Coasts. *Global Biogeochemical Cycles*, 20(1).
- BPS. (2019). *Kecamatan Ponjong Dalam Angka 2019*. BPS Kabupaten Gunungkidul
- Buckerfield, S. J., Quilliam, R. S., Bussiere, L., Waldron, S., Naylor, L. A., Li, S., & Oliver, D. M. (2020). Chronic Urban Hotspots And Agricultural Drainage Drive Microbial Pollution Of Karst Water Resources In Rural Developing Regions. *Science of the Total Environment*, 744, 1–10.
- Bustami, B., & Kuala, U. (2012). *Serapan Hara dan Efisiensi Pemupukan Phosfat Serta Pertumbuhan Padi Varietas Lokal*. Program Studi Magistes Konservasi Sumberdaya Lahan, Pasca Sarjana, Universitas Syiah Kuala.
- Cahyadi, A., & Agniy, R. F. (2016). Analisis Breakthrough Curve Untuk Karakterisasi Pelorongan Di Sistem Sungai Breakthrough Curve Analysis for Passage Characterisation in Pindul Under Ground River System.

November, 16–17.

- Cahyadi, A., Ayuningtyas, E. A., & Prabawa, B. A. (2013). Urgensi Pengelolaan Sanitasi Dalam Upaya Konservasi Sumberdaya Air Di Kawasan Karst Gunung Sewu Kabupaten Gunungkidul. *Indonesian Journal of Conservation*, 2(1), 23–32.
- Cahyadi, A., Haryono, E., Adji, T. N., Widyastuti, M., Riyanto, I. A., Acintya, R., & Qushoyyi, N. F. (2022). Karakteristik Hidrogeokimia dan Kualitas Air pada Mata Air Karst Selonjono Karst Gunungsewu Daerah Istimewa Yogyakarta. *Geodika: Jurnal Kajian Ilmu Dan Pendidikan Geografi*, 6(2), 175–185.
- Cahyadi, A., Haryono, E., Nugroho Adji, T., Widyastuti, M., Naufal, M., Ramadhan, F., Fauzan Agniy, R., & Agus Riyanto, I. (2020). Analisis Konektivitas Dan Karakteristik Lorong Pada Sistem Hidrogeologi Mataair Beton, Kawasan Karst Gunungsewu, Kabupaten Gunungkidul Dengan Uji Peruntutan. *Jurnal Geografi*, 12(02), 105.
- Cahyadi, A., Marfai, M. A., Nucifera, F., & Rahmadana, A. D. W. (2010). *Kawasan Lindung Sumberdaya Air. September*.
- Cao, S., Gao, Y., Qian, H., Ren, W., & Qu, W. (2021). Determining the Origin and Fate of Nitrate in the Nanyang Basin, Central China, Using Environmental Isotopes and the Bayesian Mixing Model. *Environ.Sci.Pollut*, 1–19.
- Clark, I. ., & Fritz, P. (1997). *Environmental Isotopes in Hydrogeology*. Lewis Publisher.
- Currens, J. C. (1997). A sampling plan for conduit-flow karst springs: minimizing sampling cost and maximizing statistical utility. *The Engineering Geology and Hydrogeology of Karst Terranes. Proc. 6th Multidisciplinary Conference, Springfield, 1997*, 193–198.
- Diah, H., Adji, T. N., & Haryono, E. (2021). Perbedaan Tingkat Perkembangan Karst Daerah Peralihan antara Basin Wonosari dan Karst Gunungsewu. *Media Komunikasi Geografi*, 22(1), 51.
- Doorenbos, J., & Pruitt, W. O. (1977). Crop Water Requirements. Revised 1977. *FAO Irrigation and Drainage Paper 24*, 144.
- Edberg, S. C., Rice, E. W., Karlin, R. J., & Allen, M. J. (2000). *Escherichia coli*:

- the best biological drinking water indicator for public health protection. *Journal of Applied Microbiology*, 88(S1), 106S-116S.
- Edmunds, W., & Smedley, P. (2013). *Flouride in Natura; Waters*. Springer International Publishing.
- Effendi, H. (2003). *Telaah Kualitas Air Bagi Pengelolaan Sumberdaya dan Lingkungan Perairan*. Penerbit Kanisius.
- Eka Putra, D. P. (2010). Estimation, Reality and Trend of Groundwater Nitrate Concentration Under Unsewered Area of Yogyakarta City – Indonesia. *Journal of Applied Geology*, 2(1), 20–27.
- Elumalai, V., Rajmohan, N., Sithole, B., Li, P., Uthandi, S., & van Tol, J. (2022). Geochemical Evolution And The Processes Controlling Groundwater Chemistry Using Ionic Ratios, Geochemical Modelling And Chemometric Analysis In A Semi-Arid Region Of South Africa. *Chemosphere*, 137179.
- Erkekoglu, P., Sipahi, H., & Baydar, T. (2008). Evaluation of Nitrite in Ready-Made Soups. *Food Anal. Method*, 2, 61–65.
- Fathmawati, F., Fachiroh, J., Sutomo, A. H., & Putra, D. P. (2018). Origin and Distribution of Nitrate in Water Well of Settlement areas in Yogyakarta, Indonesia. *Environmental Monitoring Assesment*, 190, 628.
- Fattah, N. (2022). Karakterisasi Sistem Drainase Karst Gua Pindul Dengan Pendekatan Hidrodinamika Dan Hidrogeokimia. *Skripsi*. Yogyakarta: Universitas Gadjah Mada.
- Field, M. S. (2021). Groundwater Sampling In Karst Terranes: Passive Sampling In Comparison To Event-Driven Sampling Strategy. *Hydrogeology Journal*, 29(1), 53–65.
- Ford, D., & Williams, P. (1989). *Karst Geomorphology and Hydrology*. Chapman and Hall.
- Ford, D., & Williams, P. (2007). Karst Hydrogeology and Geomorphology. In *Karst Hydrogeology and Geomorphology*.
- Ford, W. I., Husic, A., Fogle, A., & Taraba, J. (2019). Long-term Assessment of Nutrient Flow Pathway Dynamics And In-Stream Fate In A Temperate Karst Agroecosystem Watershed. *Hydrological Processes*, 33(11), 1610–1628.

- Gammons, C. H., Brown, A., Poulson, S. R., & Henderson, T. H. (2013). Using Stable Isotopes (S, O) Of Sulfate To Track Local Contamination of The Madison Karst Aquifer, Montana, From Abandoned Coal Mine Drainage. *Applied Geochemistry*, 31, 228–238.
- Garno, Y. S. (2012). Dampak Eutrofikasi Terhadap Struktur Komunitas dan Evaluasi Metode Penentuan Kelimpahan Fitoplankton. *Jurnal Teknologi Lingkungan*, 13(1), 67.
- Gilli, E. (2015). The History of Karstology. *Karstology*, January 2015, 9–12.
- Gilli, J.C., Malamud B.D., 2016. Hazard Interactions and Interaction Network (cascades) within Multi-Hazar Methodologies. *Earth Syst. Dyn.* 7:659-679.
- Goshu, G., Byamukama, D., Manafi, M., Kirschner, A. K. T., & Farnleitner, A. H. (2010). A Pilot Study on Anthropogenic Faecal Pollution Impact in Bahir Dar Gulf Of Lake Tana, Northern Ethiopia. *Ecohydrology and Hydrobiology*, 10(2–4), 271–279.
- Grizzetti, B., Bouraoui, F., & Aloe, A. (2012). Changes of Nitrose and Phosporus Load to European Seas. *Change Biol*, 18, 769–782.
- Guo Guanghui Jiang, F. A. (2008). Nitrogen Budget of a Typical Subterranean River In Peak Cluster Karst Area. *Environ Geol*, 58, 1741–1748.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis. Fifth Edition*. Prentice Hall.
- Haprabu, B. R. S., Primarizky, H., Wibawati, P. A., & Haditanojo, W. (2018). Isolasi dan Identifikasi Cemaran Bakteri Escherichia Coli pada Telur Penyul Lekang (*Lepidochelys olivacea*) yang Gagal Menetas Menetas di Sarang Semi Alami Pantai Boom Banyuwangi. *Jurnal Medik Veteriner*, 1(3), 74.
- Hartmann, A., Goldscheider, N., Wagener, T., Lange, J., & Weiler, M. (2014). Karst Water Resources in a Changing World: Review Of Hydrological Modeling Approaches. *Reviews of Geophysics*, 52(3), 218–242.
- Haryono, E. (2000). Some Properties Of Epikarst Drainage System In Gunung Kidul Regency, Yogyakarta, Indonesia. *The Indonesian Journal of Geography*.
- Haryono, E. (2008). *Model Perkembangan Karst Berdasarkan Morfometri*

- Jaringan Lembah di Karangbolong, Gunungsewu. Blambangan dan Rengen (Disertasi)*. Yogyakarta: Universitas Gadjah Mada.
- Haryono, E., & Adji, T. . (2004). *Pengantar Geomorfologi dan Hidrologi Karst*. Yogyakarta: Fakultas Geografi UGM.
- Haryono, E., Barianto, D. hadi, & Cahyadi, A. (2017). Petunjuk Kegiatan Lapangan: Hidrogeologi Kawasan Karst Gunungsewu. *Journal of Chemical Information and Modeling*, 1–33.
- Haryono, E., & Day, M. (2004). Landform Differentiation Within The Gunung Kidul Kegelkarst, Java, Indonesia. *Journal of Cave and Karst Studies*, 66(2), 62–69.
- Helena, B., Pardo, R., Vega, M., Barrado, E., Fernandez, J. M., & Fernandez, L. (2000). Temporal Evolution Of Groundwater Composition In an Alluvial Aquifer (Pisuerga River, Spain) by principal component analysis. *Water Research*, 34(3), 807–816.
- Hijran Z. Toama. (2017). World Phospate Industry. *Iraqi Bulletin of Geology and Mining*, SPECIAL is (7), 5-23
- Hodgson, F. D. I. (2004). Presentation of Data. in Kovalevsky, V.S., Kruseman, G.P. and Rushton, K.R. 2004. *An International Guide for Hydrogeological Inverstigation. Paris:UNESCO*.
- Huebsch, M., Fenton, O., Horan, B., Hennessy, D., Richards, K. G., Jordan, P., Goldscheider, N., Butscher, C., & Blum, P. (2014). Mobilisation or dilution? Nitrate response of karst springs to high rainfall events. *Hydrology and Earth System Sciences*, 18(11), 4423–4435.
- Husein, S., & Srijono. (2007). *Tinjauan Geomorfologi Pgunungan Selatan DIY/Jawa Tengah: Telaah Peran Faktor Endogenik Dan Eksogenik Dalam Proses Pembentukan Pegunungan*. 1–23.
- Jakóbczyk-Karpierz, S., & Ślósarczyk, K. (2022). Isotopic Signature Of Anthropogenic Sources Of Groundwater Contamination With Sulfate And Its Application To Groundwater In A Heavily Urbanized And Industrialized Area (Upper Silesia, Poland). *Journal of Hydrology*, 612.
- K.L Underwood. (1994). *Evaluation of Pesticide and Nitrate Mobility in a Conduit*

- Flow Dominated Karst Basin. Dissertation.* The Pennsylvania State University.
- Kaçaro, F., & Glu,. (1999). *Review Of Groundwater Pollution And Protection In Karst Areas.*
- Kresic, N. (2013). *Water in Karst: Management, Vulnerability and Restoration.* McGraw Hill.
- Kresic, N., & Stevanovic, Z. (2010). *Hydrology of Springs; Engineering, Theory, Management, and Sustainability.* Butterworth-Heinemann.
- Kurniawan, D., & Tania, D. (2019). *Studi Fasies Dan Stratigrafi Batuan Karbonat Formasi Wonosari Desa Ponjong, Kecamatan Ponjong, Kabupaten Gunungkidul, DIY. 1(1).*
- Kusumayudha, S. B., Setiawan, J., Ciptahening, A. N., & Dwi Septianta, P. (2015). Geomorphologic Model of Gunungsewu Karst, Gunung Kidul Regency, Yogyakarta Special Territory, Indonesia: The Role of Lithologic Variation and Geologic Structure. *Journal of Geological Resource and Engineering*, 1, 1–7.
- Lakitan, B. (2002). *Dasar-Dasar Klimatologi.* Grafindo.
- Lawniczak, A. E., Zbierska, J., Nowak, B., Achtenberg, K., Grześkowiak, A., & Kanas, K. (2016). Impact of Agriculture And Land Use on Nitrate Contamination In Groundwater And Running Waters In Central-West Poland. *Environmental Monitoring and Assessment*, 188(3), 1–17.
- Lawrence, A., Macdonald, D., Howard, A., Barrett, M., Pedley, S., Ahmed, K., & Nalubega, M. (2001). *Guidelines for assessing the risk to Groundwater from on-Site Sanitation.* British Geological Survey Commissioned Report, CR/01/142. 97pp. 103.
- Leibundgut, C., Gunn, J., Dassargues, A., International Association of Hydrological Sciences. Scientific Assembly (5th : 1997 : Rabat, M., International Commission on Groundwater., International Association of Hydrological Sciences. International Committee on Tracers., & International Workshop on Karst Hydrology (1997 : Rabat, M. (1998). *Karst hydrology : proceedings of an international workshop (Workshop W2) held at Rabat, Morocco, during the Fifth Scientific Assembly of the International Association of Hydrological*

- Sciences (IAHS) : from 23 April to 3 May, 1997. 146.*
- Leibundgut, C., Maloszewski, P., & Külls, C. (2009). Tracers in Hydrology. In *Tracers in Hydrology*.
- Li, J., Zou, S., Wang, J., Zhou, C., Wu, Y., Zhang, H., Zhao, Y., & Yang, G. (2023). Spatiotemporal Variability And Control Factors Of NO₃⁻ In A Polluted Karst Water System Of An Agricultural Wetland In South China. *Chemosphere*, 313(September 2022), 137435.
- Li, S. L., Liu, C. Q., Chen, J. A., & Wang, S. J. (2021). Karst Ecosystem And Environment: Characteristics, Evolution Processes, And Sustainable Development. *Agriculture, Ecosystems and Environment*, 306(August 2020), 107173.
- Loganathan, P., Gray, C. W., Hedley, M. J., & Roberts, A. H. C. (2006). Total And Soluble Fluorine Concentrations in Relation To Properties of Soils in New Zealand. *European Journal of Soil Science*, 57(3), 411–421.
- M.A Summerfield. (1991). *Global Geomorphology*. John Wiley & Sons, Ltd.
- Mahler, B. J., Valdes, D., Musgrove, M., & Massei, N. (2008). Nutrient Dynamics as Indicators Of Karst Processes: Comparison of the Chalk aquifer (Normandy, France) and the Edwards aquifer (Texas, U.S.A.). *Journal of Contaminant Hydrology*, 98(1–2), 36–49.
- Masilela, M., & Beckedahl, H. (2022). Karst Geomorphology And Related Environmental Problems In Southern Africa – A review. *Journal of African Earth Sciences*, 196 (February), 104686.
- Mujib, M. A., Rafika, T., & Indartin, D. (2015). *Variasi nitrat dan khlorida sebagai indikator pencemaran dan imbuhan airtanah di sistem Mataair Ngerong , Karst Rengel , Kabupaten Tuban , Jawa Timur*. 1–13.
- Naharuddin, N., & Tadulako, U. (2018). *Pengelolaan Daerah Aliran Sungai dan Aplikasinya dalam Proses Belajar Mengajar* (Issue April).
- Nayono, S., Helmut Lehn, Kopfmuller, J., & Londong, J. (2011). Options for Decentralized Waste Water Treatment in Rural Karst Area in Gunungkidul: Social Acceptance. *Asian Trans-Discliplinary Karst Conference 2011 Tanggal 7-10 Januari 2011*.

- Niu, X., Jia, X., Yang, X., Wang, J., Wei, X., Wu, L., & Shao, M. (2022). Tracing the Sources and Fate of NO₃-in the Vadose Zone-Groundwater System of a Thousand-Year-Cultivated Region. *Environmental Science and Technology*, 56(13), 9335–9345.
- Nuraini., F. &, & Pramono, H. (2013). Karst, Ekowisata, Pelestarian Karst, Pengelolaan Karst. *Geomedia*, 11(1), 109–127.
- Obeidat, M. M., Ahmad, F. Y., Hamouri, N. A., Massadeh, A. M., & Athamneh, F. S. (2008). Assessment Of Nitrate Contamination Of Karst Springs, Bani Kanana, Northern Jordan. *Revista Mexicana de Ciencias Geologicas*, 25(3), 426–437.
- Oehler, T., Putra, D., Adyasari, D., Henning, H., Mallast, U., & Moodsdorf, N. (2017). Timing of Land-Ocean Groundwater Nutrient Fluxes from a Tropical Karstic Region (Southern Java, Indonesia). *Hydrology Earth System Science. Discuss*, 1–18.
- Otero, N., & Soler, A. (2002). Sulphur Isotopes As Tracers Of The Influence Of Potash Mining In Groundwater Salinisation In The Llobregat Basin (NE Spain). *Water Research*, 36(16), 3989–4000.
- Pannekoek, A. . (1989). *Garis Besar Geomorfologi Pulau Jawa* (B. Basri (ed.)).
- Parise, M., & Pascali, V. (2003). Surface And Subsurface Environmental Degradation In The Karst Of Apulia (Southern Italy). *Environmental Geology*, 44(3), 247–256.
- Parise, M., Qiriazi, P., & Sala, S. (2004). Natural and Anthropogenic Hazards In Karst Areas of Albania. *Natural Hazards and Earth System Sciences*, 4(4), 569–581.
- Pemerintah Negara Republik Indonesia. (2010). *Peraturan Menteri Negara Lingkungan Hidup Nomor 01 Tahun 2010 tentang Pedoman Penerapan Daya Tampung Beban Pencemar pada Sumber Air*. Jakarta: Kementerian Lingkungan Hidup.
- Peraturan Pemerintah Republik Indonesia. (2021). *Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup: Lampiran VI tentang Baku Mutu Air*

Nasional.

- Peraturan Pemerintah RI nomor 82 tahun 2001. (2001). Peraturan Pemerintah tentang Pengelolaan Kualitas Air Dan Pengendalian Pencemaran Air. *Peraturan Pemerintah Tentang Pengelolaan Kualitas Air Dan Pengendalian Pencemaran Air*, 1–22.
- Peter, V., Asner, G. P., Chadwick And, O. A., & Sara, H. (2009). Landscape-Level Variation In Forest Structure And Biogeochemistry Across A Substrate Age Gradient In Hawaii. *Ecology*, 90(11), 3074–3086.
- Peterson, E. W., Davis, R. K., Brahana, J. V., & Orndorff, H. A. (2002). Movement Of Nitrate Through Regolith Covered Karst Terrane, Northwest Arkansas. *Journal of Hydrology*, 256(1–2), 35–47.
- Prasad, S., & Chetty, A. A. (2008). Nitrate-N Determination In Leafy Vegetables: Study of The Effects Of Cooking and Freezing. *Food Chemistry*, 106(2), 772–780.
- Pratama, A. D. (2019). Kajian Spasial-Temporal Hidrodinamika Dan Hidrogeokimia Untuk Karakterisasi Akuifer Di Sebagian Wilayah Karst Jonggrangan, Kabupaten Kulonprogo-Purworejo. *Skripsi*. Yogyakarta: Universitas Gadjah Mada.
- Pratama, A. D., Dwiputra, D. S., Nurkholis, A., Haryono, E., Cahyadi, A., Agniy, R. F., & Adji, T. N. (2021). Factors Affecting Hydrochemistry of Karst Springs and their Relationship to Aquifer Development. In *Environmental Processes* (Vol. 8, Issue 4). Springer International Publishing.
- Prihadi, L. R., Yulistyorini, A., & Yono, M. (2019). Desain Sistem Pemanenan Air Hujan Pada Rumah Hunian di Daerah Karst Kabupaten Malang. *Jurnal Manajemen Aset Infrastruktur & Fasilitas*, 3(1), 59–74.
- Purnama, S. (2010). *Hidrologi Airtanah*. Penerbit Kanisius.
- Raharjo, B., Supriyadi, A., & Agustina, D. K. (2007). *Pelarutan Fosfat Anorganik oleh Kultur Campur Jamur Pelarut Fosfat Secara In Vitro*. 15(April), 45–54.
- Reichenbach, A., Bringmann, A., Reader, E. E., Pournaras, C. J., Rungger-Brändle, E., Riva, C. E., Hardarson, S. H., Stefansson, E., Yard, W. N., Newman, E. A., & Holmes, D. (2019). Analysis Of Phosphate Levels In Water Of Ngelom

- Riversidoarjo Jawa Timur. *Progress in Retinal and Eye Research*, 561(3), S2–S3.
- Ren, C., & Zhang, Q. (2020). Groundwater Chemical Characteristics And Controlling Factors In A Region Of Northern China With Intensive Human Activity. *International Journal of Environmental Research and Public Health*, 17(23), 1–15.
- Rock, L., & Mayer, B. (2009). Identifying The Influence Of Geology, Land Use, and Anthropogenic Activities on Riverine Sulfate on a Watershed Scale By Combining Hydrometric, Chemical and Isotopic Approaches. *Chemical Geology*, 262(3–4), 121–130.
- Ruseffandi, M. A., & Gusman, M. (2020). Pemetaan Kualitas Airtanah Berdasarkan Parameter Total Dissolved Solid (TDS) dan Daya Hantar Listrik (DHL) dengan Metode Ordinary Kriging. *Jurnal Bina Tambang*, 5(1), 153–162.
- Sacchi, E., Acutis, M., Bartoli, M., Brenna, S., Delconte, C. A., Laini, A., & Pennisi, M. (2013). Origin And Fate Of Nitrates In Groundwater From The Central Po Plain: Insights from isotopic investigations. *Applied Geochemistry*, 34, 164–180.
- Santoso, L. W., & Adji, T. N. (2014). *Karakteristik Akuifer dan Potensi Airtanah Grabem bantul*. Yogyakarta: Gadjah Mada University Press.
- Schmidt, F. H., & Ferguson, J. H. A. (1951). *Rainfall Types Based On Wet And Dry Period Ratios For Indonesia With Western New Guinea*.
- Schmidt, S., Geyer, T., Marei, A., Guttman, J., & Sauter, M. (2013). Quantification of Long-Term Wastewater Impacts on Karst Groundwater Resources in a Semi-Arid Environment by Chloride Mass Balance Methods. *Journal of Hydrology*, 502, 177–190.
- Setyowati, D. L., Amin, M., Suharini, E., & Pigawati, B. (2016). Model Agrokonservasi Untuk Perencanaan Pengelolaan Das Garang Hulu. *Tataloka*, 14(2), 131–141.
- Setiawati, I., & Ariani D.A., (2020). Evaluasi Kadar Fosfat pada Deterjen Serbuk Di Kota Jakarta. Balai Besar Kimia dan Kemasan, Badan Standardisasi dan Kebijakan Jasa Industri, kementerian Perindustrian. 135-140

- Sitinjak, A., Lutfi Rayes, M., & Agustina, C. (2019). Morphology and Classification of Soils on Various Karst Sub-Landform in Wonosari Formation of Gedangan District, Malang Regency. *Jurnal Tanah Dan Sumberdaya Lahan*, 06(01), 1055–1064.
- Srinivasamoorthy, K., Gopinath, M., Chidambaram, S., Vasanthavigar, M., & Sarma, V. S. (2014). Hydrochemical Characterization and Quality Appraisal of Groundwater From Pungar Sub Basin, Tamilnadu, India. *Journal of King Saud University - Science*, 26(1), 37–52.
- Sriyono; (2018). *Geologi & Geomorfologi Indonesia*.
- Stevanović, Z. (2018). Global Distribution and Use of Water From Karst Aquifers. *Geological Society Special Publication*, 466(1), 217–236.
- Sulistyorini, I. S., Edwin, M., & Arung, A. S. (2017). Analisis Kualitas Air Pada Sumber Mata Air Di Kecamatan Karanganyar Dan Kaliorang Kabupaten Kutai Timur. *Jurnal Hutan Tropis*, 4(1), 64.
- Sun, J., Kobayashi, T., Strosnider, W. H. J., & Wu, P. (2017). Stable Sulfur and Oxygen Isotopes as Geochemical Tracers of Sulfate In Karst Waters. *Journal of Hydrology*, 551, 245–252.
- Sunitha, V. (2013). Nitrates in Groundwater: Health Hazards and Remedial Measures. *Indian Journal of Advances in Chemical Science*, 3, 164–170.
- Syahputra, B., & Poedistoeti, H. (2022). Pengaruh Kondisi Sosial Ekonomi Masyarakat Terhadap Pola Pemakaian Air Domestik. *Jurnal Lingkungan Sultan Agung*, 1(1), 64–77.
- Syawal, M. S., Wardiatno, Y., & Hariyadi, S. (2016). Pengaruh Aktivitas Antropogenik Terhadap Kualitas Air , Sedimen dan Moluska di Danau Maninjau Sumatera Barat Jurnal Biologi Tropis, Januari 2016: Volume 16 (1):1-14 ISSN: 1411-9587. *Jurnal Biologi Tropis*, 16(1), 1–14.
- Tjasyono;, B. (2004). *Klimatologi (Edisi Kedua) / Bayong Tjasyono HK*.
- Todd, D. ., & Mays, L. (2005). *Groundwater Hydrology*. John Wiley & Sons, Ltd.
- Tukidi. (2010). Karakter Curah Hujan Di Indonesia. *Jurnal Geografi*, 7(2), 136–145.
- Utami, A. R. (2013). Pengolahan Limbah Cair Laundry Dengan Menggunakan

- Biosand Filter dan Activated Carbon. *Jurnal Teknik Sipil Untan*, 13(1), 59–72.
- Verstappen, H. . (1983). *Applied Geomorphology*. Elseveir.
- Vesper, D. J., Loop, C. M., & White, W. B. (2001). Speleogenesis and Evolution of Karst Aquifers Contaminant Transport in Karst Aquifers. *Theoretical and Applied Karstology*, 13(14), 101–111.
- Wang, Z. J., Yue, F. J., Wang, Y. C., Qin, C. Q., Ding, H., Xue, L. L., & Li, S. L. (2022). The Effect of Heavy Rainfall Events on Nitrogen Patterns in Agricultural Surface and Underground Streams and The Implications For Karst Water Quality Protection. *Agricultural Water Management*, 266(January), 107600.
- White, W. B. (1988). Geomorphology and Hydrology of Karst Terrains. In *Geomorphology and Hydrology of Karst Terrains* (1st ed.). Oxford University Press.
- Widyastuti, M., Riyanto, I. A., Naufal, M., Ramadhan, F., & Rahmawati, N. (2019). Catchment Area Analysis of Guntur Karst Spring Gunung Kidul Regency, Java, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 256(1).
- Xu, L., Niu, H., Xu, J., & Wang, X. (2013). Nitrate-Nitrogen Leaching and Modeling in Intensive Agriculture Farmland in China. *The Scientific World Journal*, 2013.
- Xu, S., Li, S. L., Zhong, J., & Li, C. (2020). Spatial scale effects of the variable relationships between landscape pattern and water quality: Example from an agricultural karst river basin, Southwestern China. *Agriculture, Ecosystems and Environment*, 300(April), 106999.
- Yunianto, D. (2021). Analisis Pertumbuhan dan Kepadatan Penduduk Terhadap Pertumbuhan Ekonomi. *Forum Ekonomi*, 23(4), 688–699.