

REFERENCES

- Agossou, A., and Yang, J.S., 2021, Comparative study of groundwater vulnerability to contamination assessment methods applied to Benin's southern coastal sedimentary basin: *Journal of Hydrology: Regional Studies*, v. 35, p.1-20, doi: 10.1016/j.ejrh.2021.100803.
- Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, 18(3), p. 91–93.
<https://doi.org/10.1016/j.tjem.2018.08.001>
- Anderson, M.P., 2003, What is “Ground Water”? *Ground Water*, v. 41, p. 721, doi:10.1111/j.1745-6584.2003.tb02410.x.
- Appelo, C.A.J., and Postma, D., 1993, *Geochemistry, groundwater, and pollution: Geochemistry, groundwater and pollution*, 647 p.; A.A. BALKEMA PUBLISHERS, doi:10.1016/0016-7037(94)90585-1.
- Bhaskar, C.V., Kumar, K., and Nagendrappa, G., 2010, assessment of heavy metals in water samples of certain locations situated around Tumkur, Karnataka, India: *E-Journal of Chemistry*, v. 7, p. 349–352, doi:10.1155/2010/415150.
- Boss, CB, and Fredeen, KJ, 1997, *Concepts, Instrumentation and Techniques in Atomic Absorption Spectrophotometry*: North, p. 2–12.
- Butler†, D., and Davies††, J.W., 2000, *Urban Drainage*, 587 p.; CRC Press , Taylor & Francis Group doi:10.4324/9780203351673.
- BPS Kabupaten Bantul, 2019, *Kabupaten Bantul dalam Angka 2018* (Kabupaten Bantul:BPS Kabupaten Bantul), 386 p.
- Brouyère, S., Dassargues, A., and Hallet, V., 2004, Migration of contaminants through the unsaturated zone overlying the Hesbaye chalky aquifer in Belgium: A field investigation: *Journal of Contaminant Hydrology*, v. 72, p. 135–164, doi: 10.1016/j.jconhyd.2003.10.009.
- Dancey, C. P., & Reidy, J. (2020). *Statistics without maths for psychology* [electronic resource]. 636 p.; *Pearson Education Limited*.
- Egbi, C.D., Akiti, T.T., Osae, S., Dampare, S.B., Abass, G., and Adomako, D., 2017, Assessment of groundwater quality by unsaturated zone study due to migration of leachate from Abloradjei waste disposal site, Ghana: *Applied Water Science*, v. 7, p. 845–859, doi:10.1007/s13201-015-0297-8.
- Fetter, C. W. (1999): *Contaminant Hydrogeology*, Second Edition, 500 p.; Prentice Hall (New Jersey).
- Foster, S.R.D.M.M., 2002, *Groundwater quality protection: a guide for water utilities, municipal authorities, and environment agencies*: 1–114 p.,

<http://documents.worldbank.org/curated/en/2002/09/10163573/groundwater-quality-protection-guide-water-utilities-municipal-authorities-environment-agencies>.

- Ghasemi, A., and Zahediasl, S., 2012, Normality tests for statistical analysis: A guide for non-statisticians: *International Journal of Endocrinology and Metabolism*, v. 10, p. 486–489, doi:10.5812/ijem.3505.
- Ghazavi, R., and Ebrahimi, Z., 2015, Assessing groundwater vulnerability to contamination in an arid environment using DRASTIC and GOD models: *International Journal of Environmental Science and Technology*, v. 12, p. 2909–2918, doi:10.1007/s13762-015-0813-2.
- Goldscheider, N., Klute, M., Sturm, S., and Hotzl, H., 2000, The PI method - A GIS-based approach to mapping groundwater vulnerability with special consideration of karst aquifers: *Zeitschrift fur Angewandte Geologie*, v. 46, p. 157–166.
- Heath, R.C., 1987, *Basic Ground-Water Hydrology* Prepared in cooperation with the North Carolina Department of Natural Resources and Community Development: USGS. Geological Survey, Federal Center, Box 25425, Denver, CO 80225, p. 84.
- Hendrayana, H., Riyanto, I.A., and Nuha, A., 2020, Tingkat Pemanfaatan Airtanah di Cekungan Airtanah (CAT) Yogyakarta-Sleman: *Geodika: Jurnal Kajian Ilmu dan Pendidikan Geografi*, v. 4, p. 127–137, doi:10.29408/geodika.v4i2.2643.
- Ishchenko, V., and Vasykivskyi, I., 2020, Environmental pollution with heavy metals: A case study of the household waste: *Studies in Systems, Decision, and Control*, v. 198, p. 161–175, doi:10.1007/978-3-030-11274-5_11.
- Kuroda, K., and Fukushi, T., 2009, Groundwater Contamination in Urban Areas: p.25–149, doi:10.1007/978-4-431-78399-2_7.
- Maria, R., 2018, Comparative studies of groundwater vulnerability assessment: *IOP Conference Series: Earth and Environmental Science*, v. 118, p. 6 doi:10.1088/1755-1315/118/1/012018.
- Margane, A., 2003, *Management, Protection and Sustainable Use of Groundwater and Soil Resources in the Arab Region Volume 4 Guideline for Groundwater Vulnerability Mapping and Risk Assessment for the Susceptibility of Groundwater Resources to Contamination Volume 4 Guideline: Technical Cooperation*, v. 4, p. 177.
- McDonald and Partners, (1984), *Greater Yogyakarta groundwater resources study: Groundwater (Vol. 3). Groundwater Development Project (P2AT)*. Ministry of Public Works, Government of the Republic of Indonesia. pp.14-69

- Mishra, P., Pandey, C.M., Singh, U., Gupta, A., Sahu, C., and Keshri, A., 2019, Descriptive statistics and normality tests for statistical data: *Annals of Cardiac Anaesthesia*, v. 22, p. 67–72, doi: 10.4103/aca.ACA_157_18.
- Momodu, M.A., and Anyakora, C.A., 2010, Heavy metal contamination of groundwater: the Surulere case study.: *Research Journal of Environmental and Earth Sciences*, v. 2, p. 39–43, <http://maxwellsci.com/print/rjees/v2-39-43.pdf>.
- Moore, J.W., and Ramamoorthy, S., 1984, Impact of Heavy Metals in Natural Waters: 205–233 p., doi:10.1007/978-1-4612-5210-8_10.
- Mulyani, S., Hadi Barianto, D., and Rahardjo, W., 2014, M4P-03 Kabupaten Bantul, Provinsi Daerah Istimewa Yogyakarta: v. 2, p. 30–31.
- Naik, P.K., Tambe, J.A., Dehury, B.N., and Tiwari, A.N., 2008, impact of urbanisation on the groundwater regime in a fast-growing city in central India: *Environmental Monitoring and Assessment*, v. 146, p. 339–373, doi:10.1007/s10661-007-0084-6.
- Nazzal, Y., Howari, F.M., Iqbal, J., Ahmed, I., Orm, N.B., and Yousef, A., 2019, Investigating aquifer vulnerability and pollution risk employing modified DRASTIC model and GIS techniques in Liwa area, United Arab Emirates: *Groundwater for Sustainable Development*, v. 8, p. 567–578, doi: 10.1016/j.gsd.2019.02.006.
- Nurwihastuti, D.W., Sartohadi, J., Mardiatno, D., Nehren, U., and R., 2014, Understanding of Earthquake Damage Pattern through Geomorphological Approach: A Case Study of 2006 Earthquake in Bantul, Yogyakarta, Indonesia: *World Journal of Engineering and Technology*, v. 02, p. 61–70, doi:10.4236/wjet.2014.23b010.
- Oke, S.A., and Fourie, F., 2017, Guidelines to groundwater vulnerability mapping for Sub-Saharan Africa: v.5, p. 168-177, doi: 10.1016/j.gsd.2017.06.007.
- Patra, HP, 2016, Groundwater Prospecting and: 7–45 p., doi:10.1007/978-981-10-1148-1.
- Pawirodikromo, W., Makrup, L., Teguh, M., Suryo, B., and Hartantyo, E., 2018, Comparison of 10 % and 2/3 of 2 % pe for 50 years seismic hazard at Yogyakarta special province (YSP), Indonesia constructed from the probabilistic seismic hazard analysis: *International Journal of Civil Engineering and Technology*, v. 9, p. 1593–1610.
- Pemerintah Republik Indonesia. (2021). Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 Tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup. *Sekretariat Negara Republik Indonesia*, I(078487A), 483. <http://www.jdih.setjen.kemendagri.go.id/>
- Purnama & Primacintya, 2020, Groundwater vulnerability assessment to pollution in Kasihan, Bantul Regency: A comparative method study (GOD, SINTACS

- and DRASTIC): E3S Web of Conferences, v. 200, p. 3–7, doi:10.1051/e3sconf/202020002012.
- Purnama, S., and Cahyadi, A., 2019, Groundwater Vulnerability to Pollution in Kasihan District, Bantul Regency, Indonesia: Forum Geografi, v. 33, p. 140–152, doi:10.23917/forgeo. v33i2.7672.
- Rahardjo, W., Sukandarrumidi, dan Rosidi, H. M. D., 1995, Peta Geologi Lembar Yogyakarta, Jawa, skala 1:100.000, Pusat Penelitian dan Pengembangan Geologi, Bandung.
- Rajappa, B., Manjappa, S., and Puttaiah, E., 2010, Monitoring of Heavy Metal Concentration in Groundwater of Hakinaka Taluk, India: Contemporary Engineering Sciences, v. 3, p. 183–190.
- Sethi, R., and Molfetta, A. di, 2019, Groundwater Engineering - A Technical Approach to Hydrogeology, Contaminant Transport and Groundwater Remediation: 439 p.
- Setyawan Purnama, Suyono, and B.S., 2017, Forum Geografi, Vol. 21, No. 2, p. 111 - 122.
- Shukla, S., and Saxena, A., 2019, Global Status of Nitrate Contamination in Groundwater: Its Occurrence, Health Impacts, and Mitigation Measures: Handbook of Environmental Materials Management, p. 869–888, doi:10.1007/978-3-319-73645-7_20.
- Sidibe, A.M., and Xueyu, L., 2018, Heavy metals and nitrate to validate groundwater sensibility assessment based on DRASTIC models and GIS: Case of the upper Niger and the Bani basin in Mali: Journal of African Earth Sciences, v. 147, p. 199–210, doi: 10.1016/j.jafrearsci.2018.06.019.
- Sngun, L., Eka Putra, DP, and Hendrayana, H., 2015, GROUNDWATER VULNERABILITY OF PANDAK AND BAMBANGLIPURO, YOGYAKARTA SPECIAL PROVINCE, INDONESIA: Journal of Applied Geology, v. 2, doi:10.22146/jag.7254.
- Souvannachith, T., Eka Putra, DP, and Hendrayana, H., 2017, Assessment of Groundwater Contamination Hazard by Nitrate in Samas Area, Bantul District, Yogyakarta, Indonesia: Journal of Applied Geology, v. 2, p. 36, doi:10.22146/jag.30256.
- S.Takizawa, 2013, Groundwater Management in Asian Cities: v. 53, p. 273
- Sutikno, S., 2016, Earthquake Disaster of Yogyakarta and Central Java, and Disaster Reduction, Indonesia: Forum Geografi, v. 21, p. 1–16, doi:10.23917/forgeo. v21i1.1823.
- Vrba, J. Zaporozec, A., 1994, Guidebook on Mapping Groundwater Vulnerability: Journal of Physics A: Mathematical and Theoretical, v. 44, p. 1–8, doi:10.1088/1751-8113/44/8/085201.

- Wijaya, K.A., and Purnama, S., 2018, Kajian Kerentanan Airtanah terhadap Potensi Pencemaran di Kecamatan Kasihan Kabupaten Bantul: Jurnal Bumi Indonesia, v. 7, p. 1–10,
<http://lib.geo.ugm.ac.id/ojs/index.php/jbi/article/view/943/915>.
- Zwahlen, F., 2003, Vulnerability and Risk Mapping for the Protection of Carbonate (Karst) Aquifers. Final Report (COST Action 620). European Commission, Directorate-General XII Science, Research and Development, Brussels, p. 297.