



DAFTAR PUSTAKA

- Aini, S., Budianto, M. B., & Yasa, I. W. (2020). Analisis Ketersediaan Air Permukaan Kawasan Ekonomi Khusus Mandalika dengan menggunakan Software HEC-HMS. *Universitas Mataram*.
- Akbar, M. A., Soemarno, Riniwati, H., & Tamsil, A. (2020). Conservation Model for Sustainable Groundwater Utilization in Makassar City. *Proceedings of the 13th International Interdisciplinary Studies Seminar, (IISS 2019)*, 441. 10.4108/eai.23-10-2019.2293028
- Alharbi, T. (2023). Assessment of the Biyadh groundwater quality and geochemical process in Saudi Arabia using statistical, modeling, and WQI methods. *Journal of King Saud University-Science*, 35(8).
- Amsah, L. O. M. Y. (2020). Identifikasi Pengaruh Intrusi Air Laut Terhadap Kedalaman Pemboran Air Tanah Menggunakan Metode Geolistrik di Kota Makassar. *Jurnal Akademika*, 17(1), 14-17.
- Antara. (2015). *Makassar terancam intrusi air asin*. Antara. Retrieved Juni 25, 2024, from <https://makassar.antaranews.com/berita/67463/makassar-terancam-intrusi-air-asin>
- Ardaneswari, T. A., Yulianto, T., & Putranto, T. T. (2016). Analisis Intrusi Air Laut Menggunakan Data Resistivitas dan Geokimia Airtanah di Dataran Aluvial Kota Semarang. *Youngster Physics Journal*, 5, 335-350.
- Astani, L. P., Supraba, I., & Jayadi, R. (2021). Analisis Kebutuhan Air Domestik dan Non Domestik di Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. *Jurnal Teknologi Sipil*, 5(2), 34-41.
- Badan Standardisasi Nasional. (2015). *SNI 6728.1-2015: Preparation of Water Resources Balance*. BSN.
- Bahri, S., & Basri, C. (1996). *Peta Geologi Kuarter Lembar Sungguminasa Sulawesi Selatan Skala 1:150.000* [Peta]. Pusat Penelitian dan Pengembangan Geologi.
- Barwani, A. A., & Helmi, T. (2006). Sea water intrusion in a coastal aquifer: a case study for the area between Seeb and Suwaiq, Sultanate of Oma. *Journal of Agricultural and Marine Sciences [JAMS]*, 11(2006), 55-69.
- BIG. (2024). *Peta Rupabumi Indonesia* [Peta]. Badan Informasi Geospasial.
- Bisri, M. (2012). *Studi Tentang Pendugaan Airtanah, Sumur Airtanah dan Upaya Dalam Konservasi Airtanah: Malang*. UB Press.
- BPS Kota Makassar. (2024). *Kota Makassar dalam Angka* (Vol. 25). Badan Pusat Statistik Kota Makassar.
- BPS Sulawesi Selatan. (2023). *Direktori Industri Manufaktur Provinsi Sulawesi Selatan 2023*. BPS Sulawesi Selatan.
- BPS Sulawesi Selatan. (2024). *Sulawesi Selatan dalam Angka 2023*. BPS Sulawesi Selatan.
- Cahyadi, A., Adji, T. N., Marfai, M. A., Noviandaru, S., & Adniy, R. Z. (2017). Analisis Dampak Intrusi Air Laut terhadap Airtanah di Pulau Koral Pramuka, DKI Jakarta. *Majalah Geografi Indonesia*, 31(2), 61-66. 10.22146/mgi.23725
- Clark, I. (2015). *Groundwater Geochemistry and Isotope*. Boca Raton, Florida, CRC Press.
- Damayanti, A. D., & Notodarmodjo, S. (2021). Metode G-ALDIT dan G-ALDITLcR untuk Evaluasi Kerentanan Air Tanah Dangkal Akibat Pengaruh Intrusi Air Laut (Studi Kasus: Air Tanah Dangkal Kawasan Pesisir Bagian Utara dan Selatan Kota Makassar). *Jurnal Lingkungan dan Bencana Geologi*, 12(2), 107-123.
- Darwis. (2017). *Pengelolaan Air Tanah: Yogyakarta*. Pustaka Aq, V. 1.
- Departemen Permukiman dan Prasarana Wilayah. (2003). *Pedoman Penentuan Kebutuhan Air Baku Rumah Tangga, Perkotaan, Industri*. Depkimpraswil.



Ditjen Cipta Karya. (2000). *Kriteria Perencanaan Ditjen Cipta Karya Dinas PU Tahun 2000*.

Ditjen Cipta Karya.

- Domenico, P. A., & Schwartz, F. W. (1998). *Physical and Chemical Hydrogeology Second Edition*. New York: John Wiley & Sons, Inc.
- El Moujabber, M., Bou Samra, B., Darwish, T., & Atallah, T. (n.d.). Comparison of Different Indicators for Groundwater Contamination by Seawater Intrusion on the Lebanese Coast. *Water Resources Management*, 20, 161-180.
- ESRI (Environmental Systems Research Institute). (2017-2023). *Esri Land Cover*. ArcGIS Living Atlas of the World. Retrieved September 20, 2024, from <https://livingatlas.arcgis.com/landcover>
- Falkland, A. (1991). *Hydrology and Water Resources of Small Island: a Practical Guide*. Unesco.
- Febriarta, E., Haryono, E., & Adji, T. N. (2015). Aplikasi Teknologi Isotop Alam untuk Menentukan Asal Usul Air Tanah Pesisir. *Prosiding Seminar Nasional Pengelolaan Pesisir & Daerah Aliran Sungai ke-1 Universitas Gadjah Mada, Yogyakarta*, 100-105.
- Fetter, C. W. (2001). *Applied Hydrogeology, Fourth Edition*. Upper Saddle River, New Jersey, Prentice-Hall, Inc.
- Gemilang, W. A., & Bakti, H. (2019). Kerentanan Airtanah di Kawasan Pertanian Garam Pesisir Pademawu, Madura Berdasarkan Karakteristik Hidrogeokimia dan Indeks Kualitas Air. *Riset Geologi dan Pertambangan*, 29(1), 115-126. 10.14203/risetgeotam2019.v29.1005
- Gibbs, R. J. (1970). Mechanisms Controlling World Water Chemistry. *American Association for the Advancement of Science New Series*, 170(3926), 1088-1090.
- Gopinath, S., Krishnaraj, S., Murugesan, V., Saravanan, K., Prakash, R., Suma, C.S., & Senthilnathan, D. (2016). Hydrochemical characteristics and salinity of groundwater in parts of Nagapattinam district of Tamil Nadu and the Union Territory of Puducherry, India. *Springer-Verlag Berlin Heidelberg*. 10.1007/s13146-016-0300-y
- Gopinath, S., Srinivasamoorthy, K., Prakash, R., & Karunanidhi, D. (2019). Characterizing groundwater quality and seawater intrusion in coastal aquifers of Nagapattinam and Karaikal, South India using hydrogeochemistry and modeling techniques. *Human and Ecological Risk Assessment*, 25(1-2), 314-334.
- Hadisusanto, N. (2010). *Aplikasi Hidrologi*. Jogja Mediautama.
- Hairoma, N., Gasim, M. B., Azid, A., Muhamad, H., Sulaiman, N. H., Khairuddin, Z., Mustafa, A. D., Azaman, F., & Amran, M. A. (2016). Saltwater intrusion analysis in east coast of Terengganu using multivariate analysis. *Malaysian Journal of Analytical Sciences*, 20(5), 1225-1232.
- Hamed, Y., Hadji, R., Redhaounia, B., Zighmi, K., Baali, F., & El Gayar, A. (2018). Climate impact on surface and groundwater in North Africa: a global synthesis of findings and recommendations. *Euro-Mediterranean Journal for Environmental Integration*, 3(1).
- Han, D., Kohfhl, C., Song, X., Xiao, G., & Yang, J. (2011). Geochemical and isotopic evidence for palaeo-seawater intrusion into the south coast aquifer of Laizhou Bay, China. *Applied Geochemistry*, (26), 863-883.
- Hasrianto, Imran, A., Menasye, M., & Afasedanya, T. (2023). Identifikasi Sebaran Intrusi Air Laut Berdasarkan Peta ISO Resistivitas Metode Geolistrik Kota Makassar. *Jurnal Teknik AMATA*, 04(1), 52-57.
- Hendrayana, H. (2002). *Dampak Pemanfaatan Airtanah*. Yogyakarta: Departemen Teknik Geologi, Fakultas Teknik, Universitas Gadjah Mada.
- Hendrayana, H. (2005). *Intrusi Air Asin ke dalam Akuifer di Daratan*.
- Hoefs, J. (2009). *Stable Isotope Geochemistry Sixth Edition*. Berlin: Springer.
- Ichiyanagi, K., Suwarman, R., & Yamanaka, M. D. (2011). Stable isotopes in precipitation



over Indonesia Maritime Continent. *Proceedings of an International Symposium, Monaco, 27 March –1 April 2011, 1.*

- Imran, A. M., Ramli, M., Irfan, U. R., Rafiuddin, & Sulsilawati. (2010). Unconfined Groundwater Recharge Analysis of Makassar, South Sulawesi. *Proceedings of the First Makassar International Conference on Civil Engineering (MICCE2010)*.
- Ipranta, Bachri, S., Suwijanto, & Jamal. (2010). *Peta Geologi Lembar Ujung Pandang, Sulawesi Selatan Hasil Interpretasi Citra Inderaan Jauh Skala 1:50.000* [Peta]. Pusat Survei Geologi, Kementerian ESDM.
- IWACO. (1989). *Industrial Water Requirements Classification*. <https://www.rucika.co.id/peran-air-dalam-kemajuan-industri>
- Kementerian ESDM. (2018). *Peraturan Menteri ESDM Nomor 31 Tahun 2018 tentang Pedoman Penetapan Zona Konservasi Air Tanah*. Kementerian ESDM.
- Klassen, J., Allen, D. M., & Kirste, D. (2014). Chemical Indicators of Saltwater Intrusion for the Gulf Islands, British Columbia. *British Columbia, BC Ministry of Forest, Lands and Natural Resource Operations and BC Ministry of Environment*, 6-10.
- Korfali, S. I., & Jurdi, M. S. (2010). Speciation of metals in bed sediments and water of Qaraaoun Reservoir, Lebanon. *Environmental monitoring and assessment*, 178, 563-579.
- Kresic, N., Stevanovic, Z., & Ed. (2010). *Groundwater Hydrology of Springs-Engineering, Theory, Management, and Sustainability*. Massachusetts: Elsevier Inc.
- Kurita, N., Ichianagi, K., Matsumoto, J., Yamanaka, M. D., & Ohata, T. (2009). The relationship between the isotopic content of precipitation and the precipitation amount in tropical regions. *Journal of Geochemical Exploration*, 102(3), 113-122.
- Langkoke, R. (2023). Geospatial Analysis for Delta Evolution of Jeneberang River in Makassar, South Sulawesi, Indonesia. *Indonesian Journal on Geoscience*, 10(2), 151-165. <https://doi.org/10.17014/ijog.10.2.151-165>
- Maru, R., Nasaruddin, N., Ikhsan, M., & Laka, B. M. (2015). Perubahan penggunaan lahan Kota Makassar tahun 1990-2010. *SAINSMAT" Jurnal Sains, Matematika, dan Pembelajarannya*, 4(2), 113-125.
- Mazor. (2004). Stable hydrogen and oxygen isotopes. In *Chemical and isotopic groundwater hydrology: The applied approach*. (pp. 168–195). 2nd ed. Marcel Dekker.
- Mazor, E. (1997). *Chemical and Isotopic Groundwater Hydrology Third Edition*. New York: Marcel Dekker, Inc.
- Michael, H. (2023). *What is seawater intrusion? A hydrogeologist explains the shifting balance between fresh and salt water at the coast*. The Conversation. Retrieved May 9, 2024, from <https://theconversation.com/what-is-seawater-intrusion-a-hydrogeologist-explains-the-shifting-balance-between-fresh-and-salt-water-at-the-coast-214620>
- Mudiana, W., Mukna, H. S., & Soetrisno, S. (1984). *Peta Hidrogeologi Indonesia Lembar Ujung Pandang-Benteng dan Sinjai, Sulawesi* [Peta]. Direktorat Geologi Tata Lingkungan.
- Mukhopadhyay, A. (2015). Cl-SO₄ Mass Ratio as an Indicator of Contamination of Freshwater Resources in Kuwait by Seawater and Oilfield Brine. *Journal of Water Resource and Hydraulic Engineering*, 4, 23-55. DOI: 10.5963/JWRHE0401003
- Najib, N. N. (2021). Kontribusi Jasa Lingkungan Air Tanah di Kota Makassar. *Prosiding Seminar Nasional Politeknik Pertanian Negeri Pangkajene Kepulauan*, 2(2021), 18-28.
- Notodarmojo, S. (2005). *Pencemaran Tanah dan Air*. ITB.
- PAHIAA (Panitia Ad Hoc Intrusi Air Asin). (1986). *Klasifikasi Keasinan Perairan Jakarta*. Direktorat Geologi Tata Lingkungan, Jakarta.



- Panno, S. V., Hackley, K. C., Hwang, H. H., Greenberg, S. E., Krapac, I. G., Landsberger, S., & O'Kelly, D. J. O. (2006). Characterization and identification of Na-Cl sources in ground water. *Ground Water*, 44(2), 176-187.
- Pratikno, B., Abidin, Z., Sidauruk, P., & Satrio. (2009). Aplikasi Isotop Alam ¹⁸O, ²H dan ¹⁴C untuk Studi Airtanah di Kepulauan Seribu. *A Scientific Journal for The Applications of Isotopes and Radiation*, 5, 68-82. <https://dx.doi.org/10.17146/jair.2009.5.1.526>
- Purwanto, A. (2022). *Kota Makassar: Pusat Pertumbuhan Ekonomi Indonesia Timur*. Kompas.id. Retrieved March 17, 2024, from <https://www.kompas.id/baca/daerah/2022/01/31/kota-makassar-pusat-pertumbuhan-ekonomi-indonesia-timur>
- Putra, D. B. E., Hadian, M. S. D., Alam, B. Y. C. S., Yuskar, Y., Yaacob, W. Z. W., Datta, B., & Harnum, W. P. D. (2021). Geochemistry of groundwater and saltwater intrusion in a coastal region of an island in Malacca Strait, Indonesia. *Environmental Engineering Research*, 26(2), 1-8.
- Putra, D. P. E. (2007). *The Impact of Urbanization on Groundwater Quality Area Study in Yogyakarta City*. RWTH Aachen.
- Rahardjo, P. (2002). *Analisis Sistem Akuifer dan Pemodelan Aliran Airtanah* [Master Thesis]. Semarang: Pascasarjana UNDIP.
- Ramli, M., & Bunga. (2011). Rekonstruksi Cekungan Hidrogeologi sebagai Dasar Konservasi Airtanah Makassar. *Prosiding Hasil Penelitian Fakultas Teknik Universitas Hasanuddin*, 5.
- Rejekiingrum. (2009). *Peluang Pemanfaatan Air Tanah Untuk Keberlanjutan Sumber Daya Air: v.3*.
- Ridwan, V. F., Sarif, & Hasanuddin, H. A. (2022). Perubahan Tutupan Lahan Kawasan Terbangun Kota Makassar dengan Citra Satelit Sanitel-2 dari Tahun 2017-2021. *Journal of Applied Civil and Environmental Engineering*, 2(2), 87-92.
- Rumpakwakra, E., Jaya, G. W., Bahri, S., Ramadhan, A., Zulfiah, Z., Thohirah, A., & Taipabu, M. I. (2024). Identification of seawater intrusion based on geochemical data in Pelauw-Kariu Region, Maluku. *Journal of Degraded and Mining Lands Management*, 11(3).
- Safitri, F. (2016). *Kajian Kerentanan Airtanah Bebas terhadap Intrusi Air Laut di Wilayah Pesisir Kota Makassar* [Tesis]. Pascasarjana Fakultas Geografi Universitas Gadjah Mada Yogyakarta.
- Saila, & Azmeri. (2013). Pengaruh Intrusi Air Laut Terhadap Akuifer Pantai Pada Kawasan Wisata Pantai Iboih Sabang. *Universitas Sebelas Maret (UNS)-Surakarta*, 7(7), 24-26.
- Saline Agricultural Worldwide. (2020). *Classification of saline water - Salt Farm Foundation*. Saline Agriculture Worldwide. Retrieved May 6, 2024, from <https://www.salineagricultureworldwide.com/classification-of-saline-water>
- Sen, Z. (2014). *Practical and Applied Hydrogeology*. Istanbul, Turkey, Elsevier.
- Spitz, K., & Moreno, J. (1996). *A Practical Guide to Groundwater and Solute Transport Modelling*. John Wiley & Sons, Inc.
- Stuyfzand, P. J. (2008). Base exchange indices as indicators of salinization or freshening of (coastal) aquifers. *20th Salt Water Intrusion Meeting, Naples, Florida, USA, IFAS Research Gainesville*.
- Sukamto, R., & Supriatna, S. (1982). *Geologi Lembar Ujung Pandang, Benteng dan Sinjai Sulawesi*. Pusat Penelitian dan Pengembangan Geologi, Direktorat Geologi dan Sumberdaya Mineral, Departemen Pertambangan dan Energi Republik Indonesia.
- Sultan, M. N. (2019). *Model Penanganan Kerentanan Intrusi Air Laut Di Kota Makassar Dengan Pendekatan Pemanfaatan Lahan Dan Pola Kemitraan* [Tesis]. Universitas



- Syam, M. A. (2015). *Pemodelan Air Tanah untuk Prediksi Aliran dan Dampak Negatif Pengambilan Air Tanah di Kota Makassar Sulawesi Selatan* [Tesis]. Pascasarjana Fakultas Teknik Universitas Gadjah Mada Yogyakarta.
- Tantama, E. E. (2022). *Penentuan Daerah Imbuhan Air Tanah dan Sistem Akuifer di CAT Randublatung dengan Metode Hidrokimia dan Isotop* [Tesis]. Universitas Gadjah Mada.
- Tempo. (2014). *Makassar terancam krisis air tanah*. Tempo.co. Retrieved Juni 25, 2024, from <https://nasional.tempo.co/read/561980/makassar-terancam-krisis-air-tanah>
- Todd, D. K. (1959). *Annotated bibliography on artificial recharge of ground water through 1954*. US Government Printing Office.
- Todd, D. K., & Mays, L. W. (2005). *Groundwater Hydrology Third Edition*. New Jersey: John Wiley & Sons, Inc.
- Turc, L. (1954). Le bilan d'eau des sols: Relations entre les precipitations, l'évaporation et l'écoulement. *Annales Agronomiques*, 5, 491-595.
- Warist, R. K., Wilopo, W., & Setiawan, N. I. (2021). Seawater intrusion assessment based on hydrochemical data in Gapura sub-district of Sumenep regency, East Java, Indonesia. *IOP Conference Series: Earth and Environmental Science*. <https://doi.org/10.1088/1755-1315/926/1/012109>
- Warnana, D. D. (2020). *Intrusi Air Laut | Teknik Geofisika*. Institut Teknologi Sepuluh Nopember (ITS). Retrieved March 25, 2024, from <https://www.its.ac.id/tgeofisika/wp-content/uploads/sites/33/2020/08/Dr-Dwa-Desa-Warnana-Teknik-Geofisika-ITS-Intrusi-Air-Laut.pdf>
- Washington State Department of Ecology. (2005). *Water Resource Inventory Area 06 Islands. Seawater Intrusion Topic Paper*. Retrieved Juni 29, 2024, from <https://apps.ecology.wa.gov/publications/SummaryPages/1203271.html>
- Wati, H. S., Rayhana, E., & Pratikno, B. (2020). Studi Intrusi Air Laut di Tegal - Jawa Tengah Menggunakan Isotop Stabil Oksigen-18 (^{18}O) dan Deuterium (^2H). *A Scientific Journal for The Applications of Isotopes and Radiation*, 16(1), 23-30.
- White, W. M. (2015). *Isotope Geochemistry*. New Jersey: John Wiley & Sons Ltd.
- Wilopo, W., Susatio, R., Putra, D.P.E., & Risanti. (2021). Seawater Intrusion Assessment and Prediction of Sea-freshwater interface in Parangtritis Coastal Aquifer, South of Yogyakarta Special Province, Indonesia. *Journal of Degraded and Mining Lands Management*, 8(3), 2709-2718. 10.15243/jdmlm.2021.083.2709
- Yadi, A. F., Suprayogi, I., & Bochari, M. F. (2022). Analisis Kebutuhan Air Bersih Berdasarkan Rencana Tata Ruang Wilayah (RTRW) Kota Pekanbaru Tahun 2038. *SAINSTEK*, 10(2), 131-137.
- Zeffitni. (2012). Identifikasi Batas Lateral Cekungan Airtanah (CAT) Palu. *SmartTek Journal Universitas Tadulako*.
- Zuo, R., Wang, J., Xiong, Y., & Wang, Z. (2021). The processing methods of geochemical exploration data: past, present, and future. *Applied Geochemistry*.