

DAFTAR PUSTAKA

- Abdullahi, S., & Pradhan, B. 2018. *Land use change modeling and the effect of compact city paradigms: Integration of GIS-based cellular automata and weights-of-evidence techniques*. Environmental Earth Sciences, 77(6), 1–15. <https://doi.org/10.1007/s12665-018-7429-z>
- Adam, F., 1984. *Soil Acidity and Liming*. Agronomy Monographs, 1, 3-56
- Afany, M.R. 2015. *Panduan Analisa Kimia Tanah*. Universitas Pembangunan Nasional “Veteran” Yogyakarta. Yogyakarta.
- Afriyeni, P., Rifai, H., Maisonneuve, C B D., Forni, F., Eisele, S., Phua, M., & Putra, R. 2020. *Identification of magnetic minerals in peatland at the section of DD REP B 693 lake Diatas using XRD (X-ray Diffraction)*. IOP Publishing, 1481(1), 012027-012027. <https://doi.org/10.1088/1742-6596/1481/1/012027>
- Agus, C., & Wulandari, D. 2012. *The Abundance of Pioneer Vegetation and Their Interaction with Endomycorrhiza at Different Land Qualities after Merapi Eruption*. Bogor Institute of Agriculture, 18(3), 145-154. <https://doi.org/10.7226/jtfm.18.3.145>
- Akmalia, R., Sulistijorini, S., Putra, H F. 2020. *Ecological function of the land after Merapi eruption*. IOP Publishing, 457(1), 012013-012013. <https://doi.org/10.1088/1755-1315/457/1/012013>
- Ali, M A., Inubushi, K., Kim, P J., & Amin, S. 2019. *Management of Paddy Soil towards Low Greenhouse Gas Emissions and Sustainable Rice Production in the Changing Climatic Conditions*. IntechOpen. <https://doi.org/10.5772/intechopen.83548>
- Arisona, A., Adlan, M N., Khalil, A E., Nuraddeen, U K., Hariri, M H M., & Fathi, M A. 2017. *Evaluation Study of Boundary and Depth of the Soil Structure for Geotechnical Site Investigation using MASW*. UIR Press, 2(1), 31-31. <https://doi.org/10.24273/jgeet.2017.2.1.21>
- Ariyanto, A., Haryono, A F., Adinugroho, D C. 2020. *Determination of Mining Zoning Andesite, Sirtu and Tras Materials in Purbalingga District Central Java*. Al-Fiziya, 3(2), 68-77. <https://doi.org/10.15408/fiziya.v3i2.17934>
- Arham, M., M. Arsyad., dan P. Palloan. 2015. *Analisis Karakteristik Curah Hujan dan Tinggi Muka Air Daerah Aliran Sungai (DAS) Pute Rammang-Rammang Kawasan Karst Maros*. Jurnal Sains Dan Pendidikan Fisika (JSPF), 11(1):82–87.

- Arya, L.M., Bowman, D.C., Thapa, B.B., Cassel, D. K. 2008. *Scaling soil water characteristics of golf course and athletic field sands from particle size distribution*. Soil Science Society of America Journal 72(1): 25–32.
- Ashari, A. 2013. *Kajian Tingkat Erodibilitas Beberapa Jenis Tanah Di Pegunungan Baturagung Desa Putat Dan Nglanggeran Kecamatan Patuk Kabupaten Gunungkidul*. Informasi, No. 1, XXXIX, Th. 2013 Jurnal Universitas Negeri Yogyakarta 15-30
- Bemmelen, R. W. 1949. *The Geology of Indonesia*. Government Printing Office.
- Brady, N. C., dan R. R. Weil. 2016. *The Nature and Properties of Soils* (Fifteenth Edition). Pearson Education Publisher.
- Budiyanto, G. 2021. *Land Use Planning for Disaster-Prone Areas in Southern Region of Mount Merapi*. Brawijaya University, 43(1).
<https://doi.org/10.17503/agrivita.v1i1.2774>
- Clinton, A., Alexander, C. B. 2020. *Environmental impact of weathering and soil formation in geomorphological research*. GSC Online Press, 8(3), 047-051.
<https://doi.org/10.30574/wjarr.2020.8.3.0399>
- Culliney, T W. 2013. *Role of Arthropods in Maintaining Soil Fertility*. Multidisciplinary Digital Publishing Institute, 3(4), 629-659.
<https://doi.org/10.3390/agriculture3040629>
- Dermawan, F A., Hamka, H., Malik, R T A., Sianipar, J Y., Ramadhan, Q S. 2016. *Volcanostratigraphic Study in Constructing Volcano Chronology and Its Implication for Geothermal Resource Estimation; Case Study Mount Sawal, West Java*. IOP Publishing, 42, 012027-012027.
<https://doi.org/10.1088/1755-1315/42/1/012027>
- Davari, M., Gholami, L., Nabiollahi, K., Homae, M., Jafari, H J. 2020. *Deforestation and cultivation of sparse forest impacts on soil quality (case study: West Iran, Baneh)*. Elsevier BV, 198, 104504-104504.
<https://doi.org/10.1016/j.still.2019.104504>
- Elbersen, B., Eupen, V., Mantel S., Verzandvoory S., Boogaard H., Mucher S., Cicarrel T., Elberson W., Bai Z., Iqbal Y., Cossel M., Carrasco J., Ramos CC, Monti A., dan Scordia D. 2020. *Definition and Classification of Marginal Lands Suitable for Industrial Crops In Europe*. EU Horizon 62

- El-Naggar, A., Lee, S S., Rinklebe, J., Farooq, M., Song, H., Sarmah, A K., Zimmerman, A R., Ahmad, M., Shaheen, S M., & Ok, Y S. 2019. *Biochar application to low fertility soils: A review of current status, and future prospects*. Elsevier BV, 337, 536-554.
<https://doi.org/10.1016/j.geoderma.2018.09.034>
- Eviati., Sulaeman., Herawaty, L., Anggria, L., Usman., Tantika, H.E., Prihatini, R., Wuningrum, P. 2023. *Petunjuk Teknis Analisa Kimia Tanah, Tanaman, Air dan Pupuk. Bogor: Balai Besar Pengujian Standar Instrumet Sumberdaya Lahan Pertanian Bahan Standardisasi Instrumen*. Pertanian Kementerian Pertanian.
- Fayad, I S., Baghdadi, N., Bailly, J., Barbier, N., Gond, V., Hérault, B., Hajj, M E., Fabre, F., Perrin, J. 2016. *Regional Scale Rain-Forest Height Mapping Using Regression-Kriging of Spaceborne and Airborne LiDAR Data: Application on French Guiana*. Multidisciplinary Digital Publishing Institute, 8(3), 240-240. <https://doi.org/10.3390/rs8030240>
- Fiantis, D., Nelson, M., Ranst, É V., Shamshuddin, J., Qafoku, N P. 2009. *Chemical weathering of new pyroclastic deposits from Mt. Merapi (Java), Indonesia*. Springer Science+Business Media, 6(3), 240-254.
<https://doi.org/10.1007/s11629-009-1041-3>
- Fu, Y., Tian, Z., Amoozegar, A., Heitman, J. 2019. *Measuring dynamic changes of soil porosity during compaction*. Soil and Tillage Research 193: 114–121.
- Gertisser, R., Quidelleur, X., Charbonnier, S. 2012 *The geological evolution of Merapi volcano, Central Java, Indonesia*. Bulletin of Volcanology 74: 1213-1233
- Hamilton, R., 1979, *Tectonics of the Indonesiuan Region: Geological Survey*. Professional Papar 1078, 345
- Hanafiah, K. A. 2012. *Dasar dasar ilmu tanah*. Jakarta : Rajawali Pers.
- Hannah, L. 2018. *Climate Change Biology*. Academic Press. 3(2):13-23
- Hardjowigeno, S., Subagyo, H., & Rayes, M. L. 2004. *Morfologi dan klasifikasi tanah sawah. Di dalam Tanah Sawah dan Teknol pengelolaannya*. Pus Penelit Tanah dan Agroklimat Dep Pertan Bogor.
- Haryati, U. 2002. *Keunggulan dan Kelemahan Sistem Alley Cropping serta Peluang dan Kendala Adopsinya di Lahan Kering DAS Bagian Hulu*.Makalah Pengantar Falsafah Sains (PPS702). Institut Pertanian Bogor

- Hikmatullah, B.H. Prasetyo, dan M. Hendrisman. 2002. *Vertisol dari daerah Gorontalo: Sifat-sifat fisika-kimia dan komposisi mineralnya*. Jurnal Tanah dan Air 3(1):21-32.
- Hillel, D. 1998. *Introduction to Environmental Soil Physics*. Elsevier Academic Press.
- Husein, S., 2015. *Petroleum and Regional Geology of Northeast Jav Basin, Indonesia – Excursion Guide Book for University Teknologi Petronas Malaysia. Department of Geological Engineering*. Universitas Gadjah Mada, 21.
- Indrihastuti, D., Murtilaksono, K., & Tjahjono, B. 2016. *Alalisis Lahan Kritis dan Arah Rehabilitasi Lahan Dalam Pengembangan Wilayah Kabupaten Kendal Jawa Tengah*. TATA LOKA 18:222-239.
- Jashim Udiin, A.S.M. Mohiuddin, Masud Hassan . 2019 *Organic Carbon Storage in the Tropical Peat Soils and Its Impact on Climate Change*. American Journal of Climate Change 08(01):94-109. DOI:10.4236/ajcc.2019.81006
- Jenny, H. 1941. *Factors of Soil Formation*. A System of Quantitative Pedology, Soil Science. Soil Science
- Karunianto, A J., Haryanto, D., & Ngadenin, N. 2022. *Sub-surface Geological Modeling Based on Gravity Residual Data in Adang Volcanic Rock Area, Mamuju, West Sulawesi Province*. Buletin Pusat Pengembangan Bahan Galian Nuklir, 43(1), 23-23.
<https://doi.org/10.17146/eksplorium.2022.43.1.6089>
- Kaur, H. 2019. *Forms of Potassium in Soil and their Relationship with Soil Properties- A Review*. Excellent Publishers, 8(10), 1580-1586.
<https://doi.org/10.20546/ijcmas.2019.810.184>
- Keba, H T., Madakadze, I C., Angassa, A., & Hassen, A. 2013. *Nutritive Value of Grasses in Semi-arid Rangelands of Ethiopia: Local Experience Based Herbage Preference Evaluation versus Laboratory Analysis*. Asian-Australasian Association of Animal Production Societies, 26(3), 366-377.
<https://doi.org/10.5713/ajas.2012.12551>
- Kharisma., Prasetyo, M R A., Rosa, A., Fitrianingrum, I., Wardoyo, M A I., & Ashari, A. 2021. *The potential of river discharge at the peak of the dry season in some disaster-prone area of Merapi Volcano*. IOP Publishing, 884(1), 012005-012005.
<https://doi.org/10.1088/1755-1315/884/1/012005>

- Kusuma, W. B., Kalimi. 2019. *Studi Lingkungan Pengendapan dan Diagenesis Batuan Berdasarkan Analisis Petrografi di Daerah Sukolilo, Pati, Jawa-Tengah*. Jurnal Nasional Pengelolaan Energi MigasZoom, 1(1), 6–16. <https://doi.org/10.37525/mz/2019-1/182>
- Kusumayudha, S B., Putra, Y., Pratiknyo, P. 2018. *Conservation zones in a cultural heritages area of Penanggungan Volcano, based on volcanic-hydrogeological assessment, Mojokerto Regency, East Java, Indonesia*. IOP Publishing, 212, 012002-012002. <https://doi.org/10.1088/1755-1315/212/1/012002>
- Kurniawan, V O., Mei, E Y W., & Hadmoko, D S. 2020. *Pemodelan aliran lahar Gunung Api Merapi untuk perhitungan risiko kerugian pada penggunaan lahan terdampak di bantaran Sungai Boyong, Pakem, Sleman, D.I. Yogyakarta.* , Jurnal Geografi Lingkungan Tropik. 3(2). <https://doi.org/10.7454/jglitrop.v3i2.64>
- Koenigs, F. F. F. R. 1950. *A sawah profile near Bogor (Java)*. Contr. General Agric. Reseach Station, Bogor, No. 15.
- La Habi, M., Nendissa, J. I., Marasabessy, D., & Kalay, A. M. 2018. *Ketersediaan Fosfat, Serapan Fosfat, dan Hasil Tanaman Jagung (Zea mays L.) Akibat Pemberian Kompos Granul Ela Sagu Dengan Pupuk Fosfat Pada Inceptisols*. Agrologia, 7(1)
- Lawes, R.A., Oliver, Y.M. and Robertson, M. J. 2009. *Integrating the effects of climate and plant available soil water holding capacity on wheat yield*. Field Crops Research 113(3): 297–305.
- Lembaga Penelitian Tanah (LPT). 1979. *Penuntun Analisa Fisika Tanah*. Departemen Badan Penelitian dan Pengembangan Pertanian. Bogor. 1-47
- Lindsay, W. L. (1979). *Chemical equilibria in soils*. John Wiley & Sons. New York 5(11): 145-152
- Lu, Y., Si, B., Li, H., dan Biswas, A. 2019. *Elucidating controls of the variability of deep soil bulk density*. Geoderma 348: 146–157.
- Manurung, R., Gunawan, J., Hazriani, R., & Suharmoko, J. 2017. *Pemetaan status unsur hara N, P dan K tanah pada perkebunan kelapa sawit di lahan gambut*. Pedontropika. Jurnal Ilmu Tanah Dan Sumber Daya Lahan, 3(1), 89-96.
- Mardain, T., Arifin, Y I., Kasim, M., & Rosadi, D R. 2023. *Geology and Alteration of East Pinolosian Area, Bolaang Mongondow, North Sulawesi Province*. Pengembangan Bahan Galian Nuklir, 43(2), 71-71. <https://doi.org/10.17146/eksplorium.2022.43.2.5835>

- Martín, M.Á., Reyes, M. dan Taguas, F.J. 2017. *Estimating soil bulk density with information metrics of soil texture*. Geoderma 287: 66–70.
- Marjiyono., Setiadi, I., & Setiawan, J. 2021. *The Estimation of Seismic Site Amplification of Bukittinggi City, West Sumatera, Indonesia*. IOP Publishing, 873(1), 012009-012009. <https://doi.org/10.1088/1755-1315/873/1/012009>
- Montgomery, D. R. 2007. *Soil Erosion and Conservation*. Cambridge University Press. 104(33): 13268-13272
- Mulyaningsih, S. 2021. *Cultural and geological heritage in time elapsed during historical Kingdoms in Yogyakarta Special Region, Indonesia*. Berita Sedimentology, 47(3), 57-64. <https://doi.org/10.51835/bsed.2021.47.3.359>
- Mutaqin, B. W., Hadmoko, D. S. 2017. *Characteristics and Dynamics of the Volcanic Activities of Mount Merapi, Indonesia*. Journal of Geological Research, 2017
- Nabila, F. 2020. *Geology And Deposition Of Volcaniclastic In Nglanggeran Formation At Patuk Area, Gunung Kidul, Yogyakarta, Indonesia*. Universiti Malaysia Kelantan.
- Negro, S R L., Pereira, D D S., Montanari, R., Dalchiavon, F C., & Oliveira, C F. 2018. *Correlations of soybean yield with soil porosity and bulk density of an Oxisol*. Universidade Federal de Goiás, 48(4), 476-485. <https://doi.org/10.1590/1983-40632018v4852654>
- Neina, D. 2019. *The Role of Soil pH in Plant Nutrition and Soil Remediation*. Hindawi Publishing Corporation, 2019, 1-9. <https://doi.org/10.1155/2019/5794869>
- Nannipieri, P. 2020. *Soil Is Still an Unknown Biological System*. Multidisciplinary Digital Publishing Institute, 10(11), 3717-3717. <https://doi.org/10.3390/app10113717>
- Neupane, A., Raya, S B., Bhattarai, S., & Neupane, S. 2019. *Organic Matter and Properties of Soil In Forest And Agriculture Areas*. Int J Geogr Geol Environ, 1(2), 28-33.
- Newhall, C. G., & Hoblitt, R. P. 2002. *Constructing Event Trees for Volcanic Crises*. Bulletin of Volcanology, 64(1), 3-20
- Notohadiprawiro, T. 1998. *Tanah dan lingkungan*. Direktorat Jendral Pendidikan Tinggi Departemen Pendidikan dan Kebudayaan. Jakarta, 237.

- Notohadiprawiro, T. 2006. *Tanah dan Lingkungan*. Pusat Studi Sumber Daya Lahan. Universitas Gadjah Mada.
- Novian, M.I., Setiawan, P.K.D., Husein, S., & Rahardjo, W., 2012. *Stratigrafi Formasi Semilir Bagian Atas di Dusun Boyo, Desa Ngalang, Kecamatan Gedang Sari, Kabupaten Gunung Kidul, DIY : Pertimbangan Untuk Penamaan Anggota Buyutan*. Publikasi Khusus Geologi Pegunungan Selatan Bagian Timur, Pusat Survei Geologi.
- Paputungan, I V., Dirgahayu, T., Hendrik, H., Setiaji, H. 2020. *Designing Mobile-apps for context-aware notification: case study Merapi Volcano*. IOP Publishing, 1566(1), 012086-012086.
<https://doi.org/10.1088/1742-6596/1566/1/012086>
- Pitaloka, T G., Bijaksana, S., Fajar, S J., Nathasa, R., & Masrurah, Z. 2021. *The Correlation Analysis of Magnetic Susceptibility and Elemental Composition of Very Fine Sand from Anoi Itam Beach in Weh Island, Aceh*. IOP Publishing, 873(1), 012075-012075.
<https://doi.org/10.1088/1755-1315/873/1/012075>
- Prabakaran, S., Jothimani, S., Manikandan, K., Joseph, M W., Paramasivan, M. 2020. *Soil: Chemical characteristics of Vallanadu series in Tamiraparani river basin of southern Tamil Nadu, India*. AkiNik Publications, 8(6), 2659-2665. <https://doi.org/10.22271/chemi.2020.v8.i6al.11184>
- Prasetyo, B. H., Suganda, H., & Kasno, A. 2007. *Pengaruh bahan volkan pada sifat tanah sawah*. Jurnal Tanah dan Iklim, 25, 45-58.
- Prasetyo, B.H. & A. Kasno. 2001. *Sifat morfologi, komposisi mineral, dan fisika-kimia tanah sawah irigasi di Propinsi Lampung*. Jurnal Tanah Tropika, Tahun VI (12):155-168.
- Prasetya, R B., Rahmawati, D N., Muliarti, R., & Nursa'ban, M. 2019. *MICCHARUMI (Minibook Keychain Eruption Mitigation) as a Map Based Eruption Mitigation Guide Book for Senior High School*. IOP Publishing, 271(1), 012034-012034. <https://doi.org/10.1088/1755-1315/271/1/012034>
- Purwanto, S., Kartawisastra, S., & Gani, R. A. 2018. *Karakteristik mineral tanah berbahan vulkanik dan potensi kesuburannya di Pulau Jawa*. Jurnal Sumberdaya Lahan, 12(2), 83-98.
- Raghothama, K G. 2015. *Phosphorus and Plant Nutrition: An Overview*. , 353-378
<https://doi.org/10.2134/agronmonogr46.c11>

- Rahardjo, W. 2007. *Foraminiferal biostratigraphy of Southern Mountains Tertiary rocks, Yogyakarta Special Province. Makalah disampaikan pada Seminar dan Workshop Potensi Pegunungan Selatan dalam Pengembangan Wilayah*. Inna Garuda, 27-29 November 2007.
- Rahmi A, Preva MB. 2014. *Karakteristik Sifat Kimia Tanah Dan Status Kesuburan Tanah Laha Pekarangan Dan Lahan Usaha Tani Beberapa Kampung Di Kabupaten Kutai Barat*. Ziraah. 39 (1): 30-36
- Rajamuddin, U. A. 2009. *Kajian tingkat perkembangan tanah pada lahan persawahan di desa kaluku tinggu kabupaten donggala sulawesi tengah*. Agroland: Jurnal Ilmu-ilmu Pertanian, 16(1).
- Ranst, É V., Utami, S., & Shamshuddin, J. 2002. *Andisols On Volcanic Ash From Java Island, Indonesia: Physico-Chemical Properties And Classification*. Lippincott Williams & Wilkins, 167(1), 68-79. <https://doi.org/10.1097/00010694-200201000-00007>
- Rao, D R., Siddaiah, V., Machiraju, P. 2018. Soil Quality Assessment and its Suitability for Crop Production. ASIAN PUBLICATION CORPORATION, 31(1), 169-175. <https://doi.org/10.14233/ajchem.2019.21668>
- Ratdomopurbo, A., Beauducel, F., Subandriyo, J., Nandaka, I G M A., Newhall, C G., Suharna., Sayudi, D S., Suparwaka, H., & Sunarta. 2013. *Overview of the 2006 eruption of Mt. Merapi*. Elsevier BV, 261, 87-97 <https://doi.org/10.1016/j.jvolgeores.2013.03.019>
- Ratih, S., Awanda, H N., Saputra, A C., & Ashari, A. 2019. *Volcanic Springs, An Alternative Emergency Water Resource to Support Sustainable Disaster Management in Southern Flank of Merapi Volcano*. IOP Publishing, 271(1), 012012-012012. <https://doi.org/10.1088/1755-1315/271/1/012012>
- Saha, S., Rajwar, G S., & Kumar, M. 2018. *Soil properties along altitudinal gradient in Himalayan temperate forest of Garhwal region*. Elsevier BV, 38(1), 1-8. <https://doi.org/10.1016/j.chnaes.2017.02.003>
- Sari, J E., & Kusumandari, A. 2021. *The influence of Mount Merapi eruption on the water balance in Kali Kuning sub-watershed*. IOP Publishing, 694(1), 012061-012061. <https://doi.org/10.1088/1755-1315/694/1/012061>
- Setiawan, B. I., Hadi, S. 2018. *Petrogenesis and Geochemical Characteristics of Tuff from Semilir Formation, Yogyakarta*. Indonesian Journal on Geoscience, 5(1), 41-54.
- Siswanto, B. 2019. *Sebaran unsur hara N, P, K dan pH dalam tanah*. Buana Sains, 18(2), 109-124.

- Soerianegara, I. 1969. *Soils of Peutjang Island, Southwest Java*. Elsevier BV, 2(4), 297-308. [https://doi.org/10.1016/0016-7061\(69\)90029-9](https://doi.org/10.1016/0016-7061(69)90029-9)
- Subagyo, H., Idris, K., Sabiham, S., Rachim, D. A., & Sofyan, A. 2008. *Sifat-sifat tanah dominan yang berpengaruh terhadap K tersedia pada tanah-tanah yang didominasi smektit*. Jurnal Tanah dan Iklim, 26, 13-28.
- Sujono, J. 2018. *Heavy Rainfall Characteristics At South-West Of Mt. Merapi-Yogyakarta And Central Java Province, Indonesia*. Geotec. Const. Mat. & Env 14(45) 184-191
- Sukarman, S., Dariah, A., & Suratman, S. 2020. *Volcanic Soils in Sloping Dry Land and Its Potential for Agriculture in Indonesia*. Jurnal Penelitian Dan Pengembangan Pertanian, 39(1) 21-21.
- Suprayogo, D., Sulaeman, Y., Ibrahim, A., & Rahayu, S. 2015. *Soil Properties and Soil Erosion in Different Land Use Types in Nglanggeran, Yogyakarta*. Journal of Degraded and Mining Lands Management, 2(3), 299-308.
- Suryani, E., Subandiono, R E., Yatno, E., Hikmat, M., Husnain, M. 2021. *Variability of soil mineralogical composition in Sentra Barih Solok paddy field as affected by eruption material from Mt. Talang*. IOP Publishing, 648(1), 012042-012042 <https://doi.org/10.1088/1755-1315/648/1/012042>
- Suryani, I., Nontji, M., Juita, N. 2021. *Morphological characteristics and classification of inceptisol in Mamuju regency, West Sulawesi*. IOP Publishing, 807(4), 042043-042043. <https://doi.org/10.1088/1755-1315/807/4/042043>
- Suyoto, M., & Santoso, A. 1986. *Klasifikasi Stratigrafi Penunungan Selatan, Daerah Istimewa Yogyakarta dan Jawa*. Bulletin of Scientific contribution vol. 6
- Syarif, A M., Susilo, J H., Prasetiawan, R., & Khoiri, K S. 2018. *Geoinformation for Ecotourism Spatial Pattern Zonation of Nglanggeran Ancient Volcano Regions in Indonesia*. RELX Group (Netherlands). <https://doi.org/10.2139/ssrn.3200522>
- Syaukat, Y., Falatehan, A F., Nasrullah, N., & Hardjanto, A. 2019. *Drought Mitigation Strategy of Farmers in South of West Java*. IOP Publishing, 363(1), 012017-012017. <https://doi.org/10.1088/1755-1315/363/1/012017>
- Syofiani, R., Putri, S. D., & Karjunita, N. 2020. *Karakteristik sifat tanah sebagai faktor penentu potensi pertanian di Nagari Silokek Kawasan Geopark Nasional*. Jurnal Agrium, 17(1).

- Toha, B., Resiwati, P., Srijono., Raharjo, W., & Pramumidjojo, S., 1994. *Geologi Daerah Pegunungan Selatan: Suatu Kontribusi*. Jurusan Teknik Geologi, FT UGM.
- Teguh, M., Aminatun, S., & Erlangga, W. 2020. *Landslide disaster mitigation plan in Karang Tengah Village, Bantul district, Yogyakarta*. EDP Sciences, 156, 02009-02009. <https://doi.org/10.1051/e3sconf/202015602009>
- Tsarel, C B. 1997. *Methods of granular and fragmented material packing density calculation*. Elsevier BV, 34(2), 263-273
- Ustiatik, R., Ariska, A P., Hakim, Q L., Wicaksono, K S., Utami, S R. 2023. *Volcanic Deposits Thickness and Distance from Mt Semeru Crater Strongly Affected Phosphate Solubilizing Bacteria Population and Soil Organic Carbon*. Polish Society of Ecological Engineering, 24(10), 360-368. <https://doi.org/10.12911/22998993/170860>
- Umeri, C. 2017. *Analysis of Physical and Chemical Properties of Some Selected Soils of Rain Forest Zones of Delta State, Nigeria*. Juniper Publisher , 5(4). <https://doi.org/10.19080/artoaj.2017.05.555668>
- Utami, I., Putra, R A P., Wibowo, M S., Yusuf, F I., Husna, F., Eko, A., & Susanto, D. 2021. *Tree Stratification Based on Eruption Damage Level in Mount Merapi National Park Yogyakarta Indonesia*. Bogor Institute of Agriculture, 26(1), 71-81 <https://doi.org/10.29244/medkon.26.1.71-81>
- Utomo, I. M. 2016. *Ilmu Tanah Dasar-Dasar dan Pengelolaan*. Kencana. ISBN 6020895920, 9786020895925
- Velasquez-Pereira, J., McDowell, L R., & Wilkinson, N S. 1996. *Soil, forage, and serum nutrient changes as affected by deposition of volcanic sediments in northwestern nicaragua*. Taylor & Francis, 27(13-14), 2675-2686. <https://doi.org/10.1080/00103629609369731>
- Verchot, L., Murdiyarso, D., dan Hergoualc'h, K.. 2010. *Opportunities for Reducing Greenhouse Gas Emissions in Tropical Peatlands*. Proceedings of the National Academy of Sciences of the United States of America, 107, 19655-19660.
- Wijayanti, H D K. 2022. *Stratigrafi Kontak Formasi Semilir Dan Nglanggeran Pada Jalur Pilangrejo, Nglipar, Gunung Kidul*. Jurnal Geofisika Eksplorasi, 8(2), 137-151. <https://doi.org/10.23960/jge.v8i2.202>

- Yudiantoro, D., Koly, J., Haty, P. 2023. *Analisis Deformasi Gunung Api Merapi, Melalui Penerapan Metode Kombinasi Block Movement dan Deformasi Elastis, Pada Periode Tahun 1995-1997 Berdasarkan Data Gps (Global Positioning System)*. Jurnal Ilmiah Geologi PANGEA JOUR.
- Yuwono, Y., Priyomarsono, S., Maury, R., Rampnoux, J P., Soeria-Atmadja, R., Bellón, H., & Chotin, P. 1988. *Petrology of the Cretaceous magmatic rocks from Meratus Range, southeast Kalimantan*. Pergamon Press, 2(1), 15-22
- D.I Yogyakarta, Indonesia. 2012. *Peta Geologi Lembar Yogyakarta-Jawa* [Geological Map]. Bandung: Pusat Survei Geologi. 1 lembar.
- D.I Yogyakarta, Indonesia. *Peta Geologi di Yogyakarta* [Geological Map]. Yogyakarta : BAPPEDA DIY. 1 lembar. Peta diunduh di https://bappeda.jogjaprovo.go.id/download/index?id_kategori=167&sort=judul pada pukul 15.20 WIB tanggal 30 Juni 2024