



DAFTAR PUSTAKA

- Anderson, K. R., Shea, T., Lynn, K. J., Montgomery-Brown, E. K., Swanson, D. A., Patrick, M. R., ... & Neal, C. A. (2024). The 2018 eruption of Kīlauea: Insights, puzzles, and opportunities for volcano science. *Annual Review of Earth and Planetary Sciences*, 52.
- Ashari, A., Purwantara, A., Arif, N., & Widodo, E. (2021). Spatial evolution of the river valleys under the influence of active volcano: A case of Merapi volcanic plain. *Quaestiones Geographicae*, 40(3).
- Atmoko, A. F. (2023). Merapi Muntahkan Awan Panas Pagi Ini. *Detik News*. <https://news.detik.com/foto-news/d-6617549/merapi-muntahkan-awan-panas-pagi-ini>
- Avellán, D. R., Macías, J. L., Sosa-Ceballos, G., & Velásquez, G. (2014). Stratigraphy, chemistry, and eruptive dynamics of the 12.4 ka plinian eruption of Apoyeque volcano, Managua, Nicaragua. *Bulletin of Volcanology*, 76, 1-19.
- Badan Pusat Statistik. (2024). *Kecamatan Ngebel dalam Angka 2023*. Badan Pusat Statistik.
- Badan Standarisasi Nasional. (2020). *Beban desain minimum dan kriteria terkait untuk bangunan gedung dan struktur lain*. Standar Nasional Indonesia 1727.
- Biass, S., Osman, S. J., Crummy, J., Thomas, M., & Carver, S. (2023). Laboratory tests to understand tephra sliding behaviour on roofs. *Journal of Applied Volcanology*, 12, 1–15.
- Bleick, H. (2023). *Vulcanian Eruptions (U.S)*. National Park Service. Diakses 23 Mei 2025 dari <https://www.nps.gov/articles/000/vulcanian-eruptions.htm>
- Blong, R. J. (2003). Building damage in Rabaul, Papua New Guinea, 1994 eruption. *Bulletin of Volcanology*, 65(1), 43–54.
- Bogie, I., Lovelock, B., dan Greg, U., 2015. The Neutral High-Cl Thermal springs of Java. *Proceedings World Geothermal Congress 2015*, Melbourne, Australia, 7 h.
- Bonadonna, C., Gonnermann, H. M., & Phillips, J. C. (1998). Sedimentation of tephra by volcanic plumes: A comparison of field data and a numerical



- model. *Journal of Geophysical Research: Solid Earth*, 103(B11), 28,539–28,555.
- Bonadonna, C., Cioni, R., & Pistolesi, M. (2008). Sedimentation of long-lasting wind-affected volcanic plumes: the example of the 2450 BP Plinian eruption of Pululagua volcano (Ecuador). *Journal of Volcanology and Geothermal Research*, 173(1-2), 141-156.
- Bonadonna, C., & Costa, A. (2013). Plume height, volume, and classification of explosive volcanic eruptions based on the Weibull function. *Bulletin of Volcanology*, 75, 1-19.
- Boudon, G., Komorowski, J.-C., Villemant, B., & Semet, M. P. (2008). Reconstruction and analysis of sub-Plinian tephra dispersal during the 1530 A.D. Soufrière (Guadeloupe) eruption: Implications for scenario definition and hazards assessment. *Journal of Volcanology and Geothermal Research*, 178(3), 474–490.
- Cahyani, S. M., Wibowo, H. E., Mokitikanana, M. L. A., & Fajarwati, A. (2022, August). *Estimation of volume and column height from pumiceous tephra-fall deposits of Mt. Raung, East Java, Indonesia*. Dalam IOP Conference Series: Earth and Environmental Science (Vol. 1071, No. 1, p. 012015). IOP Publishing.
- Cas, R. A. F., & Wright, J. V. (1987). *Volcanic successions: Ancient and modern*. Allen and Unwin, London.
- Cashman, K. V., et al. (2010). The 2006 eruption of Mount St. Helens: Geologic and petrologic overview. *Bulletin of Volcanology*, 72(3).
- Cashman, K. V., & Sparks, R. S. J. (2013). "How volcanoes work: A 25 year perspective." *Geological Society of America Bulletin*, 125(5-6), 664-690.
- Carey, S., & Sigurdsson, H. (1985). The May 18, 1980 eruption of Mount St. Helens 2. Modeling of dynamics of the Plinian phase. *Journal of Geophysical Research: Solid Earth*, 90(B4), 2948–2958.
- Carey, S., & Sparks, R. S. J. (1986). Quantitative models of the fallout and dispersal of tephra from volcanic eruption columns. *Bulletin of volcanology*, 48, 109-125.



- Carey, R. J., Houghton, B. F., Thordarson, T., & Larsen, G. (2010). Tephra dispersal and eruption dynamics of the great 1875 eruption of Askja Volcano, Iceland. *Bulletin of Volcanology*, 72(3), 259–278.
- Civico, R., Ricci, T., Scarlato, P., Taddeucci, J., Andronico, D., Del Bello, E., et al. (2023). Temporal evolution of roof collapse from tephra fallout during the 2021 Tajogaite eruption (La Palma, Spain). *Frontiers in Earth Science*, 11, 1303330.
- Comida, P. P., Ross, P. S., Dürig, T., White, J. D., & Lefebvre, N. (2022). Standardized analysis of juvenile pyroclasts in comparative studies of primary magma fragmentation: 2. Choice of size fraction and method optimization for particle cross-sections. *Bulletin of Volcanology*, 84, 1-24.
- Craig, H., Wilson, T., Magill, C., Stewart, C., & Wild, A. J. (2021). Agriculture and forestry impact assessment for tephra fall hazard: fragility function development and New Zealand scenario application. *Volcanica*, 4(2), 345-367.
- Day, S. J., Heleno da Silva, S., & Fonseca, J. F. B. D. (1999). A past giant lateral collapse and present-day flank instability of Fogo, Cape Verde Islands. *Journal of Volcanology and Geothermal Research*, 94(1–4), 191–218.
- Edmonds, M., & Wallace, P. J. (2017). Volatiles and exsolved vapor in volcanic systems. *Elements*.
- Fisher, R. V. (1966). Mechanisms of deposition from pyroclastic flows. *American Journal of Science*, 264(5), 350-363.
- Gere, J. M., & Goodno, B. J. (2012). *Mechanics of materials* (8th ed.). Cengage Learning.
- Gertisser, R., Charbonnier, S. J., Keller, J., & Quidelleur, X. (2012). The geological evolution of Merapi volcano, central Java, Indonesia. *Bulletin of Volcanology*, 74, 1213-1233.
- Hartono, U., 1994. *The Petrology and Geochemistry of The Wilis and Lawu Volcanoes, East Java Indonesia*. University of Tasmania, 473 h.
- Hüpers, A., et al. (2015). Depositional processes of the Chaitén 2008 eruption. *Journal of Volcanology and Geothermal Research*, 292.



- Houghton, B.F., Swanson, D.A., & Lanphere, M.A. (1987). *Pumice, ash, and the Kīlauea eruption of 1924*. U.S. Geological Survey Bulletin 1850.
- Höskuldsson, Á., Sparks, R. S. J., & Carey, S. (2007). Eruptive history and magma evolution of Hekla volcano, Iceland. *Bulletin of Volcanology*, 70(2), 169–182.
- Houghton, R. A., et al. (1987). The 1963-1967 Eruptions of Surtsey: A Preliminary Report. *Bulletin of Volcanology*, 49(6).
- Inman, D. L. (1952). Measures for describing the size distribution of sediments. *Journal of Sedimentary Research*, 22(3).
- Jenkins, S. F., Spence, R. J. S., Fonseca, J. F. B. D., Solidum, R. U., & Wilson, T. M. (2013). The Merapi 2010 eruption: The role of hazard maps in saving lives and reducing economic loss. *Journal of Volcanology and Geothermal Research*, 261, 1–6.
- Jenkins, S. F., Spence, R. J. S., Fonseca, J. F. B. D., Solidum, R. U., & Wilson, T. M. (2020). Remotely assessing tephra fall building damage and vulnerability. *Journal of Applied Volcanology*, 9(1), 1–18.
- Kandlbauer, J., & Sparks, R. S. J. (2014). New estimates of the 1815 Tambora eruption volume. *Journal of Volcanology and Geothermal Research*, 286, 93–100.
- Klug, C., & Cashman, K. V. (1996). Permeability development in vesiculating magmas: implications for fragmentation. *Bulletin of Volcanology*, 58, 87–100.
- Kuang, X., Jiao, J. J., Zheng, C., Cherry, J. A., & Li, H. (2020). A review of specific storage in aquifers. *Journal of Hydrology*, 581, 124383.
- Larsen, G., Eiríksson, J., & Guðmundsson, Ó. (2021). Impacts of volcanic ash on aircraft operations in Europe: Historical perspective and future risks. *Journal of Air Transport Management*, 95, 102099.
- Lechner, H. G., Gislason, S. R., & Gudmundsdottir, M. L. (2020). Respiratory symptoms and lung function in relation to the source of volcanic ash. *Environmental Research*, 184, 109317.
- Luhr, J.F., & Simkin, T. (1993). *Parícutin: The Volcano Born in a Mexican Cornfield*. Smithsonian Institution, Global Volcanism Program Bulletin 30.



- López, C. R., et al. (2014). Tephra Deposits from the 1953 Eruption of Volcán de Colima, Mexico. *Journal of Volcanology and Geothermal Research*, 265.
- Macedo, O., et al. (1999). Volcanic Hazard Assessment at Volcán de Colima, Mexico. *Geological Society of America Special Papers*, 33
- Jehadu, S. (2024, November 4). Erupsi Gunung Lewotobi Laki-laki, Korban Tewas Jadi 10 Orang. *Kompas*.
<https://regional.kompas.com/read/2024/11/04/133954178/erupsi-gunung-lewotobi-laki-laki-korban-tewas-jadi-10-orang>
- Koppe, M. (2023, January 24). *Learning the lessons of the Hunga Tonga eruption*. CNRS News. Diakses 23 Mei 2025 dari <https://news.cnrs.fr/articles/learning-the-lessons-of-the-hunga-tonga-eruption>
- Mayfield, S., Boore, S., Myers, B., & Diggles, M. (2005, February 28). *The Cataclysmic 1991 Eruption of Mount Pinatubo, Philippines*. The Cataclysmic 1991 Eruption of Mount Pinatubo, Philippines, Fact Sheet 113-97. Diakses 23 Mei 2025 dari <https://pubs.usgs.gov/fs/1997/fs113-97/>
- McPhie, J. (1993). *Volcanic textures: a guide to the interpretation of textures in volcanic rocks*.
- Mei, E.T.W., Lavigne, F., Picquout, A., et al. (2013). Lessons learned from the 2010 evacuations at Merapi volcano. *Journal of Volcanology and Geothermal Research*, 261.
- Miura, K., Ban, M., & Yagi, H. (2008). The tephra layers distributed around the eastern foot of the Zao volcano: Ages and volumes of the Za-To 1 to 4 tephras. *Bulletin of the Volcanological Society of Japan*, 53(5).
- Miyabuchi, Y., Maeno, F., Nakada, S., Tomiya, A., Nagai, M., Suzuki, Y., ... & Tanaka, Y. (2013). The 2011 eruption at Shinmoe-dake, Kirishima volcano, Japan: Characteristics of eruptive activity and related phenomena. *Earth, Planets and Space*, 65(6), 657–667.
- Miyabuchi, Y., Iizuka, Y., Hara, C., Yokoo, A., & Ohkura, T. (2018). The September 14, 2015 phreatomagmatic eruption of Nakadake first crater, Aso Volcano, Japan: eruption sequence inferred from ballistic, pyroclastic density current and fallout deposits. *Journal of Volcanology and Geothermal Research*, 351.



- Miyaji, N., Kan'no, A., Kanamaru, T., & Mannen, K. (2011). High-resolution reconstruction of the Hiei eruption (AD 1707) of Fuji volcano, Japan. *Journal of Volcanology and Geothermal Research*, 207(3-4), 113-129.
- Morris, M. O., Gula, J., & Peltier, W. R. (2023). Atmospheric circulation patterns associated with extreme wind events in Canadian cities. *Journal of Climate*, 36(13), 4463–4480.
- Muhammad, F. (2017). *Rekonstruksi Genesa Telaga Ngebel Kabupaten Ponorogo Provinsi Jawa Timur* (Skripsi). Universitas Gadjah Mada.
- Mulyana, E., Prayoga, M. B. R., Yananto, A., Wirahma, S., Aldrian, E., Harsoyo, B., ... & Sunarya, Y. (2018). Tropical cyclones characteristic in southern Indonesia and the impact on extreme rainfall event. Dalam MATEC Web of Conferences (Vol. 229, p. 02007). EDP Sciences.
- Neal, C. A., et al. (2006). Volcanic Hazard Assessment for the Rotorua District, New Zealand. *New Zealand Journal of Geology and Geophysics*, 49(3).
- Newhall, C. G., & Punongbayan, R. S. (1996). *Fire and Mud: Eruptions and Lahars of Mount Pinatubo, Philippines*. Philippine Institute of Volcanology and Seismology.
- Newhall, C. G., & Self, S. (1982). The volcanic explosivity index (VEI) an estimate of explosive magnitude for historical volcanism. *Journal of Geophysical Research: Oceans*, 87(C2), 1231-1238.
- Nugroho, I. F., Pramudita, D., & Ekayani, M. (2022). Dampak Ekonomi dan Pengembangan Wisata Telaga Ngebel, Kecamatan Ngebel, Kabupaten Ponorogo. *Indonesian Journal of Agriculture Resource and Environmental Economics*, 1(1), 11-24.
- Nurchahyo, A. D., & Muzayanah, M. (2020). Analisis Dampak Penambangan Pasir Berbasis Pembangunan Berkelanjutan di Kecamatan Ngebel Kabupaten Ponorogo. *Jurnal Geografi Geografi Dan Pengajarannya*, 18(2), 139-144.
- Nurfiani, D., & Bouvet De Maisonneuve, C. (2018). Furthering the investigation of eruption styles through quantitative shape analyses of volcanic ash particles. *Journal of Volcanology and Geothermal Research*, 354



- Pallister, J. S., & Hoblitt, R. P. (2022). "Volcanic hazard assessment and the role of isopach maps in modern eruption forecasting." *Journal of Volcanology and Geothermal Research*, 428, 107501.
- Pebrianti, C. (2023). *Fenomena Gas Belerang Telaga Ngebel Penyebab Ikan Mati Kini Susah Diprediksi*. detikcom. Diakses 19 Oktober 2024, dari <https://www.detik.com/jatim/berita/d-6494536/fenomena-gas-belerang-telaga-ngebel-penyebab-ikan-mati-kini-susah-diprediksi>
- Pierson, T. C., & Major, J. J. (2014). *Hydrologic processes influencing lahars and related mass flows*. In P. T. Bobrowsky & B. Marker (Eds.), *Volcano Hazards, Risks, and Disasters* (pp. 61–88). Academic Press.
- Porter, S. C. (1979). Quaternary Stratigraphy and Geochronology of Mauna Kea, Hawaii: A 380,000-Year Record of Mid-Pacific Volcanism and Ice-Cap Glaciation. *Geological Society of America Bulletin*, 90(7), 609-611.
- Reynolds, P., Holford, S., & Schofield, N. (2016). The facies architecture of submarine basaltic volcanoes and their effects on fluid flow. *ASEG Extended Abstracts*, 2016(1), 1-6.
- Sarna-Wojcicki, A. M., Shipley, S., Waitt, R. B., Dzurisin, D., Hays, W. H., Davis, J. O., ... & Bateridge, T. (1980). Areal distribution, thickness, and volume of downwind ash from the May 18, 1980, eruption of Mount St. Helens (No. 80-1078). US Geological Survey.
- Sasminto, Retno Ayu, & Alexander Tunggul. (2014). Analisis spasial penentuan iklim menurut klasifikasi Schmidt-Ferguson dan Oldeman di Kabupaten Ponorogo." *Jurnal Sumberdaya Alam dan Lingkungan*. 51-56.
- Serber, B. (2023, April 14). *Hawaiian Eruptions*. National Park Service. Diakses 23 Mei 2025 dari <https://www.nps.gov/articles/000/hawaiian-style-eruptions.htm>
- Sheridan, M. F., & Wohletz, K. H. (1983). Hydrovolcanism: Basic considerations and review. *Journal of Volcanology and Geothermal Research*, 17(1–4), 1–29.
- Sigurdsson, H., Carey, S., & Devine, J. D. (1990). The Eruption of Tambora in 1815: Environmental Effects and Eruption Dynamics. *Bulletin of Volcanology*, 52(2), 175-195.



- Sigurdsson, H., Houghton, B., McNutt, S. R., Rymer, H., & Stix, J. (2000). *The Encyclopedia of Volcanoes*. Academic Press.
- Sparks, R. S. J. (1978). The dynamics of bubble formation and growth in magmas: A review and analysis. *Journal of Volcanology and Geothermal Research*, 3(1–2), 1–37.
- Sparks, R. S. J., Moore, J. G., & Rice, C. J. (1986). The initial giant umbrella cloud of the May 18th, 1980, explosive eruption of Mount St. Helens. *Journal of Volcanology and Geothermal Research*, 28(3-4), 257-274.
- Sparks, R. S. J., Bursik, M. I., Carey, S. N., Gilbert, J. S., Glaze, L. S., Sigurdsson, H., & Woods, A. W. (1997). *Volcanic Plumes*. Wiley.
- Spence, R., Kelman, I., Baxter, P., Zuccaro, G., & Petrazzuoli, S. (2005). Residential building and occupant vulnerability to tephra fall. *Natural Hazards and Earth System Sciences*, 5(4), 477–494.
- Suhendro, I., Diwijaya, S., Rahmawati, Z. Y., Priyana, P. E., Zen, R. F., Jonathan, A., ... & Yuliawan, E. (2024). Constraints on building susceptibility zone from tephra-lapilli loading through isopach mapping: A case study of the Quaternary (< 27.4-> 1.1 ka), VEI 3–4 eruptions of Sumbing volcano, Central Java, Indonesia. *Natural Hazards*, 120(6), 5785-5809.
- Suhendro, I., Naen, G. N. R. B., Gurusinga, A., Sari, S. A., Muktikanana, M. L. A., Gunawan, R. M. P. P., ... & Ardian, D. N. (2023). Dynamics of the Young Merapi (< 2.2 ka–1,788 CE) pumice fall deposits: Insights from textural and geochemical studies. *Journal of Volcanology and Geothermal Research*, 443, 107919.
- Surono, Jousset, P., Pallister, J., et al. (2012). The 2010 explosive eruption of Java's Merapi volcano—A ‘100-year’ event. *Journal of Volcanology and Geothermal Research*, 241-242, 121-135.
- Suzuki, T. (1983). A theoretical model for dispersion of tephra. In S. Tazieff & J.-C. Sabroux (Eds.), *Forecasting volcanic events* (pp. 95–113). Elsevier.
- Syaifullah, M. D. (2017). Analisis Kondisi Udara Atas Wilayah Indonesia dengan Data Radiosonde. *Jurnal Meteorologi dan Geofisika*, 18(1).



- Takarada, S., & Hoshizumi, H. (2020). Distribution and eruptive volume of Aso-4 pyroclastic density current and tephra fall deposits, Japan: A M8 super-eruption. *Frontiers in Earth Science*, 8, 170.
- Takeuchi, S., Toshida, K., Miura, D., Ito, H., & Uesawa, S. (2021). Relationships between magmatic properties and eruption magnitude of explosive eruptions at Japanese arc volcanoes during the last one hundred thousand years. *Journal of Volcanology and Geothermal Research*, 419.
- Toramaru, A. (2006). BND (bubble number density) decompression rate meter for explosive volcanic eruptions. *Journal of Volcanology and Geothermal Research*, 154(3-4).
- Tilling, R. I., & Dvorak, J. J. (1993). Anatomy of a basaltic volcano. *Nature*, 363(6425), 125-133.
- Taylor, A. (2015, May 18). *The Eruption of Mount St. Helens in 1980*. The Atlantic. Diakses 23 Mei 2025 dari <https://www.theatlantic.com/photo/2015/05/the-eruption-of-mount-st-helens-in-1980/393557/>
- Ullum, I. T. N. H., Fitria, A., & Widodo, W. (2024). Variasi Hasil Analisis Data Hasil El Nino-Southern Oscillation (ENSO) terhadap Iklim Global. *JSN. Jurnal Sains Natural*, 2(2), 40-47.
- USGS. (2023, April 14). *Strombolian Eruptions (U.S)*. National Park Service. Diakses 23 Mei 2025 dari <https://www.nps.gov/articles/000/strombolian-eruptions.htm>
- Valentine, G. A. (1998). Damage to structures by pyroclastic flows and surges, inferred from nuclear test data. *Journal of Volcanology and Geothermal Research*, 87(1-4), 117-140.
- Vergnolle, S., Brandeis, G., & Harris, A. J. L. (1996). Strombolian eruptions: An interpretation of the seismic data from Stromboli volcano (Italy). *Bulletin of Volcanology*, 58(5), 329-340.
- Voloschina, M., Métrich, N., Bertagnini, A., Marianelli, P., Aiuppa, A., Ripepe, M., & Pistolesi, M. (2023). Explosive eruptions at Stromboli volcano (Italy): a comprehensive geochemical view on magma sources and intensity range. *Bulletin of Volcanology*, 85(6), 34.



- Walker, G. P. L. (1971). Grain-size characteristics of pyroclastic deposits. *Journal of Geology*, 79(6), 696-714.
- Watson, I. M., & Oppenheimer, C. (2000). The role of remote sensing in monitoring global volcanoes and atmospheric plumes. *Bulletin of Volcanology*, 62(1), 2-16.
- Wibowo, D. P. (2016). Dampak Eksploitasi Pasir Trass Terhadap Persepsi Masyarakat Mengenai Ekonomi, Sosial, Dan Lingkungan (Studi Kasus Di Desa Ngogung, Kecamatan Ngebel, Kabupaten Ponorogo). *Jurnal Ilmiah Mahasiswa FEB*, 4(2).
- Williams, G. T., Jenkins, S. F., Biass, S., Wibowo, H. E., & Harijoko, A. (2020). Remotely assessing tephra fall building damage and vulnerability: Kelud Volcano, Indonesia. *Journal of Applied Volcanology*, 9, 1-18.
- Williams, G. T., Jenkins, S. F., Lee, D. W., & Wee, S. J. (2021). How rainfall influences tephra fall loading—an experimental approach. *Bulletin of Volcanology*, 83, 1-13.
- Wilson, T. M., Stewart, C., Sword-Daniels, V., Leonard, G. S., Johnston, D. M., & Cole, J. W. (2012). Volcanic ash impacts on critical infrastructure. *Physics and Chemistry of the Earth*, 45–46, 5–23.
- Wright, H. M., Cashman, K. V., Mothes, P. A., Hall, M. L., Ruiz, A. G., & Le Pennec, J. L. (2012). Estimating rates of decompression from textures of erupted ash particles produced by 1999–2006 eruptions of Tungurahua volcano, Ecuador. *Geology*, 40(7), 619-622.
- Yamamoto, T., Suzuki, Y. J., & Koyaguchi, T. (2022). A physics-based source model for real-time tephra-dispersal forecasting. *Journal of Applied Volcanology*, 11, 1–15.
- Yenehun, A., Dessie, M., Nigate, F., Belay, A. S., Azeze, M., Van Camp, M., ... & Walraevens, K. (2022). Spatial and temporal simulation of groundwater recharge and cross-validation with point estimations in volcanic aquifers with variable topography. *Journal of Hydrology: Regional Studies*, 42, 101142.
- Yudiantoro, D. F., Ratnaningsih, D. R., Pratiknyo, P., Mahreni, M., Sayudi, D. S., Paramitahaty, I., ... & Sampurno, D. G. (2021). Hydrothermal Fluids-Rock



Interactions in the Geothermal Area of the Ngebel Volcano Complex Ponorogo, East Java, Indonesia. In RSF Conference Series: Engineering and Technology (Vol. 1, No. 1, pp. 267-280).

Yudiantoro, D. F., Ratnaningsih, D. R., Pratiknyo, P., Mahreni, M., Sayudi, D. S., Haty, I. P., ... & Sampurno, D. G. (2023). Magma Evolution of Ngebel Volcano, Ponorogo, East Java, Indonesia. *Indonesian Journal on Geoscience*, 10(1), 51-62.

Yuwono, Y.S., 2013. *Penugasan Survei Pendahuluan Potensi Panas bumi Gunung Wilis*, PT. MRI Energy. 32 h.