

DAFTAR PUSTAKA

- Abdurachman, E. K., Bourdier, J. L., & Voight, B. (2000). Nuées ardentes of 22 November 1994 at Merapi volcano, Java, Indonesia. *Journal of Volcanology and Geothermal Research*, 100(1-4), 345-361.
- Ai, M., Hu, Q., Li, J., Wang, M., Yuan, H., & Wang, S. 2015. A robust photogrammetric processing method of low-altitude UAV images. *Remote Sensing*, 7(3), 2302-2333.
- Amri, Y., dan Rofi', A. 2016. Dampak Abu Vulkanik Erupsi Gunungapi Merapi Tahun 2010 Terhadap Produksi Padi Di Kabupaten Sleman. *Jurnal Bumi Indonesia*, 5(1), 1-7.
- Andreastuti, S., Alloway, B., & Smith, I. E. 2000. A detailed tephrostratigraphic framework at Merapi Volcano, Central Java, Indonesia: implications for eruption predictions and hazard assessment. *Journal of Volcanology and Geothermal Research*. 100(1-4). 51-67.
- Anggorowati, A., & Harijoko, A. 2015, October. Distribusi Area, Volume, Serta Karakteristik Mineralogi Dan Geokimia Endapan Tefra Jatuhan Dari Erupsi Gunung Kelud Tahun 2014. In *Proceeding, Seminar Nasional Kebumian Ke-8 Academia-Industry Linkage 15-16 Oktober 2015; GRHA SABHA PRAMANA*. Departmen Teknik Geologi.
- Ariyanto, Dwi Priyo and Sutopo, and Komariah. 2012. Analisis Amandemen Lahan Lereng Merapi dengan Bahan Organik untuk Pemulihan Produktivitas Pasca Erupsi November 2010. *B. Pertanian*. [Publikasi ilmiah]. Universitas Sebelas Maret.
- Armienti, P., Macedonio, G., Pareschi, M.T. 1988. A numerical model for simulation of tephra transport and deposition applications to May 18, 1980, Mount-St-Helens eruption. *J. Geophys. Res.* 93 (B6), 6463- 6476.

Becerril, L., Bartolini, S., Sobradelo, R., Martí, J., Morales, J. M., & Galindo, I. 2014. Long-term volcanic hazard assessment on El Hierro (Canary Islands). *Natural Hazards and Earth System Sciences*, 14(7), 1853-1870.

Blong, R. J., 1984, *Volcanic Hazards: A Sourcebook on the Effects of Eruptions*, Sydney: Academic Press Australia.

BNPB, 2016, *Risiko Bencana Indonesia*, Jakarta: Badan Nasional Penanggulangan Bencana.

BPPK Kecamatan Srumbung, 2013, Profil BPPK Kecamatan Srumbung (internet), BPPKP Srumbung,

<https://bppsrumbung.blogspot.com/p/bpp-model-kec-srumbung_8346.html> (diakses pada 20 Juli 2018).

BPPKTG. 14 Oktober 2019. Terjadi awanpanas letusan di Gunung #Merapi pada tanggal 14 Oktober 2019 pukul 16:31 WIB. Awanpanas terekam di seismogram dengan durasi 270 detik dan amplitudo 75 mm. Terpantau kolom setinggi max. ± 3.000 m dari puncak. Angin bertiup ke arah Barat Daya. #statuswaspada. [Cuitan Twitter]. Diakses dari <<https://twitter.com/BPPTKG/status/1183684094112067588>>

BPS, 2017, *Kabupaten Magelang dalam Angka 2017*, Magelang, Badan Pusat Statistik

BPS, 2017, *Kecamatan Srumbung dalam Angka 2017*, Magelang, Badan Pusat Statistik

Costa, F., Andreastuti, S., Bouvet de Maisonneuve, C., Pallister, J.S. 2013. Petrological insights into the storage conditions, and magmatic processes that yielded the centennial 2010 Merapi explosive eruption. *Journal of Volcanology and Geothermal Research*, 261, 209–235.

Darmawan, H., Walter, T. R., Brotopuspito, K. S., Subandriyo, and Nandaka, I. G. M. A. 2018. Morphological and structural changes at the Merapi lava

dome monitored in 2012–15 using unmanned aerial vehicles (UAVs).
Journal of Volcanology and Geothermal Research, 349, 256–267.

De Haen, H., and Günter H. 2007. The economics of natural disasters: implications and challenges for food security. *Agricultural economics*. 37 2007: 31-45.

Destiamaliya. 14 Oktober 2019. Salamsari srumbung, hujan abu. [Cuitan Twitter].

Diakses dari

< <https://twitter.com/destiamaliya/status/1183697282887086081>>

Dingwell, D.B., Lavallée, Y., Kueppers, U., 2011, Volcanic ash: A primary agent in the Earth system, *Journal. Physics and Chemistry of the Earth*, 45(2012), 2-4.

Economic Commission for Latin America and the Caribbean (ECLAC), 2003, *Handbook for Estimating the Socio-economic and Environmental Effects of Disasters (English Edition)*, New York City, United Nation

FAO, 2015, *The impact of disasters on agriculture and food security*, Roma: FAO.

Felpeto, A., Martí, J., & Ortiz, R., 2007. Automatic GIS-based system for volcanic hazard assessment. *Journal of Volcanology and Geothermal Research*, 166(2), 106–116.

Folch, A., & Felpeto, A., 2005. A coupled model for dispersal of tephra during sustained explosive eruptions. *Journal of Volcanology and Geothermal Research*, 145(3–4), 337–349

Gertisser, R., Charbonnier, S.J., Keller, J., Quidelleur, X., 2012. The geological evolution of Merapi volcano, Central Java, Indonesia. *Bulletin Volcanology* 74 (5), 1213–1233.

Gertisser, R., Charbonnier, S. J., Troll, V. R., Keller, J., Preece, K., Chadwick, J. P., Barclay, J., Herd, R. A. 2011. Merapi (Java, Indonesia): anatomy of a killer volcano. *Geology Today*, 27(2), 57-62.

GFDRR. 2010. *Damage, Loss and Need Assessment-Guidance Notes*. The International Bank for Reconstruction and Development/The World Bank, Washington DC.

Global Volcanism Program, 2011. Report on Merapi (Indonesia). In: Wunderman, R. (ed.), *Bulletin of the Global Volcanism Network*, 36:1. Smithsonian Institution. <https://doi.org/10.5479/si.GVP.BGVN201102-263250>

Global Volcanism Program, 2014. Report on Merapi (Indonesia). In: Wunderman, R. (ed.), *Bulletin of the Global Volcanism Network*, 39:10. Smithsonian Institution. <https://doi.org/10.5479/si.GVP.BGVN201410-263250>

Hartmann, M.A., 1934. Der Grosse Ausbruch des Vulkanes G. Merapi Mittel Java im Jahre 1872. *Naturkundig Tijdschrift van Nederlandsch –Indië*, 94, 189–209.

Haryono dan Noor, M., 2012, Kajian Cepat Dampak Erupsi Gunung Merapi 2010: Bencana dan Berkah Gunung Merapi Terhadap Suberdaya Pertanian, dalam *Buku Kajian Cepat Dampak Erupsi Gunung Merapi 2010 Terhadap Sumberdaya Lahan Pertanian dan Inovasi Rehabilitasinya*. Diedit oleh M. Noor, Mamat H.S., dan M. Sarwani, Jakarta: IAARD Press, 1-12.

Hübl, J., Kienholz, H., & Loipersberger, A. 2002. *DOMODIS–Documentation of mountain disasters*. State of discussion in the european mountain areas, Interpraevent, Schriftenreihe, 1.

Indrawan, J. A., & Dibyosaputro, S. 2017. Pemodelan Distribusi Abu Vulkanik Hasil Erupsi Gunungapi Merapi Tahun 2010 dengan Menggunakan Ash3d. *Jurnal Bumi Indonesia*, 6(4).

Innocenti, S., Andreastuti, S., Furman, T., del Marmol, M.-A., Voight, B., 2013. The pre-eruption conditions for explosive eruptions at Merapi volcano as revealed by crystal texture and mineralogy. *Journal of Volcanology and Geothermal Research*, 261, 69–86.

- Irsyad, F., 2017. Aplikasi Foto Udara Untuk Memprediksi Potensi Sawah Kota Solok Dengan Menggunakan Pesawat Tanpa Awak. *Jurnal Teknologi Pertanian Andalas*, 21(02), 86-92.
- Jenkins, S., Magill, C., McAneney, J., & Blong, R., 2012. Regional ash fall hazard I: A probabilistic assessment methodology. *Bulletin of Volcanology*, 74(7), 1699–1712.
- Kubanek, J., Westerhaus, M., Schenk, A., Aisyah, N., Brotopuspito, K.S., Heck, B., 2015. Volumetric change quantification of the 2010 Merapi eruption using TanDEM-X InSAR. *Journal Remote Sensing and Environmental*, 164, 16–25.
- Kuswoyo, A., 2016, Pemanfaatan Citra Resolusi Spasial Tinggi Untuk Pemetaan Perubahan Penggunaan Lahan Kecamatan Depok Kabupaten Sleman Tahun 2006-2015, [Tugas Akhir], Sekolah Vokasi Universitas Gadjah Mada.
- Kuželka, K., & Surový, P., 2018. Automatic detection and quantification of wild game crop damage using an unmanned aerial vehicle (UAV) equipped with an optical sensor payload: a case study in wheat. *European Journal of Remote Sensing*, 51(1), 241–250.
- Lisnawati., Makmur, E. E. S., Permana, D. S., 2017, Profil Lapse Rate Vertikal Di Wilayah Indonesia. *Jurnal Meteorologi dan Geofisika* 18 (2), 95-106.
- Mei, E. T. W., & Lavigne, F. (2012). Influence of the institutional and socio-economic context for responding to disasters: case study of the 1994 and 2006 eruptions of the Merapi Volcano, Indonesia. *Geological Society, London, Special Publications*, 361(1), 171-186.
- Mei, E. T. W., Lavigne, F., Picquout, A., de Bélizal, E., Brunstein, D., Grancher, D., Sartohadi, J., Cholik, N., & Vidal, C. 2013. Lessons learned from the 2010 evacuations at Merapi volcano. *Journal of Volcanology and Geothermal Research*, 261, 348-365.

- Mobasser, H. R., Tari, D. B., Vojdani, M., Abadi, R. S., & Eftekhari, A., 2007. Effect of seedling age and planting space on yield and yield components of rice (Neda variety). *Asian Journal of Plant Sciences*, 6(2), 438-440.
- Mosleh, M. K., Hassan, Q. K., & Chowdhury, E. H., 2015. Application of remote sensors in mapping rice area and forecasting its production: A review. *Sensors*, 15(1), 769-791.
- Murdiyati, S.R dan Wahyunto, 2012, Identifikasi Penggunaan Lahan Untuk Pertanian Sebelum dan Sesudah Erupsi Gunung Merapi, dalam *Buku Kajian Cepat Dampak Erupsi Gunung Merapi 2010 Terhadap Sumberdaya Lahan Pertanian dan Inovasi Rehabilitasinya*, Diedit oleh M. Noor, Mamat H.S., dan M. Sarwani, Jakarta: IAARD Press, 73-82.
- Newhall, C. G., Bronto, S., Alloway, B., Banks, N. G., Bahar, I., Del Marmol, M. A., ... Wirakusumah, A. D., 2000. 10.000 Years of explosive eruptions of Merapi Volcano, Central Java: Archaeological and modern implications. *Journal of Volcanology and Geothermal Research*, 100(1-4), 9-50.
- Newhall, C. G., & Self, S., 1982. The volcanic explosivity index (VEI) an estimate of explosive magnitude for historical volcanism. *Journal of Geophysical Research*, 87(C2), 1231-1238
- Nugroho, D., Sasmito, B., Wijaya, A. P., 2015. Monitoring Perubahan Area Persawahan dengan Penginderaan Jauh Data Landsat Multitemporal (Studi Kasus Kab. Boyolali, Jawa Tengah). *Jurnal Geodesi Universitas Diponegoro*, April 2015, 176-184.
- Nugroho, K., Wahyu, dan Sarwani, M., 2012, Identifikasi Lapang dan Analisis Citra Tentang Dampak Erupsi Merapi Terhadap Sumberdaya Lahan Pertanian, dalam *Buku Kajian Cepat Dampak Erupsi Gunung Merapi 2010 Terhadap Sumberdaya Lahan Pertanian dan Inovasi Rehabilitasinya*, Diedit oleh M. Noor, Mamat H.S., dan M. Sarwani, Jakarta: IAARD Press, 13-24

Padi, B. B. P. T. 2009. *Deskripsi varietas padi*. BALITBANGTAN, Departemen Pertanian. Jakarta.

Patterson, John. 2016. Phantom 4 VERSUS Phantom 3 Pro: Plus Our Take On The Apple Launch.

<<https://www.heliguy.com/blog/2016/04/07/phantom-4-versus-phantom-3-pro/>>

(diakses pada 11 Maret 2019, 20.00 WIB)

Prata, A. J., & Bernardo, C. 2014. Retrieval of sulphur dioxide from a ground-based thermal infrared imaging camera. *Atmospheric Measurement Techniques Discussions*, 7(2)

Preece, K. 2014. *Transitions between effusive and explosive activity at Merapi volcano, Indonesia: a volcanological and petrological study of the 2006 and 2010 eruptions* (Doctoral dissertation, University of East Anglia).

PVMBG, 2018, Laporan Evaluasi Tingkat Aktivitas Gunungapi Bulan April 2018 (internet), Pusat Vulkanologi dan Mitigasi Bencana Geologi, <<http://www.vsi.esdm.go.id/index.php/gunungapi/aktivitas-gunungapi/2178-laporan-evaluasi-tingkat-aktivitas-gunungapi-bulan-april-2018>> (diakses 13 Mei 2018)

Rahayu, R., Ariyanto, D. P., Komariah, K., Hartati, S., Syamsiyah, J., & Dewi, W. S. 2014. Dampak Erupsi Gunung Merapi terhadap Lahan dan Upaya-Upaya Pemulihannya. *Caraka Tani: Journal of Sustainable Agriculture*, 29(1), 61-72.

Ratdomopurbo, A., Beauducel, F., Subandriyo, J., Nandaka, I. M. A., Newhall, C. G., Sayudi, D. S., & Suparwaka, H. 2013. Overview of the 2006 eruption of Mt. Merapi. *Journal of Volcanology and Geothermal Research*, 261, 87-97.

Riswanto, E., 2009. Evaluasi Akurasi Klasifikasi Penutupan Lahan Menggunakan Citra Alos Palsar Resolusi Rendah Studi Kasus di Pulau Kalimantan, [Skripsi], Institut Pertanian Bogor.

- Saberioon, M. M., Amin, M. S. M., Anuar, A. R., Gholizadeh, A., Wayayok, A., & Khairunniza-Bejo, S. 2014. Assessment of rice leaf chlorophyll content using visible bands at different growth stages at both the leaf and canopy scale. *International Journal of Applied Earth Observation and Geoinformation*, 32, 35-45.
- Sadono, R., Machfoedz, M. M., Nodvländvl, O., Glslolk, W., Shqghndwdq, V., & Qdolvlv, N., 2017. Monitoring Land Cover Changes in the Disaster-Prone Area : A Case Study of Cangkringan Sub-District , the Flanks of Mount. *Forum Geografi (Indonesian Journal of Spatial and Regional Analysis)*, 32 (2), 209-219
- Scaini, C., Felpeto, A., Martí, J., & Carniel, R., 2014. A GIS-based methodology for the estimation of potential volcanic damage and its application to Tenerife Island, Spain. *Journal of Volcanology and Geothermal Research*, 278–279(212045), 40–58.
- Shah, Shekhar. 1999. Coping with natural disasters: The 1998 floods in bangladesh. *Seminar paper presented in June to the World Bank, Washington, DC.*
- Shidiq, I. P. A., 2012, Penilaian Kerusakan dan Kehilangan Pada Lahan Pertanian Pasca Erupsi Gunungapi Merapi 2010 di DAS Gendol, [Tesis], Universitas Gadjah Mada.
- Shofiyati, R., 2011. Teknologi Pesawat Tanpa Awak Untuk Pemetaan dan Pemantauan Tanaman Dan Lahan Pertanian. *Informatika Pertanian*, Vol. 20 No.2, Desember 2011, 58 – 64.
- Sianturi, R., Jetten, V. G., & Sartohadi, J. 2018. Mapping cropping patterns in irrigated rice fields in West Java: Towards mapping vulnerability to flooding using time-series MODIS imageries. *International journal of applied earth observation and geoinformation*, 66, 1-13

- Solikhin, A., Thouret, J. C., Liew, S. C., Gupta, A., Sayudi, D. S., Oehler, J. F., and Kassouk, Z., 2015. High-spatial-resolution imagery helps map deposits of the large (VEI 4) 2010 Merapi Volcano eruption and their impact. *Bulletin of Volcanology*, 77(3), 1–23.
- Sridevi, V., & Chellamuthu, V., 2015. Impact of weather on rice-A review. *International Journal of Applied Research*, 1(9), 825-831.
- Stewart, C., Johnston, D.M., Leonard, G.S., Horwell, C.J., Thordarson, T. and Cronin, S.J., 2006. Contamination of water supplies by volcanic ashfall: a literature review and simple impact modelling. *Journal of Volcanology and Geothermal Research*, 158, 296-306.
- Sudibyakto, and Haroonah, N. 1997. Natural disaster mitigation and management in Indonesia”, *Indonesian Journal of Geography*, 910 29, 37-48.
- Sunarko, S. 2016. Kajian Probabilistik Jatuhan Abu Vulkanik Terhadap Tapak Pltn Muria. *Jurnal Pengembangan Energi Nuklir*, 18(1), 49-57.
- Surono, Jousset, P., Pallister, J., Boichu, M., Buongiorno, M. F., Budisantoso, A., ... Lavigne, F., 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 *Arc Volcanism: Physics and Tectonics*, Edited by Shimozuru, D., Yokoyama., I, Tokyo: Terra Scientific Publishing Company, 95-113.
- Swain, K. C., Thomson, S. J., & Jayasuriya, H. P. 2010. Adoption of an unmanned helicopter for low-altitude remote sensing to estimate yield and total biomass of a rice crop. *Transactions of the ASAE (American Society of Agricultural Engineers)*, 53(1), 21.
- Swardana, A., Tjahjono, B., Effendy, S. 2019. Pemanfaatan Automatic GIS (VORIS) untuk Penilaian Bahaya Jatuhan Material Vulkanik Gunungapi Kelud. *Jurnal Lingkungan dan Bencana Geologi*, 10(1), 1-10.

- Tanaka, H. L., Iguchi, M., & Nakada, S. 2016. Numerical simulations of volcanic ash plume dispersal from Kelud volcano in Indonesia on February 13, 2014. *Journal of Disaster Research*, 11(1), 31-42.
- Tarassenko, I., Delmelle, P., 2017. Towards a mechanistic understanding of the impact of volcanic ash on plants and soil, The 4th VERTIGO Workshop Azores islands, Marie Curie Actions,[Presentation]., Azores islands, Portugal.
- Thorarinsson, S. 1974. The terms tephra and tephrochronology, in Westgate, J.A. and Gold, CM. *World Bibliography and Index of Quaternary Tephrochronology*, INQUA and UNESCO, xvii-xviii.
- Utami, S. N. H., Maas, A., Darmanto, Martono, E., Purwanto, B.H., Murdjito, G., Kusumandari, A., Jayadi, R., 2010. Laporan Akhir Hibah Tanggap Bencana Merapi. Pusat Studi Sumberdaya Lahan, Universitas Gadjah Mada.
- Voight, B., Constantine, E. K., Siswamidjyo, S., & Torley, R. 2000. Historical eruptions of Merapi volcano, central Java, Indonesia, 1768–1998. *Journal of Volcanology and Geothermal Research*, 100(1-4), 69-138.
- Voight, B., Young, K. D., Hidayat, D., Purbawinata, M. A., Ratdomopurbo, A., Sayudi, D. S., ... & Iguchi, M. 2000. Deformation and seismic precursors to dome-collapse and fountain-collapse nuées ardentes at Merapi Volcano, Java, Indonesia, 1994–1998. *Journal of Volcanology and Geothermal Research*, 100(1-4), 261-287.
- Wahyuni, E.T., Triyono, S., dan Suherman, 2012. Penentuan Komposisi Kimia Abu Vulkanik Dari Erupsi Gunung Merapi. *Jurnal Manusia dan Lingkungan*, Vol. 19, No. 2, 150-159 .
- Walker, G.P.L., 1974. Volcanic hazards and the prediction of volcanic eruptions. *Geological Society of London Miscellaneous Publication*, 3, 23-41.

- Walter, T.R., Subandriyo, J., Kirbani, S., Bathke, H., Suryanto, W., Aisyah, N., Darmawan, H., Jousset, P., Luehr, B.G., Dahm, T., 2015. Volcano-tectonic control of Merapi's lava dome splitting: the November 2013 fracture observed from high resolution TerraSAR-X data. *Tectonophysics*, 639, 23–33.
- Weng, F., Zhang, W., Wu, X., Xu, X., Ding, Y., Li, G., ... & Wang, S., 2017. Impact of low-temperature, overcast and rainy weather during the reproductive growth stage on lodging resistance of rice. *Scientific reports*, 7, 46596.
- Wilson C.J.N., Walker G.P.L., 1981, *Violence in Pyroclastic Flow Eruptions*. In: *Self S., Sparks R.S.J. (eds) Tephra Studies*, NATO Advanced Study Institutes Series (Series C — Mathematical and Physical Sciences), vol 75, Springer, Dordrecht.
- Wilson, T. M., Kaye, G., Stewart, C., & Cole, J., 2007, *Impacts of the 2006 Eruption of Merapi Volcano, Indonesia, on Agriculture and Infrastructure*. GNS Science Report 2007/07, 69p.
- Witham, C.S., Oppenheimer, C. and Horwell, C.J, 2005. Volcanic ash-leachates: a review and recommendations for sampling methods. *Journal of Volcanology and Geothermal Research*, 141, 299-326.
- Yue, J., Lei, T., Li, C., & Zhu, J., 2012. The Application of Unmanned Aerial Vehicle Remote Sensing in Quickly Monitoring Crop Pests. *Intelligent Automation and Soft Computing*, 18(8), 1043–1052.
- Yulianto, F., 2014, Analisis risiko aliran piroklastik gunungapi merapi pasca erupsi 2010 menggunakan data penginderaan jauh dan sistem informasi geografis [Tesis], *IPB. Bogor*.