

## DAFTAR PUSTAKA

- (PDF) *Peta Geomorfologi Daerah Istimewa Yogyakarta*. (n.d.). Retrieved December 14, 2022, from [https://www.researchgate.net/publication/308415694\\_Peta\\_Geomorfologi\\_Daerah\\_Istimewa\\_Yogyakarta](https://www.researchgate.net/publication/308415694_Peta_Geomorfologi_Daerah_Istimewa_Yogyakarta)
- Akturk, E., & Altunel, A. O. (2019). Accuracy assesment of a low-cost UAV derived digital elevation model (DEM) in a highly broken and vegetated terrain. *Measurement: Journal of the International Measurement Confederation*, 136, 382–386. <https://doi.org/10.1016/j.measurement.2018.12.101>
- Andaru, R., Rau, J. Y., Syahbana, D. K., Prayoga, A. S., & Purnamasari, H. D. (2021). The use of UAV remote sensing for observing lava dome emplacement and areas of potential lahar hazards: An example from the 2017–2019 eruption crisis at Mount Agung in Bali. *Journal of Volcanology and Geothermal Research*, 415. <https://doi.org/10.1016/J.JVOLGEORES.2021.107255>
- Ariyanti, V., Gaafar, T., De La Sala, S., Edelenbos, J., & Scholten, P. (2020). Towards liveable volcanic cities: A look at the governance of lahars in Yogyakarta, Indonesia, and Latacunga, Ecuador. *Cities*, 107. <https://doi.org/10.1016/j.cities.2020.102893>
- Armawi, D. A. A. (2016). Kajian Dampak Bencana Lahar Dingin Pasca Letusan Gl-Nl-Ngapi Merapi Terhadap Ketahanan Sosial Ekonomi (Studi Kasus Desa Jumoyo, Kecamatan Salam, Kabupaten Magelang, Provinsi Jawa Tengah). *Jurnal Ketahanan Nasional*, 17(1), 43–60. <https://doi.org/10.22146/JKN.22671>
- Asmara, R. A., Prasetyo, A., Stevani, S., & Hapsari, R. I. (2021). Prediksi Banjir Lahar Dingin pada Lereng Merapi menggunakan Data Curah Hujan dari Satelit. *Jurnal Informatika Polinema*, 7(2), 35–42. <https://doi.org/10.33795/jip.v7i2.494>
- BNPB. (2011). Gema BNPB (Ketangguhan Bangsa dalam Menghadapi Bencana). Badan Nasional Penanggulangan Bencana (Vol. 2, pp. 1–46). Retrieved from <https://bnpb.go.id/uploads/migration/pubs/382.pdf>
- BNPB. (2014). Rencana Penanggulangan Bencana Kabupaten Kulon Progo 2014–2018. Badan Nasional Penanggulangan Bencana. Retrieved from <https://bpbd.kulonprogokab.go.id/detil/364/rencana-penanggulangan-bencana-kulon-progo>
- BSN. (2015). Tata Cara Pengukuran Debit Aliran Sungai dan Saluran Terbuka Menggunakan Alat Ukur Arus dan Pelampung. Badan Standardisasi Nasional. Jakarta.
- Bustillos Ardaya, A., Evers, M., & Ribbe, L. (2019). Participatory approaches for disaster risk governance? Exploring participatory mechanisms and mapping to

- close the communication gap between population living in flood risk areas and authorities in Nova Friburgo Municipality, RJ, Brazil. *Land Use Policy*, 88, 104103. <https://doi.org/10.1016/J.LANDUSEPOL.2019.104103>
- Charlton, R. (2007). Fundamentals of fluvial geomorphology. In *Fundamentals of Fluvial Geomorphology*. Taylor and Francis. <https://doi.org/10.4324/9780203371084>
- Chay Asdak. (1995). Hidrologi dan pengelolaan Daerah Aliran Sungai. *Journal of Chemical Information and Modeling*, 141–145.
- Cheng, J., Song, C., Liu, K., Fan, C., Ke, L., Chen, T., Zhan, P., & Yao, J. (2022). Satellite and UAV-based remote sensing for assessing the flooding risk from Tibetan lake expansion and optimizing the village relocation site. *Science of The Total Environment*, 802, 149928. <https://doi.org/10.1016/J.SCITOTENV.2021.149928>
- Cheung, W., Houston, D., Schubert, J. E., Basolo, V., Feldman, D., Matthew, R., Sanders, B. F., Karlin, B., Goodrich, K. A., Contreras, S. L., & Luke, A. (2016). Integrating resident digital sketch maps with expert knowledge to assess spatial knowledge of flood risk: A case study of participatory mapping in Newport Beach, California. *Applied Geography*, 74, 56–64. <https://doi.org/10.1016/j.apgeog.2016.07.006>
- Darmawan, H., Walter, T. R., Brotopuspito, K. S., Subandriyo, & I Gusti Made Agung Nandaka. (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. <https://doi.org/10.1016/j.jvolgeores.2017.11.006>
- De Bélizal, E., Lavigne, F., Hadmoko, D. S., Degeai, J. P., Dipayana, G. A., Mutaqin, B. W., Marfai, M. A., Coquet, M., Mauff, B. Le, Robin, A. K., Vidal, C., Cholik, N., & Aisyah, N. (2013). Rain-triggered lahars following the 2010 eruption of Merapi volcano, Indonesia: A major risk. *Journal of Volcanology and Geothermal Research*, 261, 330–347. <https://doi.org/10.1016/J.JVOLGEORES.2013.01.010>
- Encyclopedia of volcanoes. (2000). *Encyclopedia of Volcanoes*. <https://doi.org/10.1063/1.1325206>
- Gudmundsson, M. T. (2015). Hazards from Lahars and Jökulhlaups. *The Encyclopedia of Volcanoes*, 971–984. <https://doi.org/10.1016/B978-0-12-385938-9.00056-0>
- Hadmoko, D. S., de Belizal, E., Mutaqin, B. W., Dipayana, G. A., Marfai, M. A., Lavigne, F., Sartohadi, J., Worosuprojo, S., Starheim, C. C. A., & Gomez, C. (2018). Post-eruptive lahars at Kali Putih following the 2010 eruption of Merapi volcano, Indonesia: occurrences and impacts. *Natural Hazards*, 94(1), 419–444. <https://doi.org/10.1007/S11069-018-3396-7>

- Hawthorne, T. L., Elmore, V., Strong, A., Bennett-Martin, P., Finnie, J., Parkman, J., Harris, T., Singh, J., Edwards, L., & Reed, J. (2015). Mapping non-native invasive species and accessibility in an urban forest: A case study of participatory mapping and citizen science in Atlanta, Georgia. *Applied Geography*, 56, 187–198. <https://doi.org/10.1016/J.APGEOG.2014.10.005>
- Hua, C., Qi, J., Shang, H., Hu, W., & Han, J. (2016). Detection of collapsed buildings with the aerial images captured from UAV. *Science China Information Sciences*, 59(3). <https://doi.org/10.1007/s11432-015-5341-7>
- Indriyanti, I., Gaffar, F., & Kasmawati, K. (2019). ANALISIS GENANGAN BANJIR SUNGAI PADDANGENG KABUPATEN SOPPENG. *TEKNIK HIDRO*, 12(1), 12–24. <https://doi.org/10.26618/th.v12i1.2463>
- Iryani, S. Y. (2020). Analisis Karakteristik Hujan Ekstrim Untuk Mendukung Pengembangan Peringatan Dini Lahar Dingin di Lereng Gunung Merapi. *REKONSTRUKSI TADULAKO: Civil Engineering Journal on Research and Development*, 35–40. <https://doi.org/10.22487/RENSTRA.V1I2.28>
- Islami, M. (2014). Analisis Perubahan Meander Saluran Tanah Akibat Variasi Debit (Uji Model Laboratorium). *Jurnal Teknik Sipil Dan Lingkungan*, 2(3), 314–319.
- Iverson, R. M., Schilling, S. P., & Vallance, J. W. (1998). Objective delineation of lahar-inundation hazard zones. *Bulletin of the Geological Society of America*, 110(8), 972–984. [https://doi.org/10.1130/0016-7606\(1998\)110<0972:ODOLIH>2.3.CO;2](https://doi.org/10.1130/0016-7606(1998)110<0972:ODOLIH>2.3.CO;2)
- Joyce, K. E., Samsonov, S., Manville, V., Jongens, R., Graettinger, A., & Cronin, S. J. (2009). Remote sensing data types and techniques for lahar path detection: A case study at Mt Ruapehu, New Zealand. *Remote Sensing of Environment*, 113(8), 1778–1786. <https://doi.org/10.1016/J.RSE.2009.04.001>
- Kementerian ATR/BPN. (2017). Petunjuk Teknis Pembuatan Peta Kerja Dengan Menggunakan Pesawat Nirawak/ Drone. Jakarta: Direktorat Jenderal Infrastruktur Keagrariaan, Kementerian Agraria dan Tata Ruang/ Badan Pertanahan Nasional.
- Kementerian ESDM. (2014, June 3). G. Merapi – Sejarah Letusan. Badan Geologi, Kementerian Energi dan Sumber Daya Mineral. Retrieved March 23, 2022 from <https://vsi.esdm.go.id/index.php/gunungapi/data-dasar-gunungapi/542-g-merapi?start=1>
- Kholiq, M. A. (2017). Simulasi Aliran Banjir Lahar Pasca Erupsi Gunung Merapi 2010 Terhadap Keberadaan Sabo Dam Di Sungai Gendol. *Jurnal Teknisia*, XXII(2), 410–415.
- Kornus, W., Alamús, R., Ruiz, A., & Talaya, J. (2006). DEM generation from SPOT-5 3-fold along track stereoscopic imagery using autocalibration. *ISPRS Journal of Photogrammetry and Remote Sensing*, 60(3), 147–159.

<https://doi.org/10.1016/j.isprsjprs.2005.12.004>

- Kumar Pal, P., Rahman, A., & Anika Yunus, D. (2017). Analysis on River Bank Erosion-Accretion and Bar Dynamics Using Multi-Temporal Satellite Images. *American Journal of Water Resources*, 5(4), 132–141. <https://doi.org/10.12691/ajwr-5-4-6>
- Künzler, M., Huggel, C., & Ramírez, J. M. (2012). A risk analysis for floods and lahars: Case study in the Cordillera Central of Colombia. *Natural Hazards*, 64(1), 767–796. <https://doi.org/10.1007/s11069-012-0271-9>
- 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>
- Langat, P. K., Kumar, L., & Koech, R. (2019). Monitoring river channel dynamics using remote sensing and GIS techniques. *Geomorphology*, 325, 92–102. <https://doi.org/10.1016/J.GEOMORPH.2018.10.007>
- Lavigne, F., Morin, J., Mei, E. T. W., Calder, E. S., Usamah, M., & Nugroho, U. (2018). Mapping Hazard Zones, Rapid Warning Communication and Understanding Communities: Primary Ways to Mitigate Pyroclastic Flow Hazard. *Advances in Volcanology*, 107–119. [https://doi.org/10.1007/11157\\_2016\\_34](https://doi.org/10.1007/11157_2016_34)
- Levine, A. S., & Feinholz, C. L. (2015). Participatory GIS to inform coral reef ecosystem management: Mapping human coastal and ocean uses in Hawaii. *Applied Geography*, 59, 60–69. <https://doi.org/10.1016/J.APGEOG.2014.12.004>
- Li, X., Shen, H., Feng, R., Li, J., & Zhang, L. (2017). DEM generation from contours and a low-resolution DEM. *ISPRS Journal of Photogrammetry and Remote Sensing*, 134, 135–147. <https://doi.org/10.1016/j.isprsjprs.2017.09.014>
- Major, J. J., Schilling, S. P., Pullinger, C. R., Escobar, C. D., Chesner, C. A., & Howell, M. M. (2001). Lahar-hazard zonation for San Miguel volcano, El Salvador. *Open-File Report*. <https://doi.org/10.3133/OFR01395>
- Mantong, H. I. (2021). PEMANFAATAN DTM HASIL FOTOGRAMETRI UAV UNTUK ESTIMASI KETINGGIAN GENANGAN AIR BANJIR HASIL DETEKSI CITRA SAR. *JURNAL SUMBER DAYA AIR*, 17(1), 39–48. <https://doi.org/10.32679/jsda.v17i1.711>
- Marjuki, Bramantyo. (Oct 2, 2015). Tutorial Singkat Agisoft Photoscan Basic. Retrieved November 21, 2022, from <https://www.slideshare.net/bramantiyomarjuki/tutorial-singkat-agisoft-photoscan-basic>

- Marjuki, Bramantyo. (Oct 25, 2015). Modul Agisoft Photoscan Tingkat Lanjut. Retrieved November 21, 2022, from <https://www.slideshare.net/bramantiyomarjuki/modul-agisoft-photoscan-tingkat-lanjut>
- Mead, S., Magill, C., & Hilton, J. (2016). Rain-triggered lahar susceptibility using a shallow landslide and surface erosion model. *Geomorphology*, 273, 168–177. <https://doi.org/10.1016/j.geomorph.2016.08.022>
- Mei, E. T. W., Lavigne, F., Picquout, A., de Bélizal, E., Brunstein, D., Grancher, D., Sartohadi, J., Cholikh, N., & Vidal, C. (2013). Lessons learned from the 2010 evacuations at Merapi volcano. *Journal of Volcanology and Geothermal Research*, 261, 348–365. <https://doi.org/10.1016/j.jvolgeores.2013.03.010>
- Meng, M., Dąbrowski, M., Tai, Y., Stead, D., & Chan, F. (2019). Collaborative spatial planning in the face of flood risk in delta cities: A policy framing perspective. *Environmental Science and Policy*, 96. <https://doi.org/10.1016/j.envsci.2019.03.006>
- Minami, Y., Ohba, T., Hayashi, S., Saito-Kokubu, Y., & Kataoka, K. S. (2019). Lahar record during the last 2500 years, Chokai Volcano, northeast Japan: Flow behavior, sourced volcanic activity, and hazard implications. *Journal of Volcanology and Geothermal Research*, 387. [https://doi.org/10.1016/J.JVOLGEORES.2019.106661/LAHAR\\_RECORD\\_DURING\\_THE\\_LAST\\_2500\\_YEARS\\_CHOKAI\\_VOLCANO\\_NORTHEAST\\_JAPAN\\_FLOW\\_BEHAVIOR\\_SOURCED\\_VOLCANIC\\_ACTIVITY\\_AND\\_HAZARD\\_IMPLICATIONS.PDF](https://doi.org/10.1016/J.JVOLGEORES.2019.106661/LAHAR_RECORD_DURING_THE_LAST_2500_YEARS_CHOKAI_VOLCANO_NORTHEAST_JAPAN_FLOW_BEHAVIOR_SOURCED_VOLCANIC_ACTIVITY_AND_HAZARD_IMPLICATIONS.PDF)
- Munawaroh, M., & Widiyanto, W. (2013). ... *Kerusakan Infrastruktur, Permukiman, Dan Lahan Pertanian Akibat Banjir Lahar Hujan Tahun 2010 Dengan Pendekatan Geomorfologi Kasus: Kali Putih, Kabupaten ....* undefined-undefined. <https://www.mendeley.com/catalogue/ead557a3-3a64-3bed-a8f6-a1104184f4ea/>
- Muñoz-Salinas, E., Castillo-Rodríguez, M., Manea, V., Manea, M., & Palacios, D. (2009). Lahar flow simulations using LAHARZ program: Application for the Popocatepetl volcano, Mexico. *Journal of Volcanology and Geothermal Research*, 182(1–2), 13–22. <https://doi.org/10.1016/J.JVOLGEORES.2009.01.030>
- Peraturan Bupati Kulon Progo Nomor 1 Tahun 2020 tentang Perubahan Atas Peraturan Bupati Kulon Progo Nomor 13 Tahun 2019 Tentang Pedoman Teknis Penataan Ruang. 2 Januari 2020. Berita Daerah Kabupaten Kulon Progo Tahun 2020 Nomor 1. Kulon Progo.
- Peraturan Daerah Kabupaten Kulon Progo Nomor 1 Tahun 2012 tentang Rencana Tata Ruang Wilayah Kabupaten Kulon Progo Tahun 2012-2032. 20 Februari 2012. Lembaran Daerah Kabupaten Kulon Progo Tahun 2012 Nomor 1. Kulon Progo.



- Peraturan Kalurahan Banjarasri Nomor 4 Tahun 2022 tentang Rencana Pembangunan Jangka Menengah Kalurahan (RPJMKal) Banjarasri Periode Tahun 2022-2027. 26 Februari 2022. Berita Kalurahan Banjarasri Kapanewon Kalibawang Kabupaten Kulon Progo Tahun 2022 Nomor 03. Kulon Progo.
- Peraturan Kepala Badan Informasi Spasial Nomor 15 Tahun 2014 tentang Pedoman Teknis Ketelitian Peta Dasar. 29 September 2014. Berita Negara Republik Indonesia Tahun 2014 Nomor 1516. Jakarta.
- Peraturan Kepala Badan Informasi Spasial Nomor 6 Tahun 2018 tentang Perubahan Atas Peraturan Kepala Badan Informasi Geospasial Nomor 15 Tahun 2014 Tentang Pedoman Teknis Ketelitian Peta Dasar. 28 November 2018. Jakarta.
- Permatasari, A. L., Suherningtyas, I. A., & Wiguna, P. P. K. (2021). Evaluation of lahar flood hazard management policy using participatory planning in Putih watershed, Magelang regency, central java, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 683(1). <https://doi.org/10.1088/1755-1315/683/1/012084>
- Pierson, T. C., Wood, N. J., & Driedger, C. L. (2014). Reducing risk from lahar hazards: Concepts, case studies, and roles for scientists. *Journal of Applied Volcanology*, 3(1). <https://doi.org/10.1186/S13617-014-0016-4>
- Pistolesi, M., Cioni, R., Rosi, M., & Aguilera, E. (2014). Lahar hazard assessment in the southern drainage system of Cotopaxi volcano, Ecuador: Results from multiscale lahar simulations. *Geomorphology*, 207, 51–63. <https://doi.org/10.1016/J.GEOMORPH.2013.10.026>
- Preece, K., Gertisser, R., Barclay, J., Berlo, K., Herd, R. A., & Edinburgh Ion Microprobe Facility. (2014). Pre- and syn-eruptive degassing and crystallisation processes of the 2010 and 2006 eruptions of Merapi volcano, Indonesia. *Contributions to Mineralogy and Petrology*, 168(4), 1–25. <https://doi.org/10.1007/S00410-014-1061-Z>
- Rosaji, F.S.C. 2017. Pemanfaatan Teknologi Unmanned Aerial Vehicle (UAV) Untuk Perencanaan Evakuasi Tsunami Di Kawasan Wisata Pantai Studi Kasus: Pantai Pulang Syawal dan sekitarnya, Kabupaten Gunungkidul. Tesis: Universitas Gadjah Mada.
- Saepuloh, A., Urai, M., Aisyah, N., Sunarta, Widiwijayanti, C., Subandriyo, & Jousset, P. (2013). Interpretation of ground surface changes prior to the 2010 large eruption of Merapi volcano using ALOS/PALSAR, ASTER TIR and gas emission data. *Journal of Volcanology and Geothermal Research*, 261, 130–143. <https://doi.org/10.1016/J.JVOLGEORES.2013.05.001>
- Saputra, T. M. (2013). EVALUATION OF DISASTER MITIGATION SYSTEM AGAINST LAHAR FLOW OF PUTIH RIVER, MT. MERAPI AREA. *Journal of the Civil Engineering Forum*, 22(3). <https://doi.org/10.22146/JCEF.18904>

- Sarif, M. N., Siddiqui, L., Islam, M. S., Parveen, N., & Saha, M. (2021). Evolution of river course and morphometric features of the River Ganga: A case study of up and downstream of Farakka Barrage. *International Soil and Water Conservation Research*, 9(4), 578–590. <https://doi.org/10.1016/J.ISWCR.2021.01.006>
- Schilling, S. (2014). Laharz \_ py : GIS Tools for Automated Mapping of Lahar Inundation Hazard Zones. In *U.S. Geological Survey Open-File Report 2014-1073*.
- Schilling, S. P. (1998). LAHARZ; GIS programs for automated mapping of lahar-inundation hazard zones. *Open-File Report*, 1–80. <http://pubs.er.usgs.gov/publication/ofr98638>
- Sindayihebura, A., Van Meirvenne, M., Verstraete, S., & Nsabimana, S. (2008). Accounting for shape reliability in modeling contour-derived topographic properties for use in soil-terrain correlation. *Catena*, 74(2), 165–174. <https://doi.org/10.1016/j.catena.2008.04.014>
- Suresh, A., Chanda, A., Rahaman, Z. A., Kafy, A. Al, Rahaman, S. N., Hossain, M. I., Rahman, M. T., & Yadav, G. (2022). A geospatial approach in modelling the morphometric characteristics and course of Brahmaputra River using sinuosity index. *Environmental and Sustainability Indicators*, 15, 100196. <https://doi.org/10.1016/J.INDIC.2022.100196>
- Surono, Jousset, P., Pallister, J., Boichu, M., Buongiorno, M. F., Budisantoso, A., Costa, F., Andreastuti, S., Prata, F., Schneider, D., Clarisse, L., Humaida, H., Sumarti, S., Bignami, C., Griswold, J., Carn, S., Oppenheimer, C., & 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. <https://doi.org/10.1016/J.JVOLGEORES.2012.06.018>
- Susatio, Raja. 2020. Pengaruh Faktor Kedalaman Muka Air Tanah Terhadap Kerawanan Gerakan Tanah Di Kecamatan Samigaluh dan Kecamatan Kalibawang, Kabupaten Kulon Progo, D.I. Yogyakarta. Tesis: Universitas Gadjah Mada.
- Tamminga, A., Hugenholtz, C., Eaton, B., & Lapointe, M. (2015). Hyperspatial Remote Sensing of Channel Reach Morphology and Hydraulic Fish Habitat Using an Unmanned Aerial Vehicle (UAV): A First Assessment in the Context of River Research and Management. *River Research and Applications*, 31(3), 379–391. <https://doi.org/10.1002/rra.2743>
- Tanarro, L. M., Andrés, N., Zamorano, J. J., Palacios, D., & Renschler, C. S. (2010). Geomorphological evolution of a fluvial channel after primary lahar deposition: Huiloac Gorge, Popocatepetl volcano (Mexico). *Geomorphology*, 122(1–2), 178–190. <https://doi.org/10.1016/J.GEOMORPH.2010.06.013>
- Thouret, J. C., Antoine, S., Magill, C., & Ollier, C. (2020). Lahars and debris flows: Characteristics and impacts. *Earth-Science Reviews*, 201.

<https://doi.org/10.1016/J.EARSCIREV.2019.103003>

Ulinnuha, I., Prasetyo, Y., & Sabri, L. (2019). *Analisis Spasial Aliran Lahar Menggunakan Hec-Hms Dan Hec-Ras Pada Kali Gendol-Opak Kawasan Gunung Merapi*. 9(1), 20–28.  
<https://www.mendeley.com/catalogue/eb4e10bc-96ca-308c-b28a-539163805ed5/>

Undang-Undang Republik Indonesia Nomor 26 Tahun 2007 tentang Penataan Ruang. 26 April 2007. Lembaran Negara Republik Indonesia tahun 2007 Nomor 68. Jakarta.

Van Zuidam, R. A. (1986). Aerial photo-interpretation in terrain analysis and geomorphologic mapping. *Aerial Photo-Interpretation in Terrain Analysis and Geomorphologic Mapping*. <https://doi.org/10.2307/634926>

Vijay P. Singh. (1992). Elementary Hydrology. In 1992.  
<https://www.worldcat.org/title/elementary-hydrology/oclc/23463540>

Wang, S., Ren, Z., Wu, C., Lei, Q., Gong, W., Ou, Q., Zhang, H., Ren, G., & Li, C. (2019). DEM generation from Worldview-2 stereo imagery and vertical accuracy assessment for its application in active tectonics. *Geomorphology*, 336, 107–118. <https://doi.org/10.1016/j.geomorph.2019.03.016>

Wibowo, S. B., Lavigne, F., Mourot, P., Métaxian, J. P., Zeghdoudi, M., Virmoux, C., Sukatja, C. B., Hadmoko, D. S., & Mutaqin, B. W. (2015). Coupling between video and seismic data analysis for the study of lahar dynamics at Merapi volcano, Indonesia. *Geomorphologie: Relief, Processus, Environnement*, 21(3), 251–266.  
<https://doi.org/10.4000/GEOMORPHOLOGIE.11090>

Wiwaha, A. A., Mei, E. T. W., & Rachmawati, R. (2016). Perencanaan Partisipatif Jalur Evakuasi dan Titik Kumpul Desa Ngargomulyo dalam Upaya Pengurangan Resiko Bencana Gunungapi Merapi. *Journal of Regional and City Planning*, 27(1), 34–48. <https://doi.org/10.5614/JRCP.2016.27.1.4>

[www.blumarblegeo.com](http://www.blumarblegeo.com). Create Elevation Grid from 3D Vector Data. Retrieved November 6, 2022, from [https://www.blumarblegeo.com/knowledgebase/global-mapper-19/Create\\_Elevation\\_Grid\\_from\\_3D\\_Vector\\_Data.htm](https://www.blumarblegeo.com/knowledgebase/global-mapper-19/Create_Elevation_Grid_from_3D_Vector_Data.htm)

[www.desajumoyo.magelangkab.go.id](http://www.desajumoyo.magelangkab.go.id). (2016). Daftar Kejadian Banjir Lahar Hujan Kali Putih Merapi 2010 di Desa Jumoyo dan Sekitarnya. Retrieved January 16, 2023, from [https://desajumoyo.magelangkab.go.id/First/detail\\_artikel/daftar-kejadian-banjir-lahar-hujan-kali-putih-merapi-2010-di-desa-jumoyo-dan-sekitarnya](https://desajumoyo.magelangkab.go.id/First/detail_artikel/daftar-kejadian-banjir-lahar-hujan-kali-putih-merapi-2010-di-desa-jumoyo-dan-sekitarnya)

[www.magma.esdm.go.id](http://www.magma.esdm.go.id). (2022). Peta Kawasan Rawan Bencana (KRB) Gunung Api. Retrieved Juni 14 2022, from <https://magma.esdm.go.id/v1/gunung-api/peta-kawasan-rawan-bencana>



[www.m-edukasi.kemdikbud.go.id](http://www.m-edukasi.kemdikbud.go.id). Bentuk Gunungapi. Retrieved June 15, 2022, from <https://m-edukasi.kemdikbud.go.id/medukasi/produk-files/kontenkm/km2016/KM201624/materi2.html>

[www.sonicmodell.com](http://www.sonicmodell.com). (2017). Skyhunter 1800mm Wingspan EPO Long Range FPV UAV Platform RC Airplane KIT. Retrieved October 24, 2022, from <http://www.sonicmodell.com/product/skyhunter-1800mm-wingspan-epo-long-range-fpv-uav-platform-rc-airplane-kit-14.html>