DAFTAR PUSTAKA

[1] J. A. I. Paski, D. S. Permana, N. Alfuadi, M. F. Handoyo, M. H. Nurrahmat, and E. E. S. Makmur, "A Multiscale analysis of the extreme rainfall triggering flood and landslide events over bengkulu on 27th April 2019," in *AIP Conference Proceedings*, American Institute of Physics Inc., Mar. 2021. doi: 10.1063/5.0037508.

[2] M. Fujita, K. Yoneyama, S. Mori, T. Nasuno, and M. Satoh, "Diurnal convection peaks over the eastern Indian Ocean off sumatra during different MJO phases," *Journal of the Meteorological Society of Japan*, vol. 89, no. A, pp. 317–330, 2011, doi: 10.2151/jmsj.2011-A22.

[3] A. R. As-syakur, T. Tanaka, T. Osawa, and M. S. Mahendra, "Indonesian rainfall variability observation using TRMM multi-satellite data," *Int J Remote Sens*, vol. 34, no. 21, pp. 7723–7738, 2013, doi: 10.1080/01431161.2013.826837.

[4] B. F. Zaitchik, "Madden-Julian Oscillation impacts on tropical African precipitation," *Atmospheric Research*, vol. 184. Elsevier Ltd, pp. 88–102, Feb. 01, 2017. doi: 10.1016/j.atmosres.2016.10.002.

[5] C. Zhang, "Madden-julian oscillation: Bridging weather and climate," *Bull Am Meteorol Soc*, vol. 94, no. 12, pp. 1849–1870, Dec. 2013, doi: 10.1175/BAMS-D-12-00026.1.

[6] C. J. Schreck, "Global Survey of the MJO and Extreme Precipitation," *Geophys Res Lett*, vol. 48, no. 19, Oct. 2021, doi: 10.1029/2021GL094691.

[7] W. Li, W. Guo, P. C. Hsu, and Y. Xue, "Influence of the Madden-Julian oscillation on Tibetan Plateau snow cover at the intraseasonal time-scale," *Sci Rep*, vol. 6, Jul. 2016, doi: 10.1038/srep30456.

[8] F. R. Muhammad, S. W. Lubis, and S. Setiawan, "Impacts of the Madden–Julian oscillation on precipitation extremes in Indonesia," *International Journal of Climatology*, vol. 41, no. 3, pp. 1970–1984, Mar. 2021, doi: 10.1002/joc.6941.

[9] R. Hidayat and S. Kizu, "Influence of the Madden-Julian Oscillation on Indonesian rainfall variability in austral summer," *International Journal of Climatology*, vol. 30, no. 12, pp. 1816–1825, Oct. 2010, doi: 10.1002/joc.2005.

[10] B. Zhu, Y. Du, and Z. Gao, “Influences of MJO on the Diurnal Variation and Associated Offshore Propagation of Rainfall near Western Coast of Sumatra,” *Atmosphere (Basel)*, vol. 13, no. 2, Feb. 2022, doi: 10.3390/atmos13020330.

[11] S. Y. Ogino, M. D. Yamanaka, S. Mori, and J. Matsumoto, “How much is the precipitation amount over the tropical coastal region?,” *J Clim*, vol. 29, no. 3, pp. 1231–1236, 2016, doi: 10.1175/JCLI-D-15-0484.1.

[12] N. A. Da Silva and A. J. Matthews, “Impact of the Madden–Julian Oscillation on extreme precipitation over the western Maritime Continent and Southeast Asia,” *Quarterly Journal of the Royal Meteorological Society*, vol. 147, no. 739, pp. 3434–3453, Jul. 2021, doi: 10.1002/qj.4136.

[13] H. Kamimera, S. Mori, M. D. Yamanaka, and F. Syamsudin, “Modulation of diurnal rainfall cycle by the Madden-Julian oscillation based on one-year continuous observations with a meteorological radar in west Sumatera,” *Scientific Online Letters on the Atmosphere*, vol. 8, no. 1, pp. 111–114, 2012, doi: 10.2151/sola.2012-028.

[14] P. Wu, D. Ardiansyah, S. Yokoi, S. Mori, F. Syamsudin, and K. Yoneyama, “Why torrential rain occurs on the Western Coast of Sumatra Island at the leading edge of the MJO westerly wind bursts,” *Scientific Online Letters on the Atmosphere*, vol. 13, pp. 36–40, 2017, doi: 10.2151/sola.2017-007.

[15] C. Shen, G. Li, and Y. Dong, “Vertical Structures Associated with Orographic Precipitation during Warm Season in the Sichuan Basin and Its Surrounding Areas at Different Altitudes from 8-Year GPM DPR Observations,” *Remote Sens (Basel)*, vol. 14, no. 17, Sep. 2022, doi: 10.3390/rs14174222.

[16] J. Ryu, H. J. Song, B. J. Sohn, and C. Liu, “Global Distribution of Three Types of Drop Size Distribution Representing Heavy Rainfall From GPM/DPR Measurements,” *Geophysical Research Letters*, vol. 48, no. 3. Blackwell Publishing Ltd, Feb. 16, 2021. doi: 10.1029/2020GL090871.

[17] Marzuki, H. Hashiguchi, T. Kozu, T. Shimomai, Y. Shibagaki, and Y. Takahashi, “Precipitation microstructure in different Madden-Julian Oscillation phases over Sumatra,” *Atmos Res*, vol. 168, pp. 121–138, Feb. 2016, doi: 10.1016/j.atmosres.2015.08.022.

[18] T. Kozu, T. Shimomai, Z. Akramin, Marzuki, Y. Shibagaki, and H. Hashiguchi, "Intraseasonal variation of raindrop size distribution at Koto Tabang, West Sumatra, Indonesia," *Geophys Res Lett*, vol. 32, no. 7, pp. 1–4, Apr. 2005, doi: 10.1029/2004GL022340.

[19] Marzuki, H. Hashiguchi, M. Vonnisa, Harmadi, and M. Katsumata, "Determination of Intraseasonal Variation of Precipitation Microphysics in the Southern Indian Ocean from Joss–Waldvogel Disdrometer Observation during the CINDY Field Campaign," *Adv Atmos Sci*, vol. 35, no. 11, pp. 1415–1427, Nov. 2018, doi: 10.1007/s00376-018-8026-5.

[20] K. S. Virts, J. M. Wallace, M. L. Hutchins, and R. H. Holzworth, "Diurnal lightning variability over the maritime continent: Impact of low-level winds, cloudiness, and the MJO," *J Atmos Sci*, vol. 70, no. 10, pp. 3128–3146, 2013, doi: 10.1175/JAS-D-13-021.1.

[21] J. O. Kaplan and K. H. K. Lau, "The WGLC global gridded lightning climatology and time series," *Earth Syst Sci Data*, vol. 13, no. 7, pp. 3219–3237, Jul. 2021, doi: 10.5194/essd-13-3219-2021.

[22] S. Chandra, D. Siingh, N. Jeni Victor, and A. K. Kamra, "Lightning activity over South/Southeast Asia: Modulation by thermodynamics of lower atmosphere," *Atmos Res*, vol. 250, Mar. 2021, doi: 10.1016/j.atmosres.2020.105378.

[23] W. Suparta, J. Adnan, and M. A. Mohd Ali, "Nowcasting the lightning activity in Peninsular Malaysia using the GPS PWV during the 2009 inter-monsoons," *Annals of Geophysics*, vol. 57, no. 2, 2014, doi: 10.4401/ag-6373.

[24] K. S. Virts and R. A. Houze, "Variation of lightning and *convective* rain fraction in mesoscale *convective* systems of the MJO," *J Atmos Sci*, vol. 72, no. 5, pp. 1932-1944.pdf, 2015, doi: 10.1175/JAS-D-14-0201.1.

[25] A. Adhary Arbain *et al.*, "Thunderstorm Climatology in the Jakarta Area and Its Surroundings Based on Synoptic Observations from 2000-2012," *Jurnal Sains & Teknologi Modifikasi Cuaca*, vol. 17, no. 1, pp. 1–9, 2016.

[26] J.-I. Hamada and S. Mori, "Lightning Activities Over the Western Coastal Area of Sumatra, Indonesia During The Pre-Ymc Campaign Observation Period." *Geographical reports of Tokyo Metropolitan University*, vol. 58, pp. 41-47, 2023

[27] C. Chatterjee and S. Das, “On the association between lightning and precipitation microphysics,” *J Atmos Sol Terr Phys*, vol. 207, Oct. 2020, doi: 10.1016/j.jastp.2020.105350.

[28] U. V. Murali Krishna, S. K. Das, S. M. Deshpande, S. L. Doiphode, and G. Pandithurai, “The assessment of Global Precipitation Measurement estimates over the Indian subcontinent,” *Earth and Space Science*, vol. 4, no. 8, pp. 540–553, Aug. 2017, doi: 10.1002/2017EA000285.

[29] R. E. Bürgesser, “Assessment of the World Wide Lightning Location Network (WWLLN) detection efficiency by comparison to the Lightning Imaging Sensor (LIS),” *Quarterly Journal of the Royal Meteorological Society*, vol. 143, no. 708, pp. 2809–2817, Oct. 2017, doi: 10.1002/qj.3129.

[30] X. C. Wang, C. Zhang, X. Ma, and L. Luo, *Water Cycle Management A New Paradigm of Wastewater Reuse and Safety Control*. New York: Springer, 2015. [Online]. Available: http://www.springer.com/series/11214

[31] T. Davie, *Fundamentals of Hydrology Second Edition*, 2nd ed. New York: Routledge, 2008.

[32] Elizabeth M. Shaw, Keith J. Beven, Nick A. Chappell, and Rob Lamb, *Hydrology in Practice*, 4th ed. New York: Spon Press, 2011.

[33] Guifu Zhang, *Weather radar polarimetry*. New York: Crc Press, 2016.

[34] C. Amaya *et al.*, *Handbook on Radiometeorology*, vol. Brazil. Radiocommunication Bureau, 2013.

[35] S. Fukao and Hamazu Kyosuke, *Radar for Meteorological and Atmospheric Observations*. Tokyo: Spriger, 2014.

[36] Firat Y. Testik and Mekonnen Gebremichael, *Rainfall: State of the Science*. American Geophysical Union, 2010.

[37] Marzuki, H. Hashiguchi, M. Vonnisa, and Harmadi, “Seasonal and Diurnal Variations of Vertical Profile of Precipitation over Indonesian Maritime Continent,” in *Engineering and Mathematical Topics in Rainfall*, InTech, 2018. doi: 10.5772/intechopen.74044.

[38] D. J. Seo, A. Seed, and G. Delrieu, “Radar and multisensor rainfall estimation for hydrologic applications,” *Geophysical Monograph Series*, vol. 191, pp. 79–104, 2010, doi: 10.1029/2010GM000952.

[39] M. A. Uman, *Lightning*. New York: Dover Publications, 2012.

[40] V. Cooray, *An Introduction to Lightning*. New York: Springer, 2015.

[41] J. R. Dwyer and M. A. Uman, “The physics of lightning,” *Physics Reports*, vol. 534, no. 4. pp. 147–241, Jan. 30, 2014. doi: 10.1016/j.physrep.2013.09.004.

[42] J. M. Wallace and P. V. Hobbs, *Atmospheric science: an introductory survey*, 2nd ed. Elsevier, 2006.

[43] D. Septiadi and S. Hadi, “Karakteristik Petir terkait curah hujan lebat di wilayah Bandung, jawa Barat,” *JURNAL METEOROLOGI DAN GEOFISIKA*, vol. 12, no. 2, pp. 163–170, 2011.

[44] D. M. Chate, M. I. R. Tinmaker, M. Y. Aslam, and S. D. Ghude, “Climate indicators for lightning over sea, sea–land mixed and land-only surfaces in India,” *International Journal of Climatology*, vol. 37, no. 4, pp. 1672–1679, Mar. 2017, doi: 10.1002/joc.4802.

[45] O. Altaratz, Z. Levin, Y. Yair, and B. Ziv, “Lightning Activity over Land and Sea on the Eastern Coast of the Mediterranean,” *Mon Weather Rev*, vol. 131, no. 9, pp. 2060–2070, 2003, [Online]. Available: http://www.cdc.noaa.gov/.

[46] W. R. G. Farias, O. Pinto, I. R. C. A. Pinto, and K. P. Naccarato, “The influence of urban effect on lightning activity: Evidence of weekly cycle,” *Atmos Res*, vol. 135–136, pp. 370–373, Jan. 2014, doi: 10.1016/j.atmosres.2012.09.007.

[47] S. Oulkar, D. Siingh, U. Saha, and A. K. Kamra, “Distribution of lightning in relation to topography and vegetation cover over the dry and moist regions in the Himalayas,” *Journal of Earth System Science*, vol. 128, no. 7, Oct. 2019, doi: 10.1007/s12040-019-1203-9.

[48] L. N. L. Pandiangan, W. Wardono, and R. Y. H. W. Stasiun, “Analisis pemetaan sambaran petir akibat bangunan BTS terhadap lingkungan dan sekitarnya di kota Medan,” *Jurnal Meteorologi dan Geofisika*, vol. 11, no. 2, pp. 86–97, 2010.

[49] T.N. Krishnamurti, Lydia Stefanova, and Vasubandhu Misra, *Tropical Meteorology*. New York: Springer, 2013.

[50] L. M. Véspoli De Carvalho and C. Jones, *The Monsoons and Climate Change Observations and Modeling*. Australia: Springer, 2016. [Online]. Available: http://www.springer.com/series/11741

[51] C. Zhang, F. Adames, B. Khouider, B. Wang, and D. Yang, "Four Theories of the Madden-Julian Oscillation," *Reviews of Geophysics*, vol. 58, no. 3. Blackwell Publishing Ltd, Sep. 01, 2020. doi: 10.1029/2019RG000685.

[52] X. Jiang *et al.*, "Fifty Years of Research on the Madden-Julian Oscillation: Recent Progress, Challenges, and Perspectives," *Journal of Geophysical Research: Atmospheres*, vol. 125, no. 17, Sep. 2020, doi: 10.1029/2019JD030911.

[53] S. J. Woolnough, "The madden-julian oscillation," in *Sub-seasonal to Seasonal Prediction: The Gap Between Weather and Climate Forecasting*, Elsevier, 2018, pp. 93–117. doi: 10.1016/B978-0-12-811714-9.00005-X.

[54] C. A. DeMott, N. P. Klingaman, and S. J. Woolnough, "Atmosphere-ocean coupled processes in the Madden-Julian oscillation," *Reviews of Geophysics*, vol. 53, no. 4. Blackwell Publishing Ltd, pp. 1099–1154, Dec. 01, 2015. doi: 10.1002/2014RG000478.

[55] N. Zhao, P. Wu, S. Yokoi, and M. Hattori, "Why Does Convection Weaken over Sumatra Island in an Active Phase of the MJO?", *Monthly Weather Review*, vol. 150, pp. 697-714, 2022, doi: 10.1175/MWR-D.

[56] S. P. Rauniyar and K. J. E. Walsh, "Scale interaction of the diurnal cycle of rainfall over the Maritime Continent and Australia: Influence of the MJO," *J Clim*, vol. 24, no. 2, pp. 325–348, Jan. 2011, doi: 10.1175/2010JCLI3673.1.

[57] A. V Wijayanti, R. Hidayat, A. Faqih, and F. Alfahmi, "The Impact of the Interaction between Madden-Julian Oscillation and Cold Surge, on Rainfall over Western Indonesia," *Indonesian Journal of Geography*, vol. 53, no. 2, pp. 245-253., 2021.

[58] P. Xavier, R. Rahmat, W. K. Cheong, and E. Wallace, "Influence of Madden-Julian Oscillation on Southeast Asia rainfall extremes: Observations and predictability," *Geophys Res Lett*, vol. 41, no. 12, pp. 4406–4412, 2014, doi: 10.1002/2014GL060241.

[59] H. Hashiguchi, T. Shimomai, I. Rahayu, and M. Vonnisa, “Performance Evaluation of Micro Rain Radar over Sumatra through Comparison with Disdrometer and Wind Profiler,” 2016.

[60] J. T. Abatzoglou and T. J. Brown, “Influence of the Madden-Julian oscillation on summertime cloud-to-ground lightning activity over the continental United States,” *Mon Weather Rev*, vol. 137, no. 10, pp. 3596–3601, 2009, doi: 10.1175/2009MWR3019.1.

[61] D. C. Stolz, S. A. Rutledge, W. Xu, and J. R. Pierce, “Interactions between the MJO, Aerosols, and Convection over the Central Indian Ocean”, *Journal of the Atmospheric Sciences*, vol. 74, no. 2, pp. 353-374, doi: 10.1175/JAS-D-16-0054.s1.

[62] Y. Senbokuya *et al.*, “Development of the Spaceborne Dual Frequency Precipitation Radar for the Global Precipitation Measurement Mission,” *IEEE International Geoscience and Remote Sensing Symposium*, pp. 3566–3569, 2004, doi: https://doi.org/10.1109/IGARSS.2004.1370481.

[63] G. Skofronick-Jackson *et al.*, “The global precipitation measurement (GPM) mission for science and Society,” *Bull Am Meteorol Soc*, vol. 98, no. 8, pp. 1679–1695, Aug. 2017, doi: 10.1175/BAMS-D-15-00306.1.

[64] D. T. Bolvin *et al.*, “NASA Global Precipitation Measurement (GPM) Integrated Multi-satellitE Retrievals for GPM (IMERG) Prepared for: Global Precipitation Measurement (GPM) National Aeronautics and Space Administration (NASA),” 2020. [Online]. Available: https://pmm.nasa.gov/sites/default/files/imce/times_allsat.jpg

[65] T. Iguchi *et al.*, “GPM/DPR Level-2 Algorithm Theoretical Basis Document,” 2010.

[66] L. Liao and R. Meneghini, “GPM DPR Retrievals: Algorithm, Evaluation, and Validation,” *Remote Sensing*, vol. 14, no. 4. MDPI, Feb. 01, 2022. doi: 10.3390/rs14040843.

[67] L. Liao and R. Meneghini, “Physical evaluation of GPM DPR single- and dual-wavelength algorithms,” *J Atmos Ocean Technol*, vol. 36, no. 5, pp. 883–902, May 2019, doi: 10.1175/JTECH-D-18-0210.1.

[68] J. Tan, G. J. Huffman, D. T. Bolvin, and E. J. Nelkin, "IMERG V06: Changes to the Morphing Algorithm," *J Atmos Ocean Technol*, vol. 36, no. 12, pp. 2471–2482, 2019, doi: 10.1175/JTECH-D-19.

[69] M. L. Hutchins, R. H. Holzworth, J. B. Brundell, and C. J. Rodger, "Relative detection efficiency of the World Wide Lightning Location Network," *Radio Sci*, vol. 47, no. 6, 2012, doi: 10.1029/2012RS005049.

[70] E. A. Navarro, E. Navarro-Modesto, J. Segura-García, J. Lopez-Ballester, and J. A. Portí, "Operation of the Worldwide Lightning Location Network over Spain," 2023, doi: 10.20944/preprints202304.1254.v1.

[71] K. S. Virts, J. M. Wallace, M. L. Hutchins, and R. H. Holzworth, "Highlights of a new ground-based, hourly global lightning climatology," *Bull Am Meteorol Soc*, vol. 94, no. 9, pp. 1381–1391, Sep. 2013, doi: 10.1175/BAMS-D-12-00082.1.

[72] C. Price, "Lightning Sensors for Observing, Tracking and Nowcasting Severe Weather," *Sensors*, vol. 8, pp. 157–170, 2008, [Online]. Available: http://maps.grida.no/go/graphic/global_costs_of_extreme_weather_events.

[73] R. L. Dowden, R. H. Holzworth, A. R. Jacobson, E. Lay, C. J. Rodger, and N. R. Thomson, "World-Wide Lightning Location Using VLF Propagation in the Earth-Ionosphere Waveguide." *IEEE Antennas and Propagation Magazine*, vol. 50, no. 5, pp. 40-60, 2008

[74] C. J. Rodger, J. B. Brundell, R. H. Holzworth, and E. H. Lay, "Growing Detection Efficiency of the World Wide Lightning Location Network." *AIP Conference Proceedings*, vol. 1118, no. 1, pp. 15-2, 2009

[75] C. Gomes, *Lightning*. Singapore: Springer, 2021

[76] M. L. Hutchins, R. H. Holzworth, C. J. Rodger, and J. B. Brundell, "Far-Field power of lightning strokes as measured by the world wide lightning location network," *J Atmos Ocean Technol*, vol. 29, no. 8, pp. 1102–1110, Aug. 2012, doi: 10.1175/JTECH-D-11-00174.1.

[77] P. Wu, S. Mori, and F. Syamsudin, "Land-sea surface air temperature contrast on the western coast of Sumatra Island during an active phase of the Madden-Julian Oscillation," *Prog Earth Planet Sci*, vol. 5, no. 1, Dec. 2018, doi: 10.1186/s40645-017-0160-7.

[78] H. Bai *et al.*, "Formation of nocturnal offshore rainfall near the West Coast of Sumatra: Land breeze or gravity wave?," *Mon Weather Rev*, vol. 149, no. 3, pp. 715–731, Feb. 2021, doi: 10.1175/MWR-D-20-0179.1.

[79] B. Zhu, Z. Pu, A. W. Putra, and Z. Gao, "Assimilating c-band radar data for high-resolution simulations of precipitation: Case studies over western sumatra," *Remote Sens (Basel)*, vol. 14, no. 1, Jan. 2022, doi: 10.3390/rs14010042.

[80] Wheeler M and Hendon H, "An All-Season Real-Time Multivariate MJO Index: Development of an Index for Monitoring and Prediction," *American Meteorology Society*, vol. 132, no. 8, pp. 1917–1932, Aug. 2004.

[81] E. Aldrian, and R. Dwi Susanto, "Identification of three dominant rainfall regions within Indonesia and their relationship to sea surface temperature," *International Journal of Climatology: A Journal of the Royal Meteorological Society*, vol. 23, no. 12, pp. 1435-1452, 2003.

[82] M. T. Lee, P. L. Lin, W.Y. Chang, B. K. Seela, and J. Janapati, "Microphysical characteristics and types of precipitation for different seasons over North Taiwan," *Journal of the Meteorological Society of Japan. Ser. II*, vol. 97, no. 4, pp 841-865, 2019.

[83] P. Saha, G. Rakshit, and A. Maitra, "Dependence of Rain Drop Size Distribution Parameters on Atmospheric Instability Over a Tropical Location Near the Land-Sea Boundary," *Radio Sci*, vol. 57, no. 3, Mar. 2022, doi: 10.1029/2021RS007374

[84] V. N. Bringi, V. Chandrasekar, J. Hubbert, E. Gorgucci, W. L. Randeu, and M. Schoenhuber, "Raindrop size distribution in different climatic regimes from disdrometer and dual-polarized radar analysis," *Journal of the atmospheric sciences*, vol. 60, no.2, pp. 354-365, 2003.

[85] R. Ramadhan,"Vertical characteristics of raindrops size distribution over Sumatra region from global precipitation measurement observation," *Emerging Science Journal*, vol. 5, no. 3, pp. 257-268, 2021.

[86] L. Wen, K. Zhao, G. Zhang, M. Xue, B. Zhou, S. Liu, and X. Chen, "Statistical characteristics of raindrop size distributions observed in East China during the Asian summer monsoon season using 2-D video disdrometer and Micro Rain Radar

data," *Journal of Geophysical Research: Atmospheres*, vol. 121, no. 5, pp. 2265-2282, 2016.

[87] L. Wen *et al.*, "Microphysics of Stratiform and Convective Precipitation During Meiyu Season in Eastern China," *Journal of Geophysical Research: Atmospheres*, vol. 125, no. 24, Dec. 2020, doi: 10.1029/2020JD032677.

[88] M. P. A. Ibañez, A. G. Pura, R. A. Sajulga, and S. J. David, "Raindrop Size Distribution (RSD) Characteristics during the Southwest Monsoon Period in Western Luzon, Philippines," *Philippine Journal of Science*, vol. 152, pp. 1-16, 2023.

[89] Marzuki, T. Kozu, T. Shimomai, H. Hashiguchi, W. L. Randeu, and M. Vonnisa, "Raindrop size distributions of convective rain over equatorial Indonesia during the first CPEA campaign," *Atmospheric Research*, vol. 96, no. 4, pp. 645-655, 2010.