

DAFTAR PUSTAKA

- Amri, A., Akhirman, Zaharani, A., Rizki, C., Harianja, L. M., Praweswari, N., Vauzia, Putri, W. N. 2024. Dampak bencana kebakaran hutan terhadap lingkungan dan upaya penanggulangan di Indonesia. *Jurnal Riset Tindakan Indonesia* Vol. 9, No. 2, 2024, pp. 159-166.
- Amri, A., 2020. Pembuatan Sistem Informasi Wilayah Rawan Kebakaran Berbasis Website di Kabupaten Kampar. 3(1), 31–35.
- Anoruo, C.M. 2022. Monsoon-seasonal validation of MODIS aerosol optical depth and characterization using AERONET observation retrieve over Italy, *Environmental Research*, Volume 204, Part B, 2022, 111985, ISSN 0013-9351, <https://doi.org/10.1016/j.envres.2021.111985>
- Cahyono, W. E., Setyawati, W., Hamdi, S., Cholianawati, N., Kombara, P.Y., Sari, W.J., 2022. Observations of aerosol optical properties during tropical forest fires in Indonesia, *Materials Today: Proceedings*, Volume 63, Supplement 1, 2022, Pages S445-S450, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2022.04.113>. (<https://www.sciencedirect.com/science/article/pii/S2214785322022283>)
- Chew, B. N., Campbell, J. R., Salinas, S. V., Welton, E. J., Holben, B. N., and Liew, S. C. 2016. Relationship between aerosol optical depth and particulate matter over Singapore: Effects of aerosol vertical distributions. *Aerosol and air quality research*, 16(11), 2818.
- Cnossen, I., J. Sanz-Forcada, F. Favata, O. Witasse, T. Zegers, and N. F. Arnold. 2007. Habitat of early life: Solar X-ray and UV radiation at Earth's surface 4 – 3.5 billion years ago, *J. Geophys. Res.*, 112, E02008, doi:10.1029/2006JE002784.
- Faisa, I. F., Yunus, F., Harahap, F. 2012. Dampak Asap Kebakaran Hutan pada Pernapasan, Departemen Pulmonologi dan Ilmu Kedokteran Respirasi, Fakultas Kedokteran Universitas Indonesia - RS Persahabatan, Jakarta, Indonesia. CDK-189/ vol. 39 no. 1.
- Fauziah, A., Zuhdi, M., Syarifudin, H. 2023. Analisis Distribusi Asap Dampak Kebakaran Hutan dan Lahan di Provinsi Jambi. *Jurnal Pembangunan Berkelanjutan*. Volume 6 Issue 2. 2023 : 10-25. ISSN : 2622-2310. doi : 10.22437/jpb.v6i2.30262.
- Fujii, Y., Iriana, W., Oda, M., Puriwigati, A., Tohno, S., Lestari, P., Mizohata, A., Huboyo, H.S., 2014. Characteristics of carbonaceous aerosols emitted from peatland fire in Riau, Sumatra, Indonesia, *Atmospheric Environment*.

- Grosvenor, M.J., Ardiyani, V., Wooster, M.J. Gilliot, S., Green, D.C., Lestari, P., Suri, W. 2024. Catastrophic impact of extreme 2019 Indonesian peatland fires on urban air quality and health. *Commun Earth Environ* 5, 649. 2024. <https://doi.org/10.1038/s43247-024-01813-w>
- Hadiprasetya, Y., 2009. Identifikasi Faktor Penyebab Kebakaran Hutan dan Upaya Penanggulangannya di Taman Nasional Gunung Ciremai Jawa Barat. Skripsi Mahasiswa Fakultas Kehutanan IPB. Bogor.
- Handsuh, J., Erbertseder, T., Schaap, M., Baier, F. 2022. Estimating PM_{2.5} surface concentrations from AOD: A combination of SLSTR and MODIS. *Remote Sensing Applications: Society and Environment*. <https://doi.org/10.1016/j.rsase.2022.100716>
- Haryadi, B., Zainuddin, Rosyani. 2019. Partisipasi Masyarakat Dalam Pencegahan dan Pengendalian Kebakaran Lahan Gambut di Hutan Lindung Gambut (HLG) Londerang Provinsi Jambi. *Jurnal Pembangunan Berkelanjutan* eISSN: 2622-2310 (e); 2622-2302 (p), Volume 1. no (1) 2019. DOI: <https://doi.org/10.22437/jpb.v2i1i.5101>
- He, Q., Zhao, X., Lu, J., Zhou, G., Yang, H., Gao, W., Yu, W., Cheng, T. 2015. Impacts of biomass-burning on aerosol properties of a severe haze event over Shanghai, *Particuology*, Volume 20, 2015, Pages 52-60, ISSN 1674-2001, <https://doi.org/10.1016/j.partic.2014.11.004>.
- Hu, L., N. A. Brunsell, A. J. Monaghan, M. Barlage, and O. V. Wilhelmi. 2014. How can we use MODIS land surface temperature to validate long-term urban model simulations?, *J. Geophys. Res. Atmos.*, 119, 3185–3201, doi:10.1002/2013JD021101.
- Hyer, E. J., et al. 2016. The transport of smoke from Indonesian fires to the Straits of Malacca and the South China Sea. *Atmospheric Environment*, 126, 77-86. <https://doi.org/10.1016/j.atmosenv.2015.11.039>.
- J. Ditas, N. Ma, Y. Zhang, D. Assmann, M. Neumaier, H. Riede, E. Karu, J. Williams, D. Scharffe, Q. Wang, J. Saturno, J.P. Schwarz, J.M. Katich, G.R. McMeeking, A. Zahn, M. Hermann, C.A.M. Brenninkmeijer, M.O. Andreae, U. Pöschl, H. Su, and Y. Cheng. 2018. Strong impact of wildfires on the abundance and aging of black carbon in the lowermost stratosphere, *Proc. Natl. Acad. Sci. U.S.A.* 115 (50) E11595-E11603, <https://doi.org/10.1073/pnas.1806868115>.
- Jaenicke, J., Wosten, H., Budiman, A., Siegert, F. 2010. Planning hydrological restoration of peatlands in Indonesia to mitigate CO₂ emissions. *Mitigation Adaptation Strategy Global Change*. 5: 223–239.

- Kaewmesri, P., Uamkasem, B., Koedkurang, K., Chalermpong, P., Sriwilas, P., Tupbamroong, J., Petchprayoon, P. 2024. IOP Conf. Ser.: Earth Environ. Sci. 1412 012004. DOI 10.1088/1755-1315/1412/1/012004
- Kusumaningtyas, S. D. A. 2019. Aerosol Optical Depth (AOD) Over Four Indonesian Cities From The Aeronet Measurement: An Overview. *Jurnal Sains and Teknologi Modifikasi Cuaca*, 20(2), 47-57
- Kusumaningtyas, S. D. A., Tonokura, K., Aldrian, E., Giles, D. M., Holben, B. N., Gunawan, D., Iriana, W. 2022. Aerosols optical and radiative properties in Indonesia based on AERONET version 3. *Atmospheric Environment*, 282, 119174.
- Kusumaningtyas, S. D. A. 2025. Aerosol Optical Depth (AOD) Over Four Indonesian Cities From the AERONET Measurement: an Overview. *Jurnal Sains and Teknologi Modifikasi Cuaca*, 20(2), 47–57. Retrieved from <https://ejournal.brin.go.id/JSTMC/article/view/1223>
- Kwon, H. S., Ryu, M. H., and Carlsten, C. 2020. Ultrafine particles: unique physicochemical properties relevant to health and disease. *Experimental and molecular medicine*, 52(3), 318-328.
- Lestari, E.R.C., Soedarmini, G., Andari, G.S.B., Hartono, D.M. 2010. Hubungan kebakaran hutan dan lahan di Propinsi Riau terhadap kualitas udara dan resiko kesehatan masyarakat di Kota Pekanbaru. <https://lib.ui.ac.id/detail?id=20248483&lokasi=lokal#>
- Mairiadi, N. 2023. Luas Karhutla di Jambi capai 335 hektare. *Antara News*. <https://www.antaranews.com/berita/3749019>.
- Mok, J., Krotkov, N., Arola, A. et al. Impacts of brown carbon from biomass burning on surface UV and ozone photochemistry in the Amazon Basin. *Sci Rep* 6, 36940. 2016. <https://doi.org/10.1038/srep36940>.
- Mairiadi, N. 2023. Luas Karhutla di Jambi capai 335 hektare. *Antara News*. <https://www.antaranews.com/berita/3749019>.
- Mulyana, E., 2019. Bencana Kabut Asap Akibat Kebakaran Hutan Dan Lahan Serta Pengaruhnya Terhadap Kualitas Udara Di Provinsi Riau Februari – Maret 2014. *Jurnal Sains dan Teknologi Indonesia*. 16. 10.29122/jsti.v16i3.3417.
- Mulyana, E. 2025. Penyebaran Polutan Dalam Kasus Kebakaran Hutan dan Lahan di Sumatera Selatan Tahun 2015. *Jurnal Sains and Teknologi Modifikasi Cuaca*, 18(2), 61–67. Retrieved from <https://ejournal.brin.go.id/JSTMC/article/view/1285>

- Nan, N., Yan, Z., Zhang, Y., Chen, R., Qin, G., Sang, N. 2023. Overview of PM2.5 and health outcomes: Focusing on components, sources, and pollutant mixture co-exposure. *Chemosphere*,
- NASA. 2025. Wave Behaviors. https://science.nasa.gov/ems/03_behaviors/.
- Orach, J., Rider, C. F., and Carlsten, C. 2021. Concentration-dependent health effects of air pollution in controlled human exposures. *Environment International*, 150, 106424.
- Pandiangan, P. & Arkundato, A., 2008. Ketidakpastian dan Pengukuran, Jakarta: Universitas Terbuka.
- Orach, J., Rider, C. F., and Carlsten, C. 2021. Concentration-dependent health effects of air pollution in controlled human exposures. *Environment International*, 150, 106424
- Peraturan Pemerintah Nomor 41 Tahun 1999 tentang Pengendalian Pencemaran Udara.
- Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P.14/MENLHK/KUM.1/7/2020 tentang Indeks Standar Pencemar Udara. Volume 323, 138181. ISSN 0045-6535. <https://doi.org/10.1016/j.chemosphere.2023.138181>.
- Peraturan Menteri Negara Lingkungan Hidup No. 12 Tahun 2010 tentang Pelaksanaan Pengendalian Pencemaran Udara di Daerah.
- Prabowo dan Muslim, 2018. *Penyehatan Udara*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Purbowaseso, B. 2004. *Pengendalian Kebakaran Hutan*. PT Rineka Cipta. Jakarta.
- Rein, G., Cleaver, N., Pironi, P., Ashton, C., Torero, J.L. 2008. The severity of smouldering peat fires and damage to the forest soil. *Catena*. 74 : 304–309.
- Saharjo, B.H. (1997). Fire protection and industrial plantation management in the tropic. *Commonwealth Forestry review*. 76(3):201-206.
- Savitri, Citra, dkk. 2021. *Statistik Multivariat Dalam Riset*. Editor: Ahmaddien, Dr. (C) I. CV WIDINA MEDIA UTAMA, 2021.
- Seto, T. H. (2000). Peranan Bahan Semai Higroskopis Dalam Penyemaian Awan. *Jurnal Sains dan Teknologi Modifikasi Cuaca* vol. 1 No. 1, 2000:19-26. UPT Hujan Buatan Badan Pengkajian dan Penerapan Teknologi.
- Si, Y., Liangfu Chen, Xiaozhen Xiong, Shuaiyi Shi, Letu Husi, Kun Cai. 2020. Evaluation of the MISR fine resolution aerosol product using MODIS,

- MISR, and ground observations over China, *Atmospheric Environment*, Volume 223, 2020, 117229, ISSN 1352-2310, <https://doi.org/10.1016/j.atmosenv.2019.117229>.
- Siburian, S. 2020. Pencemaran Udara dan Emisi Gas Rumah Kaca. https://www.google.co.id/books/edition/Pencemaran_Udara_dan_Emisi_Gas_Rumah_Kac/FRsMEAAAQBAJ?hl=idandgbpv=0.
- Sidiq, N. 2024. Polutan PM_{2,5} Ambien Bulanan Di Kota Jambi: Analisis Konsentrasi Dan Korelasinya Dengan Kasus Kebakaran Hutan Dan Lahan Tahun 2023 (Doctoral Dissertation, Universitas Jambi).
- Sumantri. 2007. Pengendalian Kebakaran Lahan dan Hutan. Sebuah Pemikiran, Teori, Hasil Praktek, dan Pengalaman Lapangan. Bogor (ID) : Ditjen PHKA.
- Syaufina, L., D. Satyawan., S. Wahyudi., Y. Setyorini., I. Basuki. 2008. Kebakaran Hutan dan Lahan Di Indonesia. Ed Ke-1. Bayumedia Publishing. ISBN. 978-602-8299-02-2.
- Takriyanti, R, Jehom, W.j., Aziz, A. 2014. Kabut Asap di Kota Jambi Respons Kaum Perempuan Terhadap Degradasi Lingkungan. *Jurnal Antropologi : Isu-Isu Sosial Budaya*. Volume 17 No. 1 (2015). <https://doi.org/10.25077/jantro.v17.n1.p71-85.2015>.
- Targino, A.c., Moreno, F.L., Krecl, P., Cardoso, J.V. 2023. Significant differences in black and brown carbon concentrations at urban and suburban sites. *Heliyon* 9 (2023) e18418. <https://doi.org/10.1016/j.heliyon.2023.e18418>.
- Tim Detik Sumbagsel. 2023. Diambil dari <https://www.detik.com/sumbagsel/berita/d-6959862/dampak-kabut-asap-di-jambi-10-ribu-warga-ispasekolah-diliburkan>.
- Tjasyono. B. 2005, Peran Aerosol dan Larutan Pada Pertumbuhan Tetes Awan. Seminar Hidrologi Banjir dan Kekeringan 7 September 2005.
- Wang, P., Tang, Q., Zhu, Y., Zheng, K., Liang, T., Yu, Q., and He, Y. 2022. Validation and Analysis of MAIAC AOD Aerosol Products in East Asia from 2011 to 2020. *Remote Sensing*, 14(22), 5735. <https://doi.org/10.3390/rs14225735>
- Wang, Y., Yuan, Q., Wang, T. Li, H. Shen and L. Zhang, 2019. Validation of MODIS 1-Km MAIAC Aerosol Products with AERONET in China During 2008-2016," *IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium*, Yokohama, Japan, 2019, pp. 7610-7613, doi: 10.1109/IGARSS.2019.8898248.

- World Health Organization (WHO). 2012. Diambil dari <https://www.who.int/news/item/25-03-2014-7-million-premature-deaths-annually-linked-to-air-pollution>.
- World Health Organization (WHO). 2016. Ambient Air Pollution: A Global Assessment of Exposure and Burden of Disease. Geneva.
- Yokelson R.J., S.P. Urbanski, E.L. Atlas, D.W. Toohey, E.C. Alvarado, J.D. Crounse, P.O. Wennberg, M.E. Fisher, C.E. Wold, T.L. Campos, K. Adachi, P.R. Buseck, W.M. Hao. 2007. Emissions from forest fires near Mexico City. *Atmos. Chem. Phys.*, 7, pp. 5569-5584.
- Yulianti, N., Hayasaka, H. 2013. Recent trends of fire occurrence in Sumatra (Indonesia) and its meteorological aspects. *Environmental Research*, 7, 35-41. <https://doi.org/10.1016/j.envres.2013.04.007>.
- Yulianti, N. 2018. Pengenalan Bencana Kebakaran dan Kabut Asap Lintas Batas (Studi Kasus Eks Proyek Lahan Gambut Sejuta Hektar). IPB Press. https://www.unesco.or.id/publication/shs/Final_Ver_Pengenalan_Karhutla.pdf
- Z., Nurdin, A. Azizah. 2013. Analisis Pencemaran Udara (SO₂), Keluhan Iritasi Tenggorokan dan Keluhan Kesehatan Iritasi Mata Pada Pedagang Makanan di Sekitar Terminal Joyoboyo Surabaya. *The Indonesian Journal of Occupational Safety and Health*, 2(1), 75–81.