

DAFTAR PUSTAKA

- Amnuaylojaroen T., Inkom J., Janta R., Surapipith V. (2020). Long Range Transport of Southeast Asian PM_{2.5} Pollution to Northern Thailand during High Biomass Burning Episodes. *Sustainability*, 12(23).
- BMKG. (2023). 63% Wilayah Sudah Masuk Musim Kemarau, Indonesia Bersiap Hadapi El Nino. <https://www.bmkg.go.id/berita/utama/63-wilayah-sudah-masuk-musim-kemarau-indonesia-bersiap-hadapi-el-nino>, diakses pada tanggal 26 Juni 2025 pukul 15.00 WIB.
- Chen, T., He, J., Lu, X., She, J., dan Guan, Z. (2016). Spatial and temporal variations of PM_{2.5} and its relation to meteorological factors in the urban area of Nanjing, China. *International journal of environmental research and public health*, 13(9), 921.
- Chen, J., Li, Z., Lv, M., Wang, Y., Wang, W., Zhang, Y., Wang, H., Yan, X., Sun, Y., and Cribb, M. (2019). Aerosol hygroscopic growth, contributing factors, and impact on haze events in a severely polluted region in northern China. *Atmos. Chem. Phys.*, vol. 19, no. 2, pp. 1327–1342.
- Cipoli, Y. A., Furst, L., Feliciano, M., and Alves, C. (2023). Respiratory deposition dose of PM_{2.5} and PM₁₀ during night and day periods at an urban environment. *Air Quality, Atmosphere & Health*.16, 2269–2283.
- Dahari, N., Latif, M. T., Muda, K., and Hussein, N. (2020). Influence of Meteorological Variables on Suburban Atmospheric PM_{2.5} in the Southern Region of Peninsular Malaysia. *Aerosol and Air Quality Research*. 20, 14–25.
- Direktorat Pengendalian Pencemaran Udara. (2024). *Laporan Kinerja Direktorat Pengendalian Pencemaran Udara Tahun 2023*. Jakarta: Direktorat Pengendalian Pencemaran Udara.
- Direktorat Pengendalian Pencemaran Udara. (2022). *Laporan Kinerja Direktorat Pengendalian Pencemaran Udara Tahun 2022*. Jakarta: Direktorat Pengendalian Pencemaran Udara.

- Draxler, R. R., & Hess, G. D. (1998). *Description of the HYSPLIT_4 Modeling System*. Maryland: NOAA Technical Memorandum ERL ARL-224.
- Draxler, R. R., & Rolph, G. D. (2012). Evaluation of the NOAA HYSPLIT model using air dispersion data from the Fukushima Dai-ichi nuclear power plant accident. *Journal of Geophysical Research: Atmospheres*, 117(D5).
- Fan, C., Zang, L., Qin, B., Wang, S., Hu, W., Zhang, C. (2004). Estimation on dynamic release of phosphorus from wind – induced suspended particulate matter in Lake Taihu. *Science in China Ser. D Earth Sciences*. Vol.47, No.8, 710 – 719.
- Fitz, D. R. (2002). Review of BAM, TEOM, and light scattering continuous PM monitors. *Journal of the Air & Waste Management Association*, 52(7), 723-741.
- Godish, T., Davis, W. T., dan Fu, J. S. (2015). *Air quality 5th edition*. Florida: CRC Press.
- Gori, T., Hoek, G., & Boogaard, H. (2015). Real-time air quality monitoring using beta attenuation monitors in urban areas: A case study. *Environmental Monitoring and Assessment*, 187(12), 1-11.
- Gusnita, D., dan Cholianawati, N. (2019). Pollutant Concentration and Trajectory Patterns of PM_{2.5} including Meteo Factors in Jakarta City. *JKPK (Jurnal Kimia dan Pendidikan Kimia)*, 4, 152.
- Hamdi, S., Sumaryati, Indrawati, A., Radiana, A., Rizal, S., Pratama, R., Rahmatia, F., Matsumi, Y., Shibata, T. (2023). Characteristics of PM_{2.5} Concentration at Bandung and Palembang from December 2019 to November 2021 Measured by Low-Cost Sensor. *Proceedings of the International Conference on Radioscience, Equatorial Atmospheric Science and Environment and Humanosphere Science*, 290, 119-127.
- Hammer, M. S., Van Donkelaar, A., Li, C., Lyapustin, A., Sayer, A. M., Hsu, N. C., Levy, R. C., Garay, M. J., Kalashnikova, O. V., Kahn, R. A., Brauer, M., Apte,

- J. S., Henze, D. K., Zhang, L., Zhang, Q., Ford, B., Pierce, J. R., & Martin, R. V. (2020). Global Estimates and Long-Term Trends of Fine Particulate Matter Concentrations (1998-2018). *Environmental Science and Technology*, 54(13), 7879–7890.
- Handika, R. A., Phairuang, W., Amin, M., Yudison, A. P., Anggraini, F. J., Hata, M., & Furuuchi, M. (2023). Investigation of the Exposure of Schoolchildren to Ultrafine Particles (PM_{0.1}) during the COVID-19 Pandemic in a Medium-Sized City in Indonesia. *International Journal of Environmental Research and Public Health*, 20(4), 2947.
- Handika, R. A., Amin, M., Hata, M., & Masami, F. (2024). The influence of COVID-19 restrictions on urban air pollution levels in Jambi, Indonesia: insights into ultrafine particles and carbon components. *Air Quality, Atmosphere & Health*.
- Harrison, R. M. (2001). *Pollution: Causes, Effects and Control 5th Edition*. Cambridge: The Royal Society of Chemistry.
- Hasan, K. (2024). Kualitas udara Indonesia: Memburuk pada tahun 2023 tanpa intervensi efektif dan terpicu El Niño. Bagaimana pada tahun 2024?. *Centre for Research on Energy and Clean Air*.
- Hutauruk, R. C. H., Rahmanto, E., dan Pancawati, M. C. (2020). Variasi Musiman dan Harian PM_{2.5} di Jakarta Periode 2016 – 2019. *Buletin GAW Bariri (BGB)*, Volume 1, Nomor 1, 20 – 28.
- Imas, A. P., Gusdini, N., dan Maharani, M. D. D. (2020). Analisis Kualitas Udara dengan Indeks Standar Pencemar Udara (ISPU) dan Sebaran Kadar Polutannya di Provinsi DKI Jakarta. *Jurnal SEOI*, 2(2).
- Irawadi, R., dan Razif, M. (2023). Keterkaitan Curah Hujan Terhadap PM_{2.5} dan PM₁₀ di Pos Pengamatan Kualitas Udara Cibereum, Kabupaten Bogor, Jawa Barat. *Envirotek: Jurnal Ilmiah Teknik Lingkungan*, 15(1): 22-26.

- IQAir. (2023). World's most polluted countries & regions. <https://www.iqair.com/sg/world-most-polluted-countries>, diakses pada tanggal 10 Januari 2025 pukul 21.00 WIB.
- Kementrian Kehutanan Republik Indonesia. (2025). Rekapitulasi Luas Kebakaran Hutan dan Lahan (Ha) per Provinsi di Indonesia. <https://sipongi.menlhk.go.id/indikasi-luas-kebakaran>, diakses pada tanggal 28 Juni 2025 pukul 20.00 WIB.
- Kalaiarasan, G., Balakrishnan, R. M., Sethunath, N. A., and Manoharan, S. (2018). Source apportionment studies on particulate matter (PM₁₀ and PM_{2.5}) in ambient air of urban Mangalore, India. *Journal of Environmental Management*. Volume 217, Pages 815-824.
- Karaca, F., Anil, I., & Alagha, O. (2009). Long-range potential source contributions of episodic aerosol events to PM₁₀ profile of a megacity. *Atmospheric Environment*, 43(36), 5713-5722.
- Landrigan, P. J., Fuller, R., Hu, H., Caravanos, J., Cropper, M. L., Hanrahan, D., Sandilya, K., Chiles, T. C., Kumar, P., & Suk, W. A. (2018). Pollution and global health – An agenda for prevention. *Environmental Health Perspectives*, 126(8), 3–8.
- Le, T., Shukla, K. K., Chen, Y. T., Chang, S. C., Lin, T., Li, Z., Pui, D. Y., & Tsai, C. (2020). On the concentration differences between PM_{2.5} FEM monitors and FRM samplers. *Atmospheric Environment*, 222.
- Li, H., Guo, B., Han, M., Tian, M., and Zhang, J. (2015). Particulate Matters Pollution Characteristic and the Correlation between PM (PM_{2.5}, PM₁₀) and Meteorological Factors during the Summer in Shijiazhuang. *Journal of Environmental Protection*, 6, 457-463.
- Liu, B. S., Wu, J. H., Zhang, J. Y., Wang, L., Yang, J. M., Liang, D. N., Dai, Q. L., Bi, X. H., Feng, Y. C., Zhang, Y. F. and Zhang, Q. X. (2017). Characterization and source apportionment of PM_{2.5} based on error estimation from EPA PMF5.0 model at a medium city in China. *Environmental Pollution*, 222, 10–22.

- Marazioti, E., Sarotis, L., Marazioti, C., and Marazioti, P. (2008). Statistical analysis of inhalable (PM₁₀) and fine particles (PM_{2.5}) concentrations in urban region of Patras, Greece. *Global NEST Journal*, 10 (2): 123- 131.
- Mattjik, A. A., dan Sumertajaya, M. (2002). *Perancangan Percobaan dengan Aplikasi SAS dan Minitab Jilid 1 Edisi 2*. Bogor: IPB Press.
- Met One Instruments. (2020). *BAM 1020 Particulate Monitor Operation Manual Rev C*. Washington: Met One Instruments Inc
- Melinda, S., dan Nuryanto. (2023). Identifikasi Sumber Particulate Matter (PM_{2.5}) di Sorong Berdasarkan READY Hysplit Backward Trajectory. *Buletin GAW Bariri*, 4, 11-20.
- Mukhtar, R. E., Hamonangan P. H., Wahyudi, Santoso, M., and Kurniawati, S. (2013). Komponen Kimia PM_{2.5} Dan PM₁₀ Di Udara Ambien Di Serpong – Tangerang. *J. Ecolab*, vol. 7, no. 1, pp. 1–7.
- Muliane, U., dan Lestari, P. (2011). Pemantauan kualitas udara ambien daerah padat lalu lintas dan komersial DKI Jakarta: analisis konsentrasi PM_{2,5} dan black carbon. *Jurnal Teknik Lingkungan*, 18(2), 178-188.
- Mustaqiman, A. N. (2025). Analysis of PM Dispersion and Source Identification in Jl. Soekarno-Hatta, Pekanbaru, using HYSPLIT. *Jurnal Serambi Engineering*, 10(3), 14549-14554.
- Nguyen, M. V., Park, G. H., and Lee, B. K. (2017). Correlation analysis of size-resolved airborne particulate matter with classified meteorological conditions. *Meteorol. Atmos. Phys.* vol. 129, no. 1, pp. 35–46.
- Nguyen, T. N. T., Le, H. A., Mac, T. M. T., Nguyen, T. T. N., Pham, V. H., and Bui, Q. H. (2018). Current Status of PM_{2.5} Pollution and its Mitigation in Vietnam. *Global Environmental Research*. 22, 73-83.
- Nuryanto, Gultom, H. M., dan Melinda, S. (2021). Pengaruh Angin Permukaan dan Kelembapan Udara Terhadap *Suspended Particulate Matter* (SPM) di Sorong Periode Januari – Juli 2019. *Buletin GAW Bariri (BGB)*. Volume 2, Nomor 2, 71 – 78

- Peraturan Badan Meteorologi Klimatologi dan Geofisika. (2019). Peraturan Kepala Badan Meteorologi Klimatologi dan Geofisika No. 7 Tahun 2019 Tentang Penyediaan Dan Penyebaran Prakiraan Musim.
- Peraturan Badan Meteorologi Klimatologi dan Geofisika. (2020). Peraturan Kepala Badan Meteorologi Klimatologi dan Geofisika Nomor 2 Tahun 2020 tentang Standar Kompetensi Kerja Khusus Bidang Meteorologi dan Klimatologi.
- Peraturan Daerah Kota Jambi. (2009). Rencana Pembangunan Jangka Panjang Daerah (RPJPD) Kota Jambi 2005 – 2025. Lembaran Daerah Kota Jambi Tahun 2009.
- Pemerintah Republik Indonesia. (2021). Peraturan Pemerintah Republik Indonesia No. 22 Tahun 2021 Tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan. Lembaran Negara RI Tahun 2021.
- Pope, C. A., & Dockery, D. W. (2006). Health effects of fine particulate air pollution: Lines that connect. *Journal of the Air & Waste Management Association*, 56(6), 709-742.
- Qonita, I. R., Santikayasa, I. P., dan Turyanti, A. (2025). Analisis Pengaruh Faktor Meteorologi terhadap Fluktuasi Konsentrasi PM_{2.5} di Kota Pontianak. *POSITRON*, 15(1), 24-33.
- Reid, C. E., Brauer, M., Johnston, F. H., Jerrett, M., Balme, J. R., & Elliott, C. T. (2013). Critical review of health impacts of wildfire smoke exposure. *Environmental Health Perspectives*, 124(9), 1334-1343.
- Rendana, M., Bahrin, D., Dahlan, M. H., Fitria, S., Wardhani, P. K. (2024). Daytime and night-time patterns in PM_{2.5} concentrations over Palembang City of Indonesia using MERRA-2 reanalysis data. *International Journal of Environmental Studies*, 81, 1684-1697.
- Saputra, D., dan Okaem, T. T. (2019). Identifikasi Penyebaran Sumber Kabut Asap ke Wilayah Sumatera Barat bulan Agustus 2019. *Megasains*, 10(2), 38-44.
- Saxena, P., & Naik, V. (2018). *Air pollution: Sources, impacts and controls*. Boston: CAB International.

- Schmidt-Ott, A., Ristovski, Z. D. (2003). *Measurement of airborne particles. In: Indoor Environment: Airborne Particles and Settled Dust*. Weinheim: WILEY-VCH Verlag GmbH & Co. KGaA
- Seinfeld, J. H., & Pandis, S. N. (2016). *Atmospheric Chemistry and Physics: From Air Pollution to Climate Change (3rd ed.)*. New Jersey: John Wiley & Sons Inc.
- Shukla, K., & Aggarwal, S. G. (2022). A Technical Overview on Beta-Attenuation Method for the Monitoring of Particulate Matter in Ambient Air. *Aerosol and Air Quality Research*, 22(12).
- Stein, A. F., Draxler, R. R., Rolph, G. D., Stunder, B. J. B., & Cohen, M. D. (2015). NOAA's HYSPLIT Atmospheric Transport and Dispersion Modeling System. *Bulletin of the American Meteorological Society*, 96(12), 2059-2077.
- Sugiyono. (2019). *Metodelogi Penelitian Kuantitatif dan Kualitatif Dan R&D*. Bandung: ALFABETA.
- Sutopo, Y., dan Slamet, A. (2017). *Statistika Inferensial*. Yogyakarta: ANDI.
- Sya'bani, A., Chandra, I., Majid, L. I., Vaicdan, F., Barus, R. A. A., Abdurrachman, A., Salam, R. A. (2020). Pemantauan Konsentrasi PM_{2.5} dan CO₂ Berbasis Low-Cost Sensor secara Real-Time di Cekungan Udara Bandung Raya. *Jurnal Teknologi Lingkungan*, Vol. 21, No 1, 009-015.
- Tresnasari, S., Budiyo, dan Suhartono. (2018). Gambaran Pola Pencemar Udara Di Wilayah Sekitar Bundaran Hotel Indonesia Tahun 2017. *Jurnal Kesehatan Masyarakat*, Volume 6, Nomor 6.
- Turyanti, A., dan Santikayasa, I. P. (2007). Analisa Pola Unsur Meteorologi dan Konsentrasi Polutan di Udara Ambien (Studi Kasus Kota Jakarta dan Bandung). *Jurnal Agromet Indonesia*, 20 (2): 25-37.
- Turyanti, A. (2011). Analisis Pengaruh Faktor Meteorologi Terhadap Konsentrasi PM₁₀ Menggunakan Regresi Linier Berganda (Studi kasus: Daerah Dago Pakar dan Cisaranten, Bandung). *J. Agromet*. 25 (1): 29-36.

- Undang-Undang Republik Indonesia Nomor 31 Tahun 2009 Tentang Meteorologi, Klimatologi, Dan Geofisika.
- United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. <https://sdgs.un.org/2030agenda>.
- Utama, Y. W., dan Permadi, D. A. (2021). Distribusi Temporal Konsentrasi PM₁₀ Menggunakan Alat Particle Plus EM-10000. *ECOLAB*, Vol. 15. No.1: 45-52.
- Wang, J., and Ogawa, S. (2015). Effects of Meteorological Conditions on PM_{2.5} Concentrations in Nagasaki, Japan. *Int. J. Environ. Res. Public Health*, 12, 9089-9101.
- WHO. (2021). WHO Global Air Quality Guidelines: Particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. Geneva: World Health Organization.
- Yadav, R., Sahu, L. K., Jaaffrey, S. N. A., and Beig, G. (2014) Temporal Variation of Particulate Matter (PM) and Potential Sources at an Urban Site of Udaipur in Western India. *Aerosol and Air Quality Research*, 14, 1613-1629.
- Zereini, F., and Wiseman, C. L. S. (2011). *Urban Airborne Particulate Matter: Origin, Chemistry, Fate and Health Impacts*. Berlin: Springer Science & Business Media.
- Zhang, Z. Y., Wong, M. S., Lee, K. H. (2015). Estimation of potential source regions of PM_{2.5} in Beijing using backward trajectories. *Atmospheric Pollution Research*, 6, 173-177.
- Zhao, X., Zhang, X., Xu, X., Xu, J., Meng, W., Pu, W. (2009). Seasonal and diurnal variations of ambient PM_{2.5} concentration in urban and rural environments in Beijing. *Atmospheric Environment*, 43, 2893-2900.