Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Adewale, A.J., Sonibare, J.A., Oke, D.O., Adesina, O.A., Seriki, O., Lawal, A.R., Oyeleke, E.O., 2025. Dispersion Modelling of Air Pollutants from Industrial Point Sources. The Open Chemical Engineering Journal 19. https://doi.org/10.2174/0118741231426522250925065122

Agus Pamuji Wibowo, J., Rusmayadi, G., Ghofur, A., Magister Pengeloaan Sumberdaya Alam dan Lingkungan, P., 2023. Analysis of Potential Emission Loads at the Co-Firing Steam Power Plant and the Absorption Capability of Reforestation Plants in the Work Area on CO2 Emissions of PT Makmur Sejahtera Wisesa, Tabalong Regency, South Kalimantan Province 19.

Ajayi, O.O., Ngene, B.U., Ogbiye, S.A., 2021. Plume Model: A Simple Approach to Air Quality Control. IOP Conf. Ser. Mater. Sci. Eng. 1036, 012017. https://doi.org/10.1088/1757-899x/1036/1/012017

Aldrian, E., Dwi Susanto, R., 2003. Identification of three dominant rainfall regions within Indonesia and their relationship to sea surface temperature. International Journal of Climatology 23, 1435–1452. https://doi.org/10.1002/joc.950

Aprilia, A., 2023. ANALISIS SEBARAN EMISI SO2 DAN NO2 DARI CEROBONG BOILER INDUSTRI PENGOLAHAN KELAPA SAWIT DENGAN MODEL AERMOD DI PT PERKEBUNAN NUSANTARA VI UNIT USAHA PINANG TINGGI KABUPATEN MUARO JAMBI.

Badan Meteorologi Klimatologi dan Geofisika, 2025. Pemutakhiran Prediksi Musim Hujan Versi November 2025.

Briggs, 1975. Plume rise predictions. Lectures on Air Pollution and Environmental Im- pact Analyses.

Burakowski, E., Tawfik, A., Ouimette, A., Lepine, L., Novick, K., Ollinger, S., Zarzycki, C., Bonan, G., 2018. The role of surface roughness, albedo, and Bowen ratio on ecosystem energy balance in the Eastern United States. Agric. For. Meteorol. 249, 367–376. https://doi.org/10.1016/j.agrformet.2017.11.030

Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Candra, A., Nurul Faizah, A., Sulaiman, H., 2025. Literasi Digital dan Pelatihan Ms. Office Excel. JIPMAS : Jurnal Visi Pengabdian Kepada Masyarakat 06.

Chan, L., Deng, Q.H., Liu, W.W., Huang, B.L., Shi, L.Z., 2012. Characteristics of ventilation coefficient and its impact on urban air pollution. Journal of Central South University of Technology (English Edition) 19, 615–622. https://doi.org/10.1007/s11771-012-1047-9

Changotra, R., Rajput, H., Dhir, A., 2020. Comparative Study of Air Pollution Modeling Techniques from Point Source(s) of Thermal Power Plant. Environmental Modeling and Assessment 25, 531–543. https://doi.org/10.1007/s10666-020-09704-y

Charloth, V., 2020. Analisa Sebaran Emisi Partikulat dari Pemakaian Batu Bara PLTU Suralaya.

Direktorat Jenderal Ketenagalistrikan, 2024. Statistik Ketenagalistrikan 2024.

Direktorat Jenderal Penataan Ruang, 2008. Peraturan Menteri Pekerjaan Umum No. 05/PRT/M/2008 tentang Pedoman Penyediaan dan Pemanfaatan Ruang Terbuka Hijau di Kawasan Perkotaan.

ECMWF, 2026. ERA5: Data Documentation [WWW Document]. https://confluence.ecmwf.int/spaces/CKB/pages/76414402/ERA5+data+documentation.

Galung, M., Samoud, A., 2025. TUGAS AKHIR Analisis Dispersi Ozon (O3) Udara Ambien di Kawasan Budaya, Kota Yogyakarta Menggunakan AERMOD.

Hadi, S., Siregar, N., Suryati, I.', Setyowati, L., Utami, R., Hanie, M.Z., Lubis, A., Zulkarnain, R., 2025. Analisis Dispersi Polutan SO2 dan NOx dengan Model AERMOD (Studi Kasus: PLTU Pangkalan Susu PT. PLN Indonesia Power PGU) X.

Haqqoni, H., 2018. KEMAMPUAN RUANG TERBUKA DALAM MENYERAP EMISI KENDARAAN BERMOTOR DI KAWASAN PENDIDIKAN TINGGI KOTA MALANG.

Haslina, S., Shafie, M., 2025. AERMOD in Air Pollution Modeling for Complex Environment: A Comprehensive Review of Global and Regional Applications, Technological Integrations, Health Risk Assessments, and Policy Implications. https://doi.org/10.47772/IJRISS

Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Hersbach, H., Bell, B., Berrisford, P., Hirahara, S., Horányi, A., Muñoz-Sabater, J., Nicolas, J., Peubey, C., Radu, R., Schepers, D., Simmons, A., Soci, C., Abdalla, S., Abellan, X., Balsamo, G., Bechtold, P., Biavati, G., Bidlot, J., Bonavita, M., De Chiara, G., Dahlgren, P., Dee, D., Diamantakis, M., Dragani, R., Flemming, J., Forbes, R., Fuentes, M., Geer, A., Haimberger, L., Healy, S., Hogan, R.J., Hólm, E., Janisková, M., Keeley, S., Laloyaux, P., Lopez, P., Lupu, C., Radnoti, G., de Rosnay, P., Rozum, I., Vamborg, F., Villaume, S., Thépaut, J.N., 2020. The ERA5 global reanalysis. Quarterly Journal of the Royal Meteorological Society 146, 1999–2049. https://doi.org/10.1002/qj.3803

Holmes, N.S., Morawska, L., 2006. A review of dispersion modelling and its application to the dispersion of particles: An overview of different dispersion models available. Atmos. Environ. 40, 5902–5928. https://doi.org/10.1016/j.atmosenv.2006.06.003

K Tony Suryo Utomo, M.S., 2017. Simulasi Persebaran Gas Buang Dan Partikulat Dari Cerobong Asap Pada Pembangkit Listrik Tenaga Uap (Pltu) Di Jepara Menggunakan Metode Computational Fluid Dynamics (CFD) Dengan Variasi Kecepatan Udara, Jurnal Teknik Mesin S-1.

Kurniawan, S., Huboyo, H.S., Samadikun, B.P., 2021. Prediction of coal dust dispersion to total suspended particulate (TSP) concentration in ambient air quality, case study: PLTU Tanjung Jati B, dalam: IOP Conference Series: Earth and Environmental Science. IOP Publishing Ltd. https://doi.org/10.1088/1755-1315/623/1/012035

Kusuma, M., 2024. Pemodelan Polusi Udara Akibat Pengalihan Lalu Lintas Dari Pembangunan Fly Over Aloha Sidoarjo. Jurnal Ilmu Lingkungan 22, 923–932. https://doi.org/10.14710/jil.22.4.923-932

Kusumawati, R.D., Hasanah, A.U., Si, S., 2025. TUGAS AKHIR Analisis Dispersi Nitrogen Dioksida (NO2) Udara Ambien di Kawasan Budaya, Kota Yogyakarta Menggunakan Pemodelan AERMOD.

Mahlangeni, N., Kapwata, T., Webster, C., Howlett-Downing, C., Wright, C.Y., 2025. Exposure to air pollution from coal-fired power plants and impacts on human health: a scoping review. Rev. Environ. Health. https://doi.org/10.1515/reveh-2024-0173

Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Ma'rufatin, A., Yananto, A., Pandoe, W., 2024. Karakteristik Angin Wilayah Pesisir Utara Pulau Jawa Berdasarkan Variabilitas Monsun 25, 20.

McMullen, R.W., 1975. The Change of Concentration Standard Deviations with Distance. J. Air Pollut. Control Assoc. 25, 1057–1058. https://doi.org/10.1080/00022470.1975.10470179

Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia, 2019. Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor 15 Tahun 2019 tentang Baku Mutu Emisi Pembangkit Listrik Tenaga Termal.

Miftahuddin, G.N., Hasanah, A.U., Si, S., 2025. Analisis Dispersi Particulate Matter 10 (PM10) di Kawasan Perkotaan Yogyakarta menggunakan Pemodelan AERMOD.

Mokh Reza Anshari, L., Safaat Adiansyah, J., Kunci, K., 2025. Permodelan Dispersi Udara dan Regulasi Untuk Mengevaluasi Dampak Emisi PLTD Ampenan 5.

Nowak, D.J., Crane, D.E., Stevens, J.C., 2006. Air pollution removal by urban trees and shrubs in the United States. Urban For. Urban Green. 4, 115–123. https://doi.org/10.1016/j.ufug.2006.01.007

Permen LHK Nomor 14, 2020.

Petrov, A., Georgieva, E., Hristova, E., 2024. Sensitivity Analysis of Modelled Air Pollutant Distribution around Buildings under Different Meteorological Conditions. Atmosphere (Basel). 15. https://doi.org/10.3390/atmos15060638

Prakash, B.M., Majumder, S., Swamy, M., Mahesh, S., 2017. Assimilative Capacity and Air Quality Index Studies of the Atmosphere in Hebbal Industrial Area, Mysuru. International Journal of Innovative Research in Science 6. https://doi.org/10.15680/IJIRSET.2017.0610155

Prasetya, A., 2025. PEMODELAN DISPERSI EMISI SO2, NH3, DAN TSP DARI PT X MENGGUNAKAN AERMOD.

Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Putranto, A., 2017. Analisis Dispersi H2S dan NH3 dari Emisi Pembangkit Listrik Tenaga Panas Bumi dan Dampaknya terhadap Kualitas Udara Sekitar (Studi Kasus: PT Pertamina Geothermal Energy Area Kamojang).

Putri, I.A., Iswanto, N., Wahyuni, L., Silviani, 2026. Pemodelan Sebaran SO2 Menggunakan Software AERMOD Di Sekitar Titik Nol Yogyakarta. Environmental Insight Journal 2, 30–46. https://doi.org/10.37412/eij.v2i1.343

Qonita, I.R., Santikayasa, I.P., Turyanti, A., 2025. Analisis Pengaruh Faktor Meteorologi terhadap Fluktuasi $\mathbf{PM2.5}$ di Kota Pontianak (Periode Tahun: 2022-2023). POSITRON 15, 24–33. https://doi.org/10.26418/positron.v15i1.91566

Republik Indonesia, 2021. Peraturan Pemerintah Nomor 22 Tahun 2021 tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup.

Republik Indonesia, 2007. Undang-Undang Republik Indonesia Nomor 26 Tahun 2007 Tentang Penataan Ruang.

Retter, J., Owen, R.C., Leske, A., Snyder, M., Sargent, R., Heist, D., 2025. Revisiting the Convective Like Boundary Layer Assumption in the Urban Option of AERMOD. Atmosphere (Basel). 16. https://doi.org/10.3390/atmos16121342

Sarwono, E., Adnan, F., Rafi, M.M., 2021. MUARA JAWA, KABUPATEN KUTAI KARTANEGARA, Jurnal Teknologi Lingkungan UNMUL.

Sasmita, A., Andrio, D., Nopita, R., 2021. DISPERSI SO2 DAN NO2 DARI PEMBANGKIT LISTRIK TENAGA UAP TEMBILAHAN, RIAU.

Seinfeld, J., Pandis, S., 2006. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change.

Snoun, H., Krichen, M., Chérif, H., 2023. A comprehensive review of Gaussian atmospheric dispersion models: current usage and future perspectives. EuroMediterr. J. Environ. Integr. https://doi.org/10.1007/s41207-023-00354-6

Soci, C., Hersbach, H., Simmons, A., Poli, P., Bell, B., Berrisford, P., Horányi, A., Muñoz-Sabater, J., Nicolas, J., Radu, R., Schepers, D., Villaume, S., Haimberger, L., Woollen, J., Buontempo,

UNIVERSITAS
GADJAH MADA
**Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025**
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

C., Thépaut, J.N., 2024. The ERA5 global reanalysis. Quarterly Journal of the Royal Meteorological Society 150, 4014–4048. https://doi.org/10.1002/qj.4803

Stein, A.F., Hicks, B.B., Myles, L.T., Simon, M., 2023. NOAA's Air Resources Laboratory—75 Years of Research Linking Earth and Sky: A Historical Perspective. Bull. Am. Meteorol. Soc. 104, E2155–E2170. https://doi.org/10.1175/BAMS-D-23-0006.1

Su, Z., Lin, L., Xu, Z., Chen, Y., Yang, L., Hu, H., Lin, Z., Wei, S., Luo, S., 2023. Modeling the Effects of Drivers on PM2.5 in the Yangtze River Delta with Geographically Weighted Random Forest. Remote Sens. (Basel). 15. https://doi.org/10.3390/rs15153826

Susanto, A., Purwanto, P., Putro, E.K., Yochu, W.E., Amrina, U., Falakh, F., 2020. Pemantauan Emisi dengan Continuous Emission Monitoring System (CEMS) dalam Pemanfaatan Minyak Pelumas Bekas Sebagai Subtitusi Bahan Bakar pada Produksi Kapur Tohor. Jurnal Ilmu Lingkungan 18, 392–400. https://doi.org/10.14710/jil.18.2.392-400

Thepanondh, S., Jitbantoung, N., 2014. Assimilative Capacity Analysis of Air Pollutants over the Dawai Industrial Complex. International Journal of Environmental Science and Development 161–164. https://doi.org/10.7763/ijesd.2014.v5.470

Tiwari, A., Kumar, P., Baldauf, R., Zhang, K.M., Pilla, F., Di Sabatino, S., Brattich, E., Pulvirenti, B., 2019. Considerations for evaluating green infrastructure impacts in microscale and macroscale air pollution dispersion models. Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2019.03.350

Turner, B., 1970. Workbook of Atmospheric Dispersion Estimates.

U.S. Environmental Protection Agency, 2026. User's Guide for the AMS/EPA Regulatory Model (AERMOD).

U.S. Environmental Protection Agency, 2022. Technical Support Document (TSD): 2022 Regulatory Modeling Platform: Air Quality Modeling Version 1.

Vaishnav, V., Sharma, A., 2026. Real-time Monitoring of Air Pollutants using Advanced Sensor Technologies: A Study of Toxic Gases (SO_2, NO_x, PM2.5 and VOCs) on Kali Sindh Thermal

Pemodelan Dispersi Emisi SO2, NOx, dan TSP Cerobong Suatu PLTU di Wilayah Pesisir Jawa Barat pada
Musim Hujan dan Musim Kemarau Tahun 2024/2025
Shafa As Syifa Listyoputri, Nurul Alvia Istiqomah, S.T., M.Sc., Ph.D
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Power Plant (KATPP) at Jhalawar, Rajasthan, India. Asian Journal of Environment & Ecology 25, 61–76. https://doi.org/10.9734/ajee/2026/v25i2882

Venter, Z.S., Hassani, A., Stange, E., Schneider, P., Castell, N., 2024a. Reassessing the role of urban green space in air pollution control. Proc. Natl. Acad. Sci. U. S. A. 121. https://doi.org/10.1073/pnas.2306200121

Wiharja, K., 2024. Pemodelan Dispersi Polutan di Udara pada Pembangkit Listrik Tenaga Uap dengan Bahan Bakar Batubara.

World Health Organization, 2021. WHO Global Air Quality Guidelines: Particulate Matter (PM2.5 and PM10), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide.

World Meteorological Organization, 2024. State of the Global Climate 2024. orld Meteorological Organization.