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Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Adriani, K. N. (2019). Estimasi dampak dari perubahan tutupan lahan terhadap jasa lingkungan pada kawasan resapan air di Kecamatan Lembang, Kabupaten Bandung Barat. Program Studi Perencanaan Wilayah dan Kota, Sekolah Arsitektur, Perencanaan dan Pengembangan Kebijakan, Institut Teknologi Bandung.

Akbari, H., Damon Matthews, H., & Seto, D. (2012). The long-term effect of increasing the albedo of urban areas. *Environmental Research Letters*, *7*(2), 024004. https://doi.org/10.1088/1748-9326/7/2/024004

Allan, A., Soltani, A., Abdi, M. H., & Zarei, M. (2022). Driving Forces behind Land Use and Land Cover Change: A Systematic and Bibliometric Review. *Land*, *11*(8), 1222. https://doi.org/10.3390/land11081222

Anselin, L. (1995). Local Indicators of Spatial Association—LISA. *Geographical Analysis*, *27*(2), 93–115. https://doi.org/10.1111/j.1538-4632.1995.tb00338.x

Anselin, L. (2005). *Exploring Spatial Data with GeoDaTM : A Workbook*.

Aram, F., Solgi, E., Higueras García, E., Mosavi, A., & R. Várkonyi-Kóczy, A. (2019). The Cooling Effect of Large-Scale Urban Parks on Surrounding Area Thermal Comfort. *Energies*, *12*(20), 3904. https://doi.org/10.3390/en12203904

Aziz, F. N. (2017). Studi jejaring dalam pembentukan kawasan inti teknopolis Gedebage. Jurnal Perencanaan Wilayah dan Kota SAPPK Institut Teknologi Bandung.

Azizah, R. N. (2025). Pemodelan simulasi dampak pembangunan Jogja Outer Ringroad terhadap perubahan guna lahan dan jasa ekosistem Kabupaten Sleman sampai dengan tahun 2049 (Skripsi, Universitas Gadjah Mada).

Badan Informasi Geospasial. (2014). *SNI 7645-2:2014 – Klasifikasi Penutup Lahan Bagian 2: Skala Besar (1:10.000–1:50.000)*. Cibinong: Badan Informasi Geospasial.

Badan Informasi Geospasial. (2024). *Batas administrasi kelurahan dan kecamatan Indonesia*. Geoportal Indonesia. https://tanahair.indonesia.go.id

Badan Perencanaan Pembangunan Daerah Kota Bandung. (2024). *Rencana Detail Tata Ruang (RDTR) Kota Bandung 2024–2044*. BAPPEDA Kota Bandung.

Badan Pusat Statistik. (2025). *Kecamatan Bojongsoang dalam angka 2025*. BPS Kabupaten Bandung.

Badan Pusat Statistik. (2025). *Kecamatan Cileunyi dalam angka 2025*. BPS Kabupaten Bandung.

Badan Pusat Statistik. (2025). *Kecamatan Gedebage dalam angka 2025*. BPS Kota Bandung.

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
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Baldwin, R. E., & Martin, P. (2004). Chapter 60 Agglomeration and regional growth. In *Handbook of Regional and Urban Economics* (Vol. 4, pp. 2671–2711). Elsevier. https://doi.org/10.1016/S1574-0080(04)80017-8

Bandung Bergerak. (2023, Maret 14). Fenomena urbanisasi ke Kota Bandung karena pembangunan di Jawa Barat tidak merata. BandungBergerak.id. https://bandungbergerak.id/article/detail/15482/fenomena-urbanisasi-ke-kota-bandung-karena-pembangunan-di-jawa-barat-tidak-merata

Bandung Bergerak. (2024, Maret 22). Gedebage bukan teknopolis #3: Mengorbankan pertanian demi mimpi membangun kota pintar. BandungBergerak.id. https://bandungbergerak.id/article/detail/1597164/gedebage-bukan-teknopolis-3-mengorbankan-pertanian-demi-mimpi-membangun-kota-pintar

Barbier, E. B. (1994). Valuing Environmental Functions: Tropical Wetlands. *Land Economics*, *70*(2), 155. https://doi.org/10.2307/3146319

Benyamine, M., Fezzioui, N., Alkhafaji, M. A., Kaid, N., Benti, N. E., & Menni, Y. (2024). Assessing indoor air quality and health risks of air conditioner usage in residential buildings under hot and arid climatic conditions: Insights from field studies and questionnaire analysis. *International Journal of Low-Carbon Technologies*, *19*, 2397–2408. https://doi.org/10.1093/ijlct/ctae191

Bo, W., Xiao, Y., Sun, J., Cao, Y., & Chen, L. (2024). Comparative Analysis of Two Methods for Valuing Local Cooling Effect of Forests in Inner Mongolia Plateau. *Remote Sensing*, *16*(23), 4424. https://doi.org/10.3390/rs16234424

Boyd, J., & Banzhaf, S. (2007). What are ecosystem services? The need for standardized environmental accounting units. *Ecological Economics*, *63*(2–3), 616–626. https://doi.org/10.1016/j.ecolecon.2007.01.002

Cai, W., Shu, C., & Zhu, Y. (2023). Using Ecosystem Services to Inform Sustainable Waterfront Area Management: A Case Study in the Yangtze River Delta Ecological Green Integration Demonstration Zone. *Land*, *12*(7), 1351. https://doi.org/10.3390/land12071351

Castells, M., & Hall, P. (1994). *Technopoles of the world: The making of twenty-first-century industrial complexes*. Routledge.

Cervero, R., & Murakami, J. (2009). Rail and Property Development in Hong Kong: Experiences and Extensions. *Urban Studies*, *46*(10), 2019–2043. https://doi.org/10.1177/0042098009339431

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Chen, S. (2019). Ecosystem services and monetary benefits of three public green spaces in Guangzhou, China for better planning of urban green infrastructure (Master's thesis). Wageningen University & Research. Supervised by Dr. Rudolf S. de Groot.

Clark University. (2024). TerrSet: Advancing geospatial technology for sustainable development. Retrieved October 11, 2025, from https://www.clarku.edu/centers/geospatial-analytics/uncategorized/terrset-advancing-geospatial-technology-for-sustainable-development/

Colombi, A., Pepe, M., Rampini, A., & De Michele, C. (2007). Estimation of daily mean air temperature from MODIS LST in Alpine areas. Dalam Z. Bochenek (Ed.), New developments and challenges in remote sensing. Millpress.

Colsaet, A., Laurans, Y., & Levrel, H. (2018). What drives land take and urban land expansion? A systematic review. *Land Use Policy*, *79*, 339–349. https://doi.org/10.1016/j.landusepol.2018.08.017

Costanza, R., d'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R. V., Paruelo, J., Raskin, R. G., Sutton, P., & Van Den Belt, M. (1997). The value of the world's ecosystem services and natural capital. *Nature*, *387*(6630), 253–260. https://doi.org/10.1038/387253a0

Croci, E., Lucchitta, B., & Penati, T. (2021). Valuing Ecosystem Services at the Urban Level: A Critical Review. *Sustainability*, *13*(3), 1129. https://doi.org/10.3390/su13031129

Damayanti, R. (2010). Pertumbuhan Fisik Kota karena Pengaruh Industrialisasi , studi kasus Kota Ahmedabad - India. Humanisme, Arsitektur dan Perencanaan

Davy Sukamta & Partners. (2017). *Davy Sukamta & Partners*. http://davysukamta.com/

Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review*. London: HM Treasury.

Deslatte, A., Szmigiel-Rawska, K., Tavares, A. F., Ślawska, J., Karsznia, I., & Łukomska, J. (2022). Land use institutions and social-ecological systems: A spatial analysis of local landscape changes in Poland. *Land Use Policy*, *114*, 105937. https://doi.org/10.1016/j.landusepol.2021.105937

Dinas Lingkungan Hidup Provinsi Jawa Barat. (2023). *Digital Elevation Model (DEM) Provinsi Jawa Barat*. Bandung: DLH Provinsi Jawa Barat.

Dinas Perindustrian dan Perdagangan Provinsi Jawa Barat. (2023). *Peta kawasan industri eksisting Provinsi Jawa Barat*. Bandung: Disperindag Provinsi Jawa Barat.

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Dinas Tanaman Pangan dan Hortikultura Provinsi Jawa Barat. (2023). *Peta jenis tanah Provinsi Jawa Barat*. Bandung: Dinas Tanaman Pangan dan Hortikultura.

Eastman, J. R., Labs, C., & University, C. (2020). *TerrSet Tutorial*.

Eastman, J. R., & Toledano, J. (2018). A Short Presentation of CA_MARKOV. In M. T. Camacho Olmedo, M. Paegelow, J.-F. Mas, & F. Escobar (Eds), *Geomatic Approaches for Modeling Land Change Scenarios* (pp. 481–484). Springer International Publishing. https://doi.org/10.1007/978-3-319-60801-3_33

Elkington, J. (1998). Partnerships from *cannibals with forks: The triple bottom line of 21st‐century business*. *Environmental Quality Management*, *8*(1), 37–51. https://doi.org/10.1002/tqem.3310080106

Eltamaly, A. M., & Mohamed, M. A. (2018). Optimal Sizing and Designing of Hybrid Renewable Energy Systems in Smart Grid Applications. In *Advances in Renewable Energies and Power Technologies* (pp. 231–313). Elsevier. https://doi.org/10.1016/B978-0-12-813185-5.00011-5

Ergen, M. (2025). Spatıotemporal analysıs of urban development and land USE in sakarya provınce, Türkiye: Implıcatıons for future urban growth modelıng. *GeoJournal*, *90*(3), 112. https://doi.org/10.1007/s10708-025-11363-z

Farber, S., Costanza, R., Childers, D. L., Erickson, J., Gross, K., Grove, M., Hopkinson, C. S., Kahn, J., Pincetl, S., Troy, A., Warren, P., & Wilson, M. (2006). Linking Ecology and Economics for Ecosystem Management. *BioScience*, *56*(2), 121. https://doi.org/10.1641/0006-3568(2006)056%255B0121:LEAEFE%255D2.0.CO;2

Fisher, B., Turner, R. K., & Morling, P. (2009). Defining and classifying ecosystem services for decision making. *Ecological Economics*, *68*(3), 643–653. https://doi.org/10.1016/j.ecolecon.2008.09.014

Foley, J. A., DeFries, R., Asner, G. P., Barford, C., Bonan, G., Carpenter, S. R., Chapin, F. S., Coe, M. T., Daily, G. C., Gibbs, H. K., Helkowski, J. H., Holloway, T., Howard, E. A., Kucharik, C. J., Monfreda, C., Patz, J. A., Prentice, I. C., Ramankutty, N., & Snyder, P. K. (2005). Global Consequences of Land Use. *Science*, *309*(5734), 570–574. https://doi.org/10.1126/science.1111772

Fred Phillips, Fred Phillips, Phillips, F., & Phillips, F. M. (2006). *Social Culture and High-Tech Economic Development: The Technopolis Columns*.

Freeman Iii, A. M., Herriges, J. A., & Kling, C. L. (2014). *The Measurement of Environmental and Resource Values* (0 edn). Routledge. https://doi.org/10.4324/9781315780917

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Ghosh, P., Mukhopadhyay, A., Chanda, A., Mondal, P., Akhand, A., Mukherjee, S., Nayak, S. K., Ghosh, S., Mitra, D., Ghosh, T., & Hazra, S. (2017). Application of Cellular automata and Markov-chain model in geospatial environmental modeling- A review. *Remote Sensing Applications: Society and Environment*, *5*, 64–77. https://doi.org/10.1016/j.rsase.2017.01.005

Goldsworthy, M. (2017). Towards a Residential Air-Conditioner Usage Model for Australia. *Energies*, *10*(9), 1256. https://doi.org/10.3390/en10091256

Gómez-Baggethun, E., De Groot, R., Lomas, P. L., & Montes, C. (2010). The history of ecosystem services in economic theory and practice: From early notions to markets and payment schemes. *Ecological Economics*, *69*(6), 1209–1218. https://doi.org/10.1016/j.ecolecon.2009.11.007

Grimm, N. B., Faeth, S. H., Golubiewski, N. E., Redman, C. L., Wu, J., Bai, X., & Briggs, J. M. (2008). Global Change and the Ecology of Cities. *Science*, *319*(5864), 756–760. https://doi.org/10.1126/science.1150195

Gunawardena, K. R., Wells, M. J., & Kershaw, T. (2017). Utilising green and bluespace to mitigate urban heat island intensity. *Science of The Total Environment*, *584–585*, 1040–1055. https://doi.org/10.1016/j.scitotenv.2017.01.158

Hailu, T., Assefa, E., & Zeleke, T. (2024). Urban expansion induced land use changes and its effect on ecosystem services in Addis Ababa, Ethiopia. *Frontiers in Environmental Science*, *12*, 1454556. https://doi.org/10.3389/fenvs.2024.1454556

Hasmadi, M., Pakhriazad, H. Z., & Shahrin, M. F. (2009). Evaluating supervised and unsupervised techniques for land cover mapping using remote sensing data. Geografia: Malaysian Journal of Society and Space, 5(1), 1-10.

Helian, L., Shilong, W., Guanglei, J., & Ling, Z. (2011). Changes in land use and ecosystem service values in Jinan, China. *Energy Procedia*, *5*, 1109–1115. https://doi.org/10.1016/j.egypro.2011.03.195

Horizon Air Solutions. (2024). *How long do air conditioning units last: Typical lifespan and factors affecting durability*. https://www.horizonairsolutions.com/post/how-long-do-air-conditioning-units-last-typical-lifespan-and-factors-affecting-durabilit

Iltanen, S. (2012). Cellular Automata in Urban Spatial Modelling. In A. J. Heppenstall, A. T. Crooks, L. M. See, & M. Batty (Eds), *Agent-Based Models of Geographical Systems* (pp. 69–84). Springer Netherlands. https://doi.org/10.1007/978-90-481-8927-4_4

Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa
Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Jabbar, A. T. K. (2025). *Analisis potensi risiko land subsidence terhadap rencana tata ruang wilayah Kota Bandung: Studi kasus Kecamatan Gedebage* (Tesis). Institut Teknologi Bandung.

John Elkington. (1998). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. https://doi.org/10.1002/tqem.3310080106

Jurnal Ekonomi dan Statistik Indonesia. (2023). Analisis Struktur dan Dinamika Rumah Tangga di Indonesia. Jurnal Ekonomi dan Statistik Indonesia, 1(1), 1–10.

Kamila, N. (2019). Dampak Proses Pembangunan Bandung Teknopolis Terhadap Lingkungan Ekologi Manusia: Studi Kasus Di Kelurahan Cimincrang.

Koch, E. W., Barbier, E. B., Silliman, B. R., Reed, D. J., Perillo, G. M., Hacker, S. D., Granek, E. F., Primavera, J. H., Muthiga, N., Polasky, S., Halpern, B. S., Kennedy, C. J., Kappel, C. V., & Wolanski, E. (2009). Non‐linearity in ecosystem services: Temporal and spatial variability in coastal protection. *Frontiers in Ecology and the Environment*, *7*(1), 29–37. https://doi.org/10.1890/080126

Koetse, M. J., Brouwer, R., & van Beukering, P. (2022). Cost-based methods for valuing ecosystem services. In A. Water Academy (Ed.), Handbook on ecosystem valuation and management (pp. 123–145). Asia Water Academy. https://asiawateracademy.com/wp-content/uploads/2022/08/CUP-Chapter-6-Koetse-Brouwer-van-Beukering.pdf

Kornatowska, B., & Sienkiewicz, J. (2018). Forest ecosystem services – assessment methods. *Folia Forestalia Polonica*, *60*(4), 248–260. https://doi.org/10.2478/ffp-2018-0026

Kumar, D. S. (n.d.). *Understanding Different Issues of Unit of Analysis in a Business Research*.

Kunapo, J., Fletcher, T. D., Ladson, A. R., Cunningham, L., & Burns, M. J. (2018). A spatially explicit framework for climate adaptation. *Urban Water Journal*, *15*(2), 159–166. https://doi.org/10.1080/1573062X.2018.1424216

Kusuma Dewi, C., & Wulansari, H. (2024). Agricultural Land Protection for Food Security: Policy Integration of Protected Rice Field Map in Spatial Planning in Demak Regency. *Marcapada: Jurnal Kebijakan Pertanahan*, *3*(2), 81–94. https://doi.org/10.31292/mj.v3i2.52

Lambin, E. F., Turner, B. L., Geist, H. J., Agbola, S. B., Angelsen, A., Bruce, J. W., Coomes, O. T., Dirzo, R., Fischer, G., Folke, C., George, P. S., Homewood, K.,

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
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Imbernon, J., Leemans, R., Li, X., Moran, E. F., Mortimore, M., Ramakrishnan, P. S., Richards, J. F.,. Xu, J. (2001). The causes of land-use and land-cover change: Moving beyond the myths. *Global Environmental Change*, *11*(4), 261–269. https://doi.org/10.1016/S0959-3780(01)00007-3

Levin, N., & Duke, Y. (2012). High spatial resolution night-time light images for demographic and socio-economic studies. *Remote Sensing of Environment*, *119*, 1–10. https://doi.org/10.1016/j.rse.2011.12.005

Liang, X., Guan, Q., Clarke, K. C., Chen, G., Guo, S., & Yao, Y. (2021). Mixed-cell cellular automata: A new approach for simulating the spatio-temporal dynamics of mixed land use structures. *Landscape and Urban Planning*, *205*, 103960. https://doi.org/10.1016/j.landurbplan.2020.103960

Livesley, S. J., McPherson, E. G., & Calfapietra, C. (2016). The Urban Forest and Ecosystem Services: Impacts on Urban Water, Heat, and Pollution Cycles at the Tree, Street, and City Scale. *Journal of Environmental Quality*, *45*(1), 119–124. https://doi.org/10.2134/jeq2015.11.0567

Lonsdorf, E. V., Nootenboom, C., Janke, B., & Horgan, B. P. (2021). Assessing urban ecosystem services provided by green infrastructure: Golf courses in the Minneapolis-St. Paul metro area. *Landscape and Urban Planning*, *208*, 104022. https://doi.org/10.1016/j.landurbplan.2020.104022

McHugh, M. L. (2012a). Interrater reliability: The kappa statistic. *Biochemia Medica*, 276–282. https://doi.org/10.11613/BM.2012.031

McHugh, M. L. (2012b). Interrater reliability: The kappa statistic. *Biochemia Medica*, 276–282. https://doi.org/10.11613/BM.2012.031

Medina-Fernández, S. L., Núñez, J. M., Barrera-Alarcón, I., & Perez-DeLaMora, Daniel. A. (2023). Surface Urban Heat Island and Thermal Profiles Using Digital Image Analysis of Cities in the El Bajío Industrial Corridor, Mexico, in 2020. *Earth*, *4*(1), 93–150. https://doi.org/10.3390/earth4010007

Menard, S. (2002). *Longitudinal Research*. SAGE Publications, Inc. https://doi.org/10.4135/9781412984867

Mengist, W., & Soromessa, T. (2019). Assessment of forest ecosystem service research trends and methodological approaches at global level: A meta-analysis. *Environmental Systems Research*, *8*(1), 22. https://doi.org/10.1186/s40068-019-0150-4

UNIVERSITAS GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Millennium Ecosystem Assessment (Program) (Ed.). (2005). *Ecosystems and human well-being: Synthesis*. Island Press.

Mills, G. (2008). Luke Howard and *The Climate of London*. *Weather*, *63*(6), 153–157. https://doi.org/10.1002/wea.195

Moussa, Y. K. H., Zaeen, A. A., Jasim, H. A., Abd-Almajied, M. I., Khudhair, E. H., & Al-Maiyaly, B. K. H. (2025). Measuring Urban Heat Island Indicators from Surface Temperature Using Spatial Techniques. *Journal of Physics: Conference Series*, *3028*(1), 012051. https://doi.org/10.1088/1742-6596/3028/1/012051

Naibaho, W., Sianturi, T., Situmorang, R., & Purba, A. (2024). Analisa Performance dan Daya Listrik Sistem Air Conditioning Ruangan Kuliah UHKBPNP Kapasitas 1 PK. Jurnal Ilmiah Global Education, 5(3), 2110–2115. https://doi.org/10.55681/jige.v5i3.3329

National Research Council (NRC). (2005). Valuing Ecosystem Services: Toward Better Environmental Decision-Making. Washington, D.C.: The National Academies Press. https://doi.org/10.17226/11139

National Oceanic and Atmospheric Administration. (2025). *VIIRS night-time light data (2015–2025)*. NOAA Earth Observation Group. https://eogdata.mines.edu

Natural Capital Project. (2023). *InVEST user guide: Urban Cooling Model*. Stanford University, University of Minnesota, The Nature Conservancy, and World Wildlife Fund.

O'Connor, M., & Spash, C. L. (Eds). (1999). *Valuation and the environment: Theory, method, and practice*. E. Elgar Pub.

Oke, T. R. (1982). The energetic basis of the urban heat island. *Quarterly Journal of the Royal Meteorological Society*, *108*(455), 1–24. https://doi.org/10.1002/qj.49710845502

OpenStreetMap Contributors. (2025). *OpenStreetMap geospatial data (roads, railways, stations, industrial areas)*. https://www.openstreetmap.org

Pacione, M. (2009). *Urban Geography: A Global Perspective* (1st edn). Routledge. https://doi.org/10.4324/9780203881927

Pemerintah Kota Bandung. (2011). *Rencana Tata Ruang Wilayah (RTRW) Kota Bandung Tahun 2022–2042*. Bandung: Pemerintah Kota Bandung.

Pemerintah Kota Bandung. (2024). *Rencana Detail Tata Ruang (RDTR) Kota Bandung Tahun 2024–2044*. Bandung: Pemerintah Kota Bandung.

UNIVERSITAS
GADJAH MADA
**Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa
Ekosistem Regulasi Iklim**
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Perman, R. (1999.). (20). *Natural resource and environmental economics* (3. ed., [Nachdr.]). Pearson Addison Wesley.

Perroux, F. (1950). Economic space: Theory and applications. *The Quarterly Journal of Economics*, 64(1), 89–104.

Perusahaan Listrik Negara. (2025). *Tarif tenaga listrik (TTL) PT PLN (Persero) tahun 2025*. Jakarta: PT PLN (Persero).

Phelan, P. E., Kaloush, K., Miner, M., Golden, J., Phelan, B., Silva, H., & Taylor, R. A. (2015). Urban Heat Island: Mechanisms, Implications, and Possible Remedies. *Annual Review of Environment and Resources*, *40*(1), 285–307. https://doi.org/10.1146/annurev-environ-102014-021155

Phillips, F. (2014). Toward a Sustainable Technopolis. In D.-S. Oh & F. Phillips (Eds), *Technopolis* (pp. 169–183). Springer London. https://doi.org/10.1007/978-1-4471-5508-9_9

Pickvance, C. G. (1986). Comparative urban analysis and assumptions about causality. *International Journal of Urban and Regional Research*, *10*(2), 162–184. https://doi.org/10.1111/j.1468-2427.1986.tb00010.x

Programme des Nations Unies pour les établissements humains (Ed.). (2011). *Cities and climate change: Global report on human settlements, 2011*. UN-Habitat Earthscan.

PT Bank Central Asia Tbk. (2025). *RumahSaya BCA*. https://rumahsaya.bca.co.id/

Rahman, Md. M., & Hasan, J. (2024). Evaluating the Impact of Green Spaces on Urban Heat Reduction in Rajshahi, Bangladesh Using the InVEST Model. *Land*, *13*(8), 1284. https://doi.org/10.3390/land13081284

Rachmania, N., & Urufi, Z. (2022). Pengaruh perubahan penggunaan lahan terhadap suhu perkotaan di Kota Bandung. Dalam Prosiding Seminar FTSP Series (hlm. 681–692). Institut Teknologi Nasional (ITENAS). Tersedia: https://eproceeding.itenas.ac.id/index.php/ftsp/article/download/860/729

Rani, M. S., & Pratiwi, W. D. (2021). *In Land Change Modelling: Design Cognition and Machine Learning:* ARTEPOLIS 8 - the 8th Biannual International Conference (ARTEPOLIS 2020), Bandung, Indonesia. https://doi.org/10.2991/assehr.k.211126.005

Reilly, M. K., O'Mara, M. P., & Seto, K. C. (2009). From Bangalore to the Bay Area: Comparing transportation and activity accessibility as drivers of urban growth. *Landscape and Urban Planning*, *92*(1), 24–33. https://doi.org/10.1016/j.landurbplan.2009.02.001

Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa
Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Rizki. (2025, 24 September). Dampak ekspansi perkotaan akibat pengembangan Kawasan Teknopolis Gedebage, Bandung terhadap UHI dan rekomendasi lokasi mitigasi berbasis NbS. MAPID. https://mapid.co.id/blog/dampak-ekspansi-perkotaan-akibat-pengembangan-kawasan-teknopolis-gedebage-bandung-terhadap-uhi-dan-rekomendasi-lokasi--mitigasi-berbasis-nbs-

Roberts, M. (2019). *Time to act: Realizing Indonesia's urban potential* (F. Gil Sander, M. Roberts, & S. Tiwari, Eds). World Bank. https://doi.org/10.1596/978-1-4648-1389-4

Sang, L., Zhang, C., Yang, J., Zhu, D., & Yun, W. (2011). Simulation of land use spatial pattern of towns and villages based on CA–Markov model. *Mathematical and Computer Modelling*, *54*(3–4), 938–943. https://doi.org/10.1016/j.mcm.2010.11.019

Santamouris, M. (2015). Analyzing the heat island magnitude and characteristics in one hundred Asian and Australian cities and regions. *Science of The Total Environment*, *512–513*, 582–598. https://doi.org/10.1016/j.scitotenv.2015.01.060

Sasky, P., Sobirin, S., & Wibowo, A. (2017). Pengaruh perubahan penggunaan tanah terhadap suhu permukaan daratan Metropolitan Bandung Raya tahun 2000–2016. Jurnal Ilmiah Ruang, 8(3), 137–148.

Schatz, J., & Kucharik, C. J. (2014). Seasonality of the Urban Heat Island Effect in Madison, Wisconsin. *Journal of Applied Meteorology and Climatology*, *53*(10), 2371–2386. https://doi.org/10.1175/JAMC-D-14-0107.1

Scott, A. J. (with American Council of Learned Societies). (1993). *Technopolis: High-technology industry and regional development in southern California*. University of California Press.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (Seventh edition). John Wiley & Sons.

Setyowati, D. L. (2008). Iklim Mikro dan Kebutuhan Ruang Terbuka Hijau di Kota Semarang (The Micro Climate and The Need of Green Open Space for The City of Semarang). J. MANUSIA DAN LINGKUNGAN, Vol. 15, No.3, 125-140.

Sharp, R., Douglass, J., Wolny, S., Arkema, K. K., Bernhardt, J., Bierbower, W., Chaumont, N., Denu, D., Fisher, D. M., Glowinski, K., Griffin, R., Guannel, G., Guerry, A. D., Johnson, J., Hamel, P., Kennedy, C., Kim, C. K., Lacayo, M., Lonsdorf, E., Mandle, L., Rogers, L., Silver, J., Toft, J., Verutes, G. M., Vogl, A. L., Wood, S., & Wyatt, K. (2020). InVEST 3.8.7 User's Guide. The Natural Capital Project, Stanford University.

UNIVERSITAS GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Shopee. (2025). *Gree AC 1 PK tipe GWC-09N1A Deluxe Standard*. Marketplace Shopee. https://shopee.co.id

Skelhorn, C., Lindley, S., & Levermore, G. (2014). The impact of vegetation types on air and surface temperatures in a temperate city: A fine scale assessment in Manchester, UK. *Landscape and Urban Planning*, *121*, 129–140. https://doi.org/10.1016/j.landurbplan.2013.09.012

Smilor, R. W., Gibson, D. V., & Kozmetsky, G. (1989). Creating the technopolis: High-technology development in Austin, Texas. *Journal of Business Venturing*, *4*(1), 49–67. https://doi.org/10.1016/0883-9026(89)90033-5

Stewart, I. D., & Oke, T. R. (2012). Local Climate Zones for Urban Temperature Studies. *Bulletin of the American Meteorological Society*, *93*(12), 1879–1900. https://doi.org/10.1175/BAMS-D-11-00019.1

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Tosun, J., & Howlett, M. (2021). Managing slow onset events related to climate change: The role of public bureaucracy. *Current Opinion in Environmental Sustainability*, *50*, 43–53. https://doi.org/10.1016/j.cosust.2021.02.003

Turner, B. L., Jordan, M., Turner, B. L., & Clark, W. C. (Eds). (1997). *The earth as transformed by human action: Global and regional changes in the biosphere over the past 300 years ; [based on papers presented at a symposium held at Clark University, Worcester, Mass. on Oct. 25 - 30, 1987]* (Reprint). Cambridge University Press [u.a.].

Turner, B.L., Skole, D., Sanderson, S., Fischer, G., Fresco, L., & Leemans, R. (1995). Land-Use and Land-Cover Change (LUCC): Science/Research Plan. IGBP Report No. 35/HDP Report No. 7. Stockholm: Royal Swedish Academy of Sciences.

Trabucco, A., & Zomer, R. J. (2019). *Global Aridity Index and Potential Evapotranspiration (ET0) Climate Database v2* [Dataset]. Figshare. https://doi.org/10.6084/m9.figshare.7504448

United States Environmental Protection Agency. (2023). *Heat island effect*. https://www.epa.gov/heatislands/what-are-heat-islands

United States Geological Survey. (2010). *Landsat 7 Thematic Mapper (TM) imagery*. USGS Earth Explorer. https://earthexplorer.usgs.gov

United States Geological Survey. (2015–2025). *Landsat 8 Operational Land Imager/Thermal Infrared Sensor (OLI/TIRS) imagery*. USGS Earth Explorer. https://earthexplorer.usgs.gov

Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa
Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Valuing Ecosystem Services: Toward Better Environmental Decision-Making (p. 11139). (2004). National Academies Press. https://doi.org/10.17226/11139

Verburg, P. H., Schot, P. P., Dijst, M. J., & Veldkamp, A. (2004). Land use change modelling: Current practice and research priorities. *GeoJournal*, *61*(4), 309–324. https://doi.org/10.1007/s10708-004-4946-y

Voogt, J. A. (2002). *Urban heat island: Causes and consequences of global environmental change* (pp. 660–666). John Wiley & Sons.

Vujovic, S., Haddad, B., Karaky, H., Sebaibi, N., & Boutouil, M. (2021). Urban Heat Island: Causes, Consequences, and Mitigation Measures with Emphasis on Reflective and Permeable Pavements. *CivilEng*, *2*(2), 459–484. https://doi.org/10.3390/civileng2020026

Wallace, K. J. (2007). Classification of ecosystem services: Problems and solutions. *Biological Conservation*, *139*(3–4), 235–246. https://doi.org/10.1016/j.biocon.2007.07.015

Wang, W., Li, X., Li, C., & Gan, D. (2024). Opposing Impacts of Greenspace Fragmentation on Land Surface Temperature in Urban and Surrounding Rural Areas: A Case Study in Changsha, China. *Remote Sensing*, *16*(19), 3609. https://doi.org/10.3390/rs16193609

White, R., & Engelen, G. (1993). Cellular Automata and Fractal Urban Form: A Cellular Modelling Approach to the Evolution of Urban Land-Use Patterns. *Environment and Planning A: Economy and Space*, *25*(8), 1175–1199. https://doi.org/10.1068/a251175

Whitham, C. E. L., Shi, K., & Riordan, P. (2015). Ecosystem Service Valuation Assessments for Protected Area Management: A Case Study Comparing Methods Using Different Land Cover Classification and Valuation Approaches. *PLOS ONE*, *10*(6), e0129748. https://doi.org/10.1371/journal.pone.0129748

Widayani, P., Salsabila, H. N., & Andriantari, A. (2023a). Dampak Perubahan Penutup dan Penggunaan Lahan Terhadap Nilai Jasa Ekosistem di Kabupaten Sleman. *Majalah Geografi Indonesia*, *37*(2), 104. https://doi.org/10.22146/mgi.78192

Widayani, P., Salsabila, H. N., & Andriantari, A. (2023b). Dampak Perubahan Penutup dan Penggunaan Lahan Terhadap Nilai Jasa Ekosistem di Kabupaten Sleman. *Majalah Geografi Indonesia*, *37*(2), 104. https://doi.org/10.22146/mgi.78192

Willis, K. G., & Corkindale, J. T. (Eds). (1995). *Environmental valuation: New perspectives*. CAB International.

UNIVERSITAS
GADJAH MADA
Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa Ekosistem Regulasi Iklim
Anggita Noviana Rizki, Pembimbing : Sri Tuntung Pandangwati, S.T., MUP., Ph.D.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Winpenny, J. T. (1993). *Values for the environment: A guide to economic appraisal* (2nd impr). HMSO.

Wiyanont, T., Chompuchan, C., & Taesombat, W. (2020). Land use forecasting in Huai Phak subbasin, Phetchaburi province using the CA-Markov model. In The 13th International and 21st National Conference of the Thai Society of Agricultural Engineering 2020 (pp. 250–257). Thai Society of Agricultural Engineering.

World Bank. (2024). Indonesia economic prospects. Washington, DC: World Bank.

Yang, L., & Shi1, L. (2023). Spatial-temporal Changes of Land Use/Cover and Its Impact on Evapotranspiration in Wuwei City. *Frontiers in Business, Economics and Management*, *9*(2), 45–48. https://doi.org/10.54097/fbem.v9i2.8995

Yang, X., Zhao, L., Bruse, M., & Meng, Q. (2013). Evaluation of a microclimate model for predicting the thermal behavior of different ground surfaces. *Building and Environment*, *60*, 93–104. https://doi.org/10.1016/j.buildenv.2012.11.008

Yunanto, M. A., & Susetyo, C. (2019). Prediksi Perubahan Penggunaan Lahan Akibat Pembangunan Gerbang TOL Krian dan Driyorejo di Kecamatan Driyorejo, Kabupaten Gresik. *Jurnal Teknik ITS*, *7*(2), 223–229. https://doi.org/10.12962/j23373539.v7i2.33475

Zardo, L., Geneletti, D., Pérez-Soba, M., & Van Eupen, M. (2017). Estimating the cooling capacity of green infrastructures to support urban planning. *Ecosystem Services*, *26*, 225–235. https://doi.org/10.1016/j.ecoser.2017.06.016

Zawadzka, J. E., Harris, J. A., & Corstanje, R. (2021). Assessment of heat mitigation capacity of urban greenspaces with the use of InVEST urban cooling model, verified with day-time land surface temperature data. *Landscape and Urban Planning*, *214*, 104163. https://doi.org/10.1016/j.landurbplan.2021.104163

Zhuang, J., Liang, Z., Lin, T., & De Guzman, F. (2007). Theory and practice in the choice of social discount rate for cost–benefit analysis: A survey. Manila: Asian Development Bank.

Zhang, D., Wang, X., Qu, L., Li, S., Lin, Y., Yao, R., Zhou, X., & Li, J. (2020). Land use/cover predictions incorporating ecological security for the Yangtze River Delta region, China. *Ecological Indicators*, *119*, 106841. https://doi.org/10.1016/j.ecolind.2020.106841

Zhang, M., Chen, E., Zhang, C., Liu, C., & Li, J. (2024). Multi-Scenario Simulation of Land Use Change and Ecosystem Service Value Based on the Markov–FLUS Model

UNIVERSITAS
GADJAH MADA
**Evaluasi Dampak Pembangunan Kawasan Teknopolis Gedebage, Bandung terhadap Urban Heat Island dan Jasa
Ekosistem Regulasi Iklim**
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

in Ezhou City, China. *Sustainability*, *16*(14), 6237. https://doi.org/10.3390/su16146237

Zhang, Y., Wang, Y., Ding, N., & Yang, X. (2022). Spatial Pattern Impact of Impervious Surface Density on Urban Heat Island Effect: A Case Study in Xuzhou, China. *Land*, *11*(12), 2135. https://doi.org/10.3390/land11122135

Zhou, Y., Smith, S. J., Zhao, K., Imhoff, M., Thomson, A., Bond-Lamberty, B., Asrar, G. R., Zhang, X., He, C., & Elvidge, C. D. (2015). A global map of urban extent from nightlights. *Environmental Research Letters*, *10*(5), 054011. https://doi.org/10.1088/1748-9326/10/5/054011

Zulfikar, A. (2026). Harga servis AC terbaru 2026: Panduan lengkap untuk pemilik rumah. 99.co Indonesia. https://www.99.co/id/panduan/daftar-harga-servis-ac-terbaru-tahun-2022-jangan-tunggu-sampai-rusak/