UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Abbaspour, K. C., Rouholahnejad, E., Vaghefi, S., Srinivasan, R., Yang, H., & Kløve, B. (2015). A continental-scale hydrology and water quality model for Europe: Calibration and uncertainty of a high-resolution large-scale SWAT model. *Journal of Hydrology*, *524*, 733–752. https://doi.org/10.1016/j.jhydrol.2015.03.027

Abbaspour, K. C., Vaghefi, S. A., Yang, H., & Srinivasan, R. (2019). Global soil, landuse, evapotranspiration, historical and future weather databases for SWAT Applications. *Scientific Data*, *6*(1), 263. https://doi.org/10.1038/s41597-019-0282-4

Abeysingha, N. S., Ray, R. L., & Tarkegn, T. G. (2025). Future hydro-climate extremes in the cypress creek watershed in Texas under different CMIP6 scenarios. *Sustainable Water Resources Management*, *11*(5), 107. https://doi.org/10.1007/s40899-025-01285-6

Absar, S. M., & Preston, B. L. (2015). Extending the Shared Socioeconomic Pathways for sub-national impacts, adaptation, and vulnerability studies. *Global Environmental Change*, *33*, 83–96. https://doi.org/10.1016/j.gloenvcha.2015.04.004

Aditya, F., Gusmayanti, E., & Sudrajat, J. (2021). Rainfall trend analysis using Mann-Kendall and Sen's slope estimator test in West Kalimantan. *IOP Conference Series: Earth and Environmental Science*, *893*(1), 012006. https://doi.org/10.1088/1755-1315/893/1/012006

Alawi, S. A., & Özkul, S. (2023). Evaluation of land use/land cover datasets in hydrological modelling using the SWAT model. *H2Open Journal*, *6*(1), 63–74. https://doi.org/10.2166/h2oj.2023.062

Arifjaya, N. M., Kusmana, C., Abdulah, K., Prasetyo, L. B., & Setiawan, B. I. (2011). *Application of Tank Model for Predicting Water Balance and Flow Discharge Components of Cisadane Upper Catchment*.

Balany, F., Ng, A. W., Muttil, N., Muthukumaran, S., & Wong, M. S. (2020). Green Infrastructure as an Urban Heat Island Mitigation Strategy—A Review. *Water*, *12*(12), 3577. https://doi.org/10.3390/w12123577

Barbosa, A. E., Fernandes, J. N., & David, L. M. (2012). Key issues for sustainable urban stormwater management. *Water Research*, *46*(20), 6787–6798. https://doi.org/10.1016/j.watres.2012.05.029

Birkinshaw, S. J., Guerreiro, S. B., Nicholson, A., Liang, Q., Quinn, P., Zhang, L., He, B., Yin, J., & Fowler, H. J. (2017). Climate change impacts on Yangtze River discharge at the Three Gorges Dam. *Hydrology and Earth System Sciences*, *21*(4), 1911–1927. https://doi.org/10.5194/hess-21-1911-2017

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Budianto, M. B., Yasa, I. W., Setiawan, A., & Hartana, H. (2023). Pengaruh Sistem Drainase Berwawasan Lingkungan terhadap Debit Limpasan pada Daerah Penyangga Kota Mataram: The Effect of an Environmentally Drainage System on Runoff Discharge in the Buffer Area of Mataram City. *JURNAL SAINS TEKNOLOGI & LINGKUNGAN*, *9*(3), 582–591. https://doi.org/10.29303/jstl.v9i3.557

Byun, K., Chiu, C.-M., & Hamlet, A. F. (2019). Effects of 21st century climate change on seasonal flow regimes and hydrologic extremes over the Midwest and Great Lakes region of the US. *Science of The Total Environment*, *650*, 1261–1277. https://doi.org/10.1016/j.scitotenv.2018.09.063

Byun, K., Sharma, A., Wang, J., Tank, J. L., & Hamlet, A. F. (2022). Intercomparison of Dynamically and Statistically Downscaled Climate Change Projections over the Midwest and Great Lakes Region. *Journal of Hydrometeorology*, *23*(5), 659–679. https://doi.org/10.1175/JHM-D-20-0282.1

Camargo, F. F., Sano, E. E., Almeida, C. M., Mura, J. C., & Almeida, T. (2019). A Comparative Assessment of Machine-Learning Techniques for Land Use and Land Cover Classification of the Brazilian Tropical Savanna Using ALOS-2/PALSAR-2 Polarimetric Images. *Remote Sensing*, *11*(13), 1600. https://doi.org/10.3390/rs11131600

Cannon, A. J., Sobie, S. R., & Murdock, T. Q. (2015). Bias Correction of GCM Precipitation by Quantile Mapping: How Well Do Methods Preserve Changes in Quantiles and Extremes? *Journal of Climate*, *28*(17), 6938–6959. https://doi.org/10.1175/JCLI-D-14-00754.1

Cao, Y., Zhang, J., Yang, M., Lei, X., Guo, B., Yang, L., Zeng, Z., & Qu, J. (2018). Application of SWAT Model with CMADS Data to Estimate Hydrological Elements and Parameter Uncertainty Based on SUFI-2 Algorithm in the Lijiang River Basin, China. *Water*, *10*(6), 742. https://doi.org/10.3390/w10060742

Chen, L., Liu, C., Li, Y., & Wang, G. (2007). Impacts of climatic factors on runoff coefficients in source regions of the Huanghe River. *Chinese Geographical Science*, *17*(1), 047–055. https://doi.org/10.1007/s11769-007-0047-4

Chen, V., Bonilla Brenes, J. R., Chapa, F., & Hack, J. (2021). Development and modelling of realistic retrofitted Nature-based Solution scenarios to reduce flood occurrence at the catchment scale. *Ambio*, *50*(8), 1462–1476. https://doi.org/10.1007/s13280-020-01493-8

Chen, Y., Xu, Y., & Yin, Y. (2009). Impacts of land use change scenarios on storm-runoff generation in Xitiaoxi basin, China. *Quaternary International*, *208*(1–2), 121–128. https://doi.org/10.1016/j.quaint.2008.12.014

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Congalton, G. R., & Green, K. (2008). *Assessing the Accuracy of Remotely Sensed Data: Principles and Practices* (Vol. 25). https://onlinelibrary.wiley.com/doi/10.1111/j.1477-9730.2010.00574_2.x

D. N. Moriasi, J. G. Arnold, M. W. Van Liew, R. L. Bingner, R. D. Harmel, & T. L. Veith. (2007). Model Evaluation Guidelines for Systematic Quantification of Accuracy in Watershed Simulations. *Transactions of the ASABE*, *50*(3), 885–900. https://doi.org/10.13031/2013.23153

Deus, S. C. S., Neves, R. J. J., Jauche, E., Almeida, C., Faial, K. R. F., Medeiro, A. C., Mendes, R. A., Faial, K. C. F., Leite, J. C., & Deus, R. J. A. (2018). Streamflow forecasts due precipitation water in a tropical large watershed at Brazil for flood early warning, based on SWAT model. *ITEGAM- Journal of Engineering and Technology for Industrial Applications (ITEGAM-JETIA)*, *4*(14). https://doi.org/10.5935/2447-0228.20180027

Du, X., Jian, J., Du, C., & Stewart, R. D. (2022). Conservation management decreases surface runoff and soil erosion. *International Soil and Water Conservation Research*, *10*(2), 188–196. https://doi.org/10.1016/j.iswcr.2021.08.001

European Commission. Directorate General for Research and Innovation. (2015). *Towards an EU Research and Innovation Policy Agenda for Nature-Based Solutions & Re-Naturing Cities: Final Report of the Horizon 2020 Expert Group on "Nature Based Solutions and Re-Naturing Cities."* Publications Office. https://doi.org/10.2777/765301

Fahad, S., Chavan, S. B., Chichaghare, A. R., Uthappa, A. R., Kumar, M., Kakade, V., Pradhan, A., Jinger, D., Rawale, G., Yadav, D. K., Kumar, V., Farooq, T. H., Ali, B., Sawant, A. V., Saud, S., Chen, S., & Poczai, P. (2022). Agroforestry Systems for Soil Health Improvement and Maintenance. *Sustainability*, *14*(22), 14877. https://doi.org/10.3390/su142214877

Ferreira, C. S. S., Kalantari, Z., Seifollahi-Aghmiuni, S., Ghajarnia, N., Rahmati, O., & Solomun, M. K. (2021). Chapter 21—Rainfall-runoff-erosion processes in urban areas. Dalam J. Rodrigo-Comino (Ed.), *Precipitation* (hlm. 481–498). Elsevier. https://doi.org/https://doi.org/10.1016/B978-0-12-822699-5.00018-5

Firdaus, G., Haridjaja, O., & Tarigan, S. (2014). Analisis Respon Hidrologi Terhadap Penerapan Teknik Konservasi Tanah Di Sub Das Lengkong Menggunakan Model Swat. *Jurnal Ilmu Tanah dan Lingkungan*, *16*, 16–23. https://doi.org/10.29244/jitl.16.1.16-23

Furqaan, M., Alviany, D., Mashuri, K., & Sadri, M. (2025). Dampak Sosial Pasca Banjir Terhadap Kehidupan Masyarakat Pangkalan Brandan. *Jurnal Berbasis Sosial*, *6*(2), 15–22.

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Gautam, S., Dahal, V., & Bhattarai, R. (2019). Impacts of Dem Source, Resolution and Area Threshold Values on SWAT Generated Stream Network and Streamflow in Two Distinct Nepalese Catchments. *Environmental Processes*, *6*(3), 597–617. https://doi.org/10.1007/s40710-019-00379-6

Gebrechorkos, S. H., Taye, M. T., Birhanu, B., Solomon, D., & Demissie, T. (2023). Future Changes in Climate and Hydroclimate Extremes in East Africa. *Earth's Future*, *11*(2), e2022EF003011. https://doi.org/10.1029/2022EF003011

Griensven, A. van, Maharjan, S., & Alemayehu, T. (2014). Improved simulation of evapotranspiration for land use and climate change impact analysis at catchment scale. *7th International Congress on Environmental Modelling and Software*, 979–986.

Haider, S., Masood, M. U., Rashid, M., Alshehri, F., Pande, C. B., Katipoğlu, O. M., & Costache, R. (2023). Simulation of the Potential Impacts of Projected Climate and Land Use Change on Runoff under CMIP6 Scenarios. *Water*, *15*(19), 3421. https://doi.org/10.3390/w15193421

Hasibuan, M. A. S., Widiatmaka, Tarigan, S. D., & Ambarwulan, W. (2022). Flood Inundation Distribution Modelling for River Boundary Management in Cisadane Sub-Watershed. *IOP Conference Series: Earth and Environmental Science*, *1109*(1), 012087. https://doi.org/10.1088/1755-1315/1109/1/012087

Holvoet, K., Van Griensven, A., Seuntjens, P., & Vanrolleghem, P. A. (2005). Sensitivity analysis for hydrology and pesticide supply towards the river in SWAT. *Physics and Chemistry of the Earth, Parts A/B/C*, *30*(8–10), 518–526. https://doi.org/10.1016/j.pce.2005.07.006

Huang, T., Wu, Z., Xiao, P., Sun, Z., Liu, Y., Wang, J., & Wang, Z. (2023). Possible Future Climate Change Impacts on the Meteorological and Hydrological Drought Characteristics in the Jinghe River Basin, China. *Remote Sensing*, *15*(5), 1297. https://doi.org/10.3390/rs15051297

Intergovernmental Panel On Climate Change (IPCC). (2023). *Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (1 ed.). Cambridge University Press. https://doi.org/10.1017/9781009157896

Iqbal, M., Dahri, Z., Querner, E., Khan, A., & Hofstra, N. (2018). Impact of Climate Change on Flood Frequency and Intensity in the Kabul River Basin. *Geosciences*, *8*(4), 114. https://doi.org/10.3390/geosciences8040114

Jajarmizad, M., Harun, S., & Salarpour, M. (2012). A Review on Theoretical Consideration and Types of Models in Hydrology. *Journal of*

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Environmental Science and Technology, *5*(5), 249–261. https://doi.org/10.3923/jest.2012.249.261

Jajarmizadeh, M., Harun, S., & Salarpour, M. (2012). A review on theoretical consideration and types of models in hydrology. *Journal of Environmental Science and Technology*, *5*(5), 249–261.

Jing, Z., Ping, Y. L., Zi-jing, C., Shi-tao, P., & Bing, X. (2026). Spatiotemporal Variability of Runoff Coefficients and Rainfall–Runoff Responses in a Mountainous Basin Using Integrated Hydrological Analogy and SCS–CN Models. *Water Resources Management*, *40*(4), 163. https://doi.org/10.1007/s11269-026-04555-w

Junita, U., Santosa, E., & Agusta, H. (2022). Preferensi Tanaman Buah untuk Penghijauan Kota Berdasarkan Persepsi Publik: Studi Kasus di Kota Tangerang. *Jurnal Agronomi Indonesia (Indonesian Journal of Agronomy)*, *50*(1), 97–106. https://doi.org/10.24831/jai.v50i1.38691

Kasahun, M., & Legesse, A. (2024). Machine learning for urban land use/ cover mapping: Comparison of artificial neural network, random forest and support vector machine, a case study of Dilla town. *Heliyon*, *10*(20), e39146. https://doi.org/10.1016/j.heliyon.2024.e39146

Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional. (2022). *Peraturan Menteri Agraria dan Tata Ruang/badan Pertanahan Nasional Nomor 14 Tahun 2022 Tentang Penyediaan dan Pemanfaatan Ruang Terbuka Hijau* (Berita Negara Republik Indonesia No. 679, 2022; hlm. 208 hlm.).

Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia. (2020). *Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.16/MENLHK/SETJEN/SET.1/8/2020 tentang Rencana Strategis Kementerian Lingkungan Hidup dan Kehutanan Tahun 2020-2024* (Berita Negara Republik Indonesia No. 919, 2020; hlm. 265 hlm.).

Kementerian Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia. (2019). *Keputusan Menteri Pekerjaan Umum dan Perumahan Rakyat Nomor 766/KPTS/M/2019 tentang Rencana Pengelolaan Sumber Daya Air Wilayah Sungai Ciliwung-Cisadane* (hlm. 468 hlm.).

Kilonzo, F. N. (2014). *Assessing the impacts of environmental changes on the water resources of the Upper Mara, Lake Victoria basin*. Crc Press.

Kreig, J. A. F., Ssegane, H., Chaubey, I., Negri, M. C., & Jager, H. I. (2019). Designing bioenergy landscapes to protect water quality. *Biomass and Bioenergy*, *128*, 105327. https://doi.org/10.1016/j.biombioe.2019.105327

Kwak, S. G., & Kim, J. H. (2017). Central limit theorem: The cornerstone of modern statistics. *Korean Journal of Anesthesiology*, *70*(2), 144. https://doi.org/10.4097/kjae.2017.70.2.144

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

La Nguyen, James M. Roshetko, Tran Ha My, Vu Thi Hanh, Pham Huu Thuong, Do Van Hung, & Nguyen Mai Phuong. (2016). *Agroforestry guide for sloping lands in northwest Viet Nam: AFLI Project*. ICRAF Viet Nam Office.

Lawal, I. M., Bertram, D., White, C. J., Kutty, S. R. M., Hassan, I., & Jagaba, A. H. (2023). Application of Boruta algorithms as a robust methodology for performance evaluation of CMIP6 general circulation models for hydro-climatic studies. *Theoretical and Applied Climatology*, *153*(1–2), 113–135. https://doi.org/10.1007/s00704-023-04466-5

Li, B., Shi, X., Lian, L., Chen, Y., Chen, Z., & Sun, X. (2020). Quantifying the effects of climate variability, direct and indirect land use change, and human activities on runoff. *Journal of Hydrology*, *584*, 124684. https://doi.org/10.1016/j.jhydrol.2020.124684

Li, C., Peng, C., Chiang, P.-C., Cai, Y., Wang, X., & Yang, Z. (2019). Mechanisms and applications of green infrastructure practices for stormwater control: A review. *Journal of Hydrology*, *568*, 626–637. https://doi.org/10.1016/j.jhydrol.2018.10.074

Li, F., Chen, J., Engel, B. A., Liu, Y., Wang, S., & Sun, H. (2020). Assessing the Effectiveness and Cost Efficiency of Green Infrastructure Practices on Surface Runoff Reduction at an Urban Watershed in China. *Water*, *13*(1), 24. https://doi.org/10.3390/w13010024

Li, Z., Ye, Y., Lv, X., Bai, M., & Li, Z. (2024). Hydrological Drought and Flood Projection in the Upper Heihe River Basin Based on a Multi-GCM Ensemble and the Optimal GCM. *Atmosphere*, *15*(4), 439. https://doi.org/10.3390/atmos15040439

Liew, Y. S., Mat Desa, S., Md. Noh, Md. N., Tan, M. L., Zakaria, N. A., & Chang, C. K. (2021). Assessing the Effectiveness of Mitigation Strategies for Flood Risk Reduction in the Segamat River Basin, Malaysia. *Sustainability*, *13*(6), 3286. https://doi.org/10.3390/su13063286

Liu, W., Wu, J., Xu, F., Mu, D., & Zhang, P. (2024). Modeling the effects of land use/land cover changes on river runoff using SWAT models: A case study of the Danjiang River source area, China. *Environmental Research*, *242*, 117810. https://doi.org/10.1016/j.envres.2023.117810

Lucas-Borja, M. E., Carrà, B. G., Nunes, J. P., Bernard-Jannin, L., Zema, D. A., & Zimbone, S. M. (2020). Impacts of land-use and climate changes on surface runoff in a tropical forest watershed (Brazil). *Hydrological Sciences Journal*, *65*(11), 1956–1973. https://doi.org/10.1080/02626667.2020.1787417

Machado, R. E., Cardoso, T. O., & Mortene, M. H. (2022). Determination of runoff coefficient (C) in catchments based on analysis of precipitation and flow

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

events. *International Soil and Water Conservation Research*, *10*(2), 208–216. https://doi.org/10.1016/j.iswcr.2021.09.001

Mahmud, M. (2022). Skenario Konservasi Tanah pada Perkebunan Sawit sebagai Upaya Mitigasi Limpasan Permukaan pada DAS Arui, Kabupaten Manokwari, Papua Barat. *Jurnal Ilmu Pertanian Indonesia*, *28*(1), 129–139. https://doi.org/10.18343/jipi.28.1.129

Mao, D., & Cherkauer, K. A. (2009). Impacts of land-use change on hydrologic responses in the Great Lakes region. *Journal of Hydrology*, *374*(1–2), 71–82. https://doi.org/10.1016/j.jhydrol.2009.06.016

Marhaento, H., Booij, M. J., & Hoekstra, A. Y. (2018). Hydrological response to future land-use change and climate change in a tropical catchment. *Hydrological Sciences Journal*, *63*(9), 1368–1385. https://doi.org/10.1080/02626667.2018.1511054

Marhaento, H., Booij, M. J., Rahardjo, N., & Ahmed, N. (2021). Impacts of forestation on the annual and seasonal water balance of a tropical catchment under climate change. *Forest Ecosystems*, *8*(1), 64. https://doi.org/10.1186/s40663-021-00345-5

Marhaento, H., Booij, M. J., Rientjes, T. h. m., & Hoekstra, A. Y. (2017). Attribution of changes in the water balance of a tropical catchment to land use change using the SWAT model. *Hydrological Processes*, *31*(11), 2029–2040. https://doi.org/10.1002/hyp.11167

Maryanto, A., Murtilaksano, K., & Rachman, L. M. (2014). Perencaaan Penggunaan Lahan Dan Pengaruhnya Terhadap Sumberdaya Air Di Das Way Besai - Lampung. *Jurnal Penelitian Kehutanan Wallacea*, *3*(2), 85. https://doi.org/10.18330/jwallacea.2014.vol3iss2pp85-95

Melnyk, O., & Brunn, A. (2025). Analysis of Spectral Index Interrelationships for Vegetation Condition Assessment on the Example of Wetlands in Volyn Polissya, Ukraine. *Earth*, *6*(2), 28. https://doi.org/10.3390/earth6020028

Mersie, W., Seybold, C. A., McNamee, C., & Lawson, M. A. (2003). Abating endosulfan from runoff using vegetative filter strips: The importance of plant species and flow rate. *Agriculture, Ecosystems & Environment*, *97*(1–3), 215–223. https://doi.org/10.1016/S0167-8809(03)00035-5

Molla, A., Skoufogianni, E., Lolas, A., & Skordas, K. (2022). The Impact of Different Cultivation Practices on Surface Runoff, Soil and Nutrient Losses in a Rotational System of Legume–Cereal and Sunflower. *Plants*, *11*(24), 3513. https://doi.org/10.3390/plants11243513

Montecelos-Zamora, Y., Cavazos, T., Kretzschmar, T., Vivoni, E. R., Corzo, G., & Molina-Navarro, E. (2018). Hydrological Modeling of Climate Change Impacts in a Tropical River Basin: A Case Study of the Cauto River, Cuba. *Water*, *10*(9), 1135. https://doi.org/10.3390/w10091135

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Moriasi, D. N., Gitau, M. W., Pai, N., & Daggupati, P. (2015). Hydrologic and Water Quality Models: Performance Measures and Evaluation Criteria. *Transactions of the ASABE*, *58*(6), 1763–1785. https://doi.org/10.13031/trans.58.10715

Mosbahi, M., & Benabdallah, S. (2020). Assessment of land management practices on soil erosion using SWAT model in a Tunisian semi-arid catchment. *Journal of Soils and Sediments*, *20*(2), 1129–1139. https://doi.org/10.1007/s11368-019-02443-y

Mosbahi, M., Benabdallah, S., & Boussema, M. R. (2015). Sensitivity analysis of a GIS-based model: A case study of a large semi-arid catchment. *Earth Science Informatics*, *8*(3), 569–581. https://doi.org/10.1007/s12145-014-0176-0

Moss, R. H., Edmonds, J. A., Hibbard, K. A., Manning, M. R., Rose, S. K., Van Vuuren, D. P., Carter, T. R., Emori, S., Kainuma, M., Kram, T., Meehl, G. A., Mitchell, J. F. B., Nakicenovic, N., Riahi, K., Smith, S. J., Stouffer, R. J., Thomson, A. M., Weyant, J. P., & Wilbanks, T. J. (2010). The next generation of scenarios for climate change research and assessment. *Nature*, *463*(7282), 747–756. https://doi.org/10.1038/nature08823

Muryunika, R., Fazriyas, Irawan, B., Anggraini, R., & Nisa, K. (2026). Community Perception And Participation Towards The Jangka Benah Program In West Tanjung Jabung. *Jurnal Belantara*, *9*(1), 27–34. https://doi.org/10.29303/jbl.v9i1.1180

Nasiry, M. K., Said, S., & Ansari, S. A. (2023). Analysis of surface runoff and sediment yield under simulated rainfall. *Modeling Earth Systems and Environment*, *9*(1), 157–173. https://doi.org/10.1007/s40808-022-01471-x

Nazarudin, L., Chandra, N., & Meisda, D. F. (2022). *Atlas Proyeksi Bencana Hidrometeorologi—Longsor*. Badan Meteorologi Klimatologi dan Geofisika. https://iklim.bmkg.go.id/bmkgadmin/storage/buletin/Atlas%20Proyeksi%20Bencana%20Hidrometeorologi%20-%20Longsor.pdf

Neelin, J. D., Münnich, M., Su, H., Meyerson, J. E., & Holloway, C. E. (2006). Tropical drying trends in global warming models and observations. *Proceedings of the National Academy of Sciences*, *103*(16), 6110–6115. https://doi.org/10.1073/pnas.0601798103

Neitsch, S. L., Arnold, J. G., Kiniry, J. R., & Williams, J. R. (2011). *Soil and Water Assessment Tool Theoretical Documentation Version 2009*.

Nilda, N., Adnyana, I. W. S., & Merit, I. N. (2015). Analisis Perubahan Penggunaan Lahan Dan Dampaknya Terhadap Hasil Air Di Das Cisadane Hulu. *ECOTROPHIC : Jurnal Ilmu Lingkungan (Journal of Environmental Science)*, *9*(1), 35. https://doi.org/10.24843/EJES.2015.v09.i01.p05

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Olofsson, P., Foody, G. M., Herold, M., Stehman, S. V., Woodcock, C. E., & Wulder, M. A. (2014). Good practices for estimating area and assessing accuracy of land change. *Remote Sensing of Environment*, *148*, 42–57. https://doi.org/10.1016/j.rse.2014.02.015

P. Tuppad, K. R. Douglas-Mankin, T. Lee, R. Srinivasan, & J. G. Arnold. (2011). Soil and Water Assessment Tool (SWAT) Hydrologic/Water Quality Model: Extended Capability and Wider Adoption. *Transactions of the ASABE*, *54*(5), 1677–1684. https://doi.org/10.13031/2013.39856

Pantera, A., Mosquera-Losada, M. R., Herzog, F., & Den Herder, M. (2021). Agroforestry and the environment. *Agroforestry Systems*, *95*(5), 767–774. https://doi.org/10.1007/s10457-021-00640-8

Prakoso, W. G., Anastasya, N., Ananda, R., & Purwanti, H. (2025). Assessment Of Changes In Maximum Daily Rainfall And Their Impacts On Design Floods And Flow Duration Curves In The Ciliwung And Cisadane River Basins: Analisis Perubahan Curah Hujan Harian Maksimum Terhadap Banjir Rancangan Dan Kurva Durasi Di Das Ciliwung Dan Cisadane. *Konferensi Nasional Teknik Sipil*, *3*(2), 294–301. https://doi.org/10.62603/konteks.v3i2.96

Prasetya, R., Djuhana, D., Saputro, A. H., & Permana, D. S. (2026). Evaluation and ranking of NEX-GDDP-CMIP6 models based on monthly precipitation climatology over Indonesia. *Frontiers in Climate*, *8*, 1748663. https://doi.org/10.3389/fclim.2026.1748663

Prayoga, T., Arifianto, F., & Arno, G. (2023). PROYEKSI TREN SUHU UDARA DI JAWA TIMUR BERDASARKAN SKENARIO RCP 4.5. *Jurnal Analisis Kebijakan Kehutanan*, *20*(2), 103–117. https://doi.org/10.59100/jakk.2023.20.2.103-117

Priatna, A., Surya, B., & Syafri, S. (2025). Analisis Dampak Perubahan Penggunaan Lahan Terhadap Potensi Banjir Pada Daerah Aliran Sungai Tallo. *Urban and Regional Studies Journal*, *7*(2), 113–125. https://doi.org/10.35965/ursj.v7i2.6060

P.Tambunan, M., Giok Pin, T., Permana, B., Zikrullah, A., & Maulana, A. (2017). Spatial and Temporal Pattern of Flood Area in Cisadane Watershed, Banten Province. *Proceedings of the Lst International Cohference on Geography and Education (ICGE 2016)*. Lst International Cohference on Geography and Education (ICGE 2016). https://doi.org/10.2991/icge-16.2017.14

Refsgaard, J. C. (1990). Terminology, Modelling Protocol And Classification of Hydrological Model Codes. Dalam M. B. Abbott & J. C. Refsgaard (Ed.), *Distributed Hydrological Modelling* (Vol. 22, hlm. 17–39). Springer Netherlands. https://doi.org/10.1007/978-94-009-0257-2_2

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Ridwansyah, I., Pawitan, H., Sinukaban, N., & Hidayat, Y. (2014). Watershed Modeling with ArcSWAT and SUFI2In Cisadane Catchment Area: Calibration and Validation to Prediction of River Flow. *International Journal of Science and Engineering*, *6*.

Rogger, M., Agnoletti, M., Alaoui, A., Bathurst, J. C., Bodner, G., Borga, M., Chaplot, V., Gallart, F., Glatzel, G., Hall, J., Holden, J., Holko, L., Horn, R., Kiss, A., Kohnová, S., Leitinger, G., Lennartz, B., Parajka, J., Perdigão, R., … Blöschl, G. (2017). Land use change impacts on floods at the catchment scale: Challenges and opportunities for future research. *Water Resources Research*, *53*(7), 5209–5219. https://doi.org/10.1002/2017WR020723

Saddique, N., Mahmood, T., & Bernhofer, C. (2020). Quantifying the impacts of land use/land cover change on the water balance in the afforested River Basin, Pakistan. *Environmental Earth Sciences*, *79*(19), 448. https://doi.org/10.1007/s12665-020-09206-w

Salsabila, A., Ramdan, E. P., Asnur, P., & Hidayat, H. (2022). Survei Penyakit Busuk Pangkal Batang Kelapa Sawit Di Kebun Cikasungka, Pt Perkebunan Nusantara VIII, Bogor. *Agrosains : Jurnal Penelitian Agronomi*, *24*(1), 1. https://doi.org/10.20961/agsjpa.v24i1.56720

Saputra, N. E., Wibowo, C., Tarigan, S. D., & Lisnawati, Y. (2023). Kajian Perubahan Tutupan Lahan terhadap Karakteristik Hidrologis di Hutan Penelitian Gunung Dahu: (Study of Land Cover Change on Hydrological Characteristics in Gunung Dahu Research Forest). *Jurnal Penelitian Hutan Tanaman*, *20*(1). https://doi.org/10.59465/jpht.v20i1.312

Satria Tambunan, B. R., & Santosa, P. B. (2018). Progo Watershed Deliniation and River Network Analysis Using SRTM DEM and Contour DEM Hypsography of RBI 1: 25000. *2018 4th International Conference on Science and Technology (ICST)*, 1–5. https://doi.org/10.1109/ICSTC.2018.8528287

Shang, X., Jiang, X., Jia, R., & Wei, C. (2019). Land Use and Climate Change Effects on Surface Runoff Variations in the Upper Heihe River Basin. *Water*, *11*(2), 344. https://doi.org/10.3390/w11020344

Sitterson, J., Knightes, C., Parmar, R., Wolfe, K., Avant, B., & Muche, M. (2018). *An Overview of Rainfall-Runoff Model Types*.

Subagyono, K., & Surmaini, E. (2014). Pengelolaan Sumberdaya Iklim dan Air untuk Antisipasi Perubahan Iklim. *Jurnal Meteorologi dan Geofisika*, *8*(1). https://doi.org/10.31172/jmg.v8i1.5

Suhadi, S., Mabruroh, F., Wiyanto, A., & Ikra, I. (2023). Analisis Fenomena Perubahan Iklim Terhadap Curah Hujan Ekstrim. *OPTIKA: Jurnal Pendidikan Fisika*, *7*(1), 94–100. https://doi.org/10.37478/optika.v7i1.2738

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Sun, J., Yan, H., Bao, Z., & Wang, G. (2022). Investigating Impacts of Climate Change on Runoff from the Qinhuai River by Using the SWAT Model and CMIP6 Scenarios. *Water*, *14*(11), 1778. https://doi.org/10.3390/w14111778

Suryanto, H., & Prasetyawati, C. A. (2014). Model Agroforestri untuk Rehabilitasi Lahan di Spoilbank Dam Bili-Bili Kabupaten Gowa. *Jurnal Penelitian Sosial dan Ekonomi Kehutanan*, *11*(1), 15–26. https://doi.org/10.20886/buleboni.5029

Syahdiba, H. N., & Kusumandari, A. (2021). Estimation of erosion using Soil and Water Assessment Tool (SWAT) model in Samin Sub-watershed, Karanganyar and Sukoharjo Districts, Jawa Tengah. *IOP Conference Series: Earth and Environmental Science*, *686*(1), 012036. https://doi.org/10.1088/1755-1315/686/1/012036

Tabari, H. (2020). Climate change impact on flood and extreme precipitation increases with water availability. *Scientific Reports*, *10*(1), 13768. https://doi.org/10.1038/s41598-020-70816-2

Talukdar, S., Singha, P., Mahato, S., Shahfahad, Pal, S., Liou, Y.-A., & Rahman, A. (2020). Land-Use Land-Cover Classification by Machine Learning Classifiers for Satellite Observations—A Review. *Remote Sensing*, *12*(7), 1135. https://doi.org/10.3390/rs12071135

Tarboton, D. G. (2003). *Rainfall-runoff Processes* (Vol. 1). Utah State University.

Teutschbein, C., & Seibert, J. (2012). Bias correction of regional climate model simulations for hydrological climate-change impact studies: Review and evaluation of different methods. *Journal of Hydrology*, *456–457*, 12–29. https://doi.org/10.1016/j.jhydrol.2012.05.052

Thrasher, B., Wang, W., Michaelis, A., Melton, F., Lee, T., & Nemani, R. (2022). NASA Global Daily Downscaled Projections, CMIP6. *Scientific Data*, *9*(1), 262. https://doi.org/10.1038/s41597-022-01393-4

Tripathi, M. P., Panda, R. K., & Raghuwanshi, N. S. (2005). Development of effective management plan for critical subwatersheds using SWAT model. *Hydrological Processes*, *19*(3), 809–826. https://doi.org/10.1002/hyp.5618

Tsvetkova, O., & Randhir, T. O. (2019). Spatial and temporal uncertainty in climatic impacts on watershed systems. *Science of The Total Environment*, *687*, 618–633. https://doi.org/10.1016/j.scitotenv.2019.06.141

Umargono, E., Suseno, J. E., & Vincensius Gunawan, S. K. (2020). K-Means Clustering Optimization Using the Elbow Method and Early Centroid Determination Based on Mean and Median Formula: *Proceedings of the 2nd International Seminar on Science and Technology (ISSTEC 2019)*. The 2nd International Seminar on Science and Technology (ISSTEC 2019). https://doi.org/10.2991/assehr.k.201010.019

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Utami, W. U., Dwi Wahjunie, E., & Darma Tarigan, S. (2020). Karakteristik Hidrologi dan Pengelolaannya dengan Model Hidrologi Soil and Water Assessment Tool Sub DAS Cisadane Hulu. *Jurnal Ilmu Pertanian Indonesia*, *25*(3), 342–348. https://doi.org/10.18343/ipi.25.3.342

Vilaseca, F., Narbondo, S., Chreties, C., Castro, A., & Gorgoglione, A. (2021). A comparison between lumped and distributed hydrological models for daily rainfall-runoff simulation. *IOP Conference Series: Earth and Environmental Science*, *958*(1), 012016. https://doi.org/10.1088/1755-1315/958/1/012016

Waheed, A., Jamal, M. H., Javed, M. F., & Idlan Muhammad, K. (2024). A CMIP6 multi-model based analysis of potential climate change effects on watershed runoff using SWAT model: A case study of kunhar river basin, Pakistan. *Heliyon*, *10*(8), e28951. https://doi.org/10.1016/j.heliyon.2024.e28951

Wardhani, F. A., Pravitasari, A. E., & Ridwansyah, I. (2022). Flash flood assessment at Upper Cisadane Watershed using land use/land cover and morphometric factors. *IOP Conference Series: Earth and Environmental Science*, *1109*(1), 012002. https://doi.org/10.1088/1755-1315/1109/1/012002

Widowski, M. K. (2011). Terracing as a Measure of Soil Erosion Control and Its Effect on Improvement of Infiltration in Eroded Environment. Dalam D. Godone (Ed.), *Soil Erosion Issues in Agriculture*. InTech. https://doi.org/10.5772/24683

Wijaya, O. T., Yudianto, D., Fitriana, F., & Sanjaya, S. (2024). *Prediksi Dampak Perubahan Tataguna Lahan Terhadap Debit Limpasan, Studi Kasus: Gereja Rancasari*. *20*.

Wirtz, S., Iserloh, T., Rock, G., Hansen, R., Marzen, M., Seeger, M., Betz, S., Remke, A., Wengel, R., Butzen, V., & Ries, J. B. (2012). Soil Erosion on Abandoned Land in Andalusia: A Comparison of Interrill- and Rill Erosion Rates. *ISRN Soil Science*, *2012*, 1–16. https://doi.org/10.5402/2012/730870

Wldmchel, M., & Osore, A. (2025). Evaluation of the impact of climate and land use / land cover change on hydrological response in Gelna watershed. *PLOS Climate*, *4*(1), e0000483. https://doi.org/10.1371/journal.pclm.0000483

Woldemariam, Y. A., Alamirew, T., & Woldesenbet, T. A. (2025). Modeling climate and land use land cover changes impact on water balance in the Rift Valley Lake Basin, Ethiopia. *Theoretical and Applied Climatology*, *156*(11), 623. https://doi.org/10.1007/s00704-025-05834-z

Yustika, R. D., Tarigan, S. D., & Hidayat, Y. (2012). *Simulasi Manajemen Lahan Di Das Ciliwung Hulu Menggunakan Model Swat*. *21*(2).

Zhang, H., Wang, B., Liu, D. L., Zhang, M., Leslie, L. M., & Yu, Q. (2020). Using an improved SWAT model to simulate hydrological responses to land use

UNIVERSITAS
GADJAH MADA
Skenario Pengelolaan Tutupan Lahan Untuk Mitigasi Dampak Perubahan Iklim Di Das Cisadane
Zidan Dwi Ananda, Ir. Emma Soraya, S.Hut., M.For., Ph.D., IPU. ; Dr. Ir. Hero Marhaento, S.Hut., M.Si., IPM.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

change: A case study of a catchment in tropical Australia. *Journal of Hydrology*, *585*, 124822. https://doi.org/10.1016/j.jhydrol.2020.124822

Zhang, L., Karthikeyan, R., Bai, Z., & Srinivasan, R. (2017). Analysis of streamflow responses to climate variability and land use change in the Loess Plateau region of China. *CATENA*, *154*, 1–11. https://doi.org/10.1016/j.catena.2017.02.012

Zhu, X., Liu, W., Chen, J., Bruijnzeel, L. A., Mao, Z., Yang, X., Cardinael, R., Meng, F.-R., Sidle, R. C., Seitz, S., Nair, V. D., Nanko, K., Zou, X., Chen, C., & Jiang, X. J. (2020). Reductions in water, soil and nutrient losses and pesticide pollution in agroforestry practices: A review of evidence and processes. *Plant and Soil*, *453*(1–2), 45–86. https://doi.org/10.1007/s11104-019-04377-3