

## References

- Abdrabo, K. I., Kantoush, S. A., Saber, M., Sumi, T., Habiba, O. M., Elleithy, D., & Elboshy, B. (2020). Integrated Methodology for Urban Flood Risk Mapping at the Microscale in Ungauged Regions: A Case Study of Hurghada, Egypt. *Remote Sensing*, 12(21), 3548. <https://doi.org/10.3390/rs12213548>
- Abenayake, C. C., Wijayawardana, P. N. P., Jayasinghe, A. B., Kalpana, L. D. C. H. N., Dias, N., Amaralunga, D., & Haigh, R. (2020). A GIS-Based Simulation Application to Model Surface Runoff Level in Urban Blocks. *FARU Journal*, 7(0), 56. <https://doi.org/10.4038/faruj.v7i0.31>
- Afifi, Chu, Kuo, Hsu, Wong, & Ali. (2019). Residential Flood Loss Assessment and Risk Mapping from High-Resolution Simulation. *Water*, 11(4), 751. <https://doi.org/10.3390/w11040751>
- Albano, R. (2019). Investigation on Roof Segmentation for 3D Building Reconstruction from Aerial LIDAR Point Clouds. *Applied Sciences*, 9(21), 4674. <https://doi.org/10.3390/app9214674>
- Alexander, E. R. (1993). DENSITY MEASURES: A REVIEW AND ANALYSIS. *Journal of Architectural and Planning Research*, 10(3), 181–202. JSTOR.
- Ashley, R., Garvin, S., Pasche, E., Zevenbergen, C., Evelpidou, N., & Cashman, A. (2007). *Urban Flood Management*. 338.
- Atta-ur-Rahman, Parvin, G. A., Shaw, R., & Surjan, A. (2016). 3—Cities, Vulnerability, and Climate Change. In R. Shaw, Atta-ur-Rahman, A. Surjan, & G. A. Parvin (Eds.), *Urban Disasters and Resilience in Asia* (pp. 35–47). Butterworth-Heinemann. <https://doi.org/10.1016/B978-0-12-802169-9.00003-3>
- Batty, M. (2019). *The mathematics of urban morphology*. Springer Berlin Heidelberg.
- Berling-Wolff, S., & Wu, J. (2004). Modeling urban landscape dynamics: A case study in Phoenix, USA. *Urban Ecosystems*, 7(3), 215–240. <https://doi.org/10.1023/B:UECO.0000044037.23965.45>
- Bobkova, E. (2019). *Towards a theory of natural occupation: Developing theoretical, methodological and empirical support for the relation between plot systems and urban processes*. Chalmers University of Technology.
- Bruno, L. S., Mattos, T. S., Oliveira, P. T. S., Almagro, A., & Rodrigues, D. B. B. (2022). Hydrological and Hydraulic Modeling Applied to Flash Flood Events in a Small Urban Stream. *Hydrology*, 9(12), 223. <https://doi.org/10.3390/hydrology9120223>
- Bruwier, M., Mustafa, A., Aliaga, D. G., Archambeau, P., Erpicum, S., Nishida, G., Zhang, X., Pirotton, M., Teller, J., & Dewals, B. (2018). Influence of urban pattern on inundation flow in floodplains of lowland rivers. *Science of The Total Environment*, 622–623, 446–458. <https://doi.org/10.1016/j.scitotenv.2017.11.325>
- Buitelaar, E., & Segeren, A. (2011). Urban Structures and Land. The Morphological Effects of Dealing with Property Rights. *Housing Studies*, 26(5), 661–679. <https://doi.org/10.1080/02673037.2011.581909>
- Cai, T., Li, X., Ding, X., Wang, J., & Zhan, J. (2019). Flood risk assessment based on hydrodynamic model and fuzzy comprehensive evaluation with GIS technique.

- International Journal of Disaster Risk Reduction*, 35, 101077.  
<https://doi.org/10.1016/j.ijdrr.2019.101077>
- Caparros-Midwood, D., Dawson, R., & Barr, S. (2019). Low Carbon, Low Risk, Low Density: Resolving choices about sustainable development in cities. *Cities*, 89, 252–267. <https://doi.org/10.1016/j.cities.2019.02.018>
- Cea, L., & Costabile, P. (2022). Flood Risk in Urban Areas: Modelling, Management and Adaptation to Climate Change. A Review. *Hydrology*, 9(3), 50. <https://doi.org/10.3390/hydrology9030050>
- Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research Part D: Transport and Environment*, 2(3), 199–219. [https://doi.org/10.1016/S1361-9209\(97\)00009-6](https://doi.org/10.1016/S1361-9209(97)00009-6)
- Chen, C., Gong, H., & Paaswell, R. (2008). Role of the built environment on mode choice decisions: Additional evidence on the impact of density. *Transportation*, 35(3), 285–299. <https://doi.org/10.1007/s11116-007-9153-5>
- Chen, J., Li, Q., Wang, H., & Deng, M. (2019). A Machine Learning Ensemble Approach Based on Random Forest and Radial Basis Function Neural Network for Risk Evaluation of Regional Flood Disaster: A Case Study of the Yangtze River Delta, China. *International Journal of Environmental Research and Public Health*, 17(1), 49. <https://doi.org/10.3390/ijerph17010049>
- Cheng, T., Xu, Z., Yang, H., Hong, S., & Leitao, J. P. (2020). Analysis of Effect of Rainfall Patterns on Urban Flood Process by Coupled Hydrological and Hydrodynamic Modeling. *Journal of Hydrologic Engineering*, 25(1), 04019061. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001867](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001867)
- Churchman, A. (2000). Women and the Environment: Questioned and Unquestioned Assumptions. In S. Wapner, J. Demick, T. Yamamoto, & H. Minami (Eds.), *Theoretical Perspectives in Environment-Behavior Research* (pp. 89–106). Springer US. [https://doi.org/10.1007/978-1-4615-4701-3\\_9](https://doi.org/10.1007/978-1-4615-4701-3_9)
- Cook, S., van Roon, M., Ehrenfried, L., LaGro, J., & Yu, Q. (2019). Chapter 27—WSUD “Best in Class”—Case Studies From Australia, New Zealand, United States, Europe, and Asia. In A. K. Sharma, T. Gardner, & D. Begbie (Eds.), *Approaches to Water Sensitive Urban Design* (pp. 561–585). Woodhead Publishing. <https://doi.org/10.1016/B978-0-12-812843-5.00027-7>
- Darabi, H., Haghghi, A. T., Mohamadi, M. A., Rashidpour, M., Ziegler, A. D., Hekmatzadeh, A. A., & Kløve, B. (2020). Urban flood risk mapping using data-driven geospatial techniques for a flood-prone case area in Iran. *Hydrology Research*, 51(1), 127–142. <https://doi.org/10.2166/nh.2019.090>
- Dempsey, N., Brown, C., Raman, S., Porta, S., Jenks, M., Jones, C., & Bramley, G. (2008). Elements of Urban Form. In M. Jenks & C. Jones (Eds.), *Sustainable City Form* (Vol. 2, pp. 21–51). Springer Netherlands. [https://doi.org/10.1007/978-1-4020-8647-2\\_2](https://doi.org/10.1007/978-1-4020-8647-2_2)
- Eini, M., Kaboli, H. S., Rashidian, M., & Hedayat, H. (2020). Hazard and vulnerability in urban flood risk mapping: Machine learning techniques and considering the role of

- urban districts. *International Journal of Disaster Risk Reduction*, 50, 101687. <https://doi.org/10.1016/j.ijdrr.2020.101687>
- Fahy, B., Brenneman, E., Chang, H., & Shandas, V. (2019). Spatial analysis of urban flooding and extreme heat hazard potential in Portland, OR. *International Journal of Disaster Risk Reduction*, 39, 101117. <https://doi.org/10.1016/j.ijdrr.2019.101117>
- Feng, B., Zhang, Y., & Bourke, R. (2021). Urbanization impacts on flood risks based on urban growth data and coupled flood models. *Natural Hazards*, 106(1), 613–627. <https://doi.org/10.1007/s11069-020-04480-0>
- Fernández, D. S., & Lutz, M. A. (2010). Urban flood hazard zoning in Tucumán Province, Argentina, using GIS and multicriteria decision analysis. *Engineering Geology*, 111(1), 90–98. <https://doi.org/10.1016/j.enggeo.2009.12.006>
- Ferrari, A., & Viero, D. P. (2020). Floodwater pathways in urban areas: A method to compute porosity fields for anisotropic subgrid models in differential form. *Journal of Hydrology*, 589, 125193. <https://doi.org/10.1016/j.jhydrol.2020.125193>
- Grimaldi, S., & Petroselli, A. (2015). Do we still need the Rational Formula? An alternative empirical procedure for peak discharge estimation in small and ungauged basins. *Hydrological Sciences Journal*, 60(1), 67–77. <https://doi.org/10.1080/02626667.2014.880546>
- Gupta, A. K., & Nair, S. S. (2011). Urban floods in Bangalore and Chennai: Risk management challenges and lessons for sustainable urban ecology. *CURRENT SCIENCE*, 100(11), 8.
- Hillier, B., Penn, A., Hanson, J., Grajewski, T., & Xu, J. (1993). Natural movement: Or, configuration and attraction in urban pedestrian movement. *Environment and Planning B: Planning and Design*, 20(1), 29–66.
- Hoyer, J., & Dickhaut, W. (2010). *Water Sensitive Urban Design for a Sustainable Stormwater Management in the City of the Future*. 3.
- Kändler, N., Annus, I., Vassiljev, A., & Puust, R. (2020). Real time controlled sustainable urban drainage systems in dense urban areas. *Journal of Water Supply: Research and Technology-Aqua*, 69(3), 238–247. <https://doi.org/10.2166/aqua.2019.083>
- Kang, S., Yeom, J., & Jung, J. (2021). Urban Form and Natural Hazards: Exploring the Dual Aspect Concept of Urban Forms on Flood Damage. *Sustainability*, 13(16), 9007. <https://doi.org/10.3390/su13169007>
- Keyvanfar, A., Shafaghat, A., Ismail, N., Mohamad, S., & Ahmad, H. (2021). Multifunctional retention pond for stormwater management: A decision-support model using Analytical Network Process (ANP) and Global Sensitivity Analysis (GSA). *Ecological Indicators*, 124, 107317. <https://doi.org/10.1016/j.ecolind.2020.107317>
- Khadiyanto, P., Soetomo, S., & Hadi, S. P. (2020). Violation factors of the building coverage ratio: A study in Trimulyo Genuk, Semarang, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 490, 012012. <https://doi.org/10.1088/1755-1315/490/1/012012>

- Khalaj, M. R., Noor, H., & Dastranj, A. (2021). Investigation and simulation of flood inundation hazard in urban areas in Iran. *Geoenvironmental Disasters*, 8(1), 18. <https://doi.org/10.1186/s40677-021-00191-1>
- Kim, Y.-A., & Hipp, J. R. (2021). Density, diversity, and design: Three measures of the built environment and the spatial patterns of crime in street segments. *Journal of Criminal Justice*, 77, 101864. <https://doi.org/10.1016/j.jcrimjus.2021.101864>
- King, L. M., & Simonovic, S. P. (2020). A Deterministic Monte Carlo Simulation Framework for Dam Safety Flow Control Assessment. *Water*, 12(2), 505. <https://doi.org/10.3390/w12020505>
- Kirshen, P., Ruth, M., & Anderson, W. (2008). Interdependencies of urban climate change impacts and adaptation strategies: A case study of Metropolitan Boston USA. *Climatic Change*, 86(1–2), 105–122. <https://doi.org/10.1007/s10584-007-9252-5>
- Kubin, C. (1992). *Basic characteristics of planned and spontaneous urban environments: A search on validity of physical morphology in terms of behavioral environment*.
- Kumar, B., & Bhaduri, S. (2018). Disaster risk in the urban villages of Delhi. *International Journal of Disaster Risk Reduction*, 31, 1309–1325. <https://doi.org/10.1016/j.ijdrr.2018.04.022>
- Lee, Y., & Brody, S. D. (2018). Examining the impact of land use on flood losses in Seoul, Korea. *Land Use Policy*, 70, 500–509. <https://doi.org/10.1016/j.landusepol.2017.11.019>
- Li, M., Wang, Y., Rosier, J. F., Verburg, P. H., & van Vliet, J. (2022). Global maps of 3D built-up patterns for urban morphological analysis. *International Journal of Applied Earth Observation and Geoinformation*, 114, 103048. <https://doi.org/10.1016/j.jag.2022.103048>
- Lin, J., He, X., Lu, S., Liu, D., & He, P. (2021). Investigating the influence of three-dimensional building configuration on urban pluvial flooding using random forest algorithm. *Environmental Research*, 196, 110438. <https://doi.org/10.1016/j.envres.2020.110438>
- Liu, X., Fu, D., Zevenbergen, C., Busker, T., & Yu, M. (2021). Assessing Sponge Cities Performance at City Scale Using Remotely Sensed LULC Changes: Case Study Nanjing. *Remote Sensing*, 13(4), 580. <https://doi.org/10.3390/rs13040580>
- Liu, Y., Bates, P. D., Neal, J. C., & Yamazaki, D. (2021). Bare-Earth DEM Generation in Urban Areas for Flood Inundation Simulation Using Global Digital Elevation Models. *Water Resources Research*, 57(4). <https://doi.org/10.1029/2020WR028516>
- Ma, Z., Hu, J., Feng, P., Gao, Q., Qu, S., Song, W., & Liu, J. (2017). Assessment of Climate Technology Demands in Chinese Sponge City. *Journal of Geoscience and Environment Protection*, 05(12), 102–116. <https://doi.org/10.4236/gep.2017.512008>
- Madusanka, S., Abenayake, C., Jayasinghe, A., & Perera, C. (2022). A Decision-Making Tool for Urban Planners: A Framework to Model the Interdependency among Land

- Use, Accessibility, Density, and Surface Runoff in Urban Areas. *Sustainability*, 14(1), 522. <https://doi.org/10.3390/su14010522>
- Marcus, L., & Colding, J. (2014). Toward an integrated theory of spatial morphology and resilient urban systems. *Ecology and Society*, 19(4), 55. JSTOR. <https://doi.org/10.5751/ES-06939-190455>
- Moravej, M., Renouf, M. A., Lam, K. L., Kenway, S. J., & Urich, C. (2021). Site-scale Urban Water Mass Balance Assessment (SUWMBA) to quantify water performance of urban design-technology-environment configurations. *Water Research*, 188, 116477. <https://doi.org/10.1016/j.watres.2020.116477>
- Mwangi, P. W., Karanja, F. N., Kamau, P. K., & Letema, S. C. (2020). IMPACT OF URBAN FORMS ON 3D BUILT-UP INTENSITY EXPANSION RATE FROM AERIAL STEREO-IMAGERY. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, V-4–2020, 203–208. <https://doi.org/10.5194/isprs-annals-V-4-2020-203-2020>
- Nes, A. (2013). *Measuring urban maturation processes in Dutch and Chinese new towns: Combining street network configuration with building density and degree of land use diversification through GIS*. 18–37.
- Nguyen, C. D., Ubukata, F., Nguyen, Q. T., & Vo, H. H. (2021). Long-Term Improvement in Precautions for Flood Risk Mitigation: A Case Study in the Low-Lying Area of Central Vietnam. *International Journal of Disaster Risk Science*, 12(2), 250–266. <https://doi.org/10.1007/s13753-020-00326-2>
- Nguyen, H. D., Fox, D., Dang, D. K., Pham, L. T., Viet Du, Q. V., Nguyen, T. H. T., Dang, T. N., Tran, V. T., Vu, P. L., Nguyen, Q.-H., Nguyen, T. G., Bui, Q.-T., & Petrisor, A.-I. (2021). Predicting Future Urban Flood Risk Using Land Change and Hydraulic Modeling in a River Watershed in the Central Province of Vietnam. *Remote Sensing*, 13(2), 262. <https://doi.org/10.3390/rs13020262>
- Nguyen, T. T., Ngo, H. H., Guo, W., Wang, X. C., Ren, N., Li, G., Ding, J., & Liang, H. (2019). Implementation of a specific urban water management—Sponge City. *Science of The Total Environment*, 652, 147–162. <https://doi.org/10.1016/j.scitotenv.2018.10.168>
- O'Donnell, E. C., & Thorne, C. R. (2020). Drivers of future urban flood risk. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 378(2168), 20190216. <https://doi.org/10.1098/rsta.2019.0216>
- Papilloud, T., Röthlisberger, V., Loreti, S., & Keiler, M. (2020). Flood exposure analysis of road infrastructure – Comparison of different methods at national level. *International Journal of Disaster Risk Reduction*, 47, 101548. <https://doi.org/10.1016/j.ijdrr.2020.101548>
- Park, K., & Lee, M.-H. (2019). The Development and Application of the Urban Flood Risk Assessment Model for Reflecting upon Urban Planning Elements. *Water*, 11(5), 920. <https://doi.org/10.3390/w11050920>
- Peng, Z., Jinyan, K., Wenbin, P., Xin, Z., & Yuanbin, C. (2018). Effects of Low-Impact Development on Urban Rainfall Runoff under Different Rainfall Characteristics.

- Polish Journal of Environmental Studies*, 28(2), 771–783.  
<https://doi.org/10.15244/pjoes/85348>
- Piyumi, M. M. M., Abenayake, C., Jayasinghe, A., & Wijegunarathna, E. (2021). Urban Flood Modeling Application: Assess the Effectiveness of Building Regulation in Coping with Urban Flooding Under Precipitation Uncertainty. *Sustainable Cities and Society*, 75, 103294. <https://doi.org/10.1016/j.scs.2021.103294>
- Pregnolato, M., Ford, A., Wilkinson, S. M., & Dawson, R. J. (2017). The impact of flooding on road transport: A depth-disruption function. *Transportation Research Part D: Transport and Environment*, 55, 67–81. <https://doi.org/10.1016/j.trd.2017.06.020>
- Ran, J., & Nedovic-Budic, Z. (2016). Integrating spatial planning and flood risk management: A new conceptual framework for the spatially integrated policy infrastructure. *Computers, Environment and Urban Systems*, 57, 68–79. <https://doi.org/10.1016/j.compenvurbsys.2016.01.008>
- Ress, L. D., Hung, C. J., & James, L. A. (2020). Impacts of urban drainage systems on stormwater hydrology: Rocky Branch Watershed, Columbia, South Carolina. *Journal of Flood Risk Management*, 13(3). <https://doi.org/10.1111/jfr3.12643>
- Rezaei, A. R., Ismail, Z. B., Niksokhan, M. H., Ramli, A. H., Sidek, L. M., & Dayarian, M. A. (2019). Investigating the effective factors influencing surface runoff generation in urban catchments – A review. *DESALINATION AND WATER TREATMENT*, 164, 276–292. <https://doi.org/10.5004/dwt.2019.24359>
- Rodrigues, M., & Antunes, C. (2021). Best Management Practices for the Transition to a Water-Sensitive City in the South of Portugal. *Sustainability*, 13(5), 2983. <https://doi.org/10.3390/su13052983>
- Sarkar, S. K., Rahman, Md. A., Esraz-Ul-Zannat, Md., & Islam, Md. F. (2021). Simulation-based modeling of urban waterlogging in Khulna City. *Journal of Water and Climate Change*, 12(2), 566–579. <https://doi.org/10.2166/wcc.2020.256>
- Schmitt, T., Thomas, M., & Ettrich, N. (2004). Analysis and modeling of flooding in urban drainage systems. *Journal of Hydrology*, 299(3–4), 300–311. [https://doi.org/10.1016/S0022-1694\(04\)00374-9](https://doi.org/10.1016/S0022-1694(04)00374-9)
- Sharifi, A. (2019). Urban form resilience: A meso-scale analysis. *Cities*, 93, 238–252. <https://doi.org/10.1016/j.cities.2019.05.010>
- Souza, R., Hartzell, S., Feng, X., Dantas Antonino, A. C., de Souza, E. S., Cezar Menezes, R. S., & Porporato, A. (2020). Optimal management of cattle grazing in a seasonally dry tropical forest ecosystem under rainfall fluctuations. *Journal of Hydrology*, 588, 125102. <https://doi.org/10.1016/j.jhydrol.2020.125102>
- Tabibian, M., & Rezapour, M. (2016). Assessment of urban resilience; a case study of Region 8 of Tehran city, Iran. *Scientia Iranica*, 23(4), 1699–1707. <https://doi.org/10.24200/sci.2016.2240>

- Thoban, M. I., & Hizbaron, D. R. (2020). Urban resilience to floods in parts of Makassar, Indonesia. *E3S Web of Conferences*, 200, 01007. <https://doi.org/10.1051/e3sconf/202020001007>
- UNDRR, U. (2020). *Human Cost of Disasters 2000-2019 Report—UN Office for Disaster Risk Reduction (1).pdf*. <https://reliefweb.int/report/world/human-cost-disasters-overview-last-20-years-2000-2019>
- United Nations, Department of Economic and Social Affairs, & Population Division. (2019). *World urbanization prospects: The 2018 revision*.
- Walczykiewicz, T., & Skonieczna, M. (2020). Rainfall Flooding in Urban Areas in the Context of Geomorphological Aspects. *Geosciences*, 10(11), 457. <https://doi.org/10.3390/geosciences10110457>
- Waqas, H., Lu, L., Tariq, A., Li, Q., Baqa, M. F., Xing, J., & Sajjad, A. (2021). Flash Flood Susceptibility Assessment and Zonation Using an Integrating Analytic Hierarchy Process and Frequency Ratio Model for the Chitral District, Khyber Pakhtunkhwa, Pakistan. *Water*, 13(12), 1650. <https://doi.org/10.3390/w13121650>
- Wijayawardana, N., Abenayake, C., Jayasinghe, A., & Dias, N. (2023). An Urban Density-Based Runoff Simulation Framework to Envisage Flood Resilience of Cities. *Urban Science*, 7(1), 17. <https://doi.org/10.3390/urbansci7010017>
- World Bank. (2017). *Land Use Planning for Urban Flood Risk Management*. World Bank, Washington, DC. <https://doi.org/10.1596/26654>
- Wright, A. (2007). *Toward a Strategic Sanitation Approach: Improving the Sustainability of Urban Sanitation in Developing countries*, The World Bank. <http://documents.worldbank.org/curated/en/245141468137390560/Toward-a-strategic-sanitation-approach-improving-the-sustainability-of-urban-sanitation-in-developing-countries>
- Ye, Y., Yeh, A., Zhuang, Y., van Nes, A., & Liu, J. (2017). “Form Syntax” as a contribution to geodesign: A morphological tool for urbanity-making in urban design. *URBAN DESIGN International*, 22(1), 73–90. <https://doi.org/10.1057/s41289-016-0035-3>
- Zevenbergen, C. (2011). *Urban flood management*. CRC Press.