

6. REFERENCES

- Abdelkhalek, A. M., Awadallah, A. G., & Awadallah, N. (2018). Optimal selection of rainfall gauges for safe extreme events estimation using a geostatistical approach. *Saudi Society for Geosciences 2018*, 438. <https://doi.org/10.1007/s12517-018-3765-2>
- Allen, D. M., Cannon, A., Toews, M. W., & Scibek, J. (2010). *Variability in simulated recharge using different gcms*. 46.
- Amorocho, J., Brandstetter, A., & Morgan, D. (1968). *The effects of density of recording rain gauge networks on the description of precipitation patterns*. IAHS-AISH.
- Andiego, G., Waseem, M., Usman, M., & Mani, N. (2018). *The Influence of Rain Gauge Network Density on the Performance of a Hydrological Model*. 7, 27–50.
- Area and climate—Department of census and statistic- Sri Lanka*. (n.d).
Www.Statistic.Gov.Lk.
- Baboo, S. S., & Devi, M. R. (2010). An analysis of different resampling methods in Coimbatore, District. *Global Journal of Computer Science and Technology*.
- Bahremand, A., Smedt, F. D., Corluy, J., Liu, Y. B., Poorova, J., Velcicka, L., & Kunikova, E. (2006). Wetspa Model Application for Assessing Reforestation Impacts on Floods in Margecany–Hornad Watershed, Slovakia |. *Springer*, 21, 1373–1391.
- Beven, K. (2012). *Rainfall-Runoff Modelling The Primer* (second). John Wiley & Sons, Ltd.
- Bhagabati, S. S., & Kawasaki, A. (2017). *Consideration of the rainfall-runoff-inundation (RRI) model for flood mapping in a deltaic area of Myanmar*. 11(3), 155–160.
<https://doi.org/10.3178/hr1.11.155>
- Brocca, L., Moramarco, T., Melone, F., Wagner, W., Hasenauer, S., & Hahn, S. (2012). Assimilation of surface- and rootzone ASCAT soil moisture products into rainfall–runoff modeling. *IEEE Transactions on Geoscience and Remote Sensing*, 50(7), 2542–2555.

- Brunsdon, C., McClatchey, J., & Unwin, D. J. (2001). Spatial variations in the average rainfall-altitude relationship in Great Britain: An approach using geographically weighted regression. *Wiley Online Library*, 21(4), 455–466.
- Chow, V. T. (1959). *Open channel hydraulics*.
- Chow, V. T., Maidment, D. R., & Mays, L. W. (1988). *Applied hydrology*. McGraw-Hill, Inc.
- Coz, M., François, D., Genthon, P., & Favreau, G. (2009). Assessment of Digital Elevation Model (DEM) aggregation methods for hydrological modeling: Lake Chad basin, Africa. *Computers & Geosciences*, 35, 1661–1670. <https://doi.org/10.1016/j.cageo.2008.07.009>
- Curw Center for Urban Water. (2019). Curw Weather Stations. www.curwsl.org
- De Silva, M. M. G. T., Weerakoon, S. B., Herath, S., Ratnayake, U. R., & Mahanama, S. (2012). Flood Inundation Mapping along the Lower Reach of Kelani River Basin under the Impact of Climatic Change. In *ENGINEER: Vol. XXXXV* (pp. 23–29). The Institution of Engineers, Sri Lanka.
- Devia, G. K., Ganasri, B. P., & Dwarakish, G. S. (2015). *A review on hydrological models*. 4, 1001–1007.
- Diamond, H., Washington, D. C., & Wilbur, S. H. (1942). *Automatic weather stations* (United States Patent office Patent No. 2,287,786).
- Dioniio, E. A., & Costa, M. H. (2019). Influence of Land Use and Land Cover on Hydraulic and Physical Soil Properties at the Cerrado Agricultural Frontier. *MDPI*, 9(24). <https://doi.org/doi:10.3390/agriculture9010024>
- Disaster Management Centre. (2019). *Sri Lanka summary situation update*.
- Dissanayaka, K. D. C. R., & Rajapakse, R. L. H. L. (2019). Long-term precipitation trends and climate extremes in the Kelani River basin, Sri Lanka, and their impact on streamflow variability under climate change. *Paddy and Water Environment*, 17(2), 281–289. <https://doi.org/10.1007/s10333-019-00721-6>

- Donigian, A. S., & Imhoff, J. C. (2006). *History and Evolution of watershed modeling derived from the Stanford Watershed Model*.
- Dorn, H., Vetter, M., & Hofle, B. (2014). *GIS-Based Roughness Derivation for Flood Simulations: A Comparison of Orthophotos, lidar and Crowdsourced Geodata*. 6, 1739–1759.
- Fewtrell, T. J., Bates, P. D., Horritt, M., & Hunter, N. M. (2008). Evaluating the effect of scale in flood inundation modelling in urban environments. *Hydrological Processes*, 22(26), 5107–5118. <https://doi.org/10.1002/hyp.7148>
- Gamini B Dodanwela Associates (Pvt) Ltd. (2007). *River cross section survey or comprehensive study on disaster management in Sri Lanka*.
- Gann, D. (2019). *Quantitative spatial upscaling of categorical information: The multi-dimensional grid-point scaling algorithm—Gann—2019—Methods in Ecology and Evolution—Wiley Online Library*. 10(12). <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/2041-210X.13301>
- Goovaerts, P. (1997). *Geostatistics for Natural Resources Evaluation*. Oxford University Press.
- Grimes, D. I. F., Pardo-Iguzquiza, & Bonifacio, R. (1999). Optimal areal rainfall estimation using raingauges and satellite data. *Elsevier*, 222, 93–108.
- Hawker, L., Bates, P., Neal, J., & Rougier, J. (2018). *Perspectives on Digital Elevation Model (DEM) Simulation for Flood Modeling in the Absence of a High-Accuracy Open Access Global DEM | Earth Science*.
- Hawker, L., Rougier, J., Neal, J., Bates, P., Archer, L., & Yamazaki, D. (2018). *Implications of Simulating Global Digital Elevation Models for Flood Inundation Studies*.
- Hema, N., & Kant, K. (2016). Hourly real-time rainfall estimation for improved smart irrigation system using nearby automated weather station. *Sciencedomain International*, 18(5), 1–13. <https://doi.org/10.9734/BJAST/2016/30934>

- Hettiarachchi, P. (2018). *Flood frequency analysis for the Kelani River and the Design flood for Kelani flood bund.*
- Hettiarachchi, P. (2020). *Hydrological Report on the Kelani River Flood in May 2016.*
- Hoggan, D. H. (1989). *Computer-Assisted floodplain hydrology and hydraulics.* McGraw-Hill.
- Hu, Q., Li, Z., Wang, L., Huang, Y., Wang, Y., & Li, L. (2019). *Rainfall Spatial Estimations: A Review from Spatial Interpolation to Multi-Source Data Merging. 11.*
- Huffman, G. J., Adler, R. F., Arkin, P., & Chang, A. (1997). *The Global Precipitation Climatology Project (GPCP) Combined Precipitation Dataset.*
- IS 4987: *Recommendations for establishing network of rain gauge stations: Bureau of Indian Standards.* (1994). <https://archive.org/details/gov.in.is.4987.1994>
- Jayasekara, S. M., Abeysingha, N. S., & Meegastenna, T. J. (2020). Streamflow trends of Kelani river basin in Sri Lanka (1983-2013). *National Science of Sri Lanka, 48*(4).
- Kokkonen, T., Koivusalo, H., & Karvonen, T. (2001). *A semi-distributed approach to rainfall-runoff modelling—A case study in a snow affected catchment. 16*(5), 481–493.
- Komolafe, A. A., Herath, S., & Avtar, R. (2017). Development of generalized loss functions for rapid estimation of flood damages: A case study in Kelani River basin, Sri Lanka. *Società Italiana Di Fotogrammetria e Topografia (SIFET), 10*, 13–30.
- Lakshmi, S., & Yarrakula, K. (2019). Review and critical analysis on digital elevation models. *Geofizika, 35*, 129–157. <https://doi.org/10.15233/gfz.2018.35.7>
- Lee, J., Kim, S., & Jun, H. (2018). A study of the influence of the spatial distribution of Rain Gauge Networks on areal average rainfall calculation. *MDPI, 10*(1635). <https://doi.org/doi:10.3390/w10111635>
- Lopez, M. G., Wennerstrom, H., Norden, L.-A., & Seibert, J. (2015). Location and density of rain gauges for the estimation of spatial varying precipitation. © 2015 Swedish

Society for Anthropology and Geography, 97, 167–179.
<https://doi.org/DOI:10.1111/geoa.12094>

Maleika, W. (2020). Inverse distance weighting method optimization in the process of digital terrain model creation based on data collected from a multibeam echosounder. *Springer*, 12, 397–407.

Mallawatantri, A. (Ed.). (2016). *Natural resource profile of the Kelani river basin* (Medium to Long-Term Multi-Stakeholder Strategy and Action Plan for Management and Conservation of the Kelani River Basin 2016-2020, p. 39).

Mesa-Mingorance, J. L., & Ariza-López, F. J. (2020). Accuracy Assessment of Digital Elevation Models (dems): A Critical Review of Practices of the Past Three Decades. *Remote Sensing*, 12(16), 2630. <https://doi.org/10.3390/rs12162630>

METI/ERSDAC, NASA/LPDAAC, & USGS/EROS. (2009). *ASTER global DEM validation*.

Miller, S. N., Kepner, W. G., Mehaffey, M. H., Hernandez, M., Miller, R. C., Goodrich, D. C., Devonald, K., Heggem, D. T., & Miller, W. P. (2002). Integrating landscape assessment and hydrologic modeling for land cover change analysis. *Journal of the American Water Resources Association*, 38(4), 915–929.
<https://doi.org/10.1111/j.1752-1688.2002.tb05534.x>

Montanari, A. (2016). *Rainfall-Runoff modelling*. University of Bologna Home Page.

Moormann, F. R., & Panabokke, C. R. (1961). *A new approach to the identification and classification of the most important soil groups of Ceylon*.

Moradkhani, H., & Sorooshian, S. (2009). *General review of rainfall-runoff modelling: Model calibration, data assimilation and uncertainty analysis*. 1–24.

Nastiti, K. D., Kim, Y., Jung, K., & An, H. (2015). The application of Rainfall-Runoff-Inundation (RRI) model for inundation case in upper Citarum Watershed, West Java-Indonesia. *Procedia Engineering*, 125, 166–172.

- Pakoksung, K. (2016). *Runoff Analysis using Satellite Data for Regional Flood Assessment—Spatial and Time Series Bias Correction of Satellite Data* [Thesis, Kochi University of Technology]. <https://ci.nii.ac.jp/naid/500000997617>
- Pakoksung, K., & Takagi, M. (2016). *Effect of satellite based rainfall products on river basin responses of runoff simulation on flood event*. <https://doi.org/DOI.10.1007/s40808-016-0200-0>
- Patabendige, C. S., Kazama, S., & Kondage, Y. S. (2019). Spatial and Temporal Variation of Runoff Trend in Sri Lanka During the Past Decades. *2019 Moratuwa Engineering Research Conference (mercon)*, 751–756. <https://doi.org/10.1109/mercon.2019.8818782>
- Paula, S. C. D., Tassi, R., Piccilli, D. G. A., & Neto, F. L. (2018). Influence of the rain gauge network on the performance of a hydrological lumped model applied at different basin scales. *RBRH*, 23(45).
- Pechlivanidis, I. G., Jackson, B. M., McIntyre, N. R., & Wheater, H. S. (2011). *Catchment scale hydrological modelling: A review of model types, calibration approaches and uncertainty analysis methods in the context of recent developments in technology*. 13(3), 193–214.
- Rainbird, A. F. (2007). *Precipitation basic principles of network design*.
- Rasmy, M., Iwami, Y., Sayama, T., Lawford, P., & Koike, T. (2016). *Preliminary Investigation of Water and Energy based Rainfall-Runoff Inundation (WEB-RRI) Model in the Lower Kinu River Basin, Japan*.
- Rasmy, M., Sayama, T., & Koike, T. (2019). Development of water and energy Budget-based Rainfall-Runoff-Inundation model (WEB-RRI) and its verification in the Kalu and Mundeni River Basins, Sri Lanka. *Elsevier*, 579.
- Remson, I., Hornberger, G. M., & Molz, F. J. (1971). Numerical Methods in Subsurface Hydrology. *John Wiley & Sons*, 36(4), 389.

- Rigol, J. P., Jarvis, C. H., & Stuart, N. (2001). *Artificial neural networks as a tool for spatial interpolation*. *15*(4), 323–343.
- Rinsema, J. G. (2014). *Comparison of rainfall runoff models for the florentine catchment*. University of Twente.
- Rogers, D., Love, G., & Bruce, S. (2016). *Meteorological and hydrological services in Sri Lanka—Review*.
- Saksena, S., & Merwade, V. (2015). *Incorporating the effect of DEM resolution and accuracy for improved flood inundation mapping*.
- Santillan, J. R., & Makinano-Santillan, M. (2016). *Vertical accuracy assessment of 30 m resolution ALOS, ASTER, and SRTM global dems over Northeastern Mindanao, Philippines*.
- Savage, J. T. S., Bates, P., Freer, J., Neal, J., & Aronica, G. (2016). When does spatial resolution become spurious in probabilistic flood inundation predictions? *Hydrological Processes*, *30*(13), 2014–2032. <https://doi.org/10.1002/hyp.10749>
- Sayama, T. (2017). *Rainfall-Runoff-Inundation (RRI) Model* (ver. 1.4.2).
- Sayama, T., Ozawa, G., Kawakami, T., Nabesaka, S., & Fukami, K. (2012). Rainfall–runoff–inundation analysis of the 2010 Pakistan flood in the Kabul River basin. *IAHS Press*, *57*(2).
- Sayama, T., Tatebe, Y., & Tanaka, S. (2017). An emergency response-type rainfall-runoff-inundation simulation for 2011 Thailand floods. *015 the chartered institution of water and environmental management(CIWEM) and john wiley & sons ltd*, *10*, 65–78. <https://doi.org/10.1111/jfr3.12147>
- Schumann, A. H. (1998). Thiessen Polygon. In *Encyclopedia of Earth Science* (pp. 648–649). Springer.

- Shahrban, M., Walker, J. P., Wang, Q. J., & Robertson, D. E. (2018). On the importance of soil moisture in calibration of rainfall–runoff models: Two case studies. *Taylor & Francis*, 63(9), 1292–1312. <https://doi.org/10.1080/02626667.2018.1487560>
- Shrestha, B. B. (2019). Approach for Analysis of Land-Cover Changes and Their Impact on Flooding Regime. *MDPI*, 2(27). <https://www.mdpi.com/2571-550X/2/3/27>
- Shustikova, I., Domeneghetti, A., Neal, J. C., Bates, P., & Castellarin, A. (2019). Comparing 2D capabilities of HEC-RAS and LISFLOOD-FP on complex topography. *Taylor & Francis*, 64(14), 1769–1782.
- Sikka, A. K., Samra, J. S., Sharda, V. N., Samraj, P., & Lakshmanan, V. (2003). Low flow and high flow responses to converting natural grassland into bluegum (*Eucalyptus globulus*) in Nilgiris watersheds of South India. *Journal of Hydrology*, 270(1), 12–26. [https://doi.org/10.1016/S0022-1694\(02\)00172-5](https://doi.org/10.1016/S0022-1694(02)00172-5)
- Singh, V. P. (1995). *Computer models of watershed hydrology Rev. Ed.*
- Singh, V. P. (2018). Hydrologic modeling: Progress and future directions. *Springer*.
- Sitterson, J., Knightes, C., Parmar, R., Wolfe, K., Mucbe, M., & Avant, B. (2017). *An Overview of Rainfall-Runoff Model Types*. Environmental Protection Agency (EPA).
- Smith, M. B., Koren, V., Zhang, Z., Reed, Z. S. M., Cui, Z., & Zhang, Y. (2012). *Results of the DMIP 2 oklahoma experiments*. 17–48.
- Sorooshian, S., Hsu, K. I., Coppola, E., Tomassetti, B., Verdecchia, M., & Visconti, G. (2008). *Hydrological modelling and the water cycle*.
- Strategic Environmental Assessment* (Strategic Environmental Assessment of Development of River Basin Level Flood and Drought Mitigation Investment Plans-Kelani River Basin, p. 278). (2018). Consulting Engineers and Architects Associated(pvt) Ltd.
- Subramanya, K. (2008). *Engineering hydrology third edition*. Tata mcgraw-Hill Publishing Company Limited.

- Suwanwerakamtorn, R. (1994). *GIS and hydrologic modelling for the management of small watersheds*. 1994, 343–348.
- Tan, M. L., Ficklin, D. L., Dixon, B., Ibrahim, A. L., Yusop, Z., & Chaplot, V. (2015). Impacts of DEM resolution, source, and resampling technique on SWAT simulated streamflow. *Elsevier*, 63, 357–368.
- Tapiador, F. J., Turk, F. J., Petersen, W., Hou, A. Y., Garcia-Ortega, E., & Machado, L. A. T. (2012). Global precipitation measurement: Methods, datasets and applications. *Elsevier*, 70–97.
- Tilford, K. A., Sene, K., & Collier, C. G. (2003). *Flood Forecasting – Rainfall Measurement and Forecasting*.
- Usery, E. L., Finn, M. P., Scheidt, D. J., Ruhl, S., Beard, T., & Bearden, M. (2004). Geospatial data resampling and resolution effects on watershed modeling: A case study using the agricultural non-point source pollution model. *Journal of Geographical Systems*, 6(3), 289–306. <https://doi.org/10.1007/s10109-004-0138-z>
- Vaze, J., Jordan, P., Beecham, R., Frost, A., & Summerell, G. (2012). *Guidelines for rainfall-runoff modelling*. Australian government department of innovation, industry, science and research.
- Wagener, T., Wheeler, H. S., & Gupta, H. V. (2003). *Rainfall-Runoff Modelling in Gauged and Ungauged Catchments*. Imperial College Press.
- Watersheds of Sri Lanka* (first). (2011). [Map]. Department of Agrarian development of Sri Lanka.
- Wolff, D. B., Marks, D. A., Amitai, E., & Silberstein, D. S. (2005). *Ground validation for the tropical rainfall measuring mission (TRMM)*. 4(22).
- Wu, S., Li, J., & Huang, G. H. (2008). A study on DEM-derived primary topographic attributes for hydrologic applications: Sensitivity to elevation data resolution. *Applied Geography*, 28(3), 210–223. <https://doi.org/10.1016/j.apgeog.2008.02.006>

- Yue, T. X. (2011). *Surface Modeling: High Accuracy and High Speed Methods* (1st ed.). CRC Press.
- Zandbergen, P. A. (2010). Methodologic Issues in Using Land Cover Data to Characterize Living Environments of Geocoded Addresses. *Environmental Health Perspectives*, *118*(3), A108. <https://doi.org/10.1289/ehp.0901863>
- Zeng, Q., Chen, H., Xu, C.-Y., Jie, M.-X., Chen, J., & Guo, S.-L. (2018). The effect of rain gauge density and distribution on runoff simulation using a lumped hydrological modelling approach. *Elsevier*, *563*, 106–122.