

## PUBLICATIONS OF A. W. JAYAWARDENA

**1974 Citations and 8204 Reads (Source: ResearchGate as of January 3, 2019)**

### Books

1. **Jayawardena, A. W.** (2014): Environmental and Hydrological Systems Modelling, CRC Press, Taylor and Francis Group, Boca Baton, Fl, 33487, USA, 516 pp.
2. **Jayawardena, A. W.** (2018): Fluid mechanics, Hydraulics, Hydrology and Water Resources for Civil Engineers, Taylor and Francis Group, Boca Baton, Fl, 33487, USA (in preparation)

### Book Chapters

3. **Jayawardena, A. W.** (2011): Book Chapter on “*Hydro-meteorological and environmental disasters*” In: ‘Environmental Hazards – The Fluid Dynamics and Geophysics of Extreme Events’ (Eds: H.K. Moffatt and Emily Shuckburgh), World Scientific, Singapore. July 15, 2011, pp 229-267.
4. **Jayawardena, A. W.** and Sivakumar, B.(2017): Book Chapter on "*Mekong River*", Chapter 102 in Handbook of Applied Hydrology, Second Edition (Editor -in-Chief: Vijay P Singh) McGaw Hill Education, pp 102-1 to 102-9.
5. D. Yang and **Jayawardena, A. W.** , Zhengtao Cong (2017): Book Chapter on "*Watersheds, River Basins and Land use*", in Handbook of Applied Hydrology, Second Edition (Editor -in-Chief: Vijay P Singh) McGaw Hill Education, pp 2-1 to 2-8..

### Edited Books

6. Takeuchi, K., **Jayawardena, A. W.** and Takahasi, Y. (Editors) (1995): *Catalogue of Rivers for Southeast Asia and the Pacific - Volume I*, UNESCO-IHP Regional Steering Committee for Southeast Asia and the Pacific, October 1995, 289 pp. (A UNESCO-IHP Publication)
7. **Jayawardena, A. W.** , Takeuchi, K., Machbub, B. (Editors) (1997): *Catalogue of Rivers for Southeast Asia and the Pacific - Volume II*, UNESCO-IHP Regional Steering Committee for Southeast Asia and the Pacific, 1997 285 pp. (A UNESCO-IHP Publication)
8. **Jayawardena, A. W.**, Lee, J. H. W., and Wang, Z. Y. (Editors) (1999) : *River Sedimentation - Theory and Applications*, Proceedings of the Seventh International Symposium on River Sedimentation, Hong Kong, Balkema Publishers, pp 1015

9. Lee, J. H. W., **Jayawardena, A. W.** and Wang, Z. Y. (Editors) (1999): *Environmental Hydraulics*, Proceedings of the Second International Symposium on Environmental Hydraulics, Hong Kong, Balkema Publishers, pp 979.
10. Pawitan, H., **Jayawardena, A. W.**, Takeuchi, K. and S. Lee (Editors) (2000): *Catalogue of Rivers for Southeast Asia and the Pacific – Volume III*, UNESCO-IHP Regional Steering Committee for Southeast Asia and the Pacific, 2000, 268pp. (A UNESCO-IHP Publication)

### **Keynote papers**

11. **Jayawardena, A. W.** (1996): *Adaptivity in stochastic modelling and forecasting*, **Keynote Paper**, International Conference in Hydrology and Water Resources, New Delhi, December 20-22, 1993, In : Surface Water Hydrology by V. P. Singh and B. Kumar (Eds.), Kluwer Academic Press, pp. 429-442
12. **Jayawardena, A. W.** (2009): *Challenges in Hydrological Modelling – Simplicity vs. Complexity*, **Keynote Paper**, Proceedings of the International Conference on “Water, Environment, Energy and Society (WEES2009)”, New Delhi, India January 12-16, 2009, vol I, pp 549-553.
13. Jayawardena, A. W. (2012): *Challenges for sustainable water management*, **Keynote paper**, Proceedings of the International Symposium on Advances in Civil and Environmental Engineering Practices for Sustainable Development (ACEPS-2012), Faculty of Engineering, University of Ruhuna, Galle, Sri Lanka, March 19, 2012, pp 24-30.

### **Invited papers**

14. **Jayawardena, A.W.** (1987): *Water supply and resources development in Hong Kong*, Proceedings of the Symposium on Rivers and Water Resources in East Asia, Tokyo, Japan, December, 1987, pp 93 - 108
15. **Jayawardena, A.W.** (1989): *Some aspects of water quality modelling in the Hong Kong water environment*, Proceedings of the International Symposium-cum-Seminar on Integrated Water Management in Urban Areas, August/September, 1989, Nagoya, Japan, pp 105-116.
16. **Jayawardena, A. W.** (1993): *Tropical storms in the Pacific*, Proceedings of the Pacific Science Association Workshop entitled ‘Towards Natural Disaster Reduction’, VII PSA Inter-Congress, June 27 - July 3, 1993, Okinawa, Japan, Ed: S. Herath and T.Katayama, pp 7-20.
17. **Jayawardena, A. W.** (1995): *El-nino southern oscillation and global climatic anomalies*, Proceedings of the Pacific Science Association Workshop on Harnessing the Communication Revolution – Creation of a Global Disaster Information Network, XVIII PSA Congress, June 1995, Ed: S. Herath, Beijing, China, pp 123-128.

18. **Jayawardena, A. W.** (1995): *Urbanization and its impact upon the hydrological cycle with particular reference to Southeast Asia*, Proc. UNESCO-IHP International Symposium on Rivers and People in Southeast Asia and the Pacific - Partnership for the 21st Century, October 23-27, 1995, Tokyo, Japan, pp 25-29.
19. **Jayawardena, A. W.** (2000) : *Deterministic vs. stochastic approaches of modelling hydrological time series*, Proceedings, Eighth International Symposium on Stochastic Hydraulics, Beijing, China, July 25-28, 2000, Balkema Publishers, Rotterdam, pp 469-477.
20. **Jayawardena, A. W.** (2002): *Geo-risk management practices in the Asia Pacific region*, Proceedings, Euroscience-IUGG Workshop on science for reduction of risk and sustainable development of society, Hungarian Academy of Sciences, Budapest, Hungary, June 15-16, 2002.
21. **Jayawardena, A. W.** (2003): *Towards sustainable development and management of the water supply of Hong Kong*, ICUS/INCEDE Fourth Open Lecture on Water Related Issues in Mega Cities of Asia in the 21<sup>st</sup> century, Institute of Industrial Science, University of Tokyo, March 11, 2003, Tokyo, Japan, pp 28-31 (Abstract only).
22. **Jayawardena, A. W.** (2004): *The role of hydro-meteorological models in flood hazard mitigation*, International Workshop on Water Hazard and Risk Management, Public Works Research Institute, Tsukuba, Japan, January 20-22, 2004 (in CD ROM format)
23. **Jayawardena, A. W.** (2004): *Recent developments in data driven approaches of hydrological modelling and prediction*, Proceedings of the International Conference on Sustainable Water Resources management in the Changing Environment of the Monsoon Region, November 17-19, 2004, Colombo, Sri Lanka, pp 226-235.
24. **Jayawardena, A. W.** (2004): *Flood and typhoon related disasters in South China*, Proceedings, Tenth International Symposium on Natural and Human Induced Hazards and Third Workshop of the IUGG Commission on Geophysical Risk and Sustainability, Hazards 2004, December 2-4, 2004, National Geophysical Research Institute, Hyderabad, India, p 64 (Abstract only).
25. **Jayawardena A. W.** (2006): *Data driven approaches of real-time flood forecasting*, Proceedings of Asia Oceania Geosciences Society 3<sup>rd</sup> Annual Meeting, AOGS 2006, 10-14 July 2006, Singapore (Abstracts in CD ROM; p 182/1202)
26. **Jayawardena A. W.** (2009): *Challenges in catchment hydrological modeling*, Proceedings of Asia Oceania Geosciences Society 6<sup>th</sup> Annual Meeting, AOGS 2009, 11-15 August 2009, Singapore (Abstracts in CD ROM; Session HS-06-A011).

27. **Jayawardena, A. W.** (2009): *Challenges in coping with water problems in the 21<sup>st</sup> century*, Proceedings of the World City Water Forum (WCWF2009), August 18-21, 2009, Incheon, Korea. Abstract in Volume 1, p 3; Full Paper (TC-A2-2) in CD ROM. Pp 57-63.
28. **Jayawardena, A. W.** (2011): *Dynamics of Hydro-Meteorological and Environmental Hazards*, Asia Pacific Mathematics Newsletter, vol 1, no.4, October 2011, pp 7-11.
29. **Jayawardena, A. W.** (2014): *Fuzzy logic approach of hydrological modelling*, Session HS01 on Hydrological Sciences, 11th Annual Meeting of the Asia Oceania Geosciences Society (AOGS2014), July 28- August 1, 2014, Sapporo, Japan. (Abstract in CD Rom).
30. **Jayawardena, A. W.** (2014): Recent developments and challenges ahead in hydrological modelling, Proceedings, Drainage Services Department International Conference (DSDIC2014) held in Hong Kong, November 12-14, 2014. (<http://www.dsdic2014.hk/program2.html>).
31. **Jayawardena, A. W.** (2015): Application of recurrent neural networks in hydrological modelling, Session HS02 on Hydrological Sciences, 12<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society (AOGS2015), August 3-7, 2015, Singapore.
32. **Jayawardena, A. W.** (2016): Data Driven approaches of Hydrological Systems, Presentation given at the International Workshop on Opportunities and Challenges in Coastal Developments held at Hohai University, Nanjing, China on December 26, 2016.
33. **Jayawardena, A. W.** (2017): Support Vector Machines as a tool for issuing flood warning, Session HS01 on Hydrological Sciences, 14<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society (AOGS2017), August 7-11, 2017, Singapore.

### **Journal papers**

34. White, J.K. and **Jayawardena, A.W.** (1975): *Discussion of 'A finite element approach to watershed hydrology' by C.Taylor et al.*, Journal of Hydrology, vol. 27, Dec. 1975, pp 357 – 358.
35. **Jayawardena, A.W.** and White, J.K. (1977): *A finite element distributed catchment model, I - Analytical Basis*, Journal of Hydrology, vol. 34(3-4), August 1977, pp 269 - 286.
36. **Jayawardena, A.W.** and White, J.K. (1979): *A finite element distributed catchment model, II - Application to real catchments*, Journal of Hydrology, vol. 42 (3-4), July 1979, pp 231 – 249.

37. **Jayawardena, A.W.** and Lui, P.H. (1983): *A time dependent dispersion model based on Lagrangian correlation*, Hydrological Sciences Journal, vol. 28, no 4, December 1983, pp 455 - 473.
38. Lui, P.H. and **Jayawardena, A.W.** (1983): *Application of a time dependent dispersion model for dispersion prediction in natural streams*, Hydrological Sciences Journal, vol. 28, no 4, December 1983, pp 475 - 483.
39. **Jayawardena, A.W.** and Lui, P.H. (1984): *Numerical solution of the dispersion equation using a variable dispersion coefficient: Method and applications*, Hydrological Sciences Journal, vol. 29, no 3, September 1984, pp 293 - 309.
40. **Jayawardena, A. W.** and Kaluarachchi, J.J. (1986): *Infiltration into decomposed granite soils: Numerical modelling, application and some laboratory observations*, Journal of Hydrology, vol. 84 (3-4), May 1986, pp 231 - 260.
41. Lee, J.H.W., **Jayawardena, A.W.** and Chan, K.T. (1987): *Mathematical and experimental modelling of some environmental problems*, Hong Kong Engineer, Journal of the Hong Kong Institution of Engineers, vol 15, no. 6, June 1987, pp 33 – 45.
42. **Jayawardena, A.W.** (1988): *Stream flow simulation using Tank Model: Application to Hong Kong catchments*, Hong Kong Engineer, Journal of the Hong Kong Institution of Engineers, vol 16, no. 7, July 1988, pp 33 - 36.
43. **Jayawardena, A.W.** and Lai, F.Z. (1989): *Time series analysis of water quality data in Pearl River, China*, Journal of Environmental Engineering, ASCE, vol. 115, no. 3, June 1989, pp 590 - 607.
44. **Jayawardena, A. W.** (1989): *Calibration of some empirical equations for evaporation and evapotranspiration in Hong Kong*, Agricultural & Forest Meteorology, vol. 47, July 1989, pp 75 - 81.
45. **Jayawardena, A.W.** and O Fong Wa. (1990): *Wave forces on circular piles - an experimental study*, Hong Kong Engineer, Journal of the Hong Kong Institution of Engineers, March 1990, pp 19-22.
46. **Jayawardena, A.W.** and Lau, W.H. (1990): *Homogeneity tests for rainfall data*, Hong Kong Engineer, Journal of the Hong Kong Institution of Engineers, September 1990, pp 22-25.
47. **Jayawardena, A. W.** and Lau, W. H. (1990): *Stochastic analysis and generation of monthly and 14-day evaporation data*, Journal of the Japan Society of Hydrology and Water Resources, vol. 3, no 3, pp 56-67.
48. **Jayawardena, A. W.** (1991): *Reliability of empirical equations for estimating evaporation and evapotranspiration*, Bulletin, Hong Kong Meteorological Society, vol. 1, no 2, pp 3-10.

49. **Jayawardena, A. W.** and Lai, F. Z. (1994): *Analysis and prediction of Chaos in Rainfall and Streamflow Time Series*, Journal of Hydrology, vol. 153 (1-4), January 1994, pp. 23-52.
50. **Jayawardena, A. W.** and Fernando, D. A. K. (1998) *Use of radial basis function type artificial neural networks for runoff simulation*, Microcomputers in Civil Engineering - Journal of Computer-Aided Civil and Infrastructure Engineering, vol 13(2), March 1998, pp 91-99.
51. Johnson, I. W. and **Jayawardena, A. W.** (1998): *Efficient numerical solution of the dispersion equation using moving finite elements*, Finite Elements in Analysis and Design, vol 28 (3), January 1998, pp 241-253.
52. Fernando, D. A. K. and **Jayawardena, A. W.** (1998): *Runoff forecasting using radial basis function networks with OLS algorithms*, Journal of Hydrologic Engineering, ASCE, vol 3, no. 3, July 1998, pp 203-209.
53. **Jayawardena, A. W.** and R. R. Bhuiyan (1999): *Evaluation of an interill soil erosion model using laboratory catchment data*, Hydrological Processes, vol 13(1), January 1999, pp 89-100.
54. **Jayawardena, A. W.** and Dissanayake, P. B. G. (1999): *Effective Hydraulic Conductivity for partially saturated porous media*, Journal of Irrigation and Drainage Engineering, ASCE, vol 125, no. 2, March/April 1999, pp 82-89.
55. **Jayawardena, A. W.** and R. B. Rezaur (2000): *Measuring drop size distribution and kinetic energy of rainfall using a force transducer*, Hydrological Processes, vol 14 (1), January 2000, pp 37-49.
56. **Jayawardena, A. W.** and Zhou, M.C. (2000): *A modified spatial soil moisture storage capacity distribution curve for the Xinanjiang model*, Journal of Hydrology, vol 227 (1-4), January 2000, pp 93-113.
57. **Jayawardena, A. W.** and Gurung, A. B. (2000): *Noise reduction and prediction of hydrometeorological time series: dynamical systems approach vs. stochastic approach*, Journal of Hydrology, vol 228 (3-4), March 2000, pp 242-264.
58. **Jayawardena, A. W.** and R. B. Rezaur (2000): *Drop size distribution and kinetic energy load of rainstorms in Hong Kong*, Hydrological Processes, vol 14 (6), April 2000, pp 1069-1082.
59. **Jayawardena, A. W.** and Mahanama, S. P. P. (2002): *Meso-scale Hydrological Modelling: Application to Mekong and Chao Phraya Basins*, Journal of Hydrologic Engineering, ASCE , vol 7 (1), January/February 2002, pp 12-26.

60. **Jayawardena, A. W.**, Li, W. K. and Xu, P. (2002): *Neighbourhood selection for local modelling and prediction of hydrological time series*, Journal of Hydrology, vol 258 (1-4), February 2002, pp 40-57.
61. Hill, R.D., Nagarkar, S., and **Jayawardena, A. W.** (2002) : *Cyanobacterial crust and soil particle detachment: A rain-chamber experiment*, Hydrological Processes, vol 16(15), October 2002, pp 2984-2994.
62. Sivakumar, B., and **Jayawardena, A. W.** (2002) : *An investigation of the presence of low-dimensional chaotic behaviour in the sediment transport phenomenon*, Hydrological Sciences Journal , vol 47(3), June 2002, pp 405-416.
63. Sivakumar, B., **Jayawardena, A. W.** and Fernando, T. M. K. G. (2002): *River flow forecasting: Use of phase space reconstruction and artificial neural networks approaches*, Journal of Hydrology , vol 265(1-4), August , 2002, pp 225-245.
64. Zhou, M.C., Li Z. H., and **Jayawardena, A. W.** (2002): *The generation of digital elevation model and the assessment of its hydrogeomorphological information*, Chinese Journal of Hydraulic Engineering, Chinese Hydraulic Engineering Society, Beijing, China, Water Resources and Hydropower Press of China, 2002, no. 2, (February), pp 71-74 (In Chinese)
65. Chan, C.W., Chan, W. C., **Jayawardena, A. W.**, and Harris, C. J. (2002): *Structure selection of neurofuzzy networks based on support vector regression*, International Journal of Systems Science, vol. 33, no. 9, July 2002, pp 715-722.
66. Zhou, Mai-chun and **Jayawardena, A. W.** (2002): *Modified Xinanjiang model for runoff generation*, Journal of Hydraulic Engineering, Chinese Hydraulic Engineering Society, Beijing, China, Water Resources and Hydropower Press of China, 2002, no. 12, (December), pp 38-43 (In Chinese)
67. Lee, Joseph H.W., Yan Huang, Mike Dickman and **Jayawardena, A. W.** (2003): *Neural network modelling of coastal algal blooms*, Ecological Modelling, vol 159, Issues 2-3, 15 January 2003, pp 179-201.
68. Lee, J. H. W., Huang, Y., and **Jayawardena, A. W.** (2003): *Comment on 'Comparative application of artificial neural networks and genetic algorithms for multivariate time-series modelling of algal blooms in freshwater lakes'*, Journal of Hydroinformatics, 05.1, 2003, pp 71-74.
69. Sivakumar, B. and **Jayawardena, A. W.** (2003): *Sediment transport phenomenon in rivers: an alternative perspective*, Modelling of Hydrologic Systems, Special Issue of Environmental Modelling and Software, vol 18 (8-9), Oct-Nov, 2003, pp 831-838.
70. Chan, C. W., **Jayawardena, A. W.** and Mok, H. T.: (2003): *Estimating mortality in the early stage of a SARS outbreak*, Hong Kong Engineer, Journal

- of the Hong Kong Institution of Engineers, vol 31, no. 10, October 2003, pp 10-11.
71. Li, H. E., Lee, J. H. W., Koenig, A. and **Jayawardena, A. W.**: (2005): *Nutrient load estimation in nonpoint source pollution of Hong Kong region*, Water Science and Technology 51 (3-4): 209-216.
  72. **Jayawardena, A. W.**, Muttill, N., and Lee, J.H.W.(2006): *Comparative analysis of a data-driven and GIS-based conceptual rainfall-runoff model*, Journal of Hydrologic Engineering, ASCE , vol 11, no. 1, January 1, 2006, pp 1-11.
  73. **Jayawardena, A. W.**, Xu, P. C., Tsang, F. L., and Li, W. K. (2006) : *Determining the structure of a radial basis function network for prediction of nonlinear hydrological time series*, Hydrological Sciences Journal, vol 51, no. 1, February 2006, pp 21-44.
  74. Lui, Gilbert C.S., Li, W. K., Leung, Kenneth M. Y., Lee, Joseph H.W., **Jayawardena, A. W.** (2007) *Modelling algal blooms using vector autoregressive model with exogeneous variables and long memory filter*, Ecological modelling, vol. 200, issue 1-2, January 2007, pp 130-138.
  75. Sivakumar, B., **Jayawardena, A. W.**, and Li, W. K. (2007): *Hydrologic complexity and classification: a simple data reconstruction approach*, Hydrological Processes, vol 21, issue 20, pp 2713-2728.
  76. Achela K. Fernando and **Jayawardena, A. W.** (2007): *Use of a supercomputer to advance parameter optimisation using genetic algorithms*, Journal of Hydroinformatics Vol 9 No 4 pp 319–329.
  77. **Jayawardena, A. W.**, Xu, P.C., and Li, W. K. (2008): *A method of estimating the noise level in a chaotic time series*, Chaos, American Institute of Physics, vol 18, issue 2, pp 023115-023115-11, DOI:10.1063/1.2903757
  78. **Jayawardena, A. W.**, Xu, P.C., and Li, W. K. (2009): *Rainfall data simulation by hidden Markov model and discrete wavelet transformation*, Stochastic Environment Research and Risk Assessment (SERRA), vol 23: 863-877, DOI: 10.1007/s00477-008-0264-0.
  79. Muttill, N. and **Jayawardena, A. W.** (2008): *Shuffled Complex Evolution model calibrating algorithm: enhancing its robustness and efficiency*, Hydrological Processes, vol 22, pp 4628-4638 (Published online on July 10, 2008).
  80. **Jayawardena, A. W.**, Xu, P.C., and Li, W. K. (2010): *Modified correlation entropy estimation for a noisy chaotic time series*, Chaos, American Institute of Physics, vol 20, 023104 (2010), DOI:10.1063/1.3382013, pp. 023104-1 – 023104-11.



81. Karunasingha, Dulakshi S. K. , **Jayawardena, A. W.** and Li, W. K. (2011): *Evolutionary product unit based neural networks for hydrological time series analysis*, Journal of Hydroinformatics , vol 134, 2011, pp 825-841.
82. Xu, Pengcheng, Li, W. K. and **Jayawardena, A. W.** (2012): *Noise level estimation for a chaotic time series*, International Journal of Bifurcation and Chaos, vol 22, No. 3(2012) 1250052 (18 pages):  
DOI:10.1142/S0218127412500526
83. Xu, Pengcheng, **Jayawardena, A. W.** and Li, W. K. (2013): *Model selection for RBF network via generalized degree of freedom*, Neurocomputing, Volume 99, 1 January 2013, pp 163-171.
84. Badrzadeh, H., Sarukkalige, R., and **Jayawardena, A. W.** (2013): *Impact of multi-resolution analysis of artificial intelligence model inputs on multi-step ahead river flow forecasting*, Journal of Hydrology, vol 507, pp. 75-85.
85. **Jayawardena, A.W.** (2014): *Challenges for water management*, Journal of the Japan Society of Hydrology and Water Resources, vol 27, no. 1, January 2014, pp 12-16.
86. **Jayawardena, A. W.**, Perera, E. D. P., Zhu Bing, Amarasekara, J.D., and Vereivalu, V. (2014): *A comparative study of fuzzy logic systems approach to river discharge prediction*, Journal of Hydrology, vol 514, pp 85-101.
87. Biswas, R. K. and **Jayawardena, A. W.** (2014): *Water level prediction by artificial neural network in a flashy transboundary river of Bangladesh*, Global NEST Journal, Vol 16, No 2, pp 433-445.
88. Badrzadeh, H., Sarukkalige, R. and Jayawardena, A. W. (2014) *Improving ANN-based short and long term river flow forecasting* , River Research and Application Journal, doi: 10.1002/rra.2865.
89. **Jayawardena, A. W.** (2015): *Climate Change - Is it the cause or the effect?*, KSCE Journal of Civil Engineering, vol 19 (2), pp 359-365.
90. **Jayawardena, A. W.** (2015): *Hydro-meteorological disasters: Causes, effects and mitigation measures with special reference to early warning with data driven approaches of forecasting*, Procedia IUTAM 17 ( 2015 ): 3 – 12, doi: 10.1016/j.piutam.2015.06.003.
88. Shulei Zhang, Dawen Yang, **A.W. Jayawardena**, Xiangyu Xu & Hanbo Yang (2015): *Hydrological change driven by human activities and climate variation and its spatial variability in Huaihe Basin, China*, Hydrological Sciences Journal, DOI: 10.1080/02626667.2015.1035657

89. Shulei Zhang, Hanbo Yang, Dawen Yang, and **A.W. Jayawardena (2015)**: *Quantifying the effect of vegetation change on the regional water balance within the Budyko Framework*, Geophysical Research Letters, December 2015. DOI:10.1002/2015GL066952.

**IAHS (Red book series) – refereed (Journal quality)**

90. **Jayawardena, A.W.** and Peart, M.R. (1989): *Spatial and temporal variation of rainfall and runoff in Hong Kong*, International Association of Hydrological Sciences Publication No. 187, April 1989, pp 409 - 418.
91. **Jayawardena, A. W.** and Lai, F. Z. (1993): *Chaos in Hydrological Time Series*, International Association of Hydrological Sciences Publication No. 213, July 1993, pp 59 - 66.
92. Peart, M. R. and **Jayawardena, A. W.** (1994): *Some observations on bed load movement in a small stream in Hong Kong*, International Association of Hydrological Sciences Publication No. 224, December, 1994, pp 71-76.
93. **Jayawardena, A. W.** (1997): *Runoff forecasting using a local approximation method*, In: *Destructive Water: Water-Caused Natural Disasters, their Abatement and Control* (Proc. Conference held at Anaheim, June 1996), edited by G. L. Leavesley, H. F. Lins, F. Nobilis, R. S. Parker, V. R. Schneider & F. H. M. van de Ven, International Association of Hydrological Sciences Publication No. 239, pp 167-171.
94. **Jayawardena, A. W.** , Fernando, D. A. K. and Zhou M.C. (1997): *Comparison of multilayer perceptron and radial basis function networks as tools for flood forecasting*, In: *Destructive Water: Water-Caused Natural Disasters, their Abatement and Control* (Proc. Conference held at Anaheim, June 1996), edited by G. L. Leavesley, H. F. Lins, F. Nobilis, R. S. Parker, V. R. Schneider & F. H. M. van de Ven, International Association of Hydrological Sciences Publication No. 239, pp 173-181.
95. **Jayawardena, A. W.** and Gurung A. B.(1999): *Effect of noise in non-linear hydrological time series analysis and prediction*, In: *Hydrological Extremes: Understanding, Predicting, Mitigating* (Proceedings of IUGG 99 Symposium HS1, Birmingham, July 1999. Edited by Lars Gottschalk, Jean-Claude Olivry, Duncan Reed and Dan Rosbjerg, International Association of Hydrological Sciences Publication No. 255, July 1999, pp 121 - 128.
96. **Jayawardena, A. W.** and Fernando, T. M. K. G. (2001): *River flow prediction: An artificial neural network approach*, In: *Regional Management of Water Resources* (Proceedings of Symposium S2, Sixth Scientific Assembly, IAHS, Maastricht, The Netherlands, 18—27, July 2001), Edited by A. H. Schumann, M.C.Acreman, R.Davis, M.A.Marino, D. Rosbjerg and Xia Jun, International

Association of Hydrological Sciences Publication No. 268, July 2001, pp 239 - 245.

97. **Jayawardena, A. W.** and Mahanama, S. P. P. (2001): *Daily river discharge prediction using GCM generated atmospheric data*, In: Soil-Vegetation-Atmosphere Transfer Schemes and Large-Scale Hydrological Models (Proceedings of Symposium S5, Sixth Scientific Assembly, IAHS, Maastricht, The Netherlands, 18—27, July 2001), Edited by A. J. Dolman, A. J. Hall, M. L. Kavvas, T. Oki and J. W. Pomeroy, International Association of Hydrological Sciences Publication No. 270, July 2001, pp 159 - 165.
98. **Jayawardena, A. W.**, Xu, Penchang, and Bellie Sivakumar (2002): *Noise level estimation of chaotic hydrological time series*, In: FRIEND 2002- Regional Hydrology: Bridging the Gap between Research and Practice, Edited by Henny A. J. van Lanen and Siegfried Demuth, (Selected Papers for the fourth International Conference on FRIEND held at Cape Town, South Africa, from March 18-22, 2002) International Association of Hydrological Sciences Publication No. 274, March 2002, pp 297-304.
99. **Jayawardena, A. W.**, Xu, Penchang and Li, W. K. (2003): *Radial basis function network for prediction of hydrological time series*, In: Water Resources Systems – Water Availability and Global Change, Edited by Stewart Franks, Gunter Blöschl, Michio Kumagai, Katsumi Musiame and Dan Rosbjerg, (Proceedings of symposium HS02a held during IUGG2003 at Sapporo, July 2003) IAHS Publication No.280, pp260-266. July 2003.

#### Refereed conference papers

100. White, J.K. and **Jayawardena, A.W.** (1975): *A distributed and deterministic catchment model using finite elements*, Proceedings of the Second World Congress, International Water Resources Association, New Delhi, India, December, 1975, vol. v, pp 117 - 124.
101. White, J.K. and **Jayawardena, A.W.** (1975): *Discussion of 'Catchment modelling to estimate flows' by R.T.Clarke et al.*, Engineering Hydrology Today, The Institution of Civil Engineers, London, February, 1975, pp 87 - 88.
102. **Jayawardena, A.W.** (1985): *Applications of the distributed approach to hydrological process modelling*, Proceedings of the International Workshop on Operational Applications of Mathematical Models (Surface Water) in Developing Countries, February 26 - March 1, 1985, New Delhi, India, vol. I, pp 341 - 364 .
103. **Jayawardena, A.W.** (1985): *Moisture movement through unsaturated porous media: Numerical modelling, calibration and application*, Proceedings of the 21st Congress, International Association for Hydraulic Research, August 19-23, 1985, Melbourne, Australia, vol. 1, pp 12 - 16.
104. **Jayawardena, A.W.** and Chiang, W. S. (1988): *A method of measuring secondary currents using a propeller*, Proceedings of the Third International

Symposium on Refined Flow Modelling and Turbulence Measurements, July 26-28, 1988, Tokyo, Japan, pp 829 - 836.

105. **Jayawardena, A.W.** and Chiang, W.S. (1989): *Flow pattern around a continuous curved channel*, Proceedings of the Fourth Asian Congress of Fluid Mechanics, August 1989, Hong Kong, vol. II, pp B48 - B51.
106. **Jayawardena, A.W.** (1990): *Problems and practices of flood prediction and control in Hong Kong*, Proceedings of the 5th International Conference on Urban Storm Drainage, Osaka, Japan, July 23-27, 1990, vol. 3, pp 1599-1604.
107. **Jayawardena, A. W.** and Peart, M. R. (1991): *A forecasting model for flood warning*, Proceedings of the International Symposium on Debris Flow and Flood Disaster Protection, Emeishan, Sichuan, China, October 14-18, 1991, vol. B, pp 172-178.
108. **Jayawardena, A.W.** and Lai, F.Z. (1991): *Water quality forecasting using an adaptive ARMA modelling approach*, Proceedings of the International Symposium on Environmental Hydraulics, Hong Kong, December 16-18, 1991, vol. 2, pp 1121-1127.
109. **Jayawardena, A.W.** and Lai, F.Z. (1991): *Non-Gaussian ARMA modelling and forecasting of water quality data in Hong Kong*, Proceedings of the International Symposium on Environmental Hydraulics, Hong Kong, December 16-18, 1991, vol. 2, pp 1147-1153.
110. Peart, M. R. and **Jayawardena, A. W.** (1991): *Storm water quality changes in a small stream near Shek Kong, Hong Kong*, Proceedings of the International Symposium on Environmental Hydraulics, Hong Kong, December 16-18, 1991, vol. 2, pp 1183-1188
111. Kaluarachchi, J.J., Schulin, R. and **Jayawardena, A. W.** (1991): *Modelling soil venting in a three fluid phase porous medium for hydrocarbon remediation*, Proceedings of the International Symposium on Environmental Hydraulics, Hong Kong, December 16-18, 1991, vol. 2, pp 1297-1302.
112. Peart, M. R. and **Jayawardena, A. W.** (1993): *Flood forecasting and warning in Hong Kong*, Proceedings of the XXV Congress of International Association for Hydraulic Research, Tokyo, Japan, August 30 - September 3, 1993, vol. 1, pp 241-248.
113. Fernando, D. A. K. and **Jayawardena, A. W.** (1994): *Generation and forecasting of monsoon rainfall data*, Proceedings of the 20th WEDC conference on affordable water and sanitation, August 22-26, 1994, Colombo, Sri Lanka, pp 71-74.
114. **Jayawardena, A. W.** and Fernando, D. A. K. (1995): *Hydrological forecasting using artificial neural networks*, Proc. 2nd International Study Conference on GEWEX in Asia and GAME, Pattaya, Thailand, March 6-10, 1995, pp 376-379.

115. **Jayawardena, A. W.** and Fernando, D. A. K. (1995): *Artificial neural networks in hydro-meteorological modelling*, In: Developments in neural networks and evolutionary computing for Civil and Structural Engineering by B. H. V. Topping (Editor), CIVIL-COMP Press, Cambridge, UK., August 1995, pp 115-120.
116. **Jayawardena, A. W.**, Fernando, D. A. K. and Zhou, Yandong. (1996): *Prediction of daily runoff using an artificial neural networks approach*, Proceedings of International Workshop on Macro-scale Hydrological Modelling, Hohai University Press, Nanjing, China, May 1996, pp 145-148.
117. **Jayawardena, A. W.** (1996): *Flooding and flood disaster mitigation in Hong Kong*, Proceedings of Southeast Asian Regional Workshop on Urban Hydrology, 9-12 July, 1996, Shanghai, China, Hohai University Press, pp. 9-16.
118. **Jayawardena, A. W.** and Dissanayake, P. B. G. (1996): *Moving boundary problem in moisture transport through partially saturated porous media*, Proceedings of the International Conference on Water Resources & Environment Research: Towards the 21<sup>st</sup> Century, October 29-31, 1996, Kyoto, Japan, vol. I, pp 125-132.
119. **Jayawardena, A. W.** and Fernando, D. A. K. (1996) *Use of artificial neural networks in estimating evaporation*, Proceedings of the International Conference on Water Resources & Environment Research: Towards the 21<sup>st</sup> Century, October 29-31, 1996, Kyoto, Japan, vol. I, pp 141-147.
120. **Jayawardena, A. W.** (1996) *Correlation dimension estimation of noisy hydrological time series*, Proceedings of the International Conference on Water Resources & Environment Research: Towards the 21<sup>st</sup> Century, October 29-31, 1996, Kyoto, Japan, vol. I, pp 507-513.
121. Peart, M. R. and **Jayawardena, A. W.** (1996) *Water supply and catchment management in Hong Kong*, Proceedings of the International Conference on Water Resources & Environment Research: Towards the 21<sup>st</sup> Century, October 29-31, 1996, Kyoto, Japan, vol. II, pp 517-524.
122. **Jayawardena, A.W.**, Fernando,D. A. K. and Dissanayake, P. B. G. (1997): *Genetic algorithm approach of parameter optimisation for the moisture and contaminant transport problem in partially saturated porous media*, Proceedings of the 27<sup>th</sup> Congress of the International Association for Hydraulic Research, Vol 1, ASCE, San Francisco, California, USA, August 10-15, 1997, pp 761-766.
123. Peart, M.R. and **Jayawardena, A. W.** (1997): *Drought in Hong Kong*, In: The changing face of east Asia during the tertiary and quaternary by N. G. Jablonski (Editor), Centre of Asian Studies, The University of Hong Kong, Proceedings of the Fourth International Conference on Changing Face of east Asia during the Tertiary and Quaternary, January 1995, pp 324-335.

124. **Jayawardena, A. W.** and Mahanama, S. P. P. (1997): *Limited Area Modelling of atmospheric circulation using a semi-Lagrangian semi-implicit finite difference scheme*, Proceedings, IAHS Symposium S1: Sustainability of water Resources under increasing uncertainty, Rabat, Morocco, April 23 - May 3, 1997. pp 61-64.
125. Peart, M. R. and **Jayawardena, A. W.** (1998) : *Temporal rainfall characteristics and their implications for landslides in Hong Kong*, Hydrology in Changing Environment, vol III (Eds. H.Wheater and C. Kirby), Proceedings of the British Hydrological Society International Conference, Exeter, UK, July 1998, pp 229-235.
126. Rezaur, R. B., **Jayawardena, A. W.** and Hossain, M. M. (1998): *Factors affecting confluence scour* - Seventh International Symposium on River Sedimentation, Hong Kong, December 16-18, 1998, pp 187-192.
127. **Jayawardena, A. W.** and Rezaur, R. B. (1998): *Modelling interrill sediment delivery* - Seventh International Symposium on River Sedimentation, Hong Kong, December 16-18, 1998, pp 639-645.
128. Peart, M. R., **Jayawardena, A. W.** and Guang, D. (1998): *Some observations on storm period suspended sediment concentrations in a small Hong Kong stream* - Seventh International Symposium on River Sedimentation, Hong Kong, December 16-18, 1998, pp 999-1005.
129. **Jayawardena, A. W.** and Dissanayake, P. B. G. (1998): *A method of estimating the effective hydraulic conductivity for moisture transport in porous media*, Second International Symposium on Environmental Hydraulics, Hong Kong, December 16-18, 1998, pp 613-618.
130. **Jayawardena, A. W.** and Gurung, A.B. (1999): *Detection of non-linearity in hydrometeorological time series*, Proceedings, First International Conference on Non-linear Science - Dynamics Days Asia Pacific, 13-17 July 1999, Hong Kong Baptist University, Hong Kong pp 40.
131. **Jayawardena, A.W.** and Zhou, M.C. (1999): *Modified Xinanjiang model for runoff generation*, Proceedings, Water 99 Joint Congress – Brisbane, Australia, 6-8, July 1999, pp 1174-1179.
132. **Jayawardena, A. W.** and Zhou, M. C. (1999): *Comparison of two DEM generation methods on the geomorphological and hydrological information*, Proceedings, Civil and Environmental Engineering Conference – New Frontiers and Challenges, 8-12 November 1999, Bangkok, Thailand, vol 5 (Part I), pp I-9 – I-16.
133. **Jayawardena, A. W.** and Fernando, T. M. K. G. (2000): *Forecasting algal blooms using artificial neural networks*, Proceedings of the International Conference on Engineering Applications of Neural Networks, 17-19 July

- 2000, (Ed. Dimitris Tsaptsinos) Department of Mathematics, Kingston University, Surrey, UK, pp 115-122.
134. Lee, J. H. W., Wong, K. T. M., Huang, Y. and **Jayawardena, A. W.** (2000): *A real time early warning and modelling system for red tides in Hong Kong*, Proceedings, Eighth International Symposium on Stochastic Hydraulics, Beijing, China, (Ed. Wang Z.Y and Hu, S. X) July 25-28, 2000, Balkema Publishers, Rotterdam, pp 659-670.
  135. **Jayawardena, A. W.** and Mak Tak Wah (2000): *Neural network approach to hydrological forecasting: Comparison of 'ROLS' algorithm with other algorithms*, Proceedings of the International Symposium on Fresh Perspectives on Hydrology and Water Resources in Southeast Asia and the Pacific, held during November 21-24, 2000, Christchurch, New Zealand, IHP-V Technical Document in Hydrology No. 7, Unesco Jakarta Office, pp 58-69.
  136. Peart, M.R., **Jayawardena, A. W.** and Guan Donsheng (2000): *Storm period variation of suspended sediment in a small Hong Kong stream*, Proceedings of the International Symposium on Fresh Perspectives on Hydrology and Water Resources in Southeast Asia and the Pacific, held during November 21-24, 2000, Christchurch, New Zealand, IHP-V Technical Document in Hydrology No. 7, Unesco Jakarta Office, pp 247-253.
  137. **Jayawardena, A. W.** , Fernando, T. M. K. G., Chan, C. W. and Chan, W.C. (2000): *Comparison of ANN, dynamical systems and support vector approaches for river discharge prediction*, Proceedings of the 19<sup>th</sup> Chinese Control Conference, 6-8 December, 2000, Hong Kong, China, pp 504-508.
  138. **Jayawardena, A. W.** (2001): *Coupling of Land Surface and River Runoff Models: Application to Mekong River Basin*, Proceedings of the International Symposium on Achievements of IHP-V in Hydrological Research, held during November 19-22, 2001, Ha Noi, Vietnam, IHP-V Technical Document in Hydrology No. 8, UNESCO Jakarta Office, 2001 pp 23-31
  139. **Jayawardena, A. W.** (2001): *Stochastic and dynamical systems approaches of river flow prediction*, Proceedings of the 3<sup>rd</sup> International Symposium on Environmental Hydraulics, Tempe, Arizona, USA, December 5-8, 2001 (In CD ROM format)
  140. Sivakumar, B., and **Jayawardena, A. W.** (2001) *Understanding sediment transport dynamics: Moving towards a new approach*,. In: MODSIM 2001, Proc. International Congress on Modelling and Simulation: Integrating models for natural resources management across disciplines, issues and scales, Modelling and Simulation Society of Australia and New Zealand, The Australian National University, Canberra, Australia December 10-13, 2001, pp 167-172.
  141. **Jayawardena, A. W.** (2002): *Neural Network Approach of Hydrological Modelling: Applications in the Asia Pacific region*, Proceedings, 2002

Conference on Water Resources Planning and Management, EWRI, ASCE, Roanoke, VA, USA, May 19-22, 2002 (In CD ROM Format)

142. Chan, C. W., **Jayawardena, A. W.**, Choy, K. Y. (2002): *Modelling of river discharge using neural network with structure determined by the support vectors*, Proceedings of the 4<sup>th</sup> Asian Control Conference, Singapore, 2002, pp 618-623.
143. **Jayawardena, A. W.** and Fernando, T.M.K.G. (2002): *A Fuzzy Neural Network for Hydrological Prediction*, Presentation at the Western Pacific Geophysics Meeting of the American Geophysical Union, Wellington, New Zealand, July 9-12, 2002. (Abstract in CD ROM format).
144. **Jayawardena, A. W.** and Mak, T. W. (2003): *Application of Regularised Orthogonal Least Squares Radial Basis Function and Support Vector type Neural Networks for Hydrological Modelling and Prediction*, Proceedings of the 1<sup>st</sup> International Conference on Hydrology and Water Resources in Asia Pacific Region, APHW2003, Kyoto, Japan, volume 2, March 13-15, 2003, pp 879-884.
145. Li, H.E., Lee J.H.W., Koenig A. and **Jayawardena A.W.** (2003): *Nutrient load estimation of non-point source pollution for Hong Kong region*, Proceedings of the 7th Specialized Conference on Diffuse Pollution and Basin Management and the 36th Scientific Meeting of the Estuarine and Coastal Sciences Association (ECSA) (ed. M. Bruin), 17-22 August 2003, Dublin, Ireland. 2003, 3: 6-88 - 6-93.
146. **Jayawardena, A. W.** and Xu, P. C. (2003): *Simulation and prediction of river flow time series by radial basis function type local model and a mixture autoregressive model*, Proceedings of the Eighth International Conference on Engineering Applications of Neural Networks (EANN03), held in Torremolinos, Malaga, Spain, 8-10 September 2003. Ed: Javier Fernandez de Canete and Dimitris Tsaptsinos, pp 332-339.
147. **Jayawardena, A. W.** and Yeh, J.-F. (2003): *Hydrological modelling of the East River catchment in China*, Proceedings of the International Conference on Managing Water Resources under Climatic Extremes and Natural Disasters, held during October 27-28, 2003, Sigatoka, Fiji, IHP-VI Technical Document in Hydrology No. 2, UNESCO Jakarta Office, 2003, pp 73-82.
148. **Jayawardena, A. W.** and Muttill, N. (2004): *Application of data-driven approaches for modeling runoff from a steep-sloped catchment in Hong Kong*, Proceedings, 6<sup>th</sup> International Conference on Hydroinformatics held in Singapore, June 21-24, 2004, Eds. Liong, Phoon and Babovic, World Scientific Publishing Co, ISBN 981-238-787-0, pp 1385-1392.
149. Muttill, N., Lee, J. H. W., and **Jayawardena, A. W.** (2004): *Real-time prediction of coastal algal blooms using genetic programming*, Proceedings, 6<sup>th</sup> International Conference on Hydroinformatics held in Singapore, June 21-



- 24, 2004, Eds. Liang, Phoon and Babovic, World Scientific Publishing Co, ISBN 981-238-787-0, pp 890-897.
150. **Jayawardena, A. W.**, Xu, P. C. and Tsang, F. L. (2004): *Rainfall prediction by wavelet decomposition*, Proceedings of the 2<sup>nd</sup> Asia Pacific Association of Hydrology and Water Resources Conference, volume II, 5-8, July 2004, Singapore, pp 11-19.
  151. **Jayawardena, A. W.**, Tian Ying and Srikantha Herath (2004): *Prediction of daily discharges of lower Mekong River using Artificial neural Networks*, Proceedings of the International Conference on Water Sensitive urban Design 'Cities and Catchments', held during November 22-23, 2004, Adelaide, Australia, IHP-VI Technical Document in Hydrology No. 3, UNESCO Jakarta Office, 2004, pp 83-90.
  152. **Jayawardena, A. W.** and Tian Ying (2005): *Flow modelling of Mekong River with variance in spatial scale*, Proceedings of the International Symposium on "Role of Water Sciences in Transboundary River Basin Management" held in Ubon Ratchathani, Thailand during March 10-12, 2005, Eds: (Herath, S., D. Dutta, U. Weesakul and A. D. Gupta ), RNUS, School of Civil Engineering, AIT, Bangkok, Thailand, ISBN No. 974-8202-94-1, pp 147-154.
  153. **Jayawardena, A. W.** and Tian Ying (2005): *River flow modelling of the Mekong River Basin*, Program and Abstract Book, 5<sup>th</sup> International Scientific Conference on the Global Energy and Water Cycle, 20-24 June 2005, Costa Mesa, California, USA, p 80. (Abstract only)
  154. **Jayawardena, A.W.**, Muttill, N. and Fernando, T.M.K.G. (2005). *Rainfall-Runoff Modelling using Genetic Programming*. In Zerger, A. and Argent, R.M. (eds.) MODSIM 2005 International Congress on Modelling and Simulation: Advances and applications for management and decision making, Modelling and Simulation Society of Australia and New Zealand, Melbourne, Australia, December 12-15, 2005, pp. 1841-1847. ISBN: 0-9758400-2-9.
  155. Sivakumar, B., **Jayawardena, A. W.**, and Li, W. K. (2005) *Hydrologic Classification System: A Data Reconstruction Approach*., In Zerger, A. and Argent, R.M. (eds) MODSIM 2005 International Congress on Modelling and Simulation, Advances and applications for management and decision making, Modelling and Simulation Society of Australia and New Zealand, Melbourne, Australia, December 12-15, 2005, pp. 1901-1907. ISBN: 0-9758400-2-9.
  156. Muttill, N, Ying, Tian and **Jayawardena A. W.** (2006): *Comparison of the shuffled complex family of model-calibrating algorithms*, Proceedings of Asia Oceania Geosciences Society 3<sup>rd</sup> Annual Meeting, AOGS 2006, 10-14 July 2006, Singapore (Abstracts in CD ROM, p 153/1202)
  157. Muttill, N and **Jayawardena A. W.** (2006): *Extracting knowledge from parsimonious genetic programming evolved rainfall-runoff models*, Proceedings of Asia Oceania Geosciences Society 3<sup>rd</sup> Annual Meeting, AOGS 2006, 10-14 July 2006, Singapore (Abstracts in CD ROM, p 152/1202)

158. **Jayawardena, A. W.** (2006): *Calibration of VIC model for daily discharge prediction of Mekong River using MOSCEM algorithm*, Proceedings of the 3<sup>rd</sup> APHW Conference held in Bangkok, Thailand, Oct 16-18, 2006 (Abstract in CD ROM, p 256).
159. Wu, Y., Chen J, and **Jayawardena, A. W.** (2007): *Establishing a physically-based representation of groundwater re-evaporation parameter in SWAT*, In Oxley, L. and Kulasiri, D. (eds) MODSIM 2007 International Congress on Modelling and Simulation. Modelling and Simulation Society of Australia and New Zealand, Canterbury, New Zealand, December 2007, pp. 1423-1428, ISBN978-0-9758400-4-7.  
[http://www.mssanz.au/modsim07/Papers/DegreeofSite\\_s44\\_Basenet\\_.pdf](http://www.mssanz.au/modsim07/Papers/DegreeofSite_s44_Basenet_.pdf).
160. Muttil, N. and **Jayawardena, A.W.** (2008). *Comparison of data-driven approaches for rainfall-runoff modelling*. Water Down Under 2008, 31st Hydrology and Water Resources Symposium, Adelaide, 14-17 April. Institution of Engineers, Australia.
161. **Jayawardena, A. W.** (2008): *Low flow characteristics of some small catchments*, Proceedings of the Second International Symposium on Shallow Flows (ISSF2008), Hong Kong, December 10-12, 2008.
162. **Jayawardena, A. W.** (2009): *How global is “global warming”?*, Poster paper presented at the Environment and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) Conference held in Bangkok, Thailand, January 5-7, 2009.
163. **Jayawardena, A. W.** (2009): *Riverflow prediction with artificial neural networks*, In: Engineering Applications of Neural Networks, (Eds: D. Palmer-Brown *et. al.*), EANN 2009, London, UK, CCIS 43, 463-471, Springer-Verlag Berlin Heidelberg.
164. **Jayawardena, A. W.** (2009): *Least squares method of estimating the noise level in a chaotic time series*, Proceedings of the 8<sup>th</sup> IAHS Scientific Assembly, Session HW7: New Statistics in Hydrology (Paper ID 04828), Abstract in CD ROM, September 6-12, 2009, Hyderabad, India
165. Biswas, R. K., **Jayawardena, A. W.** and Hai, P.T. (2009): *Water level forecasting using artificial neural networks*, Proceedings of the eleventh international summer symposium, Japan Society of Civil Engineers, September 11, 2009, Tokyo, Japan, pp 65-68.
166. Biswas, R. K., **Jayawardena, A. W.** and Takeuchi, K.(2009): *Prediction of water level in the Surma River of Bangladesh by Artificial Neural Networks*, Proceedings of 2009 Annual Conference, Japan Society of Hydrology and Water Resources, August 19-21, 2009, Kanazawa, Japan, P-17. (In CD ROM).
167. **Jayawardena, A. W.** and Sivakumar, Bellie (2010): *Hydrologic modeling and forecasting: Advances, challenges and future directions*, Proceedings of

Environment and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) Conference held in Chennai, India, January 5-7, 2010. 10 pp (in CD ROM)

168. **Jayawardena, A. W.** (2010): *Floods – A global problem that needs local solutions*, Proceedings of the Japan Geosciences Union Meeting 2010, May 23-28, 2010, Makuhari, Chiba, Japan (Abstract ID: 021098), Session A-CG033 Global-scale material circulation through river runoff.
169. **Jayawardena, A. W.** (2010): *Estimation of parameters in a radial basis function type network*, Proceedings of the 2010 Western Pacific Geophysics Meeting, American geophysical Union, Taipei, Taiwan, June 22-25, 2010 (Abstract ID No:H31B-03).
170. **Jayawardena, A. W.** (2010): *Identification of chaos in hydro-meteorological time series*, Proceedings of the British Hydrological Society's Third International Symposium, July 19-23, 2010, Newcastle University, Newcastle upon Tyne, UK. ([www.ceg.ncl.ac.uk/bhs2010](http://www.ceg.ncl.ac.uk/bhs2010))
171. Amnatsan, S, Kuribayashi, D and **Jayawardena, A. W.** (2010): *Application of Artificial Neural networks and Wavelet analysis in prediction of water levels in Nan River of Thailand*, Proceedings of the Annual Conference of the Japan Society of Hydrology and Water Resources held in Hosei University, Tokyo, September 7-8, 2010, pp 2-3.
172. Karunasingha, D.S.K. and **Jayawardena, A.W.** (2010). *Transparent neural network models using product unit based neural networks*. In Proceedings of the Peradeniya University Research Sessions, Sri Lanka, 16th December, 2010, vol. 15, pp 793-795.
173. **Jayawardena, A. W.** and Karunasingha, Dulakshi S. K. (2011): *Comparison of product unit neural networks with MLP and SVM type for hydrological prediction*, Proceedings of Environment and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) Conference held in Singapore, January 4-6, 2011. 10 pp (in CD ROM).
174. **Jayawardena, A. W.** (2011): *Correlation entropy estimation of a chaotic time series*, Poster paper presented at the IUGG 2011 Conference held in Melbourne, Australia, June 28-July 8, 2011.
175. **Jayawardena, A. W.** (2011): *Aftermath of the 3/11 tsunami in Tohoku Region of Japan*, Proceedings of the 6th International Conference on Asian and Pacific Coasts (APC2011) held in Hong Kong, China, December 14-16, 2011 (Abstract on pp 112-113). DOI: 10.13140/RG.2.1.4663.7209
176. Badrzadeh, H., Sarukkalige, R., **Jayawardena, A. W.**(2012): *Combined wavelet-neural networks model for intermittent streamflow prediction*, Research, Development, and Practice in Structural Engineering and Construction, ASEA-SEC-1, Perth, November 28-December 2, 2012. 6 pp.

177. **Jayawardena, A. W.** (2013): *Hydro-meteorological disasters: Causes, effects and mitigation measures with special reference to early warning with data driven approaches of forecasting*, Proceedings of IUTAM Symposium on the Dynamics of Extreme Events Influenced by Climate Change (2013), Lanzhou University, Lanzhou, China, September 23-25, 2013.
178. **Jayawardena, A. W.** (2013): *Evolution of Hydrological Modelling*, Proceedings of the Nak Dong River International Water Week 2013 International Water Forum, in conjunction with UNESCO-IHP 21st Regional Steering Committee Meeting for Southeast Asia and the Pacific, Gyeongju City, Gyeongbuk Province, Korea, Sept 30-Oct 3, 2013.
179. **Jayawardena, A. W.** (2013): *Fuzzy logic approach for early warning systems*. Proceedings of the Smart Water Grid International Conference, Songdo Convensia, Incheon, Korea, hosted by Smart Water Grid Research Group, University of Incheon, Korea, November 12-14, 2013.

#### **Other miscellaneous papers**

1. Lee, J.H.W. and **Jayawardena, A.W.** (1988): *River Indus hydraulic model study*, 75 Years of Engineering, 75th anniversary commemorative publication, Faculty of Engineering, University of Hong Kong, pp 176-178.
2. Lee, J.H.W. and **Jayawardena, A.W.** (1988): *Hydraulics and the environment*, 75 Years of Engineering, 75th anniversary commemorative publication, Faculty of Engineering, University of Hong Kong, pp 219-233.
3. **Jayawardena, A.W.** (1988): *Water supply and resources development in Hong Kong*, Japanese Rivers, vol. 42, July 1988, pp 4-18 (In Japanese - Translated by K.Takeuchi)
4. **Jayawardena, A. W.** (1991): *Environmental protection - The new challenge in engineering education and research*, Proceedings of the 1991 annual Association of Southeast Asian Institutions of Higher Learning Seminar on "The role of ASAIHL Universities in promoting preservation of the environment", May 6 - 8, 1991, Airlangga University, Surabaya, Indonesia, pp. 197-203.
5. Peart, M. R., and **Jayawardena, A. W.** (1992): *The flood hazard in Hong Kong*, Joint School Geography Association 20<sup>th</sup> Anniversary Annual, Hong Kong, pp 33-41.
6. **Jayawardena, A. W.** and Dissanayake, P. B. G. (1997): *Application of stochastic approach to the prediction of soil moisture and soil suction in a field plot*, Workshop presentation, IAHS Symposium S1: Sustainability of water Resources under increasing uncertainty, Rabat, Morocco, April 23 - May 3, 1997.

7. Chow, A. and **Jayawardena, A. W.** (2000): *Yangtze River flood of 1998*, International Association of Hydraulic Engineering & Research (Hong Kong Chapter) Newsletter, Issue 1, 2000, pp. 4-6.
8. **Jayawardena, A. W.**, and Fernando, T.M.K.G. (2000): *Daily river flow prediction in Fuji River, Japan, using artificial neural networks*, Proceedings of the Workshop on Water Resources Development and Flood Control, December 7-8, 2000, Sendai, Japan, pp 67-71.
9. **Jayawardena, A. W.** (2009): *Climate change: Facts, skeptics' views and impacts on the water environment*, Poster presented at the Croucher Advanced Study Institute on recent developments in near-shore coastal water quality research: Prediction, hydro-biological interactions and management, The University of Hong Kong, Hong Kong, December 14-19, 2009 (**invited**)

### Research reports

10. **Jayawardena, A.W.** (1986): *Time Series Analysis: A practical introduction and its application to environmental data analysis*, February, 1986, pp 102 (Report submitted to UNESCO).
11. **Jayawardena, A.W.** (1986): *Dispersion prediction in open channel flow*, February, 1986, pp 51 (Report submitted to UNESCO).
12. **Jayawardena, A.W.** (1987): *Calibration of some empirical equations of evaporation and evapotranspiration in Hong Kong*, May 1987, pp 45.(Research Report, Department of Civil Engineering, University of Hong Kong.).
13. **Jayawardena, A. W.**, Li, W. K. and Xu Penchang (2000): *Model selection for prediction of hydrological time series*, Research Report No. 264, Department of Statistics and Actuarial Sciences, The University of Hong Kong, 17 pp.
14. Miguel A. Medina, Jr., **Jayawardena, A. W.**, Ilonze, L. H. C., Zeil, P., and Xia, Jun (2007): *Evaluation of UNESCO's Contribution to the World Water Assessment Programme (WWAP)*, Report submitted to Internal Oversight Service Evaluation Section, UNESCO, IOS/EVS/PI/76, October 2007, pp 150. [http://www.unesco.org/water/wwap/news/index.shtml#wwap\\_evaluation](http://www.unesco.org/water/wwap/news/index.shtml#wwap_evaluation)

### Seminar/Short course/Workshop presentations

15. **Jayawardena, A.W.** (1983): *Water supply and sanitation*, Post graduate Course given at the Middlesex Polytechnic, Enfield, U.K..
16. **Jayawardena, A. W.** (1987): *Time series analysis of Hydrological/ Environmental data*, Lectures given at the Guangdong Research Institute of Hydro Power and Water Conservancy, China (**By invitation**)

17. **Jayawardena, A.W.** (1988): *Water Quality Modelling and Forecasting*, Paper presented at the Symposium on Environmental Heritage, World Environmental Day, Hong Kong Association for the Advancement of Science, June 1988.
18. **Jayawardena, A.W.** (1988): *Time Series Analysis of Hydrological Data*, Lecture Notes, Short Course on Water Resources Engineering, Universiti Kebangsaan Malaysia, Malaysia, June-July, 1988.
19. **Jayawardena, A.W.** (1988): *Stochastic Modelling and Forecasting of Water Quality*, Paper presented at the Water Quality Modelling Workshop, Hong Kong Institution of Engineers, October 1988.
20. **Jayawardena, A. W.** (1990): *Fractional Differencing in Time Series Analysis - An application to model some 14-day temperature series*, at the Department of Civil Engineering, Gifu University, Gifu, Japan
21. **Jayawardena, A. W.** (1990): *Long Memory Structure of Some 14-day Temperature Time Series*, at the Department of Civil Engineering, Kyushu University, Hakata, Kyushu, Japan, (1990)
22. **Jayawardena, A.W.** (1991): *Hydrological Research at Kadoorie Agricultural Research Centre*, Presentation given at the China Tropical Lands Workshop, Hong Kong, September, 9-13, 1991.
23. **Jayawardena, A. W.** (1990): *Past, Present and Future in Hydrological Research*, at the Department of Civil Engineering, Japan National Defence Academy, Yokotsuka, Japan, (1990),
24. **Jayawardena, A. W.** (1990): *Hydrological Research in the University of Hong Kong* at the Hydrology Laboratory, Public Works Research Institute, Tsukuba, Japan, (1990)
25. **Jayawardena, A. W.** (1998): *Artificial Neural Networks in Hydrological Modelling*, at the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, July 8, 1998.
26. **Jayawardena, A. W.** (2002): *Neural network approach of hydrological modelling: Applications in the Asia Pacific region*, at the Department of Civil and Environmental Engineering, University of Texas at Arlington, Arlington, Texas, USA, May 16, 2002
27. **Jayawardena, A. W.** (2004): *Towards sustainable development and management of the water supply of Hong Kong*, at the School of Engineering, UNITEC Institute of Technology, Auckland, New Zealand, July 21, 2004.
28. **Jayawardena, A. W.** (2006): *Application of Artificial Neural Networks and Dynamical Systems Approach in Hydrological/Environmental Modelling*, at the Retreat, The University of Hong Kong Strategic Research Sub-theme: Sustainable water, January 21, 2006.

29. **Jayawardena, A. W.** (2006): *Hydrological modelling*, a series of lectures given at the College of Water Sciences, Beijing Normal University, Beijing, China, November 5-17, 2006.
30. **Jayawardena, A. W.** (2008): *ICHARM's contribution to capacity building in disaster mitigation and management practice*, Special Session of the International Conference of Asia Pacific Association of Hydrology and Water Resources (APHW 2008), November 3-5, 2008, Beijing, China.
31. **Jayawardena, A. W.** (2009): *Activities in International Centre for Water Hazard and Risk Management*, In: 'Cooperative Actions for Disaster Risk Reduction (Ed: Yukio Tamura)', Proceedings of the fourth international symposium on wind effects on buildings and urban environment, March 4-6, 2009, pp 155-163, Tokyo, Japan.
32. **Jayawardena, A. W.** (2009): *Dynamics of hydro-meteorological and environmental hazards*, at the Spring School on Fluid Mechanics and Geophysics of Environmental Hazards, Institute of Mathematical Sciences, National University of Singapore, 19 April – 2 May, 2009, Singapore.
33. **Jayawardena, A. W.** (2009): *Challenges in coping with water problems and environmental disasters*, Invited lecture given at the Regional Refresher Seminar on "Disaster management of urban water systems under climate change", organized by UNESCO IHE and the Asian Institute of Technology, November 23-28, Bangkok, Thailand.
34. **Jayawardena, A. W.** (2009): *Geophysical aspects of hydro-meteorological and environmental disasters*, Invited lecture given at the Regional Refresher Seminar on "Disaster management of urban water systems under climate change", organized by UNESCO-IHE and the Asian Institute of Technology, November 23-28, Bangkok, Thailand.
35. **Jayawardena, A. W.** (2010): *Water problems in Asia, Aftermath of COP15, Climate change*, Lecture given at the Executive Workshop on Climate change and Japan – Impact and Action from global to local, United Nations Institute for Training and Research (UNITAR), held in Hiroshima on February 25, 2010.
36. **Jayawardena, A. W.** (2010): *Water issues and policies – Global and in the context of Sri Lanka*, Presentation given at the FORUM in the Embassy of Sri Lanka in Tokyo, Japan, March 6, 2010.
37. **Jayawardena, A. W.** (2014): *Fuzzy Logic Approach of Hydrological Modelling*, Seminar given at the Department of Civil Engineering, Curtin University, Perth, Australia, March 26, 2014.
38. **Jayawardena, A. W.** (2014): *Hydrological Modelling - Past, present and the challenges ahead*, Seminar given at the UNESCO Institute for Water Education (IHE), Delft, The Netherlands, May 7, 2014.

39. **Jayawardena, A. W.** (2014): *Recent developments in hydrological modelling with special reference to Fuzzy Logic Approach*, Seminar given at Nippon Koei Co. Ltd (Consulting Engineers), Tokyo, Japan, August 5, 2014.
40. **Jayawardena, A. W.** (2016): *Data driven modelling hydrological systems*, Presentation given at the International Workshop on "Opportunities and Challenges in Coastal Developments" held at Hohai University, Nanjing, China, December 25-29, 2016.
41. **Jayawardena, A. W.** (2017): *2017 Floods in Sri Lanka*, Presentation given at the Disaster Prevention Research Institute (DPRI), Kyoto University, Kyoto, Japan, July 19, 2017.
42. **Jayawardena, A. W.** (2018): *Climate change: Myths, Realities and prospects of a global deal to curb climate change*. Presentation given at the Institute of Industrial Science, The University of Tokyo, Japan. July 30, 2018.
43. **Jayawardena, A. W.** (2018): *Data driven approaches of hydrological modelling*, Presentation given at the International Centre for Water Hazard and Risk Management, Public Works Research Institute, Tsukuba, Japan. August 10, 2018

January 3, 2019