

# Amin A Elshorbagy

## List of Publications by Year in descending order

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83  
papers

3,043  
citations

136885

32  
h-index

182361

51  
g-index

95  
all docs

95  
docs citations

95  
times ranked

3155  
citing authors

#	ARTICLE	IF	CITATIONS
1	HESS Opinions: Incubating deep-learning-powered hydrologic science advances as a community. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 5639-5656.	1.9	169
2	Experimental investigation of the predictive capabilities of data driven modeling techniques in hydrology - Part 1: Concepts and methodology. <i>Hydrology and Earth System Sciences</i> , 2010, 14, 1931-1941.	1.9	167
3	Estimation of missing streamflow data using principles of chaos theory. <i>Journal of Hydrology</i> , 2002, 255, 123-133.	2.3	152
4	Experimental investigation of the predictive capabilities of data driven modeling techniques in hydrology - Part 2: Application. <i>Hydrology and Earth System Sciences</i> , 2010, 14, 1943-1961.	1.9	126
5	Modelling the dynamics of the evapotranspiration process using genetic programming. <i>Hydrological Sciences Journal</i> , 2007, 52, 563-578.	1.2	119
6	On the relevance of using artificial neural networks for estimating soil moisture content. <i>Journal of Hydrology</i> , 2008, 362, 1-18.	2.3	106
7	Performance Evaluation of Artificial Neural Networks for Runoff Prediction. <i>Journal of Hydrologic Engineering - ASCE</i> , 2000, 5, 424-427.	0.8	79
8	Noise reduction in chaotic hydrologic time series: facts and doubts. <i>Journal of Hydrology</i> , 2002, 256, 147-165.	2.3	76
9	Managing water in complex systems: An integrated water resources model for Saskatchewan, Canada. <i>Environmental Modelling and Software</i> , 2014, 58, 12-26.	1.9	76
10	Towards a time and cost effective approach to water quality index class prediction. <i>Journal of Hydrology</i> , 2019, 575, 148-165.	2.3	75
11	A stochastic reconstruction framework for analysis of water resource system vulnerability to climate-induced changes in river flow regime. <i>Water Resources Research</i> , 2013, 49, 291-305.	1.7	74
12	System dynamics approach to assess the sustainability of reclamation of disturbed watersheds. <i>Canadian Journal of Civil Engineering</i> , 2005, 32, 144-158.	0.7	70
13	Quantification of the climate change-induced variations in Intensity-Duration-Frequency curves in the Canadian Prairies. <i>Journal of Hydrology</i> , 2015, 527, 990-1005.	2.3	70
14	The Use of Object-Oriented Modeling for Water Resources Planning in Egypt. <i>Water Resources Management</i> , 1997, 11, 243-261.	1.9	69
15	Infiltration and drainage processes in multi-layered coarse soils. <i>Canadian Journal of Soil Science</i> , 2011, 91, 169-183.	0.5	66
16	Trade-offs and synergies in the water-energy-food nexus: The case of Saskatchewan, Canada. <i>Resources, Conservation and Recycling</i> , 2021, 164, 105192.	5.3	60
17	Quantile-Based Downscaling of Precipitation Using Genetic Programming: Application to IDF Curves in Saskatoon. <i>Journal of Hydrologic Engineering - ASCE</i> , 2014, 19, 943-955.	0.8	57
18	Toward understanding nonstationarity in climate and hydrology through tree ring proxy records. <i>Water Resources Research</i> , 2015, 51, 1813-1830.	1.7	57

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19	Adaptation of water resources systems to changing society and environment: a statement by the International Association of Hydrological Sciences. <i>Hydrological Sciences Journal</i> , 2016, 61, 2803-2817.	1.2	57
20	Estimating Saturated Hydraulic Conductivity Using Genetic Programming. <i>Soil Science Society of America Journal</i> , 2007, 71, 1676-1684.	1.2	56
21	Prediction of hourly actual evapotranspiration using neural networks, genetic programming, and statistical models. <i>Hydrological Processes</i> , 2010, 24, 3413-3425.	1.1	56
22	Object-oriented modeling approach to surface water quality management. <i>Environmental Modelling and Software</i> , 2006, 21, 689-698.	1.9	53
23	Group-based estimation of missing hydrological data: I. Approach and general methodology. <i>Hydrological Sciences Journal</i> , 2000, 45, 849-866.	1.2	51
24	Estimating Saturated Hydraulic Conductivity In Spatially Variable Fields Using Neural Network Ensembles. <i>Soil Science Society of America Journal</i> , 2006, 70, 1851-1859.	1.2	49
25	Data-driven modelling approaches for socio-hydrology: opportunities and challenges within the Panta Rhei Science Plan. <i>Hydrological Sciences Journal</i> , 0, , 1-17.	1.2	47
26	National water, food, and trade modeling framework: The case of Egypt. <i>Science of the Total Environment</i> , 2018, 639, 485-496.	3.9	47
27	Cluster-Based Hydrologic Prediction Using Genetic Algorithm-Trained Neural Networks. <i>Journal of Hydrologic Engineering - ASCE</i> , 2007, 12, 52-62.	0.8	46
28	Application of copula modelling to the performance assessment of reconstructed watersheds. <i>Stochastic Environmental Research and Risk Assessment</i> , 2012, 26, 189-205.	1.9	43
29	Hybrid modelling approach to prairie hydrology: fusing data-driven and process-based hydrological models. <i>Hydrological Sciences Journal</i> , 2015, 60, 1473-1489.	1.2	37
30	Simulation of the hydrological processes on reconstructed watersheds using system dynamics. <i>Hydrological Sciences Journal</i> , 2007, 52, 538-562.	1.2	36
31	Toward improving the reliability of hydrologic prediction: Model structure uncertainty and its quantification using ensemble-based genetic programming framework. <i>Water Resources Research</i> , 2008, 44, .	1.7	36
32	Comparison of three data-driven techniques in modelling the evapotranspiration process. <i>Journal of Hydroinformatics</i> , 2010, 12, 365-379.	1.1	36
33	Water availability and forest growth in coarse-textured soils. <i>Canadian Journal of Soil Science</i> , 2011, 91, 199-210.	0.5	36
34	A generic system dynamics model for simulating and evaluating the hydrological performance of reconstructed watersheds. <i>Hydrology and Earth System Sciences</i> , 2009, 13, 865-881.	1.9	35
35	Total maximum daily load (TMDL) approach to surface water quality management: concepts, issues, and applications. <i>Canadian Journal of Civil Engineering</i> , 2005, 32, 442-448.	0.7	32
36	Investigating the capabilities of evolutionary data-driven techniques using the challenging estimation of soil moisture content. <i>Journal of Hydroinformatics</i> , 2009, 11, 237-251.	1.1	31

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37	Spiking modular neural networks: A neural network modeling approach for hydrological processes. <i>Water Resources Research</i> , 2006, 42, .	1.7	29
38	Integrating Supply Uncertainties from Stochastic Modeling into Integrated Water Resource Management: Case Study of the Saskatchewan River Basin. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2016, 142, .	1.3	28
39	Analysis of cross-correlated chaotic streamflows. <i>Hydrological Sciences Journal</i> , 2001, 46, 781-793.	1.2	27
40	Probabilistic Approach for Design and Hydrologic Performance Assessment of Reconstructed Watersheds. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2007, 133, 1110-1118.	1.5	27
41	A risk-based framework for water resource management under changing water availability, policy options, and irrigation expansion. <i>Advances in Water Resources</i> , 2016, 94, 291-306.	1.7	27
42	The impact of soil moisture availability on forest growth indices for variably layered coarse-textured soils. <i>Ecohydrology</i> , 2013, 6, 214-227.	1.1	24
43	Streamflow modelling and forecasting for Canadian watersheds using LSTM networks with attention mechanism. <i>Neural Computing and Applications</i> , 2022, 34, 19995-20015.	3.2	22
44	System dynamics modeling of infiltration and drainage in layered coarse soil. <i>Canadian Journal of Soil Science</i> , 2011, 91, 185-197.	0.5	20
45	Coevolution of machine learning and process-based modelling to revolutionize Earth and environmental sciences: A perspective. <i>Hydrological Processes</i> , 2022, 36, .	1.1	20
46	Topography- and nightlight-based national flood risk assessment in Canada. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 2219-2232.	1.9	19
47	Revisiting flood peak distributions: A pan-Canadian investigation. <i>Advances in Water Resources</i> , 2020, 145, 103720.	1.7	19
48	The ecohydrological vulnerability of a large inland delta to changing regional streamflows and upstream irrigation expansion. <i>Ecohydrology</i> , 2017, 10, e1824.	1.1	18
49	Fuzzy set based error measure for hydrologic model evaluation. <i>Journal of Hydroinformatics</i> , 2005, 7, 199-208.	1.1	17
50	Group-based estimation of missing hydrological data: II. Application to streamflows. <i>Hydrological Sciences Journal</i> , 2000, 45, 867-880.	1.2	16
51	ACPAR: A framework for linking national water and food security management with global conditions. <i>Advances in Water Resources</i> , 2021, 147, 103809.	1.7	16
52	Impacts of climate change on soil moisture and evapotranspiration in reconstructed watersheds in northern Alberta, Canada. <i>Hydrological Processes</i> , 2012, 26, 1321-1331.	1.1	14
53	Advances in modelling large river basins in cold regions with Modélisation Environnementale Communautaire – Surface and Hydrology (MESH), the Canadian hydrological land surface scheme. <i>Hydrological Processes</i> , 2022, 36, .	1.1	14
54	Multicriterion decision analysis approach to assess the utility of watershed modeling for management decisions. <i>Water Resources Research</i> , 2006, 42, .	1.7	13

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55	Risk-based quantification of the impact of climate change on storm water infrastructure. <i>Water Science</i> , 2018, 32, 102-114.	0.5	12
56	The Impact of Climate Change on the Water Balance of Oil Sands Reclamation Covers and Natural Soil Profiles. <i>Journal of Hydrometeorology</i> , 2018, 19, 1731-1752.	0.7	12
57	Understanding human adaptation to drought: agent-based agricultural water demand modeling in the Bow River Basin, Canada. <i>Hydrological Sciences Journal</i> , 2021, 66, 389-407.	1.2	12
58	Peering into agricultural rebound phenomenon using a global sensitivity analysis approach. <i>Journal of Hydrology</i> , 2021, 602, 126739.	2.3	12
59	Wavelet networks: an alternative to classical neural networks. , 0, , .		11
60	Effects of Variably Layered Coarse Textured Soils on Plant Available Water and Forest Productivity. <i>Procedia Environmental Sciences</i> , 2013, 19, 148-157.	1.3	11
61	Time scale effect and uncertainty in reconstruction of paleo-hydrology. <i>Hydrological Processes</i> , 2016, 30, 1985-1999.	1.1	11
62	Flood mapping under uncertainty: a case study in the Canadian prairies. <i>Natural Hazards</i> , 2018, 94, 537-560.	1.6	11
63	A novel model for storage dynamics simulation and inundation mapping in the prairies. <i>Environmental Modelling and Software</i> , 2020, 133, 104850.	1.9	11
64	Toward Simple Modeling Practices in the Complex Canadian Prairie Watersheds. <i>Journal of Hydrologic Engineering - ASCE</i> , 2020, 25, .	0.8	11
65	Streamflow Data Infilling Techniques Based on Concepts of Groups and Neural Networks. <i>Water Science and Technology Library</i> , 2000, , 235-258.	0.2	11
66	Utilizing North American Regional Reanalysis for modeling soil moisture and evapotranspiration in reconstructed watersheds. <i>Physics and Chemistry of the Earth</i> , 2011, 36, 31-41.	1.2	10
67	Correlation and causation in tree-ring-based reconstruction of paleohydrology in cold semiarid regions. <i>Water Resources Research</i> , 2016, 52, 7053-7069.	1.7	10
68	Meta-analysis based predictions of flood insurance and flood vulnerability patterns in Calgary, Alberta. <i>Applied Geography</i> , 2018, 96, 41-50.	1.7	8
69	Improving the representation of the non-contributing area dynamics in land surface models for better simulation of prairie hydrology. <i>Journal of Hydrology</i> , 2021, 600, 126562.	2.3	7
70	Dynamics of water-energy-food nexus interactions with climate change and policy options. <i>Environmental Research Communications</i> , 2022, 4, 015009.	0.9	7
71	Noise Reduction Approach in Chaotic Hydrologic Time Series Revisited. <i>Canadian Water Resources Journal</i> , 2001, 26, 537-550.	0.5	6
72	Methodology for pH Total Maximum Daily Loads: Application to Beech Creek Watershed. <i>Journal of Environmental Engineering, ASCE</i> , 2004, 130, 167-174.	0.7	5

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73	Framework for Assessment of Relative Pollutant Loads in Streams with Limited Data. <i>Water International</i> , 2005, 30, 477-486.	0.4	5
74	Assessment of pathogen pollution in watersheds using object-oriented modeling and probabilistic analysis. <i>Journal of Hydroinformatics</i> , 2006, 8, 51-63.	1.1	5
75	Long-Term Performance of a Reclamation Cover: The Evolution of Hydraulic Properties and Hydrologic Response. , 2006, , 813.		4
76	Comparative probabilistic assessment of the hydrological performance of reconstructed and natural watersheds. <i>Hydrological Processes</i> , 2010, 24, 1333-1342.	1.1	4
77	Toward Bridging the Gap Between Data-Driven and Mechanistic Models: Cluster-Based Neural Networks for Hydrologic Processes. <i>Water Science and Technology Library</i> , 2009, , 389-403.	0.2	3
78	Changes in social vulnerability to flooding: a quasi-experimental analysis. <i>Natural Hazards</i> , 2022, 111, 2487-2509.	1.6	3
79	The Sask Formula to Estimate Glomerular Filtration Rate in Renal Transplant Patients. <i>Nephron Clinical Practice</i> , 2011, 117, c135-c150.	2.3	1
80	Data Driven Techniques and Wavelet Analysis for the Modeling and Analysis of Actual Evapotranspiration. , 2013, , .		1
81	Deterministic and probabilistic approaches to the development of pH total maximum daily loads: a comparative analysis. <i>Journal of Hydroinformatics</i> , 2007, 9, 203-213.	1.1	1
82	A new error statistic for performance evaluation of models in hydrology. <i>Developments in Water Science</i> , 2002, 47, 787-794.	0.1	0
83	Multi-criterion decision making approach to assess the performance of reconstructed watersheds. , 2007, , 257-269.		0