

Saman S Razavi

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

3,427
citations

172207

29
h-index

143772

57
g-index

88
all docs

88
docs citations

88
times ranked

3509
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of surrogate modeling in water resources. <i>Water Resources Research</i> , 2012, 48, .	1.7	597
2	What do we mean by sensitivity analysis? The need for comprehensive characterization of "global" sensitivity in Earth and environmental systems models. <i>Water Resources Research</i> , 2015, 51, 3070-3092.	1.7	230
3	The Future of Sensitivity Analysis: An essential discipline for systems modeling and policy support. <i>Environmental Modelling and Software</i> , 2021, 137, 104954.	1.9	209
4	Introductory overview: Optimization using evolutionary algorithms and other metaheuristics. <i>Environmental Modelling and Software</i> , 2019, 114, 195-213.	1.9	169
5	Progressive Latin Hypercube Sampling: An efficient approach for robust sampling-based analysis of environmental models. <i>Environmental Modelling and Software</i> , 2017, 93, 109-126.	1.9	136
6	A new framework for comprehensive, robust, and efficient global sensitivity analysis: 1. Theory. <i>Water Resources Research</i> , 2016, 52, 423-439.	1.7	132
7	Numerical assessment of metamodeling strategies in computationally intensive optimization. <i>Environmental Modelling and Software</i> , 2012, 34, 67-86.	1.9	113
8	A New Formulation for Feedforward Neural Networks. <i>IEEE Transactions on Neural Networks</i> , 2011, 22, 1588-1598.	4.8	103
9	Evaluation of Integrated Multisatellite Retrievals for GPM (IMERG) over Southern Canada against Ground Precipitation Observations: A Preliminary Assessment. <i>Journal of Hydrometeorology</i> , 2017, 18, 1033-1050.	0.7	102
10	A new framework for comprehensive, robust, and efficient global sensitivity analysis: 2. Application. <i>Water Resources Research</i> , 2016, 52, 440-455.	1.7	94
11	Introductory overview of identifiability analysis: A guide to evaluating whether you have the right type of data for your modeling purpose. <i>Environmental Modelling and Software</i> , 2019, 119, 418-432.	1.9	93
12	Inter-comparison of daily precipitation products for large-scale hydro-climatic applications over Canada. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 2163-2185.	1.9	80
13	Representation and improved parameterization of reservoir operation in hydrological and land-surface models. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 3735-3764.	1.9	79
14	Historical drought patterns over Canada and their teleconnections with large-scale climate signals. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 3105-3124.	1.9	70
15	Deep learning, explained: Fundamentals, explainability, and bridgeability to process-based modelling. <i>Environmental Modelling and Software</i> , 2021, 144, 105159.	1.9	63
16	VARS-TOOL: A toolbox for comprehensive, efficient, and robust sensitivity and uncertainty analysis. <i>Environmental Modelling and Software</i> , 2019, 112, 95-107.	1.9	62
17	Revisiting the Basis of Sensitivity Analysis for Dynamical Earth System Models. <i>Water Resources Research</i> , 2018, 54, 8692-8717.	1.7	58
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	Enhanced identification of a hydrologic model using streamflow and satellite water storage data: A multicriteria sensitivity analysis and optimization approach. <i>Hydrological Processes</i> , 2017, 31, 3320-3333.	1.1	53
20	Global sensitivity analysis for high-dimensional problems: How to objectively group factors and measure robustness and convergence while reducing computational cost. <i>Environmental Modelling and Software</i> , 2019, 111, 282-299.	1.9	53
21	An efficient framework for hydrologic model calibration on long data periods. <i>Water Resources Research</i> , 2013, 49, 8418-8431.	1.7	48
22	Prewhitening of hydroclimatic time series? Implications for inferred change and variability across time scales. <i>Journal of Hydrology</i> , 2018, 557, 109-115.	2.3	40
23	Long-lead seasonal rainfall forecasting using time-delay recurrent neural networks: a case study. <i>Hydrological Processes</i> , 2008, 22, 229-241.	1.1	39
24	Anthropocene flooding: Challenges for science and society. <i>Hydrological Processes</i> , 2020, 34, 1996-2000.	1.1	39
25	Reducing the computational cost of automatic calibration through model preemption. <i>Water Resources Research</i> , 2010, 46, .	1.7	38
26	Multicriteria sensitivity analysis as a diagnostic tool for understanding model behaviour and characterizing model uncertainty. <i>Hydrological Processes</i> , 2017, 31, 4462-4476.	1.1	38
27	Socio-technical scales in socio-environmental modeling: Managing a system-of-systems modeling approach. <i>Environmental Modelling and Software</i> , 2021, 135, 104885.	1.9	38
28	Insights into sensitivity analysis of Earth and environmental systems models: On the impact of parameter perturbation scale. <i>Environmental Modelling and Software</i> , 2017, 95, 115-131.	1.9	33
29	An Integrated Modelling System to Predict Hydrological Processes under Climate and Land-Use/Cover Change Scenarios. <i>Water (Switzerland)</i> , 2017, 9, 767.	1.2	31
30	Sensitivity analysis: A discipline coming of age. <i>Environmental Modelling and Software</i> , 2021, 146, 105226.	1.9	30
31	Assessment of Extremes in Global Precipitation Products: How Reliable Are They?. <i>Journal of Hydrometeorology</i> , 2020, 21, 2855-2873.	0.7	28
32	The economic impacts of water supply restrictions due to climate and policy change: A transboundary river basin supply-side input-output analysis. <i>Ecological Economics</i> , 2020, 172, 106532.	2.9	27
33	Pre-emption strategies for efficient multi-objective optimization: Application to the development of Lake Superior regulation plan. <i>Environmental Modelling and Software</i> , 2014, 54, 128-141.	1.9	26
34	A multi-method Generalized Global Sensitivity Matrix approach to accounting for the dynamical nature of earth and environmental systems models. <i>Environmental Modelling and Software</i> , 2019, 114, 1-11.	1.9	26
35	Correlation Effects? A Major but Often Neglected Component in Sensitivity and Uncertainty Analysis. <i>Water Resources Research</i> , 2020, 56, e2019WR025436.	1.7	25
36	Analysis and prediction of land cover changes using the land change modeler (<sc>LCM</sc>) in a semiarid river basin, Iran. <i>Land Degradation and Development</i> , 2021, 32, 3092-3105.	1.8	25

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37	Reservoir Inflow Modeling Using Temporal Neural Networks with Forgetting Factor Approach. <i>Water Resources Management</i> , 2009, 23, 39-55.	1.9	24
38	Improved Understanding of River Ice Processes Using Global Sensitivity Analysis Approaches. <i>Journal of Hydrologic Engineering - ASCE</i> , 2017, 22, .	0.8	24
39	A review and synthesis of hysteresis in hydrology and hydrological modeling: Memory, path-dependency, or missing physics?. <i>Journal of Hydrology</i> , 2018, 566, 500-519.	2.3	24
40	On the appropriate definition of soil profile configuration and initial conditions for land surface hydrology models in cold regions. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 3295-3309.	1.9	22
41	Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada – Part 2: Future change in cryosphere, vegetation, and hydrology. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 1849-1882.	1.9	20
42	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
43	Adaptive Neural Networks for Flood Routing in River Systems. <i>Water International</i> , 2007, 32, 360-375.	0.4	18
44	On the configuration and initialization of a large-scale hydrological land surface model to represent permafrost. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 349-379.	1.9	14
45	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
46	Assessment of the cascade of uncertainty in future snow depth projections across watersheds of mountainous, foothill, and plain areas in northern latitudes. <i>Journal of Hydrology</i> , 2021, 598, 125735.	2.3	12
47	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
48	Great Lakes Runoff Intercomparison Project Phase 3: Lake Erie (GRIP-E). <i>Journal of Hydrologic Engineering - ASCE</i> , 2021, 26, .	0.8	12
49	Peering into agricultural rebound phenomenon using a global sensitivity analysis approach. <i>Journal of Hydrology</i> , 2021, 602, 126739.	2.3	12
50	Time scale effect and uncertainty in reconstruction of paleohydrology. <i>Hydrological Processes</i> , 2016, 30, 1985-1999.	1.1	11
51	Automatic clustering-based surrogate-assisted genetic algorithm for groundwater remediation system design. <i>Journal of Hydrology</i> , 2021, 598, 125752.	2.3	11
52	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
53	A Fresh Look at Variography: Measuring Dependence and Possible Sensitivities Across Geophysical Systems From Any Given Data. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089829.	1.5	9
54	Multi-criteria, time dependent sensitivity analysis of an event-oriented, physically-based, distributed sediment and runoff model. <i>Journal of Hydrology</i> , 2021, 598, 126268.	2.3	9

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55	Integrated modelling to assess the impacts of water stress in a transboundary river basin: Bridging local-scale water resource operations to a river basin economy. <i>Science of the Total Environment</i> , 2021, 800, 149543.	3.9	9
56	Data assimilation of satellite-based terrestrial water storage changes into a hydrology land-surface model. <i>Journal of Hydrology</i> , 2021, 597, 125744.	2.3	8
57	Challenges and Future Outlook of Sensitivity Analysis. , 2017, , 397-415.		7
58	Development of a Joint Probabilistic Rainfall-Runoff Model for High-to-Extreme Flow Projections Under Changing Climatic Conditions. <i>Water Resources Research</i> , 2022, 58, .	1.7	7
59	What should we do when a model crashes? Recommendations for global sensitivity analysis of Earth and environmental systems models. <i>Geoscientific Model Development</i> , 2019, 12, 4275-4296.	1.3	6
60	Evaluation of New Control Structures for Regulating the Great Lakes System: Multiscenario, Multireservoir Optimization Approach. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2014, 140, 04014018.	1.3	5
61	Comparing the applicability of hydro-economic modelling approaches for large-scale decision-making in multi-sectoral and multi-regional river basins. <i>Environmental Modelling and Software</i> , 2022, 152, 105385.	1.9	5
62	Compound Effects of Climate Change on Future Transboundary Water Issues in the Middle East. <i>Earth's Future</i> , 2022, 10, .	2.4	4
63	Hydrologic-land surface modelling of the Canadian sporadic-discontinuous permafrost: initialization and uncertainty propagation. <i>Hydrological Processes</i> , 0, , .	1.1	3
64	Paleo-hydrologic reconstruction of 400 years of past flows at a weekly time step for major rivers of Western Canada. <i>Earth System Science Data</i> , 2020, 12, 231-243.	3.7	2
65	Application of Temporal Neural Networks in Long-Lead Rainfall Forecasting. , 2005, , 1.		1
66	Objective evaluation of the Global Environmental Multiscale Model (GEM) with precipitation and temperature for Iran. <i>Natural Resource Modelling</i> , 2022, 35, .	0.8	1
67	Breaking through language barriers. <i>Science</i> , 2021, 371, 206-206.	6.0	0
68	Avoiding the Guise of an Anonymous Review. <i>Eos</i> , 2018, 99, .	0.1	0
69	MODELLING GROUNDWATER-SURFACE WATER INTERACTIONS IN THE CANADIAN BOREAL REGION. , 2020, , .		0