George Kuczera

List of Publications by Year
in descending order

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116 papers	7,339 citations	61984 43 h-index	56724 83 g-index
118 all docs	118 docs citations	118 times ranked	4496 citing authors

#	Article	IF	Citations
1	Monte Carlo assessment of parameter uncertainty in conceptual catchment models: the Metropolis algorithm. Journal of Hydrology, 1998, 211, 69-85.	5.4	631
2	Understanding predictive uncertainty in hydrologic modeling: The challenge of identifying input and structural errors. Water Resources Research, 2010, 46, .	4.2	589
3	Bayesian analysis of input uncertainty in hydrological modeling: 1. Theory. Water Resources Research, 2006, 42, .	4.2	318
4	Critical evaluation of parameter consistency and predictive uncertainty in hydrological modeling: A case study using Bayesian total error analysis. Water Resources Research, 2009, 45, .	4.2	293
5	Towards a Bayesian total error analysis of conceptual rainfall-runoff models: Characterising model error using storm-dependent parameters. Journal of Hydrology, 2006, 331, 161-177.	5.4	283
6	Multi-decadal variability of flood risk. Geophysical Research Letters, 2003, 30, .	4.0	259
7	Improved parameter inference in catchment models: 1. Evaluating parameter uncertainty. Water Resources Research, 1983, 19, 1151-1162.	4.2	238
8	Prediction of water yield reductions following a bushfire in ash-mixed species eucalypt forest. Journal of Hydrology, 1987, 94, 215-236.	5.4	210
9	Assessment of hydrologic parameter uncertainty and the worth of multiresponse data. Water Resources Research, 1998, 34, 1481-1489.	4.2	207
10	Bayesian analysis of input uncertainty in hydrological modeling: 2. Application. Water Resources Research, 2006, 42, .	4.2	193
11	Toward a reliable decomposition of predictive uncertainty in hydrological modeling: Characterizing rainfall errors using conditional simulation. Water Resources Research, 2011, 47, .	4.2	172
12	Efficient subspace probabilistic parameter optimization for catchment models. Water Resources Research, 1997, 33, 177-185.	4.2	167
13	Comprehensive at-site flood frequency analysis using Monte Carlo Bayesian inference. Water Resources Research, 1999, 35, 1551-1557.	4.2	145
14	Probabilistic optimization for conceptual rainfall-runoff models: A comparison of the shuffled complex evolution and simulated annealing algorithms. Water Resources Research, 1999, 35, 767-773.	4.2	138
15	Comparison of joint versus postprocessor approaches for hydrological uncertainty estimation accounting for error autocorrelation and heteroscedasticity. Water Resources Research, 2014, 50, 2350-2375.	4.2	130
16	Confronting input uncertainty in environmental modelling. Water Science and Application, 2003, , 49-68.	0.3	126
17	The quest for more powerful validation of conceptual catchment models. Water Resources Research, 1997, 33, 2325-2335.	4.2	117
18	Combining siteâ€specific and regional information: An empirical Bayes Approach. Water Resources Research, 1982, 18, 306-314.	4.2	110

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19	Flood frequency analysis: Evidence and implications of secular climate variability, New South Wales. Water Resources Research, 2002, 38, 20-1-20-7.	4.2	107
20	Robust flood frequency models. Water Resources Research, 1982, 18, 315-324.	4.2	102
21	Calibration of conceptual hydrological models revisited: 1. Overcoming numerical artefacts. Journal of Hydrology, 2006, 320, 173-186.	5.4	101
22	Improving probabilistic prediction of daily streamflow by identifying <scp>P</scp>areto optimal approaches for modeling heteroscedastic residual errors. Water Resources Research, 2017, 53, 2199-2239.	4.2	101
23	Pitfalls and improvements in the joint inference of heteroscedasticity and autocorrelation in hydrological model calibration. Water Resources Research, 2013, 49, 4518-4524.	4.2	96
24	Model smoothing strategies to remove microscale discontinuities and spurious secondary optima in objective functions in hydrological calibration. Water Resources Research, 2007, 43, .	4.2	86
25	Improved parameter inference in catchment models: 2. Combining different kinds of hydrologic data and testing their compatibility. Water Resources Research, 1983, 19, 1163-1172.	4.2	81
26	Hydroclimatic response of evapotranspiration partitioning to prolonged droughts in semiarid grassland. Journal of Hydrology, 2018, 563, 766-777.	5.4	80
27	Spatial variation of correlations between vertical soil water and evapotranspiration and their controlling factors in a semi-arid region. Journal of Hydrology, 2019, 574, 53-63.	5.4	80
28	Modeling long-term persistence in hydroclimatic time series using a hidden state Markov Model. Water Resources Research, 2000, 36, 3301-3310.	4.2	77
29	Correlated Rating Curve Error in Flood Frequency Inference. Water Resources Research, 1996, 32, 2119-2127.	4.2	76
30	Quantifying parameter uncertainty in stochastic models using the Boxâ€“Cox transformation. Journal of Hydrology, 2002, 265, 246-257.	5.4	74
31	Robust optimization to secure urban bulk water supply against extreme drought and uncertain climate change. Environmental Modelling and Software, 2015, 69, 437-451.	4.5	74
32	Multidecadal variability in coastal eastern Australian flood data. Journal of Hydrology, 2006, 327, 219-225.	5.4	72
33	There are no hydrological monsters, just models and observations with large uncertainties!. Hydrological Sciences Journal, 2010, 55, 980-991.	2.6	68
34	A point rainfall model for risk-based design. Journal of Hydrology, 2001, 247, 54-71.	5.4	67
35	An evaluation of the benefits of source control measures at the regional scale. Urban Water, 2002, 4, 307-320.	0.5	67
36	On the relationship between the reliability of parameter estimates and hydrologic time series data used in calibration. Water Resources Research, 1982, 18, 146-154.	4.2	60

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37	General Water Supply System Simulation Model: WASP. Journal of Water Resources Planning and Management - ASCE, 1988, 114, 365-382.	2.6	57
38	Parameterisation of a simple semi-distributed model for assessing the impact of land-use on hydrologic response. Journal of Hydrology, 2001, 254, 16-32.	5.4	55
39	Calibration of conceptual hydrological models revisited: 2. Improving optimisation and analysis. Journal of Hydrology, 2006, 320, 187-201.	5.4	55
40	Semidistributed hydrological modeling: A â€œsaturation pathâ€•perspective on TOPMODEL and VIC. Water Resources Research, 2003, 39, .	4.2	53
41	Multiobjective optimization of urban water resources: Moving toward more practical solutions. Water Resources Research, 2012, 48, .	4.2	53
42	A hidden Markov model for modelling long-term persistence in multi-site rainfall time series 1. Model calibration using a Bayesian approach. Journal of Hydrology, 2003, 275, 12-26.	5.4	52
43	Application of multiobjective optimization to scheduling capacity expansion of urban water resource systems. Water Resources Research, 2014, 50, 4624-4642.	4.2	46
44	A hidden Markov model for modelling long-term persistence in multi-site rainfall time series. 2. Real data analysis. Journal of Hydrology, 2003, 275, 27-48.	5.4	42
45	Water supply headworks simulation using network linear programming. Advances in Engineering Software, 1992, 14, 55-60.	3.8	41
46	On the validity of first-order prediction limits for conceptual hydrologic models. Journal of Hydrology, 1988, 103, 229-247.	5.4	40
47	Combining site and regional flood information using a Bayesian Monte Carlo approach. Water Resources Research, 2009, 45, .	4.2	40
48	Climateâ€informed stochastic hydrological modeling: Incorporating decadalâ€scale variability using paleo data. Water Resources Research, 2011, 47, .	4.2	38
49	Resilience to drought of dryland wetlands threatened by climate change. Scientific Reports, 2020, 10, 13232.	3.3	37
50	Uncorrelated measurement error in flood frequency inference. Water Resources Research, 1992, 28, 183-188.	4.2	34
51	Evaluating post-processing approaches for monthly and seasonal streamflow forecasts. Hydrology and Earth System Sciences, 2018, 22, 6257-6278.	4.9	34
52	Fast multireservoir multiperiod linear programing models. Water Resources Research, 1989, 25, 169-176.	4.2	33
53	Effect of sampling uncertainty and spatial correlation on an empirical Bayes procedure for combining site and regional information. Journal of Hydrology, 1983, 65, 373-398.	5.4	32
54	Joint probability and design storms at the crossroads. Australian Journal of Water Resources, 2006, 10, 63-79.	2.7	32

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55	A limitedâ€memory acceleration strategy for MCMC sampling in hierarchical Bayesian calibration of hydrological models. Water Resources Research, 2010, 46, .	4.2	32
56	An efficient causative event-based approach for deriving the annual flood frequency distribution. Journal of Hydrology, 2014, 510, 412-423.	5.4	32
57	Regionalisation of the parameters of the log-Pearson 3 distribution: a case study for New South Wales, Australia. Hydrological Processes, 2015, 29, 250-260.	2.6	29
58	A general Bayesian framework for calibrating and evaluating stochastic models of annual multi-site hydrological data. Journal of Hydrology, 2007, 340, 129-148.	5.4	28
59	Parameter estimation and model identification for stochastic models of annual hydrological data: Is the observed record long enough?. Journal of Hydrology, 2006, 330, 313-328.	5.4	27
60	A Robust Gaussâ€Newton Algorithm for the Optimization of Hydrological Models: Benchmarking Against Industryâ€Standard Algorithms. Water Resources Research, 2018, 54, 9637-9654.	4.2	26
61	Effect of rainfall errors on accuracy of design flood estimates. Water Resources Research, 1992, 28, 1145-1153.	4.2	25
62	Optimizing Urban Water Supply Headworks Using Probabilistic Search Methods. Journal of Water Resources Planning and Management - ASCE, 2003, 129, 380-387.	2.6	25
63	A simplified approach to produce probabilistic hydrological model predictions. Environmental Modelling and Software, 2018, 109, 306-314.	4.5	25
64	Use of a forest sapwood area index to explain longâ€term variability in mean annual evapotranspiration and streamflow in moist eucalypt forests. Water Resources Research, 2015, 51, 5318-5331.	4.2	24
65	A Robust Gaussâ€Newton Algorithm for the Optimization of Hydrological Models: From Standard Gaussâ€Newton to Robust Gaussâ€Newton. Water Resources Research, 2018, 54, 9655-9683.	4.2	24
66	Climate driver informed shortâ€term drought risk evaluation. Water Resources Research, 2013, 49, 2317-2326.	4.2	23
67	The Importance of Spatiotemporal Variability in Irrigation Inputs for Hydrological Modeling of Irrigated Catchments. Water Resources Research, 2018, 54, 6792-6821.	4.2	21
68	Multiâ€temporal Hydrological Residual Error Modeling for Seamless Subseasonal Streamflow Forecasting. Water Resources Research, 2020, 56, e2019WR026979.	4.2	21
69	Optimizing water supply headworks operating rules under stochastic inputs: Assessment of genetic algorithm performance. Water Resources Research, 2005, 41, .	4.2	20
70	Estimation of runoff-routing model parameters using incompatible storm data. Journal of Hydrology, 1990, 114, 47-60.	5.4	19
71	Detecting inundation thresholds for dryland wetland vulnerability. Advances in Water Resources, 2019, 128, 168-182.	3.8	19
72	A Bayesian surrogate for regional skew in flood frequency analysis. Water Resources Research, 1983, 19, 821-832.	4.2	18

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73	Network Linear Programming Codes for Waterâ€Supply Headworks Modeling. Journal of Water Resources Planning and Management - ASCE, 1993, 119, 412-417.	2.6	18
74	On maximum likelihood estimators for the multisite lagâ€one streamflow model: Complete and incomplete data cases. Water Resources Research, 1987, 23, 641-645.	4.2	17
75	Comment on â€œAn integrated hydrologic Bayesian multimodel combination framework: Confronting input, parameter, and model structural uncertainty in hydrologic predictionâ€•by Newsha K. Ajami et al.. Water Resources Research, 2009, 45, .	4.2	17
76	Comparing three methods to form regions for design rainfall statistics: Two case studies in Australia. Journal of Hydrology, 2015, 527, 62-76.	5.4	17
77	Assessing hydrologic model nonlinearity using response surface plots. Journal of Hydrology, 1990, 118, 143-161.	5.4	16
78	Using Tree Detection Algorithms to Predict Stand Sapwood Area, Basal Area and Stocking Density in Eucalyptus regnans Forest. Remote Sensing, 2015, 7, 7298-7323.	4.0	15
79	Estimating tree and stand sapwood area in spatially heterogeneous southeastern Australian forests. Journal of Plant Ecology, 2016, 9, 272-284.	2.3	15
80	Development and evaluation of a stochastic daily rainfall model with long-term variability. Hydrology and Earth System Sciences, 2017, 21, 6541-6558.	4.9	15
81	The Fast and the Robust: Tradeâ€Offs Between Optimization Robustness and Cost in the Calibration of Environmental Models. Water Resources Research, 2018, 54, 9432-9455.	4.2	15
82	Generating synthetic high resolution rainfall time series at sites with only daily rainfall using a masterâ€“target scaling approach. Journal of Hydrology, 2010, 393, 163-173.	5.4	14
83	Benefits of Explicit Treatment of Zero Flows in Probabilistic Hydrological Modeling of Ephemeral Catchments. Water Resources Research, 2019, 55, 11035-11060.	4.2	13
84	Stochastic Generation of Future Hydroclimate Using Temperature as a Climate Change Covariate. Water Resources Research, 2021, 57, 2020WR027331.	4.2	13
85	Overcoming the joint probability problem associated with initial loss estimation in desgn flood estimation. Australian Journal of Water Resources, 2003, 7, 101-109.	2.7	12
86	An application of Bayesian nonlinear regression to hydrologic models. Advances in Engineering Software (1978), 1989, 11, 149-155.	0.1	11
87	Seasonal generalized exponential probability models with application to interstorm and storm durations. Water Resources Research, 1998, 34, 143-148.	4.2	11
88	Incorporating demand uncertainty in water supply headworks simulation. Water Resources Research, 1993, 29, 469-477.	4.2	10
89	Estimation of subgrid scale kinematic wave parameters for hillslopes. Hydrological Processes, 1995, 9, 469-482.	2.6	10
90	Patch organization and resilience of dryland wetlands. Science of the Total Environment, 2020, 726, 138581.	8.0	10

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91	Efficient multi-objective optimization methods for computationally intensive urban water resources models. Journal of Hydroinformatics, 2015, 17, 36-55.	2.4	8
92	A new method for measuring stand sapwood area in forests. Ecohydrology, 2015, 8, 504-517.	2.4	7
93	Comparison of Newton-type and SCE optimisation algorithms for the calibration of conceptual hydrological models. Australian Journal of Water Resources, 2016, 20, 169-176.	2.7	7
94	Impact of hydroclimate parameter uncertainty on system yield. Australian Journal of Water Resources, 2017, 21, 53-62.	2.7	7
95	Improving the Reliability of Subâ€Seasonal Forecasts of High and Low Flows by Using a Flowâ€Dependent Nonparametric Model. Water Resources Research, 2021, 57, e2020WR029317.	4.2	7
96	Multiple criteria decision making: Facilitating a learning environment. Journal of Environmental Planning and Management, 2006, 49, 455-470.	4.5	6
97	The impact of rainwater tanks in the Upper Parramatta River Catchment. Australian Journal of Water Resources, 2003, 7, 121-129.	2.7	5
98	ARR, Hinc Quo?. Australian Journal of Water Resources, 2016, 20, 108-131.	2.7	5
99	Top-down seasonal streamflow model with spatiotemporal forest sapwood area. Journal of Hydrology, 2019, 568, 372-384.	5.4	5
100	Flood frequency censoring errors associated with daily-read flood observations. Water Resources Research, 2005, 41, .	4.2	4
101	Using paleoclimate reconstructions to analyse hydrological epochs associated with Pacific decadal variability. Hydrology and Earth System Sciences, 2018, 22, 6399-6414.	4.9	4
102	And we thought the Millennium Drought was bad: Assessing climate variability and change impacts on an Australian dryland wetland using an ecohydrologic emulator. Water Research, 2022, 218, 118487.	11.3	3
103	Bushfire hydrology â€" The case of leaking watersheds â€" Comment. Journal of Hydrology, 1989, 106, 377-380.	5.4	2
104	Comment on Wood et al. 2008, 'Impacts of fire on forest age and runoff in mountain ash forests'. Functional Plant Biology, 2010, 37, 1187.	2.1	2
105	Case study on the use of dynamically downscaled climate model data for assessing water security in the Lower Hunter region of the eastern seaboard of Australia. Journal of Southern Hemisphere Earth Systems Science, 2016, 66, 177-202.	1.8	2
106	Incorporating Long-Term Climate Variability into a Short-Timescale Rainfall Model Using a Hidden State Markov Model. Australian Journal of Water Resources, 2002, 6, 63-70.	2.7	1
107	Development of Non-Homogeneous and Hierarchical Hidden Markov Models for Modelling Monthly Rainfall and Streamflow Time Series. , 2004, , 1.		1
108	Scrutinizing Parameter Consistency and Predictive Uncertainty in Rainfall-Runoff Models Using Bayesian Total Error Analysis. , 2008, , .		1

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109	Application of Multi-Objective Optimization for Urban Water Resource Systems in Presence of Climate Change. , 2013, , .		1
110	Reply [to â€œComment on â€˜A Bayesian surrogate for regional skew in flood frequency analysisâ€™ by George Kuczeraâ€]. Water Resources Research, 1984, 20, 1929-1930.	4.2	0
111	Investigating the Impact of Predictive Uncertainty in Rainfall-Runoff Modelling on Storage Reliability Estimates Using Bayesian Total Error Analysis. , 2008, , .		0
112	Assessment of the Replicate Compression Heuristic to Improve Efficiency of Urban Water Supply Headworks Optimization. Journal of Water Resources Planning and Management - ASCE, 2009, 135, 451-457.	2.6	0
113	A SIMPLE METHOD FOR INCORPORATING PARAMETER UNCERTAINTY IN STOCHASTIC DATA GENERATION. , 2010, , 53-64.		0
114	IMPACT OF ERROR COVARIANCE ON FLOOD FORECASTING USING ENSEMBLE KALMAN FILTER. , 2010, , 251-263.		0
115	SHORT-TERM RAINFALL FORECASTING USING A BAYESIAN STOCHASTIC RAINFALL BURST MODEL. , 2010, , 11-22.		0
116	Generalized Headworks Simulation Modelling: The Australian Experience. Water Science and Technology Library, 1996, , 121-142.	0.3	0