Rory Nathan

List of Publications by Year
in descending order

110 papers	5,061 citations	109321 35 h-index	95266 68 g-index
119 all docs	119 docs citations	119 times ranked	3992 citing authors

#	Article	IF	Citations
1	Linking Total Precipitable Water to Precipitation Extremes Globally. Earth's Future, 2022, 10, .	6.3	22
2	Integrated framework for rapid climate stress testing on a monthly timestep. Environmental Modelling and Software, 2022, 150, 105339.	4.5	5
3	Nonstationary Runoff Responses Can Interact With Climate Change to Increase Severe Outcomes for Freshwater Ecology. Water Resources Research, 2022, 58, .	4.2	3
4	Understanding event runoff coefficient variability across Australia using the <i><scp>hydroEvents</scp> R</i> package. Hydrological Processes, 2022, 36, .	2.6	13
5	Automating rainfall recording: Ensuring homogeneity when instruments change. Journal of Hydrology, 2022, 609, 127758.	5.4	5
6	Rapid prediction of flood inundation by interpolation between flood library maps for real-time applications. Journal of Hydrology, 2022, 609, 127735.	5.4	5
7	Temporal disaggregation of daily rainfall measurements using regional reanalysis for hydrological applications. Journal of Hydrology, 2022, 610, 127867.	5.4	5
8	A global assessment of change in flood volume with surface air temperature. Advances in Water Resources, 2022, 165, 104241.	3.8	6
9	Upskilling Lowâ€Fidelity Hydrodynamic Models of Flood Inundation Through Spatial Analysis and Gaussian Process Learning. Water Resources Research, 2022, 58, .	4.2	9
10	Artificial neural network based hybrid modeling approach for flood inundation modeling. Journal of Hydrology, 2021, 592, 125605.	5.4	44
11	Climate change and freshwater ecology: Hydrological and ecological methods of comparable complexity are needed to predict risk. Wiley Interdisciplinary Reviews: Climate Change, 2021, 12, e692.	8.1	16
12	Towards an ensemble-based short-term flood forecasting using an event-based flood model-incorporating catchment-average estimates of soil moisture. Journal of Hydrology, 2021, 593, 125828.	5.4	9
13	Understanding trends in hydrologic extremes across Australia. Journal of Hydrology, 2021, 593, 125877.	5.4	32
14	Anthropogenic intensification of short-duration rainfall extremes. Nature Reviews Earth & Environment, 2021, 2, 107-122.	29.7	279
15	Towards advancing scientific knowledge of climate change impacts on short-duration rainfall extremes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190542.	3.4	56
16	Estimating design hydrologic extremes in a warming climate: alternatives, uncertainties and the way forward. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190623.	3.4	14
17	Intensification of short-duration rainfall extremes and implications for flood risk: current state of the art and future directions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190541.	3.4	44
18	Review: Can temperature be used to inform changes to flood extremes with global warming?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190551.	3.4	19

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19	Incorporating climate change in flood estimation guidance. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190548.	3.4	44
20	Implications of event-based loss model structure on simulating large floods. Journal of Hydrology, 2021, 595, 126008.	5.4	4
21	Baseflow and transmission loss: A review. Wiley Interdisciplinary Reviews: Water, 2021, 8, e1527.	6.5	22
22	Disaggregated monthly hydrological models can outperform daily models in providing daily flow statistics and extrapolate well to a drying climate. Journal of Hydrology, 2021, 598, 126471.	5.4	10
23	Decreases in relative humidity across Australia. Environmental Research Letters, 2021, 16, 074023.	5.2	18
24	Humans, climate and streamflow. Nature Climate Change, 2021, 11, 725-726.	18.8	31
25	A rapid flood inundation modelling framework using deep learning with spatial reduction and reconstruction. Environmental Modelling and Software, 2021, 143, 105112.	4.5	30
26	Linking temperature to catastrophe damages from hydrologic and meteorological extremes. Journal of Hydrology, 2021, 602, 126731.	5.4	14
27	Evidence of shorter more extreme rainfalls and increased flood variability under climate change. Journal of Hydrology, 2021, 603, 126994.	5.4	70
28	Python program for spatial reduction and reconstruction method in flood inundation modelling. MethodsX, 2021, 8, 101527.	1.6	2
29	The politicisation of science in the Murray-Darling Basin, Australia: discussion of â€˜Scientific integrity, public policy and water governanceâ€™. Australian Journal of Water Resources, 2021, 25, 141-158.	2.7	5
30	Robust Climate Change Adaptation for Environmental Flows in the Goulburn River, Australia. Frontiers in Environmental Science, 2021, 9, .	3.3	9
31	AWAPer: An R package for area weighted catchment daily meteorological data anywhere within Australia. Hydrological Processes, 2020, 34, 1301-1306.	2.6	15
32	An ANN-based emulation modelling framework for flood inundation modelling: Application, challenges and future directions. Environmental Modelling and Software, 2020, 124, 104587.	4.5	79
33	An Improved Covariate for Projecting Future Rainfall Extremes?. Water Resources Research, 2020, 56, e2019WR026924.	4.2	32
34	Resolving Inconsistencies in Extreme Precipitationâ€Temperature Sensitivities. Geophysical Research Letters, 2020, 47, e2020GL089723.	4.0	43
35	How to incorporate climate change into modelling environmental water outcomes: a review. Journal of Water and Climate Change, 2020, 11, 327-340.	2.9	19
36	Ability of an Australian reanalysis dataset to characterise sub-daily precipitation. Hydrology and Earth System Sciences, 2020, 24, 2951-2962.	4.9	5

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37	Trends in Global Flood and Streamflow Timing Based on Local Water Year. Water Resources Research, 2020, 56, e2020WR027233.	4.2	50
38	Changes in Antecedent Soil Moisture Modulate Flood Seasonality in a Changing Climate. Water Resources Research, 2020, 56, e2019WR026300.	4.2	81
39	Impact of atmospheric circulation on the rainfall-temperature relationship in Australia. Environmental Research Letters, 2020, 15, 094098.	5.2	21
40	Benchmarking the selection of probability neutral hydrologic design floods for use in 2D hydraulic models. Australian Journal of Water Resources, 2019, 23, 137-147.	2.7	2
41	The local dependency of precipitation on historical changes in temperature. Climatic Change, 2019, 156, 105-120.	3.6	28
42	The relationship of atmospheric air temperature and dew point temperature to extreme rainfall. Environmental Research Letters, 2019, 14, 074025.	5.2	39
43	Assessing the degree of hydrologic stress due to climate change. Climatic Change, 2019, 156, 87-104.	3.6	20
44	An evaluation of daily precipitation from a regional atmospheric reanalysis over Australia. Hydrology and Earth System Sciences, 2019, 23, 3387-3403.	4.9	31
45	Modeling Flow-Ecology Responses in the Anthropocene: Challenges for Sustainable Riverine Management. BioScience, 2019, 69, 789-799.	4.9	57
46	Atmospheric Moisture Measurements Explain Increases in Tropical Rainfall Extremes. Geophysical Research Letters, 2019, 46, 1375-1382.	4.0	76
47	Can antecedent moisture conditions modulate the increase in flood risk due to climate change in urban catchments?. Journal of Hydrology, 2019, 571, 11-20.	5.4	41
48	Amplification of risks to water supply at 1.5 Â°C and 2 Â°C in drying climates: a case study for Melbourne, Australia. Environmental Research Letters, 2019, 14, 084028.	5.2	11
49	Influence of changes in rainfall and soil moisture on trends in flooding. Journal of Hydrology, 2019, 575, 432-441.	5.4	157
50	Examining Trade-Offs in Piggybacking Flow Events while Making Environmental Release Decisions in a River System. Journal of Water Resources Planning and Management - ASCE, 2019, 145, .	2.6	8
51	Increases in temperature do not translate to increased flooding. Nature Communications, 2019, 10, 5676.	12.8	37
52	Informing Environmental Water Management Decisions: Using Conditional Probability Networks to Address the Information Needs of Planning and Implementation Cycles. Environmental Management, 2018, 61, 347-357.	2.7	25
53	Reply to discussion by R French and M Jones on â€˜recommended practice for hydrologic investigations and reportingâ€™. Australian Journal of Water Resources, 2018, 22, 91-92.	2.7	1
54	If Precipitation Extremes Are Increasing, Why Aren't Floods?. Water Resources Research, 2018, 54, 8545-8551.	4.2	299

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55	Relationship of extreme precipitation, dry-bulb temperature, and dew point temperature across Australia. Environmental Research Letters, 2018, 13, 074031.	5.2	66
56	Lessons from my failures. Australian Journal of Water Resources, 2018, 22, 101-112.	2.7	1
57	Assessing the Impact of Climate Change on Environmental Outcomes in the Context of Natural Climate Variability. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	7
58	Active Management of Environmental Water to Improve Ecological Outcomes. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	13
59	Increase in flood risk resulting from climate change in a developed urban watershed â€“ the role of storm temporal patterns. Hydrology and Earth System Sciences, 2018, 22, 2041-2056.	4.9	144
60	Vulnerability of Ecological Condition to the Sequencing of Wet and Dry Spells Prior to and during the Murray-Darling Basin Millennium Drought. Journal of Water Resources Planning and Management - ASCE, 2018, 144, .	2.6	14
61	Using optimization to develop a â€œdesignerâ€• environmental flow regime. Environmental Modelling and Software, 2017, 88, 188-199.	4.5	49
62	Continuous rainfall generation for a warmer climate using observed temperature sensitivities. Journal of Hydrology, 2017, 544, 575-590.	5.4	51
63	Recommended practice for hydrologic investigations and reporting. Australian Journal of Water Resources, 2017, 21, 3-19.	2.7	8
64	Challenges for determining frequency of high flow spells for varying thresholds in environmental flows programmes. Journal of Ecohydraulics, 2017, 2, 28-37.	3.1	6
65	Global assessment of flood and storm extremes with increased temperatures. Scientific Reports, 2017, 7, 7945.	3.3	170
66	Evaluating four downscaling methods for assessment of climate change impact on ecological indicators. Environmental Modelling and Software, 2017, 96, 68-82.	4.5	25
67	Reduced spatial extent of extreme storms at higher temperatures. Geophysical Research Letters, 2016, 43, 4026-4032.	4.0	129
68	Estimating the exceedance probability of extreme rainfalls up to the probable maximum precipitation. Journal of Hydrology, 2016, 543, 706-720.	5.4	30
69	A comprehensive urban floodplain dataset for model benchmarking. International Journal of River Basin Management, 2016, 14, 345-356.	2.7	11
70	Representing lowâ€frequency variability in continuous rainfall simulations: A hierarchical random <scp>B</scp>artlett <scp>L</scp>ewis continuous rainfall generation model. Water Resources Research, 2015, 51, 9995-10007.	4.2	37
71	Advances in assessing the impact of hillside farm dams on streamflow. Australian Journal of Water Resources, 2015, 19, 96-108.	2.7	26
72	Does storm duration modulate the extreme precipitation-temperature scaling relationship?. Geophysical Research Letters, 2015, 42, 8783-8790.	4.0	100

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73	Steeper temporal distribution of rain intensity at higher temperatures within Australian storms. Nature Geoscience, 2015, 8, 527-529.	12.9	161
74	Quantile regression for investigating scaling of extreme precipitation with temperature. Water Resources Research, 2014, 50, 3608-3614.	4.2	127
75	Improved spatial prediction: A combinatorial approach. Water Resources Research, 2013, 49, 3927-3935.	4.2	26
76	A standard approach to baseflow separation using the Lyne and Hollick filter. Australian Journal of Water Resources, 2013, 17, .	2.7	66
77	Discussion on â€œAddressing Climatic Non-Stationarity in the Assessment of Flood Riskâ€ Australian Journal of Water Resources, 2011, 14, 169-172.	2.7	0
78	Groundwater and surface water connectivity. , 2011, , 46-67.		3
79	Addressing Climatic Non-Stationarity in the Assessment of Flood Risk. Australian Journal of Water Resources, 2010, 14, 1-16.	2.7	23
80	Evaporation from water supply reservoirs: An assessment of uncertainty. Journal of Hydrology, 2009, 376, 261-274.	5.4	66
81	Effect of solar variability on atmospheric moisture storage. Geophysical Research Letters, 2009, 36, .	4.0	7
82	Spatially explicit modelling of the hydrologic response of bushfires at the catchment scale. Australian Journal of Water Resources, 2008, 12, 281-290.	2.7	5
83	The future: A hydrological SWOT analysis. Australian Journal of Water Resources, 2007, 11, 133-144.	2.7	3
84	Treatment of correlated storage drawdown and uncertainty in the flood hydrology for dams. Australian Journal of Water Resources, 2007, 11, 169-176.	2.7	2
85	A method for coupling daily and monthly time scales in stochastic generation of rainfall series. Journal of Hydrology, 2007, 346, 122-130.	5.4	40
86	Generalized extreme value distribution fitted by LH moments for low-flow frequency analysis. Water Resources Research, 2007, 43, .	4.2	22
87	Use of similarity criteria for transposing gauged streamflows to ungauged locations. Australian Journal of Water Resources, 2006, 10, 161-170.	2.7	5
88	Temporal patterns for the derivation of PMPDF and PMF estimates in the GTSM region of Australia. Australian Journal of Water Resources, 2005, 8, 111-121.	2.7	2
89	Growth curves and temporal patterns of short duration design storms for extreme events. Australian Journal of Water Resources, 2005, 9, 69-80.	2.7	3
90	Assessing the impact of farm dams on streamflows, Part I: Development of simulation tools. Australian Journal of Water Resources, 2005, 9, 1-12.	2.7	34

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91	Assessing the impact of farm dams on streamflows, Part II: Regional characterisation. Australian Journal of Water Resources, 2005, 9, 13-26.	2.7	25
92	The estimation of farm dam yield in small agricultural catchments in south eastern Australia. Australian Journal of Water Resources, 2004, 8, 21-35.	2.7	6
93	Monte Carlo Simulation of Flood Frequency Curves from Rainfall â€“ The Way Ahead. Australian Journal of Water Resources, 2002, 6, 71-79.	2.7	15
94	Identifying the Separate Impact of Farm Dams and Land Use Changes on Catchment Yield. Australian Journal of Water Resources, 2002, 5, 165-176.	2.7	23
95	Development of an Objective Procedure for Identifying Regions of Low Flow Homogeneity for the Specification of Environmental Flows. Australian Journal of Water Resources, 2002, 6, 53-61.	2.7	0
96	Detecting changes in streamflow response to changes in non-climatic catchment conditions: farm dam development in the Murrayâ€“Darling basin, Australia. Journal of Hydrology, 2002, 262, 84-98.	5.4	95
97	Towards defining sustainable limits to winter diversions in Victorian catchments. Australian Journal of Water Resources, 2002, 5, 49-60.	2.7	3
98	Modeling flow and transport in irrigation catchments: 2. Spatial application of subcatchment model. Water Resources Research, 2001, 37, 965-977.	4.2	9
99	Historical stream salinity trends and catchment salt balances in the Murray - Darling Basin, Australia. Marine and Freshwater Research, 2001, 52, 53.	1.3	100
100	Methods for the analysis of trends in streamflow response due to changes in catchment condition. Environmetrics, 2001, 12, 613-630.	1.4	20
101	Development of a simplified unsaturated module for providing recharge estimates to saturated groundwater models. Hydrological Processes, 1999, 13, 653-675.	2.6	20
102	Estimating Salt Loads in High Water Table Areas. I:â€ƒIdentifying Processes. Journal of Irrigation and Drainage Engineering - ASCE, 1997, 123, 79-90.	1.0	13
103	Estimating Salt Loads in High Water Table Areas. II: Regional Salt Loads. Journal of Irrigation and Drainage Engineering - ASCE, 1997, 123, 91-99.	1.0	11
104	A deterministic-empirical model of the effect of the capillary fringe on near-stream area runoff 2. Testing and application. Journal of Hydrology, 1996, 184, 317-336.	5.4	14
105	Estimating low flow characteristics in ungauged catchments. Water Resources Management, 1992, 6, 85-100.	3.9	68
106	Reply [to â€œComment on â€˜Evaluation of automated techniques for base flow and recession analysesâ€™ by R. J. Nathan and T. A. McMahonâ€]. Water Resources Research, 1991, 27, 1785-1786.	4.2	3
107	Evaluation of automated techniques for base flow and recession analyses. Water Resources Research, 1990, 26, 1465-1473.	4.2	851
108	Practical aspects of lowâ€flow frequency analysis. Water Resources Research, 1990, 26, 2135-2141.	4.2	22

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109	Identification of homogeneous regions for the purposes of regionalisation. Journal of Hydrology, 1990, 121, 217-238.	5.4	230
110	Practical aspects of low flow frequency analysis. Water Resources Research, 1990, 26, 2135-2141.	4.2	26