

# Rory Nathan

## List of Publications by Year in descending order

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Version: 2024-02-01

110  
papers

5,061  
citations

109264

35  
h-index

95218

68  
g-index

119  
all docs

119  
docs citations

119  
times ranked

3992  
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaluation of automated techniques for base flow and recession analyses. <i>Water Resources Research</i> , 1990, 26, 1465-1473.	1.7	851
2	If Precipitation Extremes Are Increasing, Why Aren't Floods?. <i>Water Resources Research</i> , 2018, 54, 8545-8551.	1.7	299
3	Anthropogenic intensification of short-duration rainfall extremes. <i>Nature Reviews Earth &amp; Environment</i> , 2021, 2, 107-122.	12.2	279
4	Identification of homogeneous regions for the purposes of regionalisation. <i>Journal of Hydrology</i> , 1990, 121, 217-238.	2.3	230
5	Global assessment of flood and storm extremes with increased temperatures. <i>Scientific Reports</i> , 2017, 7, 7945.	1.6	170
6	Steeper temporal distribution of rain intensity at higher temperatures within Australian storms. <i>Nature Geoscience</i> , 2015, 8, 527-529.	5.4	161
7	Influence of changes in rainfall and soil moisture on trends in flooding. <i>Journal of Hydrology</i> , 2019, 575, 432-441.	2.3	157
8	Increase in flood risk resulting from climate change in a developed urban watershed – the role of storm temporal patterns. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 2041-2056.	1.9	144
9	Reduced spatial extent of extreme storms at higher temperatures. <i>Geophysical Research Letters</i> , 2016, 43, 4026-4032.	1.5	129
10	Quantile regression for investigating scaling of extreme precipitation with temperature. <i>Water Resources Research</i> , 2014, 50, 3608-3614.	1.7	127
11	Historical stream salinity trends and catchment salt balances in the Murray - Darling Basin, Australia. <i>Marine and Freshwater Research</i> , 2001, 52, 53.	0.7	100
12	Does storm duration modulate the extreme precipitation-temperature scaling relationship?. <i>Geophysical Research Letters</i> , 2015, 42, 8783-8790.	1.5	100
13	Detecting changes in streamflow response to changes in non-climatic catchment conditions: farm dam development in the Murray–Darling basin, Australia. <i>Journal of Hydrology</i> , 2002, 262, 84-98.	2.3	95
14	Changes in Antecedent Soil Moisture Modulate Flood Seasonality in a Changing Climate. <i>Water Resources Research</i> , 2020, 56, e2019WR026300.	1.7	81
15	An ANN-based emulation modelling framework for flood inundation modelling: Application, challenges and future directions. <i>Environmental Modelling and Software</i> , 2020, 124, 104587.	1.9	79
16	Atmospheric Moisture Measurements Explain Increases in Tropical Rainfall Extremes. <i>Geophysical Research Letters</i> , 2019, 46, 1375-1382.	1.5	76
17	Evidence of shorter more extreme rainfalls and increased flood variability under climate change. <i>Journal of Hydrology</i> , 2021, 603, 126994.	2.3	70
18	Estimating low flow characteristics in ungauged catchments. <i>Water Resources Management</i> , 1992, 6, 85-100.	1.9	68

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19	Evaporation from water supply reservoirs: An assessment of uncertainty. <i>Journal of Hydrology</i> , 2009, 376, 261-274.	2.3	66
20	A standard approach to baseflow separation using the Lyne and Hollick filter. <i>Australian Journal of Water Resources</i> , 2013, 17, .	1.6	66
21	Relationship of extreme precipitation, dry-bulb temperature, and dew point temperature across Australia. <i>Environmental Research Letters</i> , 2018, 13, 074031.	2.2	66
22	Modeling Flow-Ecology Responses in the Anthropocene: Challenges for Sustainable Riverine Management. <i>BioScience</i> , 2019, 69, 789-799.	2.2	57
23	Towards advancing scientific knowledge of climate change impacts on short-duration rainfall extremes. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190542.	1.6	56
24	Continuous rainfall generation for a warmer climate using observed temperature sensitivities. <i>Journal of Hydrology</i> , 2017, 544, 575-590.	2.3	51
25	Trends in Global Flood and Streamflow Timing Based on Local Water Year. <i>Water Resources Research</i> , 2020, 56, e2020WR027233.	1.7	50
26	Using optimization to develop a "designer" environmental flow regime. <i>Environmental Modelling and Software</i> , 2017, 88, 188-199.	1.9	49
27	Artificial neural network based hybrid modeling approach for flood inundation modeling. <i>Journal of Hydrology</i> , 2021, 592, 125605.	2.3	44
28	Intensification of short-duration rainfall extremes and implications for flood risk: current state of the art and future directions. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190541.	1.6	44
29	Incorporating climate change in flood estimation guidance. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190548.	1.6	44
30	Resolving Inconsistencies in Extreme Precipitation-Temperature Sensitivities. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089723.	1.5	43
31	Can antecedent moisture conditions modulate the increase in flood risk due to climate change in urban catchments?. <i>Journal of Hydrology</i> , 2019, 571, 11-20.	2.3	41
32	A method for coupling daily and monthly time scales in stochastic generation of rainfall series. <i>Journal of Hydrology</i> , 2007, 346, 122-130.	2.3	40
33	The relationship of atmospheric air temperature and dew point temperature to extreme rainfall. <i>Environmental Research Letters</i> , 2019, 14, 074025.	2.2	39
34	Representing low-frequency variability in continuous rainfall simulations: A hierarchical random <math>B</math>-artlett <math>L</math>-ewis continuous rainfall generation model. <i>Water Resources Research</i> , 2015, 51, 9995-10007.	1.7	37
35	Increases in temperature do not translate to increased flooding. <i>Nature Communications</i> , 2019, 10, 5676.	5.8	37
36	Assessing the impact of farm dams on streamflows, Part I: Development of simulation tools. <i>Australian Journal of Water Resources</i> , 2005, 9, 1-12.	1.6	34

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37	An Improved Covariate for Projecting Future Rainfall Extremes?. Water Resources Research, 2020, 56, e2019WR026924.	1.7	32
38	Understanding trends in hydrologic extremes across Australia. Journal of Hydrology, 2021, 593, 125877.	2.3	32
39	An evaluation of daily precipitation from a regional atmospheric reanalysis over Australia. Hydrology and Earth System Sciences, 2019, 23, 3387-3403.	1.9	31
40	Humans, climate and streamflow. Nature Climate Change, 2021, 11, 725-726.	8.1	31
41	Estimating the exceedance probability of extreme rainfalls up to the probable maximum precipitation. Journal of Hydrology, 2016, 543, 706-720.	2.3	30
42	A rapid flood inundation modelling framework using deep learning with spatial reduction and reconstruction. Environmental Modelling and Software, 2021, 143, 105112.	1.9	30
43	The local dependency of precipitation on historical changes in temperature. Climatic Change, 2019, 156, 105-120.	1.7	28
44	Improved spatial prediction: A combinatorial approach. Water Resources Research, 2013, 49, 3927-3935.	1.7	26
45	Advances in assessing the impact of hillside farm dams on streamflow. Australian Journal of Water Resources, 2015, 19, 96-108.	1.6	26
46	Practical aspects of low flow frequency analysis. Water Resources Research, 1990, 26, 2135-2141.	1.7	26
47	Assessing the impact of farm dams on streamflows, Part II: Regional characterisation. Australian Journal of Water Resources, 2005, 9, 13-26.	1.6	25
48	Evaluating four downscaling methods for assessment of climate change impact on ecological indicators. Environmental Modelling and Software, 2017, 96, 68-82.	1.9	25
49	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.	1.2	25
50	Identifying the Separate Impact of Farm Dams and Land Use Changes on Catchment Yield. Australian Journal of Water Resources, 2002, 5, 165-176.	1.6	23
51	Addressing Climatic Non-Stationarity in the Assessment of Flood Risk. Australian Journal of Water Resources, 2010, 14, 1-16.	1.6	23
52	Practical aspects of low flow frequency analysis. Water Resources Research, 1990, 26, 2135-2141.	1.7	22
53	Generalized extreme value distribution fitted by LH moments for low-flow frequency analysis. Water Resources Research, 2007, 43, .	1.7	22
54	Baseflow and transmission loss: A review. Wiley Interdisciplinary Reviews: Water, 2021, 8, e1527.	2.8	22

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55	Linking Total Precipitable Water to Precipitation Extremes Globally. <i>Earth's Future</i> , 2022, 10, .	2.4	22
56	Impact of atmospheric circulation on the rainfall-temperature relationship in Australia. <i>Environmental Research Letters</i> , 2020, 15, 094098.	2.2	21
57	Development of a simplified unsaturated module for providing recharge estimates to saturated groundwater models. <i>Hydrological Processes</i> , 1999, 13, 653-675.	1.1	20
58	Methods for the analysis of trends in streamflow response due to changes in catchment condition. <i>Environmetrics</i> , 2001, 12, 613-630.	0.6	20
59	Assessing the degree of hydrologic stress due to climate change. <i>Climatic Change</i> , 2019, 156, 87-104.	1.7	20
60	How to incorporate climate change into modelling environmental water outcomes: a review. <i>Journal of Water and Climate Change</i> , 2020, 11, 327-340.	1.2	19
61	Review: Can temperature be used to inform changes to flood extremes with global warming?. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190551.	1.6	19
62	Decreases in relative humidity across Australia. <i>Environmental Research Letters</i> , 2021, 16, 074023.	2.2	18
63	Climate change and freshwater ecology: Hydrological and ecological methods of comparable complexity are needed to predict risk. <i>Wiley Interdisciplinary Reviews: Climate Change</i> , 2021, 12, e692.	3.6	16
64	Monte Carlo Simulation of Flood Frequency Curves from Rainfall – The Way Ahead. <i>Australian Journal of Water Resources</i> , 2002, 6, 71-79.	1.6	15
65	AWAPer: An R package for area weighted catchment daily meteorological data anywhere within Australia. <i>Hydrological Processes</i> , 2020, 34, 1301-1306.	1.1	15
66	A deterministic-empirical model of the effect of the capillary fringe on near-stream area runoff 2. Testing and application. <i>Journal of Hydrology</i> , 1996, 184, 317-336.	2.3	14
67	Vulnerability of Ecological Condition to the Sequencing of Wet and Dry Spells Prior to and during the Murray-Darling Basin Millennium Drought. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2018, 144, .	1.3	14
68	Estimating design hydrologic extremes in a warming climate: alternatives, uncertainties and the way forward. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20190623.	1.6	14
69	Linking temperature to catastrophe damages from hydrologic and meteorological extremes. <i>Journal of Hydrology</i> , 2021, 602, 126731.	2.3	14
70	Estimating Salt Loads in High Water Table Areas. Identifying Processes. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 1997, 123, 79-90.	0.6	13
71	Active Management of Environmental Water to Improve Ecological Outcomes. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2018, 144, .	1.3	13
72	Understanding event runoff coefficient variability across Australia using the <code>hydroEvents</code> R package. <i>Hydrological Processes</i> , 2022, 36, .	1.1	13

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73	Estimating Salt Loads in High Water Table Areas. II: Regional Salt Loads. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 1997, 123, 91-99.	0.6	11
74	A comprehensive urban floodplain dataset for model benchmarking. <i>International Journal of River Basin Management</i> , 2016, 14, 345-356.	1.5	11
75	Amplification of risks to water supply at 1.5 °C and 2 °C in drying climates: a case study for Melbourne, Australia. <i>Environmental Research Letters</i> , 2019, 14, 084028.	2.2	11
76	Disaggregated monthly hydrological models can outperform daily models in providing daily flow statistics and extrapolate well to a drying climate. <i>Journal of Hydrology</i> , 2021, 598, 126471.	2.3	10
77	Modeling flow and transport in irrigation catchments: 2. Spatial application of subcatchment model. <i>Water Resources Research</i> , 2001, 37, 965-977.	1.7	9
78	Towards an ensemble-based short-term flood forecasting using an event-based flood model-incorporating catchment-average estimates of soil moisture. <i>Journal of Hydrology</i> , 2021, 593, 125828.	2.3	9
79	Robust Climate Change Adaptation for Environmental Flows in the Goulburn River, Australia. <i>Frontiers in Environmental Science</i> , 2021, 9, .	1.5	9
80	Upskilling Low-Fidelity Hydrodynamic Models of Flood Inundation Through Spatial Analysis and Gaussian Process Learning. <i>Water Resources Research</i> , 2022, 58, .	1.7	9
81	Recommended practice for hydrologic investigations and reporting. <i>Australian Journal of Water Resources</i> , 2017, 21, 3-19.	1.6	8
82	Examining Trade-Offs in Piggybacking Flow Events while Making Environmental Release Decisions in a River System. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2019, 145, .	1.3	8
83	Effect of solar variability on atmospheric moisture storage. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	7
84	Assessing the Impact of Climate Change on Environmental Outcomes in the Context of Natural Climate Variability. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2018, 144, .	1.3	7
85	The estimation of farm dam yield in small agricultural catchments in south eastern Australia. <i>Australian Journal of Water Resources</i> , 2004, 8, 21-35.	1.6	6
86	Challenges for determining frequency of high flow spells for varying thresholds in environmental flows programmes. <i>Journal of Ecohydraulics</i> , 2017, 2, 28-37.	1.6	6
87	A global assessment of change in flood volume with surface air temperature. <i>Advances in Water Resources</i> , 2022, 165, 104241.	1.7	6
88	Use of similarity criteria for transposing gauged streamflows to ungauged locations. <i>Australian Journal of Water Resources</i> , 2006, 10, 161-170.	1.6	5
89	Spatially explicit modelling of the hydrologic response of bushfires at the catchment scale. <i>Australian Journal of Water Resources</i> , 2008, 12, 281-290.	1.6	5
90	Ability of an Australian reanalysis dataset to characterise sub-daily precipitation. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 2951-2962.	1.9	5

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91	The politicisation of science in the Murray-Darling Basin, Australia: discussion of "Scientific integrity, public policy and water governance"™. Australian Journal of Water Resources, 2021, 25, 141-158.	1.6	5
92	Integrated framework for rapid climate stress testing on a monthly timestep. Environmental Modelling and Software, 2022, 150, 105339.	1.9	5
93	Automating rainfall recording: Ensuring homogeneity when instruments change. Journal of Hydrology, 2022, 609, 127758.	2.3	5
94	Rapid prediction of flood inundation by interpolation between flood library maps for real-time applications. Journal of Hydrology, 2022, 609, 127735.	2.3	5
95	Temporal disaggregation of daily rainfall measurements using regional reanalysis for hydrological applications. Journal of Hydrology, 2022, 610, 127867.	2.3	5
96	Implications of event-based loss model structure on simulating large floods. Journal of Hydrology, 2021, 595, 126008.	2.3	4
97	Reply [to "Comment on "Evaluation of automated techniques for base flow and recession analyses"™ by R. J. Nathan and T. A. McMahon". Water Resources Research, 1991, 27, 1785-1786.	1.7	3
98	Towards defining sustainable limits to winter diversions in Victorian catchments. Australian Journal of Water Resources, 2002, 5, 49-60.	1.6	3
99	Growth curves and temporal patterns of short duration design storms for extreme events. Australian Journal of Water Resources, 2005, 9, 69-80.	1.6	3
100	The future: A hydrological SWOT analysis. Australian Journal of Water Resources, 2007, 11, 133-144.	1.6	3
101	Groundwater and surface water connectivity. , 2011, , 46-67.		3
102	Nonstationary Runoff Responses Can Interact With Climate Change to Increase Severe Outcomes for Freshwater Ecology. Water Resources Research, 2022, 58, .	1.7	3
103	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.	1.6	2
104	Treatment of correlated storage drawdown and uncertainty in the flood hydrology for dams. Australian Journal of Water Resources, 2007, 11, 169-176.	1.6	2
105	Benchmarking the selection of probability neutral hydrologic design floods for use in 2D hydraulic models. Australian Journal of Water Resources, 2019, 23, 137-147.	1.6	2
106	Python program for spatial reduction and reconstruction method in flood inundation modelling. MethodsX, 2021, 8, 101527.	0.7	2
107	Reply to discussion by R French and M Jones on "recommended practice for hydrologic investigations and reporting"™. Australian Journal of Water Resources, 2018, 22, 91-92.	1.6	1
108	Lessons from my failures. Australian Journal of Water Resources, 2018, 22, 101-112.	1.6	1

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109	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.	1.6	0
110	Discussion on "Addressing Climatic Non-Stationarity in the Assessment of Flood Risk". Australian Journal of Water Resources, 2011, 14, 169-172.	1.6	0