Rohini Kumar

List of Publications by Year
in descending order

108	6,301	66250	84171
papers	citations	44 h-index	75 g-index

194	194	194	6751
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A novel analytical model for the transit time distributions in urban groundwater systems. Journal of Hydrology, 2022, 605, 127379.	2.3	3
2	Explaining the Variability in Highâ€Frequency Nitrate Export Patterns Using Longâ€Term Hydrological Event Classification. Water Resources Research, 2022, 58, .	1.7	14
3	MPR 1.0: a stand-alone multiscale parameter regionalization tool for improved parameter estimation of land surface models. Geoscientific Model Development, 2022, 15, 859-882.	1.3	8
4	Fewer Troughs, Not More Ridges, Have Led to a Drying Trend in the Western United States. Geophysical Research Letters, 2022, 49, .	1.5	10
5	Multi-Model Assessment of Streamflow Simulations under Climate and Anthropogenic Changes Exemplified in Two Indian River Basins. Water (Switzerland), 2022, 14, 194.	1.2	1
6	Implications of Increasing Household Air Conditioning Use Across the United States Under a Warming Climate. Earth's Future, 2022, 10, .	2.4	23
7	The Goldilocks Zone in Cooling Demand: What Can We Do Better?. Earth's Future, 2022, 10, .	2.4	1
8	Population changes and sustainability of energy drive cooling demand related risks in urbanized India. Energy and Buildings, 2022, 260, 111891.	3.1	4
9	Disparate Seasonal Nitrate Export From Nested Heterogeneous Subcatchments Revealed With StorAge Selection Functions. Water Resources Research, 2022, 58, .	1.7	8
10	The 2018â€“2020 Multiâ€Year Drought Sets a New Benchmark in Europe. Earth's Future, 2022, 10, .	2.4	71
11	Characterizing Catchmentâ€Scale Nitrogen Legacies and Constraining Their Uncertainties. Water Resources Research, 2022, 58, .	1.7	8
12	Increasing footprint of climate warming on flash droughts occurrence in Europe. Environmental Research Letters, 2022, 17, 064017.	2.2	20
13	Multi-model evaluation of catchment- and global-scale hydrological model simulations of drought characteristics across eight large river catchments. Advances in Water Resources, 2022, 165, 104212.	1.7	5
14	Disentangling the Impact of Catchment Heterogeneity on Nitrate Export Dynamics From Event to Longâ€Term Time Scales. Water Resources Research, 2021, 57, e2020WR027992.	1.7	23
15	The rise of compound warm-season droughts in Europe. Science Advances, 2021, 7, .	4.7	83
16	Modeling Nitrate Export From a Mesoscale Catchment Using StorAge Selection Functions. Water Resources Research, 2021, 57, e2020WR028490.	1.7	19
17	Europe under multi-year droughts: how severe was the 2014â€“2018 drought period?. Environmental Research Letters, 2021, 16, 034062.	2.2	66
18	Assessing the contribution of groundwater to catchment travel time distributions through integrating conceptual flux tracking with explicit Lagrangian particle tracking. Advances in Water Resources, 2021, 149, 103849.	1.7	11

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19	Archetypes and Controls of Riverine Nutrient Export Across German Catchments. Water Resources Research, 2021, 57, e2020WR028134.	1.7	41
20	Climate hazards are threatening vulnerable migrants in Indian megacities. Nature Climate Change, 2021, 11, 636-638.	8.1	18
21	Editorial: Challenges of Hydrological Drought Monitoring and Prediction. Frontiers in Water, 2021, 3, .	1.0	0
22	Nitrate Transport and Retention in Western European Catchments Are Shaped by Hydroclimate and Subsurface Properties. Water Resources Research, 2021, 57, e2020WR029469.	1.7	18
23	Great Lakes Runoff Intercomparison Project Phase 3: Lake Erie (GRIP-E). Journal of Hydrologic Engineering - ASCE, 2021, 26, .	0.8	12
24	Longâ€Term Nitrate Trajectories Vary by Season in Western European Catchments. Global Biogeochemical Cycles, 2021, 35, e2021GB007050.	1.9	10
25	The suitability of water scarcity indicators to the Indian context. Water Security, 2021, 14, 100097.	1.2	2
26	Bending of the concentration discharge relationship can inform about in-stream nitrate removal. Hydrology and Earth System Sciences, 2021, 25, 6437-6463.	1.9	6
27	Asymmetrical response of California electricity demand to summer-time temperature variation. Scientific Reports, 2020, 10, 10904.	1.6	12
28	Increased future occurrences of the exceptional 2018â€“2019 Central European drought under global warming. Scientific Reports, 2020, 10, 12207.	1.6	207
29	Moist heat stress extremes in India enhanced by irrigation. Nature Geoscience, 2020, 13, 722-728.	5.4	106
30	On the curious case of the recent decade, mid-spring precipitation deficit in central Europe. Npj Climate and Atmospheric Science, 2020, 3, .	2.6	51
31	Strong hydroclimatic controls on vulnerability to subsurface nitrate contamination across Europe. Nature Communications, 2020, 11, 6302.	5.8	40
32	Increase in Population Exposure Due to Dry and Wet Extremes in India Under a Warming Climate. Earth's Future, 2020, 8, e2020EF001731.	2.4	22
33	Microplastic particle emission from wastewater treatment plant effluents into river networks in Germany: Loads, spatial patterns of concentrations and potential toxicity. Science of the Total Environment, 2020, 737, 139544.	3.9	88
34	Managing the waterâ€“electricity demand nexus in a warming climate. Climatic Change, 2020, 159, 233-252.	1.7	15
35	A Dataâ€Driven Framework to Characterize Stateâ€Level Water Use in the United States. Water Resources Research, 2020, 56, e2019WR024894.	1.7	12
36	The critical role of humidity in modeling summer electricity demand across the United States. Nature Communications, 2020, 11, 1686.	5.8	51

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37	Assessing the response of groundwater quantity and travel time distribution to 1.5, 2, and 3â€‰Â°C global warming in a mesoscale central German basin. Hydrology and Earth System Sciences, 2020, 24, 1511-1526.	1.9	13
38	A Processâ€Based Framework to Characterize and Classify Runoff Events: The Event Typology of Germany. Water Resources Research, 2020, 56, e2019WR026951.	1.7	37
39	Challenges in Applying Machine Learning Models for Hydrological Inference: A Case Study for Flooding Events Across Germany. Water Resources Research, 2020, 56, e2019WR025924.	1.7	67
40	Hydrological Forecasts and Projections for Improved Decision-Making in the Water Sector in Europe. Bulletin of the American Meteorological Society, 2019, 100, 2451-2472.	1.7	52
41	Spatial Organization of Human Population and Wastewater Treatment Plants in Urbanized River Basins. Water Resources Research, 2019, 55, 6138-6152.	1.7	19
42	On the choice of calibration metrics for â€œhigh-flowâ€•estimation using hydrologic models. Hydrology and Earth System Sciences, 2019, 23, 2601-2614.	1.9	110
43	The multiscale routing model mRM v1.0: simple river routing at resolutions from 1 to 50â€‰km. Geoscientific Model Development, 2019, 12, 2501-2521.	1.3	38
44	Spatial patterns of water quality impairments from point source nutrient loads in Germany's largest national River Basin (Weser River). Science of the Total Environment, 2019, 697, 134145.	3.9	23
45	Trajectories of nitrate input and output in three nested catchments along a land use gradient. Hydrology and Earth System Sciences, 2019, 23, 3503-3524.	1.9	44
46	Analyzing the climate sensitivity of the coupled water-electricity demand nexus in the Midwestern United States. Applied Energy, 2019, 252, 113466.	5.1	19
47	Spatio-temporal analysis of compound hydro-hazard extremes across theÂUK. Advances in Water Resources, 2019, 130, 77-90.	1.7	37
48	A 250â€Year European Drought Inventory Derived From Ensemble Hydrologic Modeling. Geophysical Research Letters, 2019, 46, 5909-5917.	1.5	28
49	Climate versus demographic controls on water availability across India at 1.5â€¯Â°C, 2.0â€¯Â°C and 3.0â€¯Â°C global warming levels. Global and Planetary Change, 2019, 177, 1-9.	1.6	22
50	Influence of input and parameter uncertainty on the prediction of catchment-scale groundwater travel time distributions. Hydrology and Earth System Sciences, 2019, 23, 171-190.	1.9	24
51	Diagnostic Evaluation of Largeâ€Domain Hydrologic Models Calibrated Across the Contiguous United States. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13991-14007.	1.2	29
52	Development and Evaluation of a Pan-European Multimodel Seasonal Hydrological Forecasting System. Journal of Hydrometeorology, 2019, 20, 99-115.	0.7	51
53	A Comprehensive Distributed Hydrological Modeling Intercomparison to Support Process Representation and Data Collection Strategies. Water Resources Research, 2019, 55, 990-1010.	1.7	34
54	Multi-model ensemble projections of European river floods and high flows at 1.5, 2, and 3 degrees global warming. Environmental Research Letters, 2018, 13, 014003.	2.2	104

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55	Anthropogenic warming exacerbates European soil moisture droughts. Nature Climate Change, 2018, 8, 421-426.	8.1	439
56	Multiple stressor effects on biological quality elements in the Ebro River: Present diagnosis and predicted responses. Science of the Total Environment, 2018, 630, 1608-1618.	3.9	23
57	Uncertainty of modelled flow regime for flow-ecological assessment in Southern Europe. Science of the Total Environment, 2018, 615, 1028-1047.	3.9	35
58	A National Scale Planning Tool for Agricultural Droughts in Germany. Advances in Chemical Pollution, Environmental Management and Protection, 2018, 3, 147-169.	0.3	3
59	Computationally Efficient Multivariate Calibration and Validation of a Grid-Based Hydrologic Model in Sparsely Gauged West African River Basins. Water (Switzerland), 2018, 10, 1418.	1.2	23
60	Multimodel assessment of flood characteristics in four large river basins at global warming of 1.5, 2.0 and 3.0 K above the pre-industrial level. Environmental Research Letters, 2018, 13, 124005.	2.2	24
61	Spatio-temporal controls of dissolved organic carbon stream water concentrations. Journal of Hydrology, 2018, 566, 205-215.	2.3	37
62	Improved regional-scale groundwater representation by the coupling of the mesoscale Hydrologic Model (mHM v5.7) to the groundwater model OpenGeoSys (OGS). Geoscientific Model Development, 2018, 11, 1989-2007.	1.3	18
63	Asymptotic Approximation of Optimal Portfolio for Small Time Horizons. SIAM Journal on Financial Mathematics, 2018, 9, 755-774.	0.7	5
64	Reconstruction of droughts in India using multiple land-surface modelsÂ(1951â€“2015). Hydrology and Earth System Sciences, 2018, 22, 2269-2284.	1.9	63
65	Revisiting the recent European droughts from a long-term perspective. Scientific Reports, 2018, 8, 9499.	1.6	216
66	Climate change alters low flows in Europe under global warming of 1.5, 2, and 3â€Â°C. Hydrology and Earth System Sciences, 2018, 22, 1017-1032.	1.9	146
67	Adjustment of global precipitation data for enhanced hydrologic modeling of tropical Andean watersheds. Climatic Change, 2017, 141, 547-560.	1.7	23
68	The Bode hydrological observatory: a platform for integrated, interdisciplinary hydro-ecological research within the TERENO Harz/Central German Lowland Observatory. Environmental Earth Sciences, 2017, 76, 1.	1.3	93
69	Inter-model comparison of hydrological impacts of climate change on the Upper Blue Nile basin using ensemble of hydrological models and global climate models. Climatic Change, 2017, 141, 517-532.	1.7	45
70	Multimodel assessment of sensitivity and uncertainty of evapotranspiration and a proxy for available water resources under climate change. Climatic Change, 2017, 141, 451-465.	1.7	26
71	Dominant control of agriculture and irrigation on urban heat island in India. Scientific Reports, 2017, 7, 14054.	1.6	106
72	Intercomparison of regional-scale hydrological models and climate change impacts projected for 12 large river basins worldwideâ€”a synthesis. Environmental Research Letters, 2017, 12, 105002.	2.2	109

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73	Heat wave exposure in India in current, 1.5â€‰Â°C, and 2.0â€‰Â°C worlds. Environmental Research Letters, 2017, 12, 124012.	2.2	107
74	A comparison of changes in river runoff from multiple global and catchment-scale hydrological models under global warming scenarios of 1ÂÂ°C, 2ÂÂ°C and 3ÂÂ°C. Climatic Change, 2017, 141, 577-595.	1.7	104
75	Evaluation of an ensemble of regional hydrological models in 12 large-scale river basins worldwide. Climatic Change, 2017, 141, 381-397.	1.7	76
76	Propagation of forcing and model uncertainties on to hydrological drought characteristics in a multi-model century-long experiment in large river basins. Climatic Change, 2017, 141, 435-449.	1.7	57
77	Large deviations for multi-scale jump-diffusion processes. Stochastic Processes and Their Applications, 2017, 127, 1297-1320.	0.4	20
78	Toward seamless hydrologic predictions across spatial scales. Hydrology and Earth System Sciences, 2017, 21, 4323-4346.	1.9	81
79	Spatially distributed characterization of soil-moisture dynamics using travel-time distributions. Hydrology and Earth System Sciences, 2017, 21, 549-570.	1.9	16
80	A high-resolution dataset of water fluxes and states for Germany accounting for parametric uncertainty. Hydrology and Earth System Sciences, 2017, 21, 1769-1790.	1.9	83
81	Effects of uncertainty in soil properties on simulated hydrological states and fluxes at different spatio-temporal scales. Hydrology and Earth System Sciences, 2017, 21, 2301-2320.	1.9	33
82	Testing the use of standardised indices and GRACE satellite data to estimate the European 2015 groundwater drought in near-real time. Hydrology and Earth System Sciences, 2017, 21, 1947-1971.	1.9	62
83	Wissenschaftliche Information fÃ¼r die Anwendung. , 2017, , 119-141.		1
84	Multiscale evaluation of the Standardized Precipitation Index as aÂgroundwater drought indicator. Hydrology and Earth System Sciences, 2016, 20, 1117-1131.	1.9	133
85	The importance of topography-controlled sub-grid process heterogeneity and semi-quantitative prior constraints in distributed hydrological models. Hydrology and Earth System Sciences, 2016, 20, 1151-1176.	1.9	47
86	Large-time option pricing using the Donskerâ€“Varadhan LDPâ€”correlated stochastic volatility with stochastic interest rates and jumps. Annals of Applied Probability, 2016, 26, .	0.6	3
87	The German drought monitor. Environmental Research Letters, 2016, 11, 074002.	2.2	108
88	Improving the realism of hydrologic model functioning through multivariate parameter estimation. Water Resources Research, 2016, 52, 7779-7792.	1.7	87
89	The relationship between sensory latency and amplitude. Journal of Electromyography and Kinesiology, 2016, 31, 1-6.	0.7	2
90	On the frequency of the 2015 monsoon season drought in the Indoâ€Gangetic Plain. Geophysical Research Letters, 2016, 43, 12,102.	1.5	105

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91	Multiscale and Multivariate Evaluation of Water Fluxes and States over European River Basins. Journal of Hydrometeorology, 2016, 17, 287-307.	0.7	120
92	Computationally inexpensive identification of noninformative model parameters by sequential screening. Water Resources Research, 2015, 51, 6417-6441.	1.7	54
93	Vulnerability of water availability in India due to climate change: A bottomâ€up probabilistic Budyko analysis. Geophysical Research Letters, 2015, 42, 9799-9807.	1.5	45
94	Influence of soil textural properties on hydrologic fluxes in the Mississippi river basin. Hydrological Processes, 2015, 29, 4638-4655.	1.1	48
95	Seasonal Soil Moisture Drought Prediction over Europe Using the North American Multi-Model Ensemble (NMME). Journal of Hydrometeorology, 2015, 16, 2329-2344.	0.7	93
96	A constraint-based search algorithm for parameter identification of environmental models. Hydrology and Earth System Sciences, 2014, 18, 4861-4870.	1.9	26
97	Large-sample hydrology: a need to balance depth with breadth. Hydrology and Earth System Sciences, 2014, 18, 463-477.	1.9	208
98	Toward computationally efficient large-scale hydrologic predictions with a multiscale regionalization scheme. Water Resources Research, 2013, 49, 5700-5714.	1.7	81
99	Evaluating multiple performance criteria to calibrate the distributed hydrological model of the upper Neckar catchment. Environmental Earth Sciences, 2013, 69, 453-468.	1.3	49
100	Implications of Parameter Uncertainty on Soil Moisture Drought Analysis in Germany. Journal of Hydrometeorology, 2013, 14, 47-68.	0.7	130
101	Implications of distributed hydrologic model parameterization on water fluxes at multiple scales and locations. Water Resources Research, 2013, 49, 360-379.	1.7	226
102	The IWAS-ToolBox: Software coupling for an integrated water resources management. Environmental Earth Sciences, 2012, 65, 1367-1380.	1.3	55
103	Small-time asymptotics for fast mean-reverting stochastic volatility models. Annals of Applied Probability, 2012, 22, .	0.6	36
104	Current Fluctuations for Independent Random Walks in Multiple Dimensions. Journal of Theoretical Probability, 2011, 24, 1170-1195.	0.4	2
105	Predictions in a data-sparse region using a regionalized grid-based hydrologic model driven by remotely sensed data. Hydrology Research, 2011, 42, 338-355.	1.1	43
106	The effects of spatial discretization and model parameterization on the prediction of extreme runoff characteristics. Journal of Hydrology, 2010, 392, 54-69.	2.3	57
107	Multiscale parameter regionalization of a gridâ€based hydrologic model at the mesoscale. Water Resources Research, 2010, 46, .	1.7	452
108	Streamflow prediction in ungauged catchments using copulaâ€based dissimilarity measures. Water Resources Research, 2010, 46, .	1.7	99