

Praveen Kumar

List of Publications by Year in Descending Order

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Version: 2024-04-25

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

139
papers

5,819
citations

39
h-index

72
g-index

145
ext. papers

6,653
ext. citations

5.5
avg, IF

6.12
L-index

#	Paper	IF	Citations
139	Virtual laboratory for understanding impact of heterogeneity on ecohydrologic processes across scales. <i>Environmental Modelling and Software</i> , 2022 , 149, 105283	5.2	0
138	Advances in Biogeochemical Modeling for Intensively Managed Landscapes 2022 , 145-169		0
137	Impacts of Landscape Evolution on Heterotrophic Carbon Loss in Intensively Managed Landscapes. <i>Frontiers in Water</i> , 2021 , 3,	2.6	1
136	Convergent Hydraulic Redistribution and Groundwater Access Supported Facilitative Dependency Between Trees and Grasses in a Semi-Arid Environment. <i>Water Resources Research</i> , 2021 , 57, e2020WR028103	5.4	1
135	Signatures of Hydrologic Function Across the Critical Zone Observatory Network. <i>Water Resources Research</i> , 2021 , 57, e2019WR026635	5.4	9
134	Hydraulic redistribution buffers climate variability and regulates grass-tree interactions in a semiarid riparian savanna. <i>Ecohydrology</i> , 2021 , 14, e2271	2.5	0
133	Impact of irrigation scheduling methods on corn yield under climate change. <i>Agricultural Water Management</i> , 2021 , 255, 106990	5.9	3
132	Predicting the Water Requirement for Rice Production as Affected by Projected Climate Change in Bihar, India. <i>Water (Switzerland)</i> , 2020 , 12, 3312	3	4
131	A new dynamic wetness index (DWI) predicts soil moisture persistence and correlates with key indicators of surface soil geochemistry. <i>Geoderma</i> , 2020 , 368, 114239	6.7	5
130	Debates Does Information Theory Provide a New Paradigm for Earth Science? Causality, Interaction, and Feedback. <i>Water Resources Research</i> , 2020 , 56, e2019WR024940	5.4	11
129	Field trials to detect drainage pipe networks using thermal and RGB data from unmanned aircraft. <i>Agricultural Water Management</i> , 2020 , 229, 105895	5.9	8
128	Sustainability of soil organic carbon in consolidated gully land in China's Loess Plateau. <i>Scientific Reports</i> , 2020 , 10, 16927	4.9	4
127	Modeling the Role of Root Exudation in Critical Zone Nutrient Dynamics. <i>Water Resources Research</i> , 2020 , 56, e2019WR026606	5.4	8
126	Discerning the thermodynamic feasibility of the spontaneous coexistence of multiple functional vegetation groups. <i>Scientific Reports</i> , 2020 , 10, 18321	4.9	0
125	A Changing Climatology of Precipitation Persistence across the United States Using Information-Based Measures. <i>Journal of Hydrometeorology</i> , 2019 , 20, 1649-1666	3.7	2
124	Impacts of Subsurface Tile Drainage on Age-Dependent Concentration Dynamics of Inorganic Nitrogen in Soil. <i>Water Resources Research</i> , 2019 , 55, 1470-1489	5.4	12
123	The Power of Environmental Observatories for Advancing Multidisciplinary Research, Outreach, and Decision Support: The Case of the Minnesota River Basin. <i>Water Resources Research</i> , 2019 , 55, 3576-3592	5.4	5

122	Three-Dimensional Modeling of the Coevolution of Landscape and Soil Organic Carbon. <i>Water Resources Research</i> , 2019 , 55, 1218-1241	5.4	9
121	Predicting the direct and indirect impacts of climate change on malaria in coastal Kenya. <i>PLoS ONE</i> , 2019 , 14, e0211258	3.7	16
120	Mapping subsurface tile drainage systems with thermal images. <i>Agricultural Water Management</i> , 2019 , 218, 94-101	5.9	10
119	Characterizing relative degrees of clumping structure in vegetation canopy using waveform LiDAR. <i>Remote Sensing of Environment</i> , 2019 , 232, 111281	13.2	4
118	Using Information Flow for Whole System Understanding From Component Dynamics. <i>Water Resources Research</i> , 2019 , 55, 8305-8329	5.4	4
117	Information transfer from causal history in complex system dynamics. <i>Physical Review E</i> , 2019 , 99, 0123064	6.4	7
116	A Framework for Global Characterization of Soil Properties Using Repeat Hyperspectral Satellite Data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2019 , 57, 3308-3323	8.1	2
115	Interactions of information transfer along separable causal paths. <i>Physical Review E</i> , 2018 , 97, 042310	2.4	4
114	Critical transition in critical zone of intensively managed landscapes. <i>Anthropocene</i> , 2018 , 22, 10-19	3.9	49
113	Radiocarbon and Stable Carbon Isotopes of Labile and Inert Organic Carbon in the Critical Zone Observatory in Illinois, USA. <i>Radiocarbon</i> , 2018 , 60, 989-999	4.6	4
112	Hydrogeomorphological differentiation between floodplains and terraces. <i>Earth Surface Processes and Landforms</i> , 2018 , 43, 218-228	3.7	32
111	Stochastic lattice-based modelling of malaria dynamics. <i>Malaria Journal</i> , 2018 , 17, 250	3.6	5
110	Impacts of Quaternary History on Critical Zone Structure and Processes: Examples and a Conceptual Model From the Intensively Managed Landscapes Critical Zone Observatory. <i>Frontiers in Earth Science</i> , 2018 , 6,	3.5	8
109	Wetlandscape Fractal Topography. <i>Geophysical Research Letters</i> , 2018 , 45, 6983-6991	4.9	12
108	Impact of Hydraulic Redistribution on Multispecies Vegetation Water Use in a Semiarid Savanna Ecosystem: An Experimental and Modeling Synthesis. <i>Water Resources Research</i> , 2018 , 54, 4009-4027	5.4	13
107	Dynamic process connectivity explains ecohydrologic responses to rainfall pulses and drought. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E8604-E8613	11.5	21
106	Brown Dog 2018 ,		2
105	A Numerical Water Tracer Model for Understanding Event-Scale Hydrometeorological Phenomena. <i>Journal of Hydrometeorology</i> , 2018 , 19, 947-967	3.7	6

104	The Intensively Managed Landscape Critical Zone Observatory: A Scientific Testbed for Understanding Critical Zone Processes in Agroecosystems. <i>Vadose Zone Journal</i> , 2018 , 17, 1-21	2.7	17
103	Steering operational synergies in terrestrial observation networks: opportunity for advancing Earth system dynamics modelling. <i>Earth System Dynamics</i> , 2018 , 9, 593-609	4.8	23
102	A service-oriented architecture for coupling web service models using the Basic Model Interface (BMI). <i>Environmental Modelling and Software</i> , 2017 , 92, 107-118	5.2	27
101	Identification and characterization of information-networks in long-tail data collections. <i>Environmental Modelling and Software</i> , 2017 , 94, 100-111	5.2	4
100	Characterizing Vegetation Canopy Structure Using Airborne Remote Sensing Data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017 , 55, 1160-1178	8.1	16
99	Role of Oceanic and Land Moisture Sources and Transport in the Seasonal and Interannual Variability of Summer Monsoon in India. <i>Journal of Climate</i> , 2017 , 30, 1839-1859	4.4	56
98	Role of Oceanic and Terrestrial Atmospheric Moisture Sources in Intraseasonal Variability of Indian Summer Monsoon Rainfall. <i>Scientific Reports</i> , 2017 , 7, 12729	4.9	32
97	Role of Micro-Topographic Variability on the Distribution of Inorganic Soil-Nitrogen Age in Intensively Managed Landscape. <i>Water Resources Research</i> , 2017 , 53, 8404-8422	5.4	12
96	Patterns of change in high frequency precipitation variability over North America. <i>Scientific Reports</i> , 2017 , 7, 10853	4.9	28
95	Critical Zone services as environmental assessment criteria in intensively managed landscapes. <i>Earth's Future</i> , 2017 , 5, 617-632	7.9	21
94	Impacts of hydraulic redistribution on grass-tree competition vs facilitation in a semi-arid savanna. <i>New Phytologist</i> , 2017 , 215, 1451-1461	9.8	37
93	Functional Topology of Evolving Urban Drainage Networks. <i>Water Resources Research</i> , 2017 , 53, 8966-8979	5.9	24
92	Temporal information partitioning: Characterizing synergy, uniqueness, and redundancy in interacting environmental variables. <i>Water Resources Research</i> , 2017 , 53, 5920-5942	5.4	43
91	Decreasing, not increasing, leaf area will raise crop yields under global atmospheric change. <i>Global Change Biology</i> , 2017 , 23, 1626-1635	11.4	73
90	Interaction Between Ecohydrologic Dynamics and Microtopographic Variability Under Climate Change. <i>Water Resources Research</i> , 2017 , 53, 8383-8403	5.4	20
89	Temporal Information Partitioning Networks (TIPNets): A process network approach to infer ecohydrologic shifts. <i>Water Resources Research</i> , 2017 , 53, 5899-5919	5.4	33
88	Designing a network of critical zone observatories to explore the living skin of the terrestrial Earth. <i>Earth Surface Dynamics</i> , 2017 , 5, 841-860	3.8	52
87	Comment on Climate and agricultural land use change impacts on streamflow in the upper midwestern United States by Satish C. Gupta et al.. <i>Water Resources Research</i> , 2016 , 52, 7536-7539	5.4	9

86	Mean age distribution of inorganic soil-nitrogen. <i>Water Resources Research</i> , 2016 , 52, 5516-5536	5.4	14
85	An environmental cost-benefit analysis of alternative green roofing strategies. <i>Ecological Engineering</i> , 2016 , 95, 1-9	3.9	44
84	An Architecture for Automatic Deployment of Brown Dog Services at Scale into Diverse Computing Infrastructures 2016 ,		4
83	The Role of Critical Zone Observatories in Critical Zone Science. <i>Developments in Earth Surface Processes</i> , 2015 , 15-78	2.8	41
82	GPU-based high-performance computing for integrated surface-sub-surface flow modeling. <i>Environmental Modelling and Software</i> , 2015 , 73, 1-13	5.2	32
81	. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2015 , 53, 5133-5147	8.1	10
80	The influence of photosynthetic acclimation to rising CO2 and warmer temperatures on leaf and canopy photosynthesis models. <i>Global Biogeochemical Cycles</i> , 2015 , 29, 194-206	5.9	35
79	Emergent and divergent resilience behavior in catastrophic shift systems. <i>Ecological Modelling</i> , 2015 , 298, 87-105	3	14
78	Hydrocomplexity: Addressing water security and emergent environmental risks. <i>Water Resources Research</i> , 2015 , 51, 5827-5838	5.4	34
77	Numerical simulations of hydraulic redistribution across climates: The role of the root hydraulic conductivities. <i>Water Resources Research</i> , 2015 , 51, 8529-8550	5.4	27
76	Brown Dog: Leveraging everything towards autocuration 2015 ,		10
75	Autocuration Cyberinfrastructure for Scientific Discovery and Preservation 2015 ,		2
74	Information Theoretic Measures to Infer Feedback Dynamics in Coupled Logistic Networks. <i>Entropy</i> , 2015 , 17, 7468-7492	2.8	11
73	Towards Sustainable Curation and Preservation: The SEAD Project's Data Services Approach 2015 ,		15
72	Threshold dynamics in soil carbon storage for bioenergy crops. <i>Environmental Science & Technology</i> , 2014 , 48, 12090-8	10.3	20
71	Assessment of floodplain vulnerability during extreme Mississippi River flood 2011. <i>Environmental Science & Technology</i> , 2014 , 48, 2619-25	10.3	33
70	Sustainable long term scientific data publication: Lessons learned from a prototype Observatory Information System for the Illinois River Basin. <i>Environmental Modelling and Software</i> , 2014 , 54, 73-87	5.2	5
69	Power law scaling of topographic depressions and their hydrologic connectivity. <i>Geophysical Research Letters</i> , 2014 , 41, 1553-1559	4.9	36

68	Assessing the value of seasonal climate forecast information through an end-to-end forecasting framework: Application to U.S. 2012 drought in central Illinois. <i>Water Resources Research</i> , 2014 , 50, 6592-6609	5.4	24
67	Precipitation Recycling in the Indian Subcontinent during Summer Monsoon. <i>Journal of Hydrometeorology</i> , 2014 , 15, 2050-2066	3.7	68
66	Incorporating Reanalysis-Based Short-Term Forecasts from a Regional Climate Model in an Irrigation Scheduling Optimization Problem. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2014 , 140, 699-713	2.8	17
65	Simultaneous improvement in productivity, water use, and albedo through crop structural modification. <i>Global Change Biology</i> , 2014 , 20, 1955-67	11.4	68
64	A Conjunctive Surface-Subsurface Flow Representation for Mesoscale Land Surface Models. <i>Journal of Hydrometeorology</i> , 2013 , 14, 1421-1442	3.7	31
63	Passive regulation of soil biogeochemical cycling by root water transport. <i>Water Resources Research</i> , 2013 , 49, 3729-3746	5.4	28
62	SEAD Virtual Archive: Building a Federation of Institutional Repositories for Long-Term Data Preservation in Sustainability Science. <i>International Journal of Digital Curation</i> , 2013 , 8, 172-180	0.9	12
61	Competitive and mutualistic dependencies in multispecies vegetation dynamics enabled by hydraulic redistribution. <i>Water Resources Research</i> , 2012 , 48,	5.4	35
60	A graphical user interface for numerical modeling of acclimation responses of vegetation to climate change. <i>Computers and Geosciences</i> , 2012 , 49, 91-101	4.5	15
59	Mitigating land loss in coastal Louisiana by controlled diversion of Mississippi River sand. <i>Nature Geoscience</i> , 2012 , 5, 534-537	18.3	85
58	Legacy Effects in Material Flux: Structural Catchment Changes Predate Long-Term Studies. <i>BioScience</i> , 2012 , 62, 575-584	5.7	52
57	Typology of hydrologic predictability. <i>Water Resources Research</i> , 2011 , 47,	5.4	79
56	Climate, soil, and vegetation controls on the temporal variability of vadose zone transport. <i>Water Resources Research</i> , 2011 , 47,	5.4	43
55	Water cycle dynamics in a changing environment: Improving predictability through synthesis. <i>Water Resources Research</i> , 2011 , 47,	5.4	41
54	Power-Law Behavior in Geometric Characteristics of Full Binary Trees. <i>Journal of Statistical Physics</i> , 2011 , 142, 862-878	1.5	7
53	Implications for the hydrologic cycle under climate change due to the expansion of bioenergy crops in the Midwestern United States. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 15085-90	11.5	104
52	Optimality approaches to describe characteristic fluvial patterns on landscapes. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2010 , 365, 1387-95	5.8	40
51	Information Driven Ecohydrologic Self-Organization. <i>Entropy</i> , 2010 , 12, 2085-2096	2.8	38

50	The future of hydrology: An evolving science for a changing world. <i>Water Resources Research</i> , 2010 , 46,	5-4	391
49	Ecohydrological responses of dense canopies to environmental variability: 1. Interplay between vertical structure and photosynthetic pathway. <i>Journal of Geophysical Research</i> , 2010 , 115,		45
48	Ecohydrological responses of dense canopies to environmental variability: 2. Role of acclimation under elevated CO ₂ . <i>Journal of Geophysical Research</i> , 2010 , 115,		23
47	Reply to comment by J. Szilagyi on Power law catchment-scale recessions arising from heterogeneous linear small-scale dynamics. <i>Water Resources Research</i> , 2009 , 45,	5-4	4
46	Ecohydrologic process networks: 1. Identification. <i>Water Resources Research</i> , 2009 , 45,	5-4	121
45	Ecohydrologic process networks: 2. Analysis and characterization. <i>Water Resources Research</i> , 2009 , 45,	5-4	52
44	Power law catchment-scale recessions arising from heterogeneous linear small-scale dynamics. <i>Water Resources Research</i> , 2009 , 45,	5-4	72
43	Precipitation Recycling Variability and Ecoclimatological Stability: A Study Using NARR Data. Part II: North American Monsoon Region. <i>Journal of Climate</i> , 2008 , 21, 5187-5203	4-4	93
42	Precipitation Recycling Variability and Ecoclimatological Stability: A Study Using NARR Data. Part I: Central U.S. Plains Ecoregion. <i>Journal of Climate</i> , 2008 , 21, 5165-5186	4-4	62
41	A model for hydraulic redistribution incorporating coupled soil-root moisture transport. <i>Hydrology and Earth System Sciences</i> , 2008 , 12, 55-74	5-5	114
40	Emergence of self-similar tree network organization. <i>Complexity</i> , 2008 , 13, 30-37	1-6	24
39	Hydrologic Dispersion in Fluvial Networks 2008 , 307-335		1
38	Three-dimensional volume-averaged soil moisture transport model with a scalable parameterization of subgrid topographic variability. <i>Water Resources Research</i> , 2007 , 43,	5-4	44
37	Variability, Feedback, and Cooperative Process Dynamics: Elements of a Unifying Hydrologic Theory. <i>Geography Compass</i> , 2007 , 1, 1338-1360	2-4	29
36	Inevitable self-similar topology of binary trees and their diverse hierarchical density. <i>European Physical Journal B</i> , 2007 , 60, 247-258	1-2	8
35	Hydrologic Applications of MRAN Algorithm. <i>Journal of Hydrologic Engineering - ASCE</i> , 2007 , 12, 124-129	1-8	6
34	Impact of Atmospheric Moisture Storage on Precipitation Recycling. <i>Journal of Climate</i> , 2006 , 19, 1513-1530	4-4	166
33	Surface Boundary Conditions for Mesoscale Regional Climate Models. <i>Earth Interactions</i> , 2005 , 9, 1-28	1-5	39

32	Interannual Variability of Deep-Layer Hydrologic Memory and Mechanisms of Its Influence on Surface Energy Fluxes. <i>Journal of Climate</i> , 2005 , 18, 5024-5045	4.4	59
31	A data mining approach for understanding topographic control on climate-induced inter-annual vegetation variability over the United States. <i>Remote Sensing of Environment</i> , 2005 , 98, 1-20	13.2	65
30	NVAP and Reanalysis-2 Global Precipitable Water Products : Intercomparison and Variability Studies. <i>Bulletin of the American Meteorological Society</i> , 2005 , 86, 245-256	6.1	34
29	Layer averaged Richard's equation with lateral flow. <i>Advances in Water Resources</i> , 2004 , 27, 521-531	4.7	23
28	Reply to comment by Talbot et al. on "Layer averaged Richards Equation with lateral flow" <i>Advances in Water Resources</i> , 2004 , 27, 1043-1044	4.7	
27	Kinematic dispersion effects of hillslope velocities. <i>Water Resources Research</i> , 2004 , 40,	5.4	28
26	Hydraulic geometry and the nonlinearity of the network instantaneous response. <i>Water Resources Research</i> , 2004 , 40,	5.4	19
25	Hydrodynamic and geomorphologic dispersion: scale effects in the Illinois River Basin. <i>Journal of Hydrology</i> , 2004 , 288, 237-257	6	26
24	A Modeling Study of the ENSO Influence on the Terrestrial Energy Profile in North America. <i>Journal of Climate</i> , 2004 , 17, 1657-1670	4.4	16
23	Assimilation of near-surface temperature using extended Kalman filter. <i>Advances in Water Resources</i> , 2003 , 26, 79-93	4.7	35
22	Role of Terrestrial Hydrologic Memory in Modulating ENSO Impacts in North America. <i>Journal of Climate</i> , 2002 , 15, 3569-3585	4.4	40
21	Kinematic dispersion in stream networks 2. Scale issues and self-similar network organization. <i>Water Resources Research</i> , 2002 , 38, 27-1-27-15	5.4	39
20	Kinematic dispersion in stream networks 1. Coupling hydraulic and network geometry. <i>Water Resources Research</i> , 2002 , 38, 26-1-26-14	5.4	73
19	Topographic Influence on the Seasonal and Interannual Variation of Water and Energy Balance of Basins in North America. <i>Journal of Climate</i> , 2001 , 14, 1989-2014	4.4	113
18	Basin level statistical properties of topographic index for North America. <i>Advances in Water Resources</i> , 2000 , 23, 571-578	4.7	19
17	AVHRR estimates of surface temperature during the Southern Great Plains 1997 Experiment. <i>Journal of Geophysical Research</i> , 2000 , 105, 20791-20801		3
16	A catchment-based approach to modeling land surface processes in a general circulation model: 1. Model structure. <i>Journal of Geophysical Research</i> , 2000 , 105, 24809-24822		572
15	A catchment-based approach to modeling land surface processes in a general circulation model: 2. Parameter estimation and model demonstration. <i>Journal of Geophysical Research</i> , 2000 , 105, 24823-24838		198

14	Coherent modes in multiscale variability of streamflow over the United States. <i>Water Resources Research</i> , 2000 , 36, 1049-1067	5.4	46
13	Estimating Transmissivity from the Water Level Fluctuations of a Sinusoidally Forced Well. <i>Ground Water</i> , 1999 , 37, 855-860	2.4	6
12	A catchment-based land surface model for GCMS and the framework for its evaluation. <i>Physics and Chemistry of the Earth</i> , 1999 , 24, 769-773		11
11	A multiple scale state-space model for characterizing subgrid scale variability of near-surface soil moisture. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 1999 , 37, 182-197	8.1	49
10	Wavelet analysis for geophysical applications. <i>Reviews of Geophysics</i> , 1997 , 35, 385-412	23.1	622
9	Role of coherent structures in the stochastic-dynamic variability of precipitation. <i>Journal of Geophysical Research</i> , 1996 , 101, 26393-26404		19
8	A Multicomponent Self-Similar Characterization of Rainfall Fluctuations. <i>The IMA Volumes in Mathematics and Its Applications</i> , 1996 , 239-254	0.5	
7	A wavelet based methodology for scale-space anisotropic analysis. <i>Geophysical Research Letters</i> , 1995 , 22, 2777-2780	4.9	30
6	Wavelet Analysis in Geophysics: An Introduction. <i>Wavelet Analysis and Its Applications</i> , 1994 , 4, 1-43		42
5	A probability-weighted moment test to assess simple scaling. <i>Stochastic Hydrology & Hydraulics</i> , 1994 , 8, 173-183		35
4	A multicomponent decomposition of spatial rainfall fields: 1. Segregation of large- and small-scale features using wavelet transforms. <i>Water Resources Research</i> , 1993 , 29, 2515-2532	5.4	162
3	A multicomponent decomposition of spatial rainfall fields: 2. Self-similarity in fluctuations. <i>Water Resources Research</i> , 1993 , 29, 2533-2544	5.4	83
2	A New Look at Rainfall Fluctuations and Scaling Properties of Spatial Rainfall Using Orthogonal Wavelets. <i>Journal of Applied Meteorology and Climatology</i> , 1993 , 32, 209-222		25
1	A model for hydraulic redistribution incorporating coupled soil-root moisture transport		14