

Debsunder Dutta

List of Publications by Year in Descending Order

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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.

69

papers

2,149

citations

28

h-index

44

g-index

83

ext. papers

2,569

ext. citations

5.3

avg, IF

5.48

L-index

#	Paper	IF	Citations
69	Signatures of Hydrologic Function Across the Critical Zone Observatory Network. <i>Water Resources Research</i> , 2021 , 57, e2019WR026635	5.4	9
68	Hydraulic redistribution buffers climate variability and regulates grass-tree interactions in a semiarid riparian savanna. <i>Ecohydrology</i> , 2021 , 14, e2271	2.5	0
67	From the Ground to Space: Using Solar-Induced Chlorophyll Fluorescence to Estimate Crop Productivity. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL087474	4.9	37
66	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
65	Decomposing reflectance spectra to track gross primary production in a subalpine evergreen forest. <i>Biogeosciences</i> , 2020 , 17, 4523-4544	4.6	7
64	Sustainability of soil organic carbon in consolidated gully land in China's Loess Plateau. <i>Scientific Reports</i> , 2020 , 10, 16927	4.9	4
63	Modeling the Role of Root Exudation in Critical Zone Nutrient Dynamics. <i>Water Resources Research</i> , 2020 , 56, e2019WR026606	5.4	8
62	Tracking Seasonal and Interannual Variability in Photosynthetic Downregulation in Response to Water Stress at a Temperate Deciduous Forest. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2020 , 125, e2018JG005002	3.7	7
61	Discerning the thermodynamic feasibility of the spontaneous coexistence of multiple functional vegetation groups. <i>Scientific Reports</i> , 2020 , 10, 18321	4.9	0
60	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
59	Optimal inverse estimation of ecosystem parameters from observations of carbon and energy fluxes. <i>Biogeosciences</i> , 2019 , 16, 77-103	4.6	18
58	Disentangling Changes in the Spectral Shape of Chlorophyll Fluorescence: Implications for Remote Sensing of Photosynthesis. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019 , 124, 1491-1507	3.7	35
57	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
56	Three-Dimensional Modeling of the Coevolution of Landscape and Soil Organic Carbon. <i>Water Resources Research</i> , 2019 , 55, 1218-1241	5.4	9
55	Predicting the direct and indirect impacts of climate change on malaria in coastal Kenya. <i>PLoS ONE</i> , 2019 , 14, e0211258	3.7	16
54	Characterizing relative degrees of clumping structure in vegetation canopy using waveform LiDAR. <i>Remote Sensing of Environment</i> , 2019 , 232, 111281	13.2	4
53	Using Information Flow for Whole System Understanding From Component Dynamics. <i>Water Resources Research</i> , 2019 , 55, 8305-8329	5.4	4

52	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
51	Interactions of information transfer along separable causal paths. <i>Physical Review E</i> , 2018 , 97, 042310	2.4	4
50	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
49	Hydrogeomorphological differentiation between floodplains and terraces. <i>Earth Surface Processes and Landforms</i> , 2018 , 43, 218-228	3.7	32
48	Stochastic lattice-based modelling of malaria dynamics. <i>Malaria Journal</i> , 2018 , 17, 250	3.6	5
47	Wetlandscape Fractal Topography. <i>Geophysical Research Letters</i> , 2018 , 45, 6983-6991	4.9	12
46	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
45	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}	11.5	21
44	Brown Dog 2018 ,		2
43	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
42	Effect of Spatial Filtering on Characterizing Soil Properties From Imaging Spectrometer Data. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2017 , 10, 4149-4170	4.7	2
41	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
40	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
39	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
38	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
37	Patterns of change in high frequency precipitation variability over North America. <i>Scientific Reports</i> , 2017 , 7, 10853	4.9	28
36	Critical Zone services as environmental assessment criteria in intensively managed landscapes. <i>Earth's Future</i> , 2017 , 5, 617-632	7.9	21
35	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

34	Functional Topology of Evolving Urban Drainage Networks. <i>Water Resources Research</i> , 2017 , 53, 8966-8979	5.4	24
33	Temporal information partitioning: Characterizing synergy, uniqueness, and redundancy in interacting environmental variables. <i>Water Resources Research</i> , 2017 , 53, 5920-5942	5.4	43
32	Interaction Between Ecohydrologic Dynamics and Microtopographic Variability Under Climate Change. <i>Water Resources Research</i> , 2017 , 53, 8383-8403	5.4	20
31	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
30	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
29	Mean age distribution of inorganic soil-nitrogen. <i>Water Resources Research</i> , 2016 , 52, 5516-5536	5.4	14
28	. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2015 , 53, 5133-5147	8.1	10
27	The influence of photosynthetic acclimation to rising CO ₂ and warmer temperatures on leaf and canopy photosynthesis models. <i>Global Biogeochemical Cycles</i> , 2015 , 29, 194-206	5.9	35
26	Hydrocomplexity: Addressing water security and emergent environmental risks. <i>Water Resources Research</i> , 2015 , 51, 5827-5838	5.4	34
25	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
24	Assessment of floodplain vulnerability during extreme Mississippi River flood 2011. <i>Environmental Science & Technology</i> , 2014 , 48, 2619-25	10.3	33
23	Power law scaling of topographic depressions and their hydrologic connectivity. <i>Geophysical Research Letters</i> , 2014 , 41, 1553-1559	4.9	36
22	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
21	Precipitation Recycling in the Indian Subcontinent during Summer Monsoon. <i>Journal of Hydrometeorology</i> , 2014 , 15, 2050-2066	3.7	68
20	Simultaneous improvement in productivity, water use, and albedo through crop structural modification. <i>Global Change Biology</i> , 2014 , 20, 1955-67	11.4	68
19	Passive regulation of soil biogeochemical cycling by root water transport. <i>Water Resources Research</i> , 2013 , 49, 3729-3746	5.4	28
18	Competitive and mutualistic dependencies in multispecies vegetation dynamics enabled by hydraulic redistribution. <i>Water Resources Research</i> , 2012 , 48,	5.4	35
17	Mitigating land loss in coastal Louisiana by controlled diversion of Mississippi River sand. <i>Nature Geoscience</i> , 2012 , 5, 534-537	18.3	85

16	Typology of hydrologic predictability. <i>Water Resources Research</i> , 2011 , 47,	5-4	79
15	Power-Law Behavior in Geometric Characteristics of Full Binary Trees. <i>Journal of Statistical Physics</i> , 2011 , 142, 862-878	1-5	7
14	Information Driven Ecohydrologic Self-Organization. <i>Entropy</i> , 2010 , 12, 2085-2096	2-8	38
13	The future of hydrology: An evolving science for a changing world. <i>Water Resources Research</i> , 2010 , 46,	5-4	39 ¹
12	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
11	Ecohydrologic process networks: 1. Identification. <i>Water Resources Research</i> , 2009 , 45,	5-4	121
10	Ecohydrologic process networks: 2. Analysis and characterization. <i>Water Resources Research</i> , 2009 , 45,	5-4	52
9	Understanding Hydrological Cycle Dynamics Due to Changing Land Use and Land Cover: Congo Basin Case Study 2008 ,		2
8	Precipitation Recycling Variability and Ecoclimatological StabilityA Study Using NARR Data. Part II: North American Monsoon Region. <i>Journal of Climate</i> , 2008 , 21, 5187-5203	4-4	93
7	Emergence of self-similar tree network organization. <i>Complexity</i> , 2008 , 13, 30-37	1-6	24
6	Hydrologic Dispersion in Fluvial Networks 2008 , 307-335		1
5	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
4	Variability, Feedback, and Cooperative Process Dynamics: Elements of a Unifying Hydrologic Theory. <i>Geography Compass</i> , 2007 , 1, 1338-1360	2-4	29
3	Hydraulic geometry and the nonlinearity of the network instantaneous response. <i>Water Resources Research</i> , 2004 , 40,	5-4	19
2	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
1	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