Jeffrey J Mcdonnell

List of Publications by Year
in descending order

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282	27,432	4146 87	7160 153
papers	citations	h-index	g-index

308	308	308	13414
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	IAHS Decade on Predictions in Ungauged Basins (PUB), 2003â€“2012: Shaping an exciting future for the hydrological sciences. Hydrological Sciences Journal, 2003, 48, 857-880.	2.6	982
2	A decade of Predictions in Ungauged Basins (PUB)â€”a review. Hydrological Sciences Journal, 2013, 58, 1198-1255.	2.6	821
3	A review and evaluation of catchment transit time modeling. Journal of Hydrology, 2006, 330, 543-563.	5.4	712
4	Moving beyond heterogeneity and process complexity: A new vision for watershed hydrology. Water Resources Research, 2007, 43, .	4.2	613
5	Ecohydrologic separation of water between trees and streams in a Mediterranean climate. Nature Geoscience, 2010, 3, 100-104.	12.9	587
6	The role of topography on catchment-scale water residence time. Water Resources Research, 2005, 41, .	4.2	571
7	A Rationale for Old Water Discharge Through Macropores in a Steep, Humid Catchment. Water Resources Research, 1990, 26, 2821-2832.	4.2	539
8	Threshold relations in subsurface stormflow: 2. The fill and spill hypothesis. Water Resources Research, 2006, 42, .	4.2	477
9	On the dialog between experimentalist and modeler in catchment hydrology: Use of soft data for multicriteria model calibration. Water Resources Research, 2002, 38, 23-1-23-14.	4.2	476
10	Twenty-three unsolved problems in hydrology (UPH) â€“ a community perspective. Hydrological Sciences Journal, 2019, 64, 1141-1158.	2.6	474
11	Hydrograph separation using stable isotopes: Review and evaluation. Journal of Hydrology, 2013, 505, 47-64.	5.4	473
12	Global separation of plant transpiration from groundwater and streamflow. Nature, 2015, 525, 91-94.	27.8	377
13	Debatesâ€”The future of hydrological sciences: A (common) path forward? A call to action aimed at understanding velocities, celerities and residence time distributions of the headwater hydrograph. Water Resources Research, 2014, 50, 5342-5350.	4.2	325
14	The role of bedrock topography on subsurface storm flow. Water Resources Research, 2002, 38, 5-1-5-16.	4.2	322
15	Linking the hydrologic and biogeochemical controls of nitrogen transport in near-stream zones of temperate-forested catchments: a review. Journal of Hydrology, 1997, 199, 88-120.	5.4	319
16	On the interrelations between topography, soil depth, soil moisture, transpiration rates and species distribution at the hillslope scale. Advances in Water Resources, 2006, 29, 293-310.	3.8	312
17	Threshold relations in subsurface stormflow: 1. A 147-storm analysis of the Panola hillslope. Water Resources Research, 2006, 42, .	4.2	305
18	Where does water go when it rains? Moving beyond the variable source area concept of rainfall-runoff response. Hydrological Processes, 2003, 17, 1869-1875.	2.6	304

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19	Quantifying contributions to storm runoff through end-member mixing analysis and hydrologic measurements at the Panola Mountain Research Watershed (Georgia, USA). Hydrological Processes, 2001, 15, 1903-1924.	2.6	299
20	The hydrology of the humid tropics. Nature Climate Change, 2012, 2, 655-662.	18.8	284
21	Virtual experiments: a new approach for improving process conceptualization in hillslope hydrology. Journal of Hydrology, 2004, 285, 3-18.	5.4	282
22	Hillslope Hydrology in Global Change Research and Earth System Modeling. Water Resources Research, 2019, 55, 1737-1772.	4.2	281
23	How old is streamwater? Open questions in catchment transit time conceptualization, modelling and analysis. Hydrological Processes, 2010, 24, 1745-1754.	2.6	276
24	Hydrological connectivity of hillslopes and streams: Characteristic time scales and nonlinearities. Water Resources Research, 2010, 46, .	4.2	270
25	Quantifying the relative contributions of riparian and hillslope zones to catchment runoff. Water Resources Research, 2003, 39, .	4.2	269
26	Deuterium variations in storm rainfall: Implications for stream hydrograph separation. Water Resources Research, 1990, 26, 455-458.	4.2	256
27	The role of event water, a rapid shallow flow component, and catchment size in summer stormflow. Journal of Hydrology, 1999, 217, 171-190.	5.4	254
28	Substantial proportion of global streamflow less than three monthsÂold. Nature Geoscience, 2016, 9, 126-129.	12.9	252
29	The pronounced seasonality of global groundwater recharge. Water Resources Research, 2014, 50, 8845-8867.	4.2	246
30	Role of discrete landscape units in controlling catchment dissolved organic carbon dynamics. Water Resources Research, 2003, 39, .	4.2	229
31	Connectivity at the hillslope scale: Identifying interactions between storm size, bedrock permeability, slope angle and soil depth. Journal of Hydrology, 2009, 376, 378-391.	5.4	229
32	Effects of suburban development on runoff generation in the Croton River basin, New York, USA. Journal of Hydrology, 2005, 311, 266-281.	5.4	224
33	A review of the evolving perceptual model of hillslope flowpaths at the Maimai catchments, New Zealand. Journal of Hydrology, 2002, 257, 1-26.	5.4	216
34	Global aquifers dominated by fossil groundwaters but wells vulnerable to modern contamination. Nature Geoscience, 2017, 10, 425-429.	12.9	210
35	Modeling Base Flow Soil Water Residence Times From Deuterium Concentrations. Water Resources Research, 1991, 27, 2681-2693.	4.2	197
36	The Demographics of Water: A Review of Water Ages in the Critical Zone. Reviews of Geophysics, 2019, 57, 800-834.	23.0	197

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37	The two water worlds hypothesis: ecohydrological separation of water between streams and trees?. Wiley Interdisciplinary Reviews: Water, 2014, 1, 323-329.	6.5	196
38	Conceptualizing lateral preferential flow and flow networks and simulating the effects on gauged and ungauged hillslopes. Water Resources Research, 2007, 43, .	4.2	194
39	Stable isotopes reveal linkages among ecohydrological processes in a seasonally dry tropical montane cloud forest. Ecohydrology, 2012, 5, 779-790.	2.4	193
40	How does rainfall become runoff? A combined tracer and runoff transfer function approach. Water Resources Research, 2003, 39, .	4.2	191
41	Learning from model improvement: On the contribution of complementary data to process understanding. Water Resources Research, 2008, 44, .	4.2	184
42	Truncation of stream residence time: how the use of stable isotopes has skewed our concept of streamwater age and origin. Hydrological Processes, 2010, 24, 1646-1659.	2.6	181
43	A new topographic index to quantify downslope controls on local drainage. Water Resources Research, 2004, 40, .	4.2	177
44	Scale effects on headwater catchment runoff timing, flow sources, and groundwater-streamflow relations. Water Resources Research, 2004, 40, .	4.2	176
45	The role of lateral pipe flow in hillslope runoff response: an intercomparison of non-linear hillslope response. Journal of Hydrology, 2005, 311, 117-133.	5.4	173
46	Effect of Catchment-Scale Subsurface Mixing on Stream Isotopic Response. Water Resources Research, 1991, 27, 3065-3073.	4.2	169
47	Hillslope threshold response to rainfall: (1) A field based forensic approach. Journal of Hydrology, 2010, 393, 65-76.	5.4	161
48	Constraining dynamic TOPMODEL responses for imprecise water table information using fuzzy rule based performance measures. Journal of Hydrology, 2004, 291, 254-277.	5.4	158
49	Integrating tracer experiments with modeling to assess runoff processes and water transit times. Advances in Water Resources, 2007, 30, 824-837.	3.8	158
50	Effect of bedrock permeability on subsurface stormflow and the water balance of a trenched hillslope at the Panola Mountain Research Watershed, Georgia, USA. Hydrological Processes, 2007, 21, 750-769.	2.6	153
51	The effects of land use on stream nitrate dynamics. Journal of Hydrology, 2007, 332, 54-68.	5.4	152
52	Rainfall threshold for hillslope outflow: an emergent property of flow pathway connectivity. Hydrology and Earth System Sciences, 2007, 11, 1047-1063.	4.9	148
53	On the relationships between catchment scale and streamwater mean residence time. Hydrological Processes, 2003, 17, 175-181.	2.6	144
54	Highâ€frequency fieldâ€deployable isotope analyzer for hydrological applications. Water Resources Research, 2009, 45, .	4.2	135

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55	How much water can a watershed store?. Hydrological Processes, 2011, 25, 3899-3908.	2.6	134
56	Controls on old and new water contributions to stream flow at some nested catchments in Vermont, USA. Hydrological Processes, 2002, 16, 589-609.	2.6	133
57	Groundwater dynamics along a hillslope: A test of the steady state hypothesis. Water Resources Research, 2003, 39, .	4.2	133
58	A process-based rejectionist framework for evaluating catchment runoff model structure. Water Resources Research, 2006, 42, .	4.2	133
59	The zone of vegetation influence on baseflow revealed by diel patterns of streamflow and vegetation water use in a headwater basin. Hydrological Processes, 2002, 16, 1671-1677.	2.6	132
60	A hydrometric and geochemical approach to test the transmissivity feedback hypothesis during snowmelt. Journal of Hydrology, 1999, 219, 188-205.	5.4	131
61	Reviews and syntheses: on the roles trees play in building and plumbing the critical zone. Biogeosciences, 2017, 14, 5115-5142.	3.3	130
62	Riparian zone flowpath dynamics during snowmelt in a small headwater catchment. Journal of Hydrology, 1999, 222, 75-92.	5.4	129
63	Intercomparison of soil pore water extraction methods for stable isotope analysis. Hydrological Processes, 2016, 30, 3434-3449.	2.6	129
64	Runoff generation in a steep, tropical montane cloud forest catchment on permeable volcanic substrate. Water Resources Research, 2012, 48, .	4.2	127
65	Crossâ€regional prediction of longâ€term trajectory of stream water DOC response to climate change. Geophysical Research Letters, 2012, 39, .	4.0	127
66	Whither field hydrology? The need for discovery science and outrageous hydrological hypotheses. Water Resources Research, 2015, 51, 5919-5928.	4.2	127
67	Critical issues with cryogenic extraction of soil water for stable isotope analysis. Ecohydrology, 2016, 9, 1-5.	2.4	127
68	Hydrological processesâ€"Letters. Topographic controls on subsurface storm flow at the hillslope scale for two hydrologically distinct small catchmetns. Hydrological Processes, 1997, 11, 1347-1352.	2.6	125
69	Testing nutrient flushing hypotheses at the hillslope scale: A virtual experiment approach. Journal of Hydrology, 2006, 319, 339-356.	5.4	116
70	Macropore flow of old water revisited: experimental insights from a tile-drained hillslope. Hydrology and Earth System Sciences, 2013, 17, 103-118.	4.9	112
71	A field-based study of soil water and groundwater nitrate release in an Adirondack forested watershed. Water Resources Research, 2002, 38, 2-1-2-16.	4.2	110
72	Insights into plant water uptake from xylemâ€water isotope measurements in two tropical catchments with contrasting moisture conditions. Hydrological Processes, 2016, 30, 3210-3227.	2.6	110

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73	Prevalence and magnitude of groundwater use by vegetation: a global stable isotope meta-analysis. Scientific Reports, 2017, 7, 44110.	3.3	109
74	Land use change effects on runoff generation in a humid tropical montane cloud forest region. Hydrology and Earth System Sciences, 2013, 17, 3543-3560.	4.9	106
75	The role of bedrock groundwater in rainfallâ€"runoff response at hillslope and catchment scales. Journal of Hydrology, 2012, 450-451, 117-133.	5.4	105
76	Bedrock geology controls on catchment storage, mixing, and release: A comparative analysis of 16 nested catchments. Hydrological Processes, 2017, 31, 1828-1845.	2.6	104
77	Interâ€comparison of hydroâ€climatic regimes across northern catchments: synchronicity, resistance and resilience. Hydrological Processes, 2010, 24, 3591-3602.	2.6	103
78	A new timeâ€space accounting scheme to predict stream water residence time and hydrograph source components at the watershed scale. Water Resources Research, 2009, 45, .	4.2	102
79	Base cation concentrations in subsurface flow from a forested hillslope: The role of flushing frequency. Water Resources Research, 1998, 34, 3535-3544.	4.2	100
80	Ecohydrological separation in wet, low energy northern environments? A preliminary assessment using different soil water extraction techniques. Hydrological Processes, 2015, 29, 5139-5152.	2.6	100
81	A look inside ?black box? hydrograph separation models: a study at the Hydrohill catchment. Hydrological Processes, 2001, 15, 1877-1902.	2.6	99
82	Assessing the controls of the snow energy balance and water available for runoff in a rain-on-snow environment. Journal of Hydrology, 2008, 354, 1-14.	5.4	99
83	Water mining from the deep critical zone by apple trees growing on loess. Hydrological Processes, 2019, 33, 320-327.	2.6	96
84	Land-cover impacts on streamflow: a change-detection modelling approach that incorporates parameter uncertainty. Hydrological Sciences Journal, 2010, 55, 316-332.	2.6	94
85	Inter-laboratory comparison of cryogenic water extraction systems for stable isotope analysis of soil water. Hydrology and Earth System Sciences, 2018, 22, 3619-3637.	4.9	92
86	The role of stable isotopes in understanding rainfall interception processes: a review. Wiley Interdisciplinary Reviews: Water, 2017, 4, 1-17.	6.5	91
87	New method developed for studying flow on hillslopes. Eos, 1996, 77, 465-472.	0.1	90
88	The two water worlds hypothesis: Addressing multiple working hypotheses and proposing a way forward. Ecohydrology, 2018, 11, e1843.	2.4	90
89	The Geochemical Evolution of Riparian Ground Water in a Forested Piedmont Catchment. Ground Water, 2003, 41, 913-925.	1.3	88
90	Nitrogen solutes in an Adirondack forested watershed: Importance of dissolved organic nitrogen. Biogeochemistry, 2000, 48, 165-184.	3.5	87

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91	Isotope variations in a Sierra Nevada snowpack and their relation to meltwater. Journal of Hydrology, 2002, 260, 38-57.	5.4	87
92	The relative role of soil type and tree cover on water storage and transmission in northern headwater catchments. Hydrological Processes, 2015, 29, 1844-1860.	2.6	87
93	Functional intercomparison of hillslopes and small catchments by examining water source, flowpath and mean residence time. Journal of Hydrology, 2006, 327, 627-642.	5.4	86
94	Conceptualizing catchment processes: simply too complex?. Hydrological Processes, 2008, 22, 1727-1730.	2.6	86
95	Effect of bedrock permeability on stream base flow mean transit time scaling relations: 1. A multiscale catchment intercomparison. Water Resources Research, 2016, 52, 1358-1374.	4.2	86
96	A comparison of similarity indices for catchment classification using a cross-regional dataset. Advances in Water Resources, 2012, 40, 11-22.	3.8	85
97	Are all runoff processes the same?. Hydrological Processes, 2013, 27, 4103-4111.	2.6	84
98	Assessing the impact of mixing assumptions on the estimation of streamwater mean residence time. Hydrological Processes, 2010, 24, 1730-1741.	2.6	83
99	A new tool for hillslope hydrologists: spatially distributed groundwater level and soilwater content measured using electromagnetic induction. Hydrological Processes, 2003, 17, 1965-1977.	2.6	75
100	Plant source water apportionment using stable isotopes: A comparison of simple linear, twoâ€compartment mixing model approaches. Hydrological Processes, 2017, 31, 3750-3758.	2.6	75
101	A comparison of extraction systems for plant water stable isotope analysis. Rapid Communications in Mass Spectrometry, 2018, 32, 1031-1044.	1.5	75
102	Effects of a beaver pond on runoff processes: comparison of two headwater catchments. Journal of Hydrology, 1998, 205, 248-264.	5.4	74
103	Effects of wildfire on catchment runoff response: a modelling approach to detect changes in snow-dominated forested catchments. Hydrology Research, 2010, 41, 378-390.	2.7	73
104	Organization of complexity in water limited ecohydrology. Ecohydrology, 2012, 5, 184-199.	2.4	73
105	Primary weathering rates, water transit times, and concentrationâ€discharge relations: A theoretical analysis for the critical zone. Water Resources Research, 2017, 53, 942-960.	4.2	73
106	Characterizing the Fluxes and Age Distribution of Soil Water, Plant Water, and Deep Percolation in a Model Tropical Ecosystem. Water Resources Research, 2019, 55, 3307-3327.	4.2	73
107	Spatial and temporal patterns of soil water storage and vegetation water use in humid northern catchments. Science of the Total Environment, 2017, 595, 486-493.	8.0	72
108	Tritium analysis shows apple trees may be transpiring water several decades old. Hydrological Processes, 2017, 31, 1196-1201.	2.6	72

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109	Save northern high-latitude catchments. Nature Geoscience, 2017, 10, 324-325.	12.9	71
110	Hillslope hydrology under glass: confronting fundamental questions of soil-water-biota co-evolution at Biosphere 2. Hydrology and Earth System Sciences, 2009, 13, 2105-2118.	4.9	68
111	In lieu of the paired catchment approach: Hydrologic model change detection at the catchment scale. Water Resources Research, 2010, 46, .	4.2	67
112	The role of preâ€event canopy storage in throughfall and stemflow by using isotopic tracers. Ecohydrology, 2014, 7, 858-868.	2.4	67
113	Beyond the SCSâ€CN method: A theoretical framework for spatially lumped rainfallâ€runoff response. Water Resources Research, 2016, 52, 4608-4627.	4.2	67
114	Simulated effect of soil depth and bedrock topography on nearâ€surface hydrologic response and slope stability. Earth Surface Processes and Landforms, 2013, 38, 146-159.	2.5	66
115	Using numerical modelling to evaluate the capillary fringe groundwater ridging hypothesis of streamflow generation. Journal of Hydrology, 2006, 316, 141-162.	5.4	65
116	Factors influencing the residence time of catchment waters: A virtual experiment approach. Water Resources Research, 2007, 43, .	4.2	65
117	Groundâ€based thermal imagery as a simple, practical tool for mapping saturated area connectivity and dynamics. Hydrological Processes, 2010, 24, 3123-3132.	2.6	65
118	Toward a formal definition of water scarcity in naturalâ€human systems. Water Resources Research, 2013, 49, 4506-4517.	4.2	65
119	Where Is the Bottom of a Watershed?. Water Resources Research, 2020, 56, e2019WR026010.	4.2	65
120	Role of upslope soil pore pressure on lateral subsurface storm flow dynamics. Water Resources Research, 2004, 40, .	4.2	64
121	A mechanistic assessment of nutrient flushing at the catchment scale. Journal of Hydrology, 2008, 358, 268-287.	5.4	64
122	Estimating the deep seepage component of the hillslope and catchment water balance within a measurement uncertainty framework. Hydrological Processes, 2010, 24, 3631-3647.	2.6	64
123	Hydrograph Separation Using Continuous Open System Isotope Mixing. Water Resources Research, 1995, 31, 157-171.	4.2	63
124	Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds. Journal of Hydrologic Engineering - ASCE, 2003, 8, 214-218.	1.9	63
125	The role of hillslope hydrology in controlling nutrient loss. Journal of Hydrology, 2009, 367, 177-187.	5.4	63
126	Topographic controls on the chemistry of subsurface stormflow. Hydrological Processes, 2001, 15, 1925-1938.	2.6	62

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127	A comparison of wetness indices for the prediction of observed connected saturated areas under contrasting conditions. Earth Surface Processes and Landforms, 2014, 39, 399-413.	2.5	62
128	The influence of macropores on debris flow initiation. Quarterly Journal of Engineering Geology and Hydrogeology, 1990, 23, 325-331.	1.4	61
129	The rivers are alive: on the potential for diatoms as a tracer of water source and hydrological connectivity. Hydrological Processes, 2009, 23, 2841-2845.	2.6	61
130	Gauging the Ungauged Basin: Relative Value of Soft and Hard Data. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	1.9	60
131	Assessment of multi-frequency electromagnetic induction for determining soil moisture patterns at the hillslope scale. Journal of Hydrology, 2009, 368, 56-67.	5.4	59
132	The â€˜hidden streamflowâ€™ challenge in catchment hydrology: a call to action for stream water transit time analysis. Hydrological Processes, 2012, 26, 2061-2066.	2.6	59
133	Use of color maps and wavelet coherence to discern seasonal and interannual climate influences on streamflow variability in northern catchments. Water Resources Research, 2013, 49, 6194-6207.	4.2	59
134	Hillslope threshold response to rainfall: (2) Development and use of a macroscale model. Journal of Hydrology, 2010, 393, 77-93.	5.4	58
135	A virtual experiment on the effects of evaporation and intensity smoothing by canopy interception on subsurface stormflow generation. Journal of Hydrology, 2006, 327, 352-364.	5.4	57
136	Temporal dynamics of catchment transit times from stable isotope data. Water Resources Research, 2015, 51, 4208-4223.	4.2	56
137	Water sustainability and watershed storage. Nature Sustainability, 2018, 1, 378-379.	23.7	56
138	Estimation of baseflow residence times in watersheds from the runoff hydrograph recession: method and application in the Neversink watershed, Catskill Mountains, New York. Hydrological Processes, 2002, 16, 1871-1877.	2.6	55
139	Catchments on the cusp? Structural and functional change in northern ecohydrology. Hydrological Processes, 2013, 27, 766-774.	2.6	55
140	Comparison of threshold hydrologic response across northern catchments. Hydrological Processes, 2015, 29, 3575-3591.	2.6	55
141	Where does streamwater come from in low-relief forested watersheds? A dual-isotope approach. Hydrology and Earth System Sciences, 2015, 19, 125-135.	4.9	55
142	Multiple runoff processes and multiple thresholds control agricultural runoff generation. Hydrology and Earth System Sciences, 2016, 20, 4525-4545.	4.9	55
143	The exponential decline in saturated hydraulic conductivity with depth: a novel method for exploring its effect on water flow paths and transit time distribution. Hydrological Processes, 2016, 30, 2438-2450.	2.6	54
144	A CASE STUDY OF SHALLOW FLOW PATHS IN A STEEP ZERO-ORDER BASIN. Journal of the American Water Resources Association, 1991, 27, 679-685.	2.4	53

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145	Lateral subsurface stormflow and solute transport in a forested hillslope: A combined measurement and modeling approach. Water Resources Research, 2014, 50, 8159-8178.	4.2	53
146	Water's Way at Sleepers River watershed â€“ revisiting flow generation in a postâ€glacial landscape, Vermont USA. Hydrological Processes, 2015, 29, 3447-3459.	2.6	53
147	Beyond the water balance. Nature Geoscience, 2017, 10, 396-396.	12.9	52
148	The future of applied tracers in hydrogeology. Hydrogeology Journal, 2005, 13, 255-258.	2.1	49
149	Tracer and hydrometric study of preferential flow in large undisturbed soil cores from the Georgia Piedmont, USA. Hydrological Processes, 1999, 13, 139-155.	2.6	48
150	Hillslope permeability architecture controls on subsurface transit time distribution and flow paths. Journal of Hydrology, 2016, 543, 17-30.	5.4	47
151	A Review of Isotope Applications in Catchment Hydrology. , 2005, , 151-169.		45
152	Effect of bedrock permeability on stream base flow mean transit time scaling relationships: 2. Process study of storage and release. Water Resources Research, 2016, 52, 1375-1397.	4.2	45
153	Comment to â€œSpatial correlation of soil moisture in small catchments and its relationship to dominant spatial hydrological processes, Journal of Hydrology 286: 113â€“134â€. Journal of Hydrology, 2005, 303, 307-312.	5.4	44
154	On the value of longâ€term, lowâ€frequency water quality sampling: avoiding throwing the baby out with the bathwater. Hydrological Processes, 2011, 25, 828-830.	2.6	44
155	Interflow dynamics on a low relief forested hillslope: Lots of fill, little spill. Journal of Hydrology, 2016, 534, 648-658.	5.4	43
156	Interactions between payments for hydrologic services, landowner decisions, and ecohydrological consequences: synergies and disconnection in the cloud forest zone of central Veracruz, Mexico. Ecology and Society, 2017, 22, .	2.3	43
157	Depth distribution of soil water sourced by plants at the global scale: A new direct inference approach. Ecohydrology, 2020, 13, e2177.	2.4	43
158	Fillâ€andâ€Spill: A Process Description of Runoff Generation at the Scale of the Beholder. Water Resources Research, 2021, 57, e2020WR027514.	4.2	43
159	Effects of experimental uncertainty on the calculation of hillslope flow paths. Hydrological Processes, 2000, 14, 2457-2471.	2.6	42
160	Factors influencing stream baseflow transit times in tropical montane watersheds. Hydrology and Earth System Sciences, 2016, 20, 1621-1635.	4.9	41
161	The role of vegetation, soils, and precipitation on water storage and hydrological services in Andean PÃ¡ramo catchments. Journal of Hydrology, 2019, 572, 805-819.	5.4	41
162	Factors affecting the spatial pattern of bedrock groundwater recharge at the hillslope scale. Hydrological Processes, 2015, 29, 4594-4610.	2.6	40

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163	Modelling the areal depletion of snowcover in a forested catchment. Journal of Hydrology, 1987, 90, 43-60.	5.4	38
164	Are all runoff processes the same? Numerical experiments comparing a ‹scp›D‹/scp›arcyâ€‹‹scp›R‹/scp›ichards solver to an overland flowâ€‹based approach for subsurface storm runoff simulation. Water Resources Research, 2015, 51, 10008-10028.	4.2	38
165	Climate change impacts on hillslope runoff on the northern Great Plains, 1962â€“2013. Journal of Hydrology, 2017, 550, 538-548.	5.4	37
166	Contrasting Groundwater and Streamflow Ages at the Maimai Watershed. Water Resources Research, 2018, 54, 3937-3957.	4.2	37
167	Groundwater Subsidy From Headwaters to Their Parent Water Watershed: A Combined Fieldâ€‹Modeling Approach. Water Resources Research, 2018, 54, 5110-5125.	4.2	36
168	Change in winter climate will affect dissolved organic carbon and water fluxes in midâ€‹toâ€‹high latitude catchments. Hydrological Processes, 2013, 27, 700-709.	2.6	35
169	Hydrological connectivity inferred from diatom transport through the riparian-stream system. Hydrology and Earth System Sciences, 2015, 19, 3133-3151.	4.9	35
170	Fill and spill drives runoff connectivity over frozen ground. Journal of Hydrology, 2018, 558, 115-128.	5.4	35
171	Tree water deficit and dynamic source water partitioning. Hydrological Processes, 2021, 35, .	2.6	34
172	Mechanistic assessment of hillslope transpiration controls of diel subsurface flow: a steadyâ€‹state irrigation approach. Ecohydrology, 2010, 3, 133-142.	2.4	32
173	A new multisource and highâ€‹frequency approach to measuring ‹i›Î´‹/i›‹sup›2‹/sup›H and ‹i›Î´‹/i›‹sup›18‹/sup›O in hydrological field studies. Water Resources Research, 2013, 49, 7797-7803.	4.2	32
174	Spatial patterns of throughfall isotopic composition at the event and seasonal timescales. Journal of Hydrology, 2015, 522, 58-66.	5.4	31
175	Examining the role of throughfall patterns on subsurface stormflow generation. Journal of Hydrology, 2011, 409, 460-471.	5.4	30
176	Interactions among hydraulic conductivity distributions, subsurface topography, and transport thresholds revealed by a multitracer hillslope irrigation experiment. Water Resources Research, 2016, 52, 6186-6206.	4.2	30
177	Gypsies in the palace: experimentalist's view on the use of 3â€‹D physicsâ€‹based simulation of hillslope hydrological response. Hydrological Processes, 2010, 24, 3878-3893.	2.6	29
178	Interception effects on stable isotope driven streamwater transit time estimates. Geophysical Research Letters, 2015, 42, 5299-5308.	4.0	29
179	Tracer advances in catchment hydrology. Hydrological Processes, 2015, 29, 5135-5138.	2.6	28
180	Potential limitation of cryogenic vacuum extractions and spiked experiments. Rapid Communications in Mass Spectrometry, 2017, 31, 821-823.	1.5	28

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181	Fill and Spill Hillslope Runoff Representation With a Richards Equationâ€Based Model. Water Resources Research, 2019, 55, 8445-8462.	4.2	28
182	Velocities, Residence Times, Tracer Breakthroughs in a Vegetated Lysimeter: A Multitracer Experiment. Water Resources Research, 2019, 55, 21-33.	4.2	28
183	Surface and subsurface water contributions during snowmelt in a small Precambrian Shield watershed, Muskoka, Ontario. Atmosphere - Ocean, 1987, 25, 251-266.	1.6	27
184	The effect of model configuration on modelled hillslopeâ€“riparian interactions. Journal of Hydrology, 2003, 279, 167-181.	5.4	27
185	Wetland nitrogen dynamics in an Adirondack forested watershed. Hydrological Processes, 2004, 18, 1853-1870.	2.6	27
186	Possible soil tension controls on the isotopic equilibrium fractionation factor for evaporation from soil. Hydrological Processes, 2019, 33, 1629-1634.	2.6	26
187	Comment on â€œA deterministicâ€”empirical model of the effect of the capillary-fringe on near-stream area runoff. 1. Description of the modelâ€• by Jayatilaka, C. J. and Gillham, R. W. (Journal of Hydrology) Tj ETQq1 1 0.784314 rgBT /Ove	5.4	25
188	Rainfall seasonality and an ecohydrological feedback offset the potential impact of climate warming on evapotranspiration and groundwater recharge. Water Resources Research, 2014, 50, 1308-1321.	4.2	25
189	Dual nitrate isotopes clarify the role of biological processing and hydrologic flow paths on nitrogen cycling in subtropical lowâ€gradient watersheds. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 422-437.	3.0	25
190	Terrestrial diatoms as tracers in catchment hydrology: a review. Wiley Interdisciplinary Reviews: Water, 2017, 4, e1241.	6.5	25
191	Physical controls on septic leachate movement in the vadose zone at the hillslope scale, Putnam County, New York, USA. Hydrological Processes, 2002, 16, 2559-2575.	2.6	24
192	HELPing FRIENDs in PUBs: charting a course for synergies within international water research programmes in gauged and ungauged basins. Hydrological Processes, 2006, 20, 1867-1874.	2.6	24
193	Seeing the climate through the trees: observing climate and forestry impacts on streamflow using a 60â€year record. Hydrological Processes, 2015, 29, 473-480.	2.6	24
194	Crustal Groundwater Volumes Greater Than Previously Thought. Geophysical Research Letters, 2021, 48, e2021GL093549.	4.0	24
195	A reference data set of hillslope rainfallâ€runoff response, Panola Mountain Research Watershed, United States. Water Resources Research, 2008, 44, .	4.2	23
196	A stochastic approach to modelling and understanding hillslope runoff connectivity dynamics. Ecological Modelling, 2015, 298, 64-74.	2.5	23
197	A simple greenhouse experiment to explore the effect of cryogenic water extraction for tracing plant source water. Ecohydrology, 2018, 11, e1967.	2.4	23
198	On the relative role of upslope and downslope topography for describing water flow path and storage dynamics: a theoretical analysis. Hydrological Processes, 2011, 25, 3909-3923.	2.6	22

#	Article	IF	Citations
199	An inexpensive and portable drill rig for bedrock groundwater studies in headwater catchments. Hydrological Processes, 2012, 26, 622-632.	2.6	22
200	Topographic, pedologic and climatic interactions influencing streamflow generation at multiple catchment scales. Hydrological Processes, 2012, 26, 3858-3874.	2.6	21
201	Groundwater surface mapping informs sources of catchment baseflow. Hydrology and Earth System Sciences, 2015, 19, 1599-1613.	4.9	21
202	A global assessment of freshwater mollusk shell oxygen isotope signatures and their relation to precipitation and stream water. Scientific Reports, 2019, 9, 4312.	3.3	21
203	Flow Pathways on Steep Forested Hillslopes: the Tracer, Tensiometer and Trough Approach. Forestry Sciences, 1998, , 463-474.	0.4	21
204	Infiltration into frozen soil: From coreâ€scale dynamics to hillslopeâ€scale connectivity. Hydrological Processes, 2018, 32, 66-79.	2.6	20
205	Woody bioenergy crop selection can have large effects on water yield: A southeastern United States case study. Biomass and Bioenergy, 2018, 117, 180-189.	5.7	20
206	On the use of leaf water to determine plant water source: A proof of concept. Hydrological Processes, 2021, 35, e14073.	2.6	20
207	Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada â€“ PartÂ2: Future change in cryosphere, vegetation, and hydrology. Hydrology and Earth System Sciences, 2021, 25, 1849-1882.	4.9	20
208	Tracing and Closing the Water Balance in a Vegetated Lysimeter. Water Resources Research, 2021, 57, e2020WR029049.	4.2	20
209	Hydrology and biogeochemistry of forested catchments. Hydrological Processes, 2001, 15, 1673-1674.	2.6	19
210	Runoff generation and implications for river basin modelling special issue. Hydrological Processes, 2003, 17, 197-198.	2.6	19
211	Uncertainty assessment of forest road modeling with the Distributed Hydrology Soil Vegetation Model (DHSVM). Canadian Journal of Forest Research, 2010, 40, 1397-1409.	1.7	19
212	Ecohydrological flow networks in the subsurface. Ecohydrology, 2014, 7, 1073-1078.	2.4	19
213	The Role of Matric Potential, Solid Interfacial Chemistry, and Wettability on Isotopic Equilibrium Fractionation. Vadose Zone Journal, 2019, 18, 1-11.	2.2	19
214	Testing the Hydrological Landscape Unit Classification System and Other Terrain Analysis Measures for Predicting Low-Flow Nitrate and Chloride in Watersheds. Environmental Management, 2008, 42, 877-893.	2.7	18
215	¹⁷Oâ€excess as a detector for coâ€extracted organics in vapor analyses of plant isotope signatures. Rapid Communications in Mass Spectrometry, 2019, 33, 1301-1310.	1.5	18
216	Shallow Water Table Fluctuations in Relation to Soil Penetration Resistance. Ground Water, 2003, 41, 964-972.	1.3	17

#	Article	IF	Citations
217	On the use of multiple criteria fora posteriorimodel rejection: Soft data to characterize model performance. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	17
218	Entiat Experimental Forest: Catchment-scale runoff data before and after a 1970 wildfire. Water Resources Research, 2004, 40, .	4.2	17
219	Lateral Subsurface Flow in a Soil Cover over Waste Rock in a Humid Temperate Environment. Vadose Zone Journal, 2011, 10, 332-344.	2.2	16
220	Isotopic fractionation from deep roots to tall shoots: A forensic analysis of xylem water isotope composition in mature tropical savanna trees. Science of the Total Environment, 2021, 795, 148675.	8.0	16
221	Phloem water isotopically different to xylem water: Potential causes and implications for ecohydrological tracing. Ecohydrology, 2022, 15, .	2.4	16
222	On the future of forest hydrology and biogeochemistry. Hydrological Processes, 2001, 15, 2053-2055.	2.6	15
223	Stochastic rainfall-runoff model with explicit soil moisture dynamics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150389.	2.1	15
224	Framework for eventâ€based semidistributed modeling that unifies the SCSâ€CN method, VIC, PDM, and TOPMODEL. Water Resources Research, 2016, 52, 7036-7052.	4.2	15
225	Diatoms as a tracer of hydrological connectivity: are they supply limited?. Ecohydrology, 2016, 9, 631-645.	2.4	15
226	SNOW WETNESS ESTIMATES OF VEGETATED TERRAIN FROM SATELLITE PASSIVE MICROWAVE DATA. Hydrological Processes, 1996, 10, 1619-1628.	2.6	14
227	Intercomparison of soil pore water extraction methods for stable isotope analysis and interpretation of hillslope runoff sources. Hydrological Processes, 2019, 33, 2939-2954.	2.6	14
228	Organic contamination detection for isotopic analysis of water by laser spectroscopy. Rapid Communications in Mass Spectrometry, 2021, 35, e9118.	1.5	14
229	Ecohydrological controls on soil erosion and landscape evolution. Ecohydrology, 2012, 5, 478-490.	2.4	13
230	Efectos hidrolÃ³gicos de la conversiÃ³n del bosque de niebla en el centro de Veracruz, MÃ©xico. Bosque, 2015, 36, 395-407.	0.3	13
231	A role for metaâ€analysis in hydrology. Hydrological Processes, 2017, 31, 3588-3591.	2.6	12
232	The evolving perceptual model of streamflow generation at the Panola Mountain Research Watershed. Hydrological Processes, 2021, 35, e14127.	2.6	12
233	Monitoring land-surface snow conditions from SSM/I data using an artificial neural network classifier. IEEE Transactions on Geoscience and Remote Sensing, 1997, 35, 801-809.	6.3	11
234	Isotope tracers in catchment hydrology in the humid tropics. , 2005, , 770-789.		11

#	Article	IF	Citations
235	Ecohydrologic connections and complexities in drylands: new perspectives for understanding transformative landscape change. Ecohydrology, 2012, 5, 143-144.	2.4	11
236	Hydropedology: Synergistic integration of soil science and hydrology in the Critical Zone. Hydrological Processes, 2015, 29, 4559-4561.	2.6	11
237	Freshwater pearl mussels as a stream water stable isotope recorder. Ecohydrology, 2018, 11, e2007.	2.4	11
238	The impact of across-slope forest strips on hillslope subsurface hydrological dynamics. Journal of Hydrology, 2020, 581, 124427.	5.4	11
239	Tropical forest water source patterns revealed by stable isotopes: A preliminary analysis of 46 neighboring species. Forest Ecology and Management, 2021, 494, 119355.	3.2	11
240	No evidence of isotopic fractionation in olive trees (Olea europaea): a stable isotope tracing experiment. Hydrological Sciences Journal, 2021, 66, 2415-2430.	2.6	11
241	A sprinkling experiment to quantify celerityâ€“velocity differences at the hillslope scale. Hydrology and Earth System Sciences, 2017, 21, 5891-5910.	4.9	10
242	No Direct Linkage Between Eventâ€Based Runoff Generation and Groundwater Recharge on the Maimai Hillslope. Water Resources Research, 2018, 54, 8718-8733.	4.2	10
243	Comment on â€œAn assessment of the tracerâ€based approach to quantifying groundwater contributions to streamflowâ€• by J. P. Jones et al.. Water Resources Research, 2007, 43, .	4.2	9
244	Potential risks to freshwater aquatic organisms following a silvicultural application of herbicides in Oregon's Coast Range. Integrated Environmental Assessment and Management, 2017, 13, 396-409.	2.9	9
245	The quest for an improved dialog between modeler and experimentalist. Water Science and Application, 2003, , 301-315.	0.3	9
246	Hydroclimatic and hydrochemical controls on Plecoptera diversity and distribution in northern freshwater ecosystems. Hydrobiologia, 2012, 693, 39-53.	2.0	8
247	A Numerical Water Tracer Model for Understanding Event-Scale Hydrometeorological Phenomena. Journal of Hydrometeorology, 2018, 19, 947-967.	1.9	8
248	Freshwater pearl mussels from northern Sweden serve as long-term, high-resolution stream water isotope recorders. Hydrology and Earth System Sciences, 2020, 24, 673-696.	4.9	8
249	Gauging the ungauged basin: a top-down approach in a large semiarid watershed in China. Advances in Geosciences, 0, 18, 3-8.	12.0	8
250	Sources and mean transit times of intermittent streamflow in semi-arid headwater catchments. Journal of Hydrology, 2022, 604, 127208.	5.4	7
251	Modeling streamflow variability at the regional scale: (1) perceptual model development through signature analysis. Journal of Hydrology, 2022, 605, 127287.	5.4	7
252	Examination of aerial diatom flushing across watersheds in Luxembourg, Oregon and Slovakia for tracing episodic hydrological connectivity. Journal of Hydrology and Hydromechanics, 2015, 63, 235-245.	2.0	6

#	Article	IF	Citations
253	Further experiments comparing direct vapor equilibration and cryogenic vacuum distillation for plant water stable isotope analysis. Rapid Communications in Mass Spectrometry, 2019, 33, 1850-1854.	1.5	6
254	Toward a Closure of Catchment Mass Balance: Insight on the Missing Link From a Vegetated Lysimeter. Water Resources Research, 2022, 58, .	4.2	6
255	Automated system for measuring snow surface energy balance components in mountainous terrain. Hydrological Processes, 1994, 8, 437-446.	2.6	5
256	Technical Notes: Electronic Versus Fluid Multiplexing in Recording Tensiometer Systems. Transactions of the American Society of Agricultural Engineers, 1993, 36, 459-462.	0.9	4
257	Outcomes of synthesis. , 2013, , 361-383.		4
258	Analysis of hydrological seasonality across northern catchments using monthly precipitationâ€“runoff polygon metrics. Hydrological Sciences Journal, 2014, 59, 56-72.	2.6	4
259	Paper writing gone Hollywood. Science, 2017, 355, 102-102.	12.6	4
260	Reply to comment by Fred L. Ogden et al. on â€œBeyond the SCSâ€CN method: A theoretical framework for spatially lumped rainfallâ€runoff responseâ€• Water Resources Research, 2017, 53, 6351-6354.	4.2	4
261	The Maimai <scp>M8</scp> experimental catchment database: Forty years of processâ€based research on steep, wet hillslopes. Hydrological Processes, 2021, 35, e14112.	2.6	4
262	Tracers reveal limited influence of plantation forests on surface runoff in a UK natural flood management catchment. Journal of Hydrology: Regional Studies, 2021, 36, 100834.	2.4	4
263	The 1-hour workday. Science, 2016, 353, 718-718.	12.6	3
264	Editorial Expression of Concern: Global analysis of streamflow response to forest management. Nature, 2019, 574, E7-E7.	27.8	3
265	Stimulating a Canadian narrative for climate. Facets, 2017, 2, 131-149.	2.4	3
266	Modeling streamflow variability at the regional scale: (2) Development of a bespoke distributed conceptual model. Journal of Hydrology, 2022, 605, 127286.	5.4	3
267	Effects of soil moisture dynamics on slope failure at Hyrum Reservior, Utah. Earth Surface Processes and Landforms, 1995, 20, 243-253.	2.5	2
268	Creating a research brand. Science, 2015, 349, 758-758.	12.6	2
269	Evaristo et al. reply. Nature, 2016, 536, E3-E3.	27.8	2
270	A portable experimental hillslope for frozen ground studies. Hydrological Processes, 2017, 31, 4450-4457.	2.6	2

#	Article	IF	Citations
271	Carbon, nitrogen, and water stable isotopes in plant tissue and soils across a moisture gradient in Puerto Rico. Hydrological Processes, 2017, 31, 1558-1559.	2.6	2
272	Using stable isotopes to track hydrological processes at an oil sands mine, Alberta, Canada. Journal of Hydrology: Regional Studies, 2022, 40, 101032.	2.4	2
273	Response to comment by Jozsef Szilagyi on â€œUsing numerical modelling to evaluate the capillary fringe groundwater ridging hypothesis of streamflow generationâ€•(Journal of Hydrology 316 (2006) 141â€“162). Journal of Hydrology, 2006, 329, 730-732.	5.4	1
274	The Maimai Catchment New Zealand. , 2020, , 271-274.		1
275	USA/USSR Issues in Environmental Hydrology. Professional Geographer, 1991, 43, 106-106.	1.8	0
276	HPToday and HPTomorrow. Hydrological Processes, 2004, 18, 2739-2741.	2.6	0
277	Orchestrating a powerful group. Science, 2016, 352, 378-378.	12.6	0
278	The sustainable scientist. Science, 2017, 357, 1202-1202.	12.6	0
279	HP Volume to honor Keith Beven. Hydrological Processes, 2017, 31, 3762-3764.	2.6	0
280	Discussing scientific ethics: what would you do?. Astronomy and Geophysics, 2018, 59, 4.12-4.12.	0.2	0
281	Runoff generation processes and modelling. , 2004, , 61-66.		0
282	Fifty years of recorded hillslope runoff on seasonally frozen ground: the Swift Current, Saskatchewan, Canada, dataset. Earth System Science Data, 2019, 11, 1375-1383.	9.9	0