

# Ciaran Harman

## List of Publications by Year in descending order

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72  
papers

4,826  
citations

101384

36  
h-index

98622

67  
g-index

91  
all docs

91  
docs citations

91  
times ranked

5059  
citing authors

#	ARTICLE	IF	CITATIONS
1	Groundwater Affects the Geomorphic and Hydrologic Properties of Coevolved Landscapes. <i>Journal of Geophysical Research F: Earth Surface</i> , 2022, 127, .	1.0	11
2	Direct Observation of Hillslope Scale Storage Selection Functions in Experimental Hydrologic Systems: Geomorphologic Structure and Preferential Discharge of Old Water. <i>Water Resources Research</i> , 2022, 58, .	1.7	7
3	Transit Times and Storage Selection Functions in Idealized Hillslopes With Steady Infiltration. <i>Water Resources Research</i> , 2022, 58, .	1.7	6
4	A data-driven method for estimating the composition of end-members from stream water chemistry time series. <i>Hydrology and Earth System Sciences</i> , 2022, 26, 1977-1991.	1.9	0
5	Signatures of Hydrologic Function Across the Critical Zone Observatory Network. <i>Water Resources Research</i> , 2021, 57, e2019WR026635.	1.7	31
6	Assessing proxy system models of cave dripwater $\delta^{18}O$ variability. <i>Quaternary Science Reviews</i> , 2021, 254, 106799.	1.4	4
7	Fill-and-Spill: A Process Description of Runoff Generation at the Scale of the Beholder. <i>Water Resources Research</i> , 2021, 57, e2020WR027514.	1.7	43
8	Uncovering the hillslope scale flow and transport dynamics in an experimental hydrologic system. <i>Hydrological Processes</i> , 2021, 35, e14337.	1.1	3
9	Quantifying Depth-Dependent Seismic Anisotropy in the Critical Zone Enhanced by Weathering of a Piedmont Schist. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021, 126, e2021JF006289.	1.0	9
10	Spatial and temporal variation in the isotopic composition of Ethiopian precipitation. <i>Journal of Hydrology</i> , 2020, 585, 124364.	2.3	20
11	Using Particle Tracking to Understand Flow Paths, Age Distributions, and the Paradoxical Origins of the Inverse Storage Effect in an Experimental Catchment. <i>Water Resources Research</i> , 2020, 56, e2019WR025140.	1.7	24
12	Assessment of Climate, Sizing, and Location Controls on Green Infrastructure Efficacy: A Timescale Framework. <i>Water Resources Research</i> , 2020, 56, e2019WR026141.	1.7	8
13	GroundwaterDupuitPercolator: A Landlab component for groundwater flow. <i>Journal of Open Source Software</i> , 2020, 5, 1935.	2.0	9
14	Age-Ranked Storage-Discharge Relations: A Unified Description of Spatially Lumped Flow and Water Age in Hydrologic Systems. <i>Water Resources Research</i> , 2019, 55, 7143-7165.	1.7	26
15	Seasonal and Topographic Variations in Ecohydrological Separation Within a Small, Temperate, Snow-Influenced Catchment. <i>Water Resources Research</i> , 2019, 55, 6417-6435.	1.7	32
16	Understanding of Storm Runoff Generation in a Weathered, Fractured Granitoid Headwater Catchment in Northern China. <i>Water (Switzerland)</i> , 2019, 11, 123.	1.2	8
17	Streamflow partitioning and transit time distribution in snow-dominated basins as a function of climate. <i>Journal of Hydrology</i> , 2019, 570, 726-738.	2.3	20
18	A low-dimensional model of bedrock weathering and lateral flow coevolution in hillslopes: 2. Controls on weathering and permeability profiles, drainage hydraulics, and solute export pathways. <i>Hydrological Processes</i> , 2019, 33, 1168-1190.	1.1	29

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19	Characterizing the Fluxes and Age Distribution of Soil Water, Plant Water, and Deep Percolation in a Model Tropical Ecosystem. <i>Water Resources Research</i> , 2019, 55, 3307-3327.	1.7	73
20	A low-dimensional model of bedrock weathering and lateral flow coevolution in hillslopes: 1. Hydraulic theory of reactive transport. <i>Hydrological Processes</i> , 2019, 33, 466-475.	1.1	16
21	Spatial and temporal variation in river corridor exchange across a 5th-order mountain stream network. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 5199-5225.	1.9	23
22	Solute Transport and Transformation in an Intermittent, Headwater Mountain Stream with Diurnal Discharge Fluctuations. <i>Water (Switzerland)</i> , 2019, 11, 2208.	1.2	14
23	Particle tracer transport in a sloping soil lysimeter under periodic, steady state conditions. <i>Journal of Hydrology</i> , 2019, 569, 61-76.	2.3	17
24	Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th-order mountain stream network, Oregon, USA. <i>Earth System Science Data</i> , 2019, 11, 1567-1581.	3.7	14
25	The effects of disproportional load contributions on quantifying vegetated filter strip sediment trapping efficiencies. <i>Stochastic Environmental Research and Risk Assessment</i> , 2018, 32, 2369-2380.	1.9	5
26	Evaluation of statistical methods for quantifying fractal scaling in water-quality time series with irregular sampling. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 1175-1192.	1.9	3
27	The mechanistic basis for storage-dependent age distributions of water discharged from an experimental hillslope. <i>Water Resources Research</i> , 2017, 53, 2733-2754.	1.7	46
28	Comment on "A Simple Model for Regolith Formation by Chemical Weathering" by Braun et al.: Contradictory Concentrations and a Tale of Two Velocities. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017, 122, 2033-2036.	1.0	11
29	Sensitivity of Catchment Transit Times to Rainfall Variability Under Present and Future Climates. <i>Water Resources Research</i> , 2017, 53, 10231-10256.	1.7	59
30	Reply to comment by Porporato and Calabrese on "Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes" Water Resources Research, 2016, 52, 616-618.	1.7	0
31	Hydrogeomorphic controls on hyporheic and riparian transport in two headwater mountain streams during base flow recession. <i>Water Resources Research</i> , 2016, 52, 1479-1497.	1.7	36
32	How does reach-scale stream hyporheic transport vary with discharge? Insights from rSAS analysis of sequential tracer injections in a headwater mountain stream. <i>Water Resources Research</i> , 2016, 52, 7130-7150.	1.7	24
33	Transit time distributions and storage selection functions in a sloping soil lysimeter with time-varying flow paths: Direct observation of internal and external transport variability. <i>Water Resources Research</i> , 2016, 52, 7105-7129.	1.7	60
34	An improved method for interpretation of riverine concentration-discharge relationships indicates long-term shifts in reservoir sediment trapping. <i>Geophysical Research Letters</i> , 2016, 43, 10,215.	1.5	48
35	Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes. <i>Water Resources Research</i> , 2015, 51, 4840-4847.	1.7	170
36	Time-variable transit time distributions and transport: Theory and application to storage-dependent transport of chloride in a watershed. <i>Water Resources Research</i> , 2015, 51, 1-30.	1.7	270

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37	Geophysical imaging reveals topographic stress control of bedrock weathering. <i>Science</i> , 2015, 350, 534-538.	6.0	249
38	What makes Darwinian hydrology &quot;Darwinian&quot;? Asking a different kind of question about landscapes. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 417-433.	1.9	64
39	Advancing catchment hydrology to deal with predictions under change. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 649-671.	1.9	83
40	Functional approach to exploring climatic and landscape controls of runoff generation: 1. Behavioral constraints on runoff volume. <i>Water Resources Research</i> , 2014, 50, 9300-9322.	1.7	32
41	Spatial patterns of vegetation, soils, and microtopography from terrestrial laser scanning on two semiarid hillslopes of contrasting lithology. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2014, 119, 163-180.	1.3	39
42	An efficient tracer test for timeâ€variable transit time distributions in periodic hydrodynamic systems. <i>Geophysical Research Letters</i> , 2014, 41, 1567-1575.	1.5	37
43	Landscape filtering of hydrologic and biogeochemical responses in managed catchments. <i>Landscape Ecology</i> , 2013, 28, 651-664.	1.9	65
44	â€Panta Rheiâ€ Everything Flowsâ€ Change in hydrology and societyâ€ The IAHS Scientific Decade 2013â€2022. <i>Hydrological Sciences Journal</i> , 2013, 58, 1256-1275.	1.2	569
45	The importance of hydraulic groundwater theory in catchment hydrology: The legacy of Wilfried Brutsaert and Jean-Yves Parlange. <i>Water Resources Research</i> , 2013, 49, 5099-5116.	1.7	114
46	Coevolution of nonlinear trends in vegetation, soils, and topography with elevation and slope aspect: A case study in the sky islands of southern Arizona. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 741-758.	1.0	76
47	Developing predictive insight into changing water systems: use-inspired hydrologic science for the Anthropocene. <i>Hydrology and Earth System Sciences</i> , 2013, 17, 5013-5039.	1.9	119
48	Intraâ€annual rainfall variability control on interannual variability of catchment water balance: A stochastic analysis. <i>Water Resources Research</i> , 2012, 48, .	1.7	24
49	A network model for prediction and diagnosis of sediment dynamics at the watershed scale. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	42
50	Functional model of water balance variability at the catchment scale: 1. Evidence of hydrologic similarity and spaceâ€time symmetry. <i>Water Resources Research</i> , 2011, 47, .	1.7	121
51	Functional model of water balance variability at the catchment scale: 2. Elasticity of fast and slow runoff components to precipitation change in the continental United States. <i>Water Resources Research</i> , 2011, 47, .	1.7	59
52	Comparative hydrology across AmeriFlux sites: The variable roles of climate, vegetation, and groundwater. <i>Water Resources Research</i> , 2011, 47, .	1.7	96
53	Spatiotemporal scaling of hydrological and agrochemical export dynamics in a tileâ€drained Midwestern watershed. <i>Water Resources Research</i> , 2011, 47, .	1.7	79
54	Spatial scale dependence of ecohydrologically mediated water balance partitioning: A synthesis framework for catchment ecohydrology. <i>Water Resources Research</i> , 2011, 47, .	1.7	133

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55	Climate, soil, and vegetation controls on the temporal variability of vadose zone transport. <i>Water Resources Research</i> , 2011, 47, .	1.7	49
56	Water cycle dynamics in a changing environment: Improving predictability through synthesis. <i>Water Resources Research</i> , 2011, 47, .	1.7	45
57	HESS Opinions: Hydrologic predictions in a changing environment: behavioral modeling. <i>Hydrology and Earth System Sciences</i> , 2011, 15, 635-646.	1.9	82
58	Catchment classification: hydrological analysis of catchment behavior through process-based modeling along a climate gradient. <i>Hydrology and Earth System Sciences</i> , 2011, 15, 3411-3430.	1.9	110
59	Patterns, puzzles and people: implementing hydrologic synthesis. <i>Hydrological Processes</i> , 2011, 25, 3256-3266.	1.1	22
60	A subordinated kinematic wave equation for heavy-tailed flow responses from heterogeneous hillslopes. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	20
61	Vegetation-infiltration relationships across climatic and soil type gradients. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	130
62	The future of hydrology: An evolving science for a changing world. <i>Water Resources Research</i> , 2010, 46, .	1.7	487
63	Hillslope hydrology under glass: confronting fundamental questions of soil-water-biota co-evolution at Biosphere 2. <i>Hydrology and Earth System Sciences</i> , 2009, 13, 2105-2118.	1.9	68
64	Climate and vegetation water use efficiency at catchment scales. <i>Hydrological Processes</i> , 2009, 23, 2409-2414.	1.1	176
65	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, .	1.7	4
66	A similarity framework to assess controls on shallow subsurface flow dynamics in hillslopes. <i>Water Resources Research</i> , 2009, 45, .	1.7	74
67	Effects of hydraulic conductivity variability on hillslope-scale shallow subsurface flow response and storage-discharge relations. <i>Water Resources Research</i> , 2009, 45, .	1.7	39
68	Power law catchment-scale recessions arising from heterogeneous linear small-scale dynamics. <i>Water Resources Research</i> , 2009, 45, .	1.7	98
69	Variability and uncertainty in reach bankfull hydraulic geometry. <i>Journal of Hydrology</i> , 2008, 351, 13-25.	2.3	108
70	Downstream hydraulic geometry of rivers in Victoria, Australia. <i>Geomorphology</i> , 2008, 99, 302-316.	1.1	33
71	Optimizing dam release rules to meet environmental flow targets. <i>River Research and Applications</i> , 2005, 21, 113-129.	0.7	68
72	Controlled Experiments of Hillslope Coevolution at the Biosphere 2 Landscape Evolution Observatory: Toward Prediction of Coupled Hydrological, Biogeochemical, and Ecological Change. , 0, .		9