# Ciaran Harman

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3920693/publications.pdf

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|---|---|---|---|
| 72 papers | 4,826 citations | 101496 36 h-index | 98753 67 g-index |
| 91 all docs | 91 docs citations | 91 times ranked | 5059 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | â€œPanta Rheiâ€”Everything Flowsâ€: Change in hydrology and societyâ€”The IAHS Scientific Decade 2013â€“2022. Hydrological Sciences Journal, 2013, 58, 1256-1275. | 1.2 | 569 |
| 2 | The future of hydrology: An evolving science for a changing world. Water Resources Research, 2010, 46, . | 1.7 | 487 |
| 3 | Time-variable transit time distributions and transport: Theory and application to storage-dependent transport of chloride in a watershed. Water Resources Research, 2015, 51, 1-30. | 1.7 | 270 |
| 4 | Geophysical imaging reveals topographic stress control of bedrock weathering. Science, 2015, 350, 534-538. | 6.0 | 249 |
| 5 | Climate and vegetation water use efficiency at catchment scales. Hydrological Processes, 2009, 23, 2409-2414. | 1.1 | 176 |
| 6 | Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes. Water Resources Research, 2015, 51, 4840-4847. | 1.7 | 170 |
| 7 | Spatial scale dependence of ecohydrologically mediated water balance partitioning: A synthesis framework for catchment ecohydrology. Water Resources Research, 2011, 47, . | 1.7 | 133 |
| 8 | Vegetationâ€infiltration relationships across climatic and soil type gradients. Journal of Geophysical Research, 2010, 115, . | 3.3 | 130 |
| 9 | Functional model of water balance variability at the catchment scale: 1. Evidence of hydrologic similarity and spaceâ€time symmetry. Water Resources Research, 2011, 47, . | 1.7 | 121 |
| 10 | Developing predictive insight into changing water systems: use-inspired hydrologic science for the Anthropocene. Hydrology and Earth System Sciences, 2013, 17, 5013-5039. | 1.9 | 119 |
| 11 | The importance of hydraulic groundwater theory in catchment hydrology: The legacy of Wilfried Brutsaert and Jean-Yves Parlange. Water Resources Research, 2013, 49, 5099-5116. | 1.7 | 114 |
| 12 | Catchment classification: hydrological analysis of catchment behavior through process-based modeling along a climate gradient. Hydrology and Earth System Sciences, 2011, 15, 3411-3430. | 1.9 | 110 |
| 13 | Variability and uncertainty in reach bankfull hydraulic geometry. Journal of Hydrology, 2008, 351, 13-25. | 2.3 | 108 |
| 14 | Power law catchmentâ€scale recessions arising from heterogeneous linear smallâ€scale dynamics. Water Resources Research, 2009, 45, . | 1.7 | 98 |
| 15 | Comparative hydrology across AmeriFlux sites: The variable roles of climate, vegetation, and groundwater. Water Resources Research, 2011, 47, . | 1.7 | 96 |
| 16 | Advancing catchment hydrology to deal with predictions under change. Hydrology and Earth System Sciences, 2014, 18, 649-671. | 1.9 | 83 |
| 17 | HESS Opinions: Hydrologic predictions in a changing environment: behavioral modeling. Hydrology and Earth System Sciences, 2011, 15, 635-646. | 1.9 | 82 |
| 18 | Spatiotemporal scaling of hydrological and agrochemical export dynamics in a tileâ€drained Midwestern watershed. Water Resources Research, 2011, 47, . | 1.7 | 79 |

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|---|---|---|---|
| 19 | Coevolution of nonlinear trends in vegetation, soils, and topography with elevation and slope aspect: A case study in the sky islands of southern Arizona. Journal of Geophysical Research F: Earth Surface, 2013, 118, 741-758. | 1.0 | 76 |
| 20 | A similarity framework to assess controls on shallow subsurface flow dynamics in hillslopes. Water Resources Research, 2009, 45, . | 1.7 | 74 |
| 21 | 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. | 1.7 | 73 |
| 22 | Optimizing dam release rules to meet environmental flow targets. River Research and Applications, 2005, 21, 113-129. | 0.7 | 68 |
| 23 | 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. | 1.9 | 68 |
| 24 | Landscape filtering of hydrologic and biogeochemical responses in managed catchments. Landscape Ecology, 2013, 28, 651-664. | 1.9 | 65 |
| 25 | What makes Darwinian hydrology "Darwinian"? Asking a different kind of question about landscapes. Hydrology and Earth System Sciences, 2014, 18, 417-433. | 1.9 | 64 |
| 26 | Transit time distributions and <scp>S</scp>tor<scp>A</scp>ge <scp>S</scp>election functions in a sloping soil lysimeter with timeâ€varying flow paths: Direct observation of internal and external transport variability. Water Resources Research, 2016, 52, 7105-7129. | 1.7 | 60 |
| 27 | 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. Water Resources Research, 2011, 47, . | 1.7 | 59 |
| 28 | Sensitivity of Catchment Transit Times to Rainfall Variability Under Present and Future Climates. Water Resources Research, 2017, 53, 10231-10256. | 1.7 | 59 |
| 29 | Climate, soil, and vegetation controls on the temporal variability of vadose zone transport. Water Resources Research, 2011, 47, . | 1.7 | 49 |
| 30 | An improved method for interpretation of riverine concentrationâ€discharge relationships indicates longâ€term shifts in reservoir sediment trapping. Geophysical Research Letters, 2016, 43, 10,215. | 1.5 | 48 |
| 31 | The mechanistic basis for storageâ€dependent age distributions of water discharged from an experimental hillslope. Water Resources Research, 2017, 53, 2733-2754. | 1.7 | 46 |
| 32 | Water cycle dynamics in a changing environment: Improving predictability through synthesis. Water Resources Research, 2011, 47, . | 1.7 | 45 |
| 33 | Fillâ€andâ€Spill: A Process Description of Runoff Generation at the Scale of the Beholder. Water Resources Research, 2021, 57, e2020WR027514. | 1.7 | 43 |
| 34 | A network model for prediction and diagnosis of sediment dynamics at the watershed scale. Journal of Geophysical Research, 2012, 117, . | 3.3 | 42 |
| 35 | Effects of hydraulic conductivity variability on hillslopeâ€scale shallow subsurface flow response and storageâ€discharge relations. Water Resources Research, 2009, 45, . | 1.7 | 39 |
| 36 | Spatial patterns of vegetation, soils, and microtopography from terrestrial laser scanning on two semiarid hillslopes of contrasting lithology. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 163-180. | 1.3 | 39 |

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|---|---|---|---|
| 37 | An efficient tracer test for timeâ€variable transit time distributions in periodic hydrodynamic systems. Geophysical Research Letters, 2014, 41, 1567-1575. | 1.5 | 37 |
| 38 | Hydrogeomorphic controls on hyporheic and riparian transport in two headwater mountain streams during base flow recession. Water Resources Research, 2016, 52, 1479-1497. | 1.7 | 36 |
| 39 | Downstream hydraulic geometry of rivers in Victoria, Australia. Geomorphology, 2008, 99, 302-316. | 1.1 | 33 |
| 40 | Functional approach to exploring climatic and landscape controls of runoff generation: 1. Behavioral constraints on runoff volume. Water Resources Research, 2014, 50, 9300-9322. | 1.7 | 32 |
| 41 | Seasonal and Topographic Variations in Ecohydrological Separation Within a Small, Temperate, Snowâ€Influenced Catchment. Water Resources Research, 2019, 55, 6417-6435. | 1.7 | 32 |
| 42 | Signatures of Hydrologic Function Across the Critical Zone Observatory Network. Water Resources Research, 2021, 57, e2019WR026635. | 1.7 | 31 |
| 43 | A lowâ€dimensional model of bedrock weathering and lateral flow coevolution in hillslopes: 2. Controls on weathering and permeability profiles, drainage hydraulics, and solute export pathways. Hydrological Processes, 2019, 33, 1168-1190. | 1.1 | 29 |
| 44 | Ageâ€Ranked Storageâ€Discharge Relations: A Unified Description of Spatially Lumped Flow and Water Age in Hydrologic Systems. Water Resources Research, 2019, 55, 7143-7165. | 1.7 | 26 |
| 45 | Intraâ€annual rainfall variability control on interannual variability of catchment water balance: A stochastic analysis. Water Resources Research, 2012, 48, . | 1.7 | 24 |
| 46 | How does reachâ€scale streamâ€hyporheic transport vary with discharge? Insights from rSAS analysis of sequential tracer injections in a headwater mountain stream. Water Resources Research, 2016, 52, 7130-7150. | 1.7 | 24 |
| 47 | Using Particle Tracking to Understand Flow Paths, Age Distributions, and the Paradoxical Origins of the Inverse Storage Effect in an Experimental Catchment. Water Resources Research, 2020, 56, e2019WR025140. | 1.7 | 24 |
| 48 | Spatial and temporal variation in river corridor exchange across a 5th-order mountain stream network. Hydrology and Earth System Sciences, 2019, 23, 5199-5225. | 1.9 | 23 |
| 49 | Patterns, puzzles and people: implementing hydrologic synthesis. Hydrological Processes, 2011, 25, 3256-3266. | 1.1 | 22 |
| 50 | A subordinated kinematic wave equation for heavyâ€tailed flow responses from heterogeneous hillslopes. Journal of Geophysical Research, 2010, 115, . | 3.3 | 20 |
| 51 | Streamflow partitioning and transit time distribution in snow-dominated basins as a function of climate. Journal of Hydrology, 2019, 570, 726-738. | 2.3 | 20 |
| 52 | Spatial and temporal variation in the isotopic composition of Ethiopian precipitation. Journal of Hydrology, 2020, 585, 124364. | 2.3 | 20 |
| 53 | Particle tracer transport in a sloping soil lysimeter under periodic, steady state conditions. Journal of Hydrology, 2019, 569, 61-76. | 2.3 | 17 |
| 54 | A lowâ€dimensional model of bedrock weathering and lateral flow coevolution in hillslopes: 1. Hydraulic theory of reactive transport. Hydrological Processes, 2019, 33, 466-475. | 1.1 | 16 |

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|---|---|---|---|
| 55 | Solute Transport and Transformation in an Intermittent, Headwater Mountain Stream with Diurnal Discharge Fluctuations. Water (Switzerland), 2019, 11, 2208. | 1.2 | 14 |
| 56 | Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th-order mountain stream network, Oregon, USA. Earth System Science Data, 2019, 11, 1567-1581. | 3.7 | 14 |
| 57 | Comment on â€œA Simple Model for Regolith Formation by Chemical Weatheringâ€•by Braun et al.: Contradictory Concentrations and a Tale of Two Velocities. Journal of Geophysical Research F: Earth Surface, 2017, 122, 2033-2036. | 1.0 | 11 |
| 58 | Groundwater Affects the Geomorphic and Hydrologic Properties of Coevolved Landscapes. Journal of Geophysical Research F: Earth Surface, 2022, 127, . | 1.0 | 11 |
| 59 | Controlled Experiments of Hillslope Coevolution at the Biosphere 2 Landscape Evolution Observatory: Toward Prediction of Coupled Hydrological, Biogeochemical, and Ecological Change. , 0, , . | | 9 |
| 60 | Quantifying Depthâ€Ðependent Seismic Anisotropy in the Critical Zone Enhanced by Weathering of a Piedmont Schist. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2021JF006289. | 1.0 | 9 |
| 61 | GroundwaterDupuitPercolator: A Landlab component for groundwater flow. Journal of Open Source Software, 2020, 5, 1935. | 2.0 | 9 |
| 62 | Understanding of Storm Runoff Generation in a Weathered, Fractured Granitoid Headwater Catchment in Northern China. Water (Switzerland), 2019, 11, 123. | 1.2 | 8 |
| 63 | Assessment of Climate, Sizing, and Location Controls on Green Infrastructure Efficacy: A Timescale Framework. Water Resources Research, 2020, 56, e2019WR026141. | 1.7 | 8 |
| 64 | Direct Observation of Hillslope Scale StorAge Selection Functions in Experimental Hydrologic Systems: Geomorphologic Structure and Preferential Discharge of Old Water. Water Resources Research, 2022, 58, . | 1.7 | 7 |
| 65 | Transit Times and StorAge Selection Functions in Idealized Hillslopes With Steady Infiltration. Water Resources Research, 2022, 58, . | 1.7 | 6 |
| 66 | The effects of disproportional load contributions on quantifying vegetated filter strip sediment trapping efficiencies. Stochastic Environmental Research and Risk Assessment, 2018, 32, 2369-2380. | 1.9 | 5 |
| 67 | Reply to comment by J. Szilagyi on â€œPower law catchmentâ€scale recessions arising from heterogeneous linear smallâ€scale dynamicsâ€• Water Resources Research, 2009, 45, . | 1.7 | 4 |
| 68 | Assessing proxy system models of cave dripwater Î´18O variability. Quaternary Science Reviews, 2021, 254, 106799. | 1.4 | 4 |
| 69 | Evaluation of statistical methods for quantifying fractal scaling in water-quality time series with irregular sampling. Hydrology and Earth System Sciences, 2018, 22, 1175-1192. | 1.9 | 3 |
| 70 | Uncovering the hillslope scale flow and transport dynamics in an experimental hydrologic system. Hydrological Processes, 2021, 35, e14337. | 1.1 | 3 |
| 71 | Reply to comment by Porporato and Calabrese on â€œStorage selection functions: A coherent framework for quantifying how catchments store and release water and solutesâ€• Water Resources Research, 2016, 52, 616-618. | 1.7 | 0 |
| 72 | A data-driven method for estimating the composition of end-members from stream water chemistry time series. Hydrology and Earth System Sciences, 2022, 26, 1977-1991. | 1.9 | 0 |