

Carl E Renshaw

List of Publications by Year in descending order

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84
papers

2,762
citations

186265

28
h-index

197818

49
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86
all docs

86
docs citations

86
times ranked

2450
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Mechanisms of Cyclic Strengthening and Recovery of Polycrystalline Ice. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2022, , 3-8. | 0.2 | 2 |
| 2 | Seasonal and Longitudinal Variations in Suspended Load Connectivity Between River Channels and Their Margins. Water Resources Research, 2022, 58, . | 4.2 | 1 |
| 3 | Fracture, Friction, and Permeability of Ice. Annual Review of Earth and Planetary Sciences, 2022, 50, 323-343. | 11.0 | 2 |
| 4 | Rapid changes to global river suspended sediment flux by humans. Science, 2022, 376, 1447-1452. | 12.6 | 102 |
| 5 | The impact of run-of-river dams on sediment longitudinal connectivity and downstream channel equilibrium. Geomorphology, 2021, 376, 107568. | 2.6 | 14 |
| 6 | Behavior of saline ice under cyclic flexural loading. Cryosphere, 2021, 15, 2415-2428. | 3.9 | 11 |
| 7 | The flexural strength of bonded ice. Cryosphere, 2021, 15, 2957-2967. | 3.9 | 7 |
| 8 | A mechanistic understanding of channel evolution following dam removal. Geomorphology, 2021, 395, 107971. | 2.6 | 5 |
| 9 | Cyclic strengthening of lake ice. Journal of Glaciology, 2021, 67, 182-185. | 2.2 | 7 |
| 10 | Sorption Behavior and Aerosolâ€“Particulate Transitions of ⁷ Be, ¹⁰ Be, and ²¹⁰ Pb: A Basis for Fallout Radionuclide Chronometry. Environmental Science & Technology, 2021, 55, 14957-14967. | 10.0 | 5 |
| 11 | Aerosol Populations, Processes, and Ages in Bulk Deposition: Insights From a 9â€“Year Study of ⁷ Be, ²¹⁰ Pb, Sulfate, and Major/Trace Elements. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035612. | 3.3 | 3 |
| 12 | Experimental Verification of the Isotropic Onset of Percolation in 3D Crack Networks in Polycrystalline Materials With Implications for the Applicability of Percolation Theory to Crustal Rocks. Journal of Geophysical Research: Solid Earth, 2021, 126, . | 3.4 | 6 |
| 13 | Spatially coherent regional changes in seasonal extreme streamflow events in the United States and Canada since 1950. Science Advances, 2020, 6, . | 10.3 | 31 |
| 14 | Strengthening of columnar-grained freshwater ice through cyclic flexural loading. Journal of Glaciology, 2020, 66, 556-566. | 2.2 | 21 |
| 15 | Toward Improved Accuracy of Remote Sensing Approaches for Quantifying Suspended Sediment: Implications for Suspendedâ€“Sediment Monitoring. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005033. | 2.8 | 28 |
| 16 | Increased Fractured Rock Permeability After Percolation Despite Limited Crack Growth. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB019240. | 3.4 | 13 |
| 17 | Experimental Observation of the Onset of Percolation in Freshwater Granular Ice. Journal of Geophysical Research: Solid Earth, 2019, 124, 2445-2456. | 3.4 | 4 |
| 18 | Rapid response of New England (USA) rivers to shifting boundary conditions: Processes, time frames, and pathways to post-flood channel equilibrium. Geology, 2019, 47, 997-1000. | 4.4 | 9 |

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|----|--|------|-----------|
| 19 | Effect of compressive loading on first-year sea-ice permeability. <i>Journal of Glaciology</i> , 2018, 64, 443-449. | 2.2 | 2 |
| 20 | Glacier Calving Rates Due to Subglacial Discharge, Fjord Circulation, and Free Convection. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 2189-2204. | 2.8 | 26 |
| 21 | Geogenic As and Mo groundwater contamination caused by an abundance of domestic supply wells. <i>Applied Geochemistry</i> , 2017, 77, 68-79. | 3.0 | 20 |
| 22 | Strength-limiting mechanisms in high-confinement brittle-like failure: Adiabatic transformational faulting. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 1088-1106. | 3.4 | 7 |
| 23 | Experimental observation of the onset of fracture percolation in columnar ice. <i>Geophysical Research Letters</i> , 2017, 44, 1795-1802. | 4.0 | 11 |
| 24 | Experimental studies on mechanical properties and ductile-to-brittle transition of ice-silica mixtures: Young's modulus, compressive strength, and fracture toughness. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 6014-6030. | 3.4 | 15 |
| 25 | Strengthening ice through cyclic loading. <i>Journal of Glaciology</i> , 2017, 63, 663-669. | 2.2 | 19 |
| 26 | The role of chronic and episodic disturbances on channel-hillslope coupling: the persistence and legacy of extreme floods. <i>Earth Surface Processes and Landforms</i> , 2016, 41, 1437-1447. | 2.5 | 29 |
| 27 | Effects of prestrain on the ductile-to-brittle transition of ice. <i>Acta Materialia</i> , 2016, 108, 110-127. | 7.9 | 33 |
| 28 | On the restoration of strength through stress-driven healing of faults in ice. <i>Acta Materialia</i> , 2016, 117, 306-310. | 7.9 | 2 |
| 29 | Beryllium-7 and lead-210 chronometry of modern soil processes: The Linked Radionuclide Accumulation model, LRC. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 180, 109-125. | 3.9 | 16 |
| 30 | Joint isotopic mass balance: a novel approach to quantifying channel bed to channel margins sediment transfer during storm events. <i>Earth Surface Processes and Landforms</i> , 2015, 40, 1563-1573. | 2.5 | 10 |
| 31 | The role of damage and recrystallization in the elastic properties of columnar ice. <i>Journal of Glaciology</i> , 2015, 61, 461-480. | 2.2 | 14 |
| 32 | Predicting the type, location and magnitude of geomorphic responses to dam removal: Role of hydrologic and geomorphic constraints. <i>Geomorphology</i> , 2015, 251, 20-30. | 2.6 | 40 |
| 33 | Gradients in stream power influence lateral and downstream sediment flux in floods. <i>Geology</i> , 2015, 43, 983-986. | 4.4 | 41 |
| 34 | Relationship between altitude and lithium in groundwater in the United States of America: results of a 1992-2003 study. <i>Geospatial Health</i> , 2014, 9, 231. | 0.8 | 18 |
| 35 | Plastic faulting in saltwater ice. <i>Journal of Glaciology</i> , 2014, 60, 447-452. | 2.2 | 10 |
| 36 | Quantitative Retention of Atmospherically Deposited Elements by Native Vegetation Is Traced by the Fallout Radionuclides ⁷ Be and ²¹⁰ Pb. <i>Environmental Science & Technology</i> , 2014, 48, 12022-12030. | 10.0 | 25 |

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|----|--|-----|-----------|
| 37 | Maps for brittle and brittle-like failure in ice. <i>Cold Regions Science and Technology</i> , 2014, 97, 1-6. | 3.5 | 18 |
| 38 | Impact of reach geometry on stream channel sensitivity to extreme floods. <i>Earth Surface Processes and Landforms</i> , 2014, 39, 1778-1789. | 2.5 | 83 |
| 39 | Design and Assessment of a Skills-Based Geoscience Curriculum. <i>Journal of Geoscience Education</i> , 2014, 62, 668-678. | 1.4 | 3 |
| 40 | Seasonal controls on meteoric ⁷ Be in coarse-grained river channels. <i>Hydrological Processes</i> , 2014, 28, 2738-2748. | 2.6 | 10 |
| 41 | Differentiating the relative importance of land cover change and geomorphic processes on fine sediment sequestration in a logged watershed. <i>Geomorphology</i> , 2013, 185, 67-77. | 2.6 | 39 |
| 42 | Are intermediate depth earthquakes caused by plastic faulting?. <i>Earth and Planetary Science Letters</i> , 2013, 382, 32-37. | 4.4 | 9 |
| 43 | Surficial redistribution of fallout ¹³¹ iodine in a small temperate catchment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 4064-4069. | 7.1 | 19 |
| 44 | Measurement of ⁷ Be in soils and sediments by gamma spectroscopy. <i>Chemical Geology</i> , 2012, 291, 175-185. | 3.3 | 31 |
| 45 | Fine particle deposition to porous beds. <i>Water Resources Research</i> , 2011, 47, . | 4.2 | 20 |
| 46 | Sediment transport constraints on river response to regulation. <i>Geomorphology</i> , 2011, 126, 245-251. | 2.6 | 36 |
| 47 | Erosion and physical transport via overland flow of arsenic and lead bound to silt-sized particles. <i>Geomorphology</i> , 2011, 128, 85-91. | 2.6 | 14 |
| 48 | Elastic source model of the North Mono eruption (1325–1368 A.D.) based on shoreline deformation. <i>Bulletin of Volcanology</i> , 2010, 72, 1141-1152. | 3.0 | 2 |
| 49 | Shear faulting and localized heating in ice: The influence of confinement. <i>Acta Materialia</i> , 2010, 58, 5043-5056. | 7.9 | 33 |
| 50 | Temporal and spatial scales of geomorphic adjustments to reduced competency following flow regulation in bedload-dominated systems. <i>Geomorphology</i> , 2010, 118, 105-117. | 2.6 | 70 |
| 51 | Flow and sediment regimes at tributary junctions on a regulated river: impact on sediment residence time and benthic macroinvertebrate communities. <i>Hydrological Processes</i> , 2009, 23, 284-296. | 2.6 | 29 |
| 52 | Fine particle deposition to initially starved, stationary, planar beds. <i>Sedimentology</i> , 2009, 56, 1976-1991. | 3.1 | 13 |
| 53 | Transition in brittle failure mode in ice under low confinement. <i>Acta Materialia</i> , 2009, 57, 345-355. | 7.9 | 25 |
| 54 | Reply to Discussion "Assessment of Methods for Measuring Embeddedness: Application to Sedimentation in Flow Regulated Streams" by John P. Potyondy and Traci L. Sylte ^{1,2,3} . <i>Journal of the American Water Resources Association</i> , 2008, 44, 262-264. | 2.4 | 1 |

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|----|--|------|-----------|
| 55 | A study of solute redistribution and transport in seasonal snowpack using natural and artificial tracers. <i>Journal of Hydrology</i> , 2008, 357, 243-254. | 5.4 | 27 |
| 56 | Limits on rock strength under high confinement. <i>Earth and Planetary Science Letters</i> , 2007, 258, 307-314. | 4.4 | 15 |
| 57 | The use of short-lived radionuclides to quantify transitional bed material transport in a regulated river. <i>Earth Surface Processes and Landforms</i> , 2007, 32, 509-524. | 2.5 | 27 |
| 58 | Response to Comment on "Landfill-Stimulated Iron Reduction and Arsenic Release at the Coakley Superfund Site (NH)". <i>Environmental Science & Technology</i> , 2006, 40, 4039-4039. | 10.0 | 1 |
| 59 | Landfill-Stimulated Iron Reduction and Arsenic Release at the Coakley Superfund Site (NH). <i>Environmental Science & Technology</i> , 2006, 40, 67-73. | 10.0 | 132 |
| 60 | Short and long-term changes to bed mobility and bed composition under altered sediment regimes. <i>Geomorphology</i> , 2006, 76, 43-53. | 2.6 | 36 |
| 61 | Impact of Land Disturbance on the Fate of Arsenical Pesticides. <i>Journal of Environmental Quality</i> , 2006, 35, 61-67. | 2.0 | 29 |
| 62 | ASSESSMENT OF METHODS FOR MEASURING EMBEDDEDNESS: APPLICATION TO SEDIMENTATION IN FLOW REGULATED STREAMS ¹ . <i>Journal of the American Water Resources Association</i> , 2006, 42, 1671-1682. | 2.4 | 53 |
| 63 | The Effect of Multiple Formats on Understanding Complex Visual Displays. <i>Journal of Geoscience Education</i> , 2004, 52, 115-121. | 1.4 | 17 |
| 64 | Plastic faulting: Brittle-like failure under high confinement. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a. | 3.3 | 23 |
| 65 | Improving computer-assisted instruction in teaching higher-order skills. <i>Computers and Education</i> , 2004, 42, 169-180. | 8.3 | 13 |
| 66 | The use of stream flow routing for direct channel precipitation with isotopically-based hydrograph separations: the role of new water in stormflow generation. <i>Journal of Hydrology</i> , 2003, 273, 205-216. | 5.4 | 33 |
| 67 | Isotopic evolution of a seasonal snowpack and its melt. <i>Water Resources Research</i> , 2001, 37, 759-769. | 4.2 | 193 |
| 68 | A study of solute transport mechanisms using rare earth element tracers and artificial rainstorms on snow. <i>Water Resources Research</i> , 2001, 37, 1425-1435. | 4.2 | 32 |
| 69 | Universal behaviour in compressive failure of brittle materials. <i>Nature</i> , 2001, 412, 897-900. | 27.8 | 155 |
| 70 | The educational effectiveness of computer-based instruction. <i>Computers and Geosciences</i> , 2000, 26, 677-682. | 4.2 | 48 |
| 71 | Measuring fracture apertures: A comparison of methods. <i>Geophysical Research Letters</i> , 2000, 27, 289-292. | 4.0 | 46 |
| 72 | On the initiation of shear faults during brittle compressive failure: A new mechanism. <i>Journal of Geophysical Research</i> , 1999, 104, 695-705. | 3.3 | 73 |

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|----|--|------|-----------|
| 73 | Connectivity of joint networks with power law length distributions. <i>Water Resources Research</i> , 1999, 35, 2661-2670. | 4.2 | 93 |
| 74 | Sample bias and the scaling of hydraulic conductivity in fractured rock. <i>Geophysical Research Letters</i> , 1998, 25, 121-124. | 4.0 | 25 |
| 75 | Non-linear rate dependent deformation under compression due to state variable friction. <i>Geophysical Research Letters</i> , 1998, 25, 2205-2208. | 4.0 | 5 |
| 76 | Mechanical controls on the spatial density of opening-mode fracture networks. <i>Geology</i> , 1997, 25, 923. | 4.4 | 65 |
| 77 | Effects of Computer-Based Role-Playing on Decision Making Skills. <i>Journal of Educational Computing Research</i> , 1997, 17, 147-164. | 5.5 | 18 |
| 78 | Permeability reductions induced by sorption of surfactant. <i>Water Resources Research</i> , 1997, 33, 371-378. | 4.2 | 34 |
| 79 | Effect of mechanical interactions on the scaling of fracture length and aperture. <i>Nature</i> , 1997, 386, 482-484. | 27.8 | 115 |
| 80 | Influence of subcritical fracture growth on the connectivity of fracture networks. <i>Water Resources Research</i> , 1996, 32, 1519-1530. | 4.2 | 68 |
| 81 | Estimation of fracture zone geometry from steady-state hydraulic head data using iterative sequential cokriging. <i>Geophysical Research Letters</i> , 1996, 23, 2685-2688. | 4.0 | 16 |
| 82 | On the relationship between mechanical and hydraulic apertures in rough-walled fractures. <i>Journal of Geophysical Research</i> , 1995, 100, 24629-24636. | 3.3 | 298 |
| 83 | The use of "rock hard"™-sodium sulphate tablets for quickly determining preferential water flow routes in soils. <i>Earth Surface Processes and Landforms</i> , 1989, 14, 443-446. | 2.5 | 1 |
| 84 | Relaxation of Flexure-Induced Strengthening of Ice. <i>Geophysical Research Letters</i> , 0, , . | 4.0 | 6 |