Leonard S Sklar

List of Publications by Year
in descending order

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61 papers	5,580 citations	126907 33 h-index	128289 60 g-index
71 all docs	71 docs citations	71 times ranked	3857 citing authors

#	Article	IF	Citations
1	Sediment and rock strength controls on river incision into bedrock. Geology, 2001, 29, 1087.	4.4	633
2	A mechanistic model for river incision into bedrock by saltating bed load. Water Resources Research, 2004, 40, .	4.2	560
3	A method for quantifying vulnerability, applied to the agricultural system of the Yaqui Valley, Mexico. Global Environmental Change, 2003, 13, 255-267.	7.8	428
4	River longitudinal profiles and bedrock incision models: Stream power and the influence of sediment supply. Geophysical Monograph Series, 1998, , 237-260.	0.1	336
5	Experimental evidence for the conditions necessary to sustain meandering in coarse-bedded rivers. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16936-16941.	7.1	291
6	Geomorphic Transport Laws for Predicting Landscape form and Dynamics. Geophysical Monograph Series, 0, , 103-132.	0.1	234
7	Connectivity as an emergent property of geomorphic systems. Earth Surface Processes and Landforms, 2019, 44, 4-26.	2.5	233
8	A model for fluvial bedrock incision by impacting suspended and bed load sediment. Journal of Geophysical Research, 2008, 113, .	3.3	186
9	Interplay of sediment supply, river incision, and channel morphology revealed by the transient evolution of an experimental bedrock channel. Journal of Geophysical Research, 2007, 112, .	3.3	178
10	The role of sediment in controlling steady-state bedrock channel slope: Implications of the saltationâ€“abrasion incision model. Geomorphology, 2006, 82, 58-83.	2.6	173
11	Hillslope evolution by nonlinear creep and landsliding: An experimental study. Geology, 2001, 29, 143.	4.4	164
12	Field measurements of incision rates following bedrock exposure: Implications for process controls on the long profiles of valleys cut by rivers and debris flows. Bulletin of the Geological Society of America, 2005, 117, 174.	3.3	130
13	The problem of predicting the size distribution of sediment supplied by hillslopes to rivers. Geomorphology, 2017, 277, 31-49.	2.6	123
14	Response of bed surface patchiness to reductions in sediment supply. Journal of Geophysical Research, 2009, 114, .	3.3	116
15	Transport slopes, sediment cover, and bedrock channel incision in the Henry Mountains, Utah. Journal of Geophysical Research, 2009, 114, .	3.3	108
16	New insights into the mechanics of fluvial bedrock erosion through flume experiments and theory. Geomorphology, 2015, 244, 33-55.	2.6	104
17	Sediment supply and relative size distribution effects on fine sediment infiltration into immobile gravels. Water Resources Research, 2008, 44, .	4.2	99
18	Translation and dispersion of sediment pulses in flume experiments simulating gravel augmentation below dams. Water Resources Research, 2009, 45, .	4.2	99

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19	Chemical weathering as a mechanism for the climatic control of bedrock river incision. Nature, 2016, 532, 223-227.	27.8	91
20	Climate and topography control the size and flux of sediment produced on steep mountain slopes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15574-15579.	7.1	89
21	Bed load transport in bedrock rivers: The role of sediment cover in grain entrainment, translation, and deposition. Journal of Geophysical Research, 2011, 116, .	3.3	86
22	Urban recharge beneath low impact development and effects of climate variability and change. Water Resources Research, 2014, 50, 1716-1734.	4.2	86
23	Implications of the saltationâ€“abrasion bedrock incision model for steadyâ€state river longitudinal profile relief and concavity. Earth Surface Processes and Landforms, 2008, 33, 1129-1151.	2.5	82
24	Experimental evidence for the effect of hydrographs on sediment pulse dynamics in gravelâ€bedded rivers. Water Resources Research, 2012, 48, .	4.2	73
25	Do gravel bed river size distributions record channel network structure?. Water Resources Research, 2006, 42, .	4.2	67
26	Influence of temperature, composition, and grain size on the tensile failure of water ice: Implications for erosion on Titan. Journal of Geophysical Research, 2012, 117, .	3.3	63
27	Optimal reproduction in salmon spawning substrates linked to grain size and fish length. Water Resources Research, 2014, 50, 898-918.	4.2	55
28	Experimental study of bedrock erosion by granular flows. Journal of Geophysical Research, 2008, 113, .	3.3	51
29	The chemical, mechanical, and hydrological evolution of weathering granitoid. Journal of Geophysical Research F: Earth Surface, 2016, 121, 1410-1435.	2.8	49
30	Theory of Fine Sediment Infiltration into Immobile Gravel Bed. Journal of Hydraulic Engineering, 2008, 134, 1421-1429.	1.5	47
31	Managing reservoir sediment release in dam removal projects: An approach informed by physical and numerical modelling of nonâ€cohesive sediment. International Journal of River Basin Management, 2009, 7, 433-452.	2.7	40
32	Mining soil databases for landscapeâ€scale patterns in the abundance and size distribution of hillslope rock fragments. Earth Surface Processes and Landforms, 2012, 37, 287-300.	2.5	40
33	Grain size bias in cosmogenic nuclide studies of stream sediment in steep terrain. Journal of Geophysical Research F: Earth Surface, 2016, 121, 978-999.	2.8	40
34	Fluvial sediment supply and pioneer woody seedlings as a control on barâ€surface topography. Earth Surface Processes and Landforms, 2017, 42, 724-734.	2.5	37
35	Lateral erosion in an experimental bedrock channel: The influence of bed roughness on erosion by bed load impacts. Journal of Geophysical Research F: Earth Surface, 2016, 121, 1084-1105.	2.8	32
36	A Mechanistic Model for Lateral Erosion of Bedrock Channel Banks by Bedload Particle Impacts. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005509.	2.8	28

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37	A mechanistic model linking insect (Hydropsychidae) silk nets to incipient sediment motion in gravelâ€bedded streams. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1833-1852.	2.8	27
38	The Design of a Site-Calibrated Parkerâ€“Klingeman Gravel Transport Model. Water (Switzerland), 2017, 9, 441.	2.7	27
39	Non-Additive Increases in Sediment Stability Are Generated by Macroinvertebrate Species Interactions in Laboratory Streams. PLoS ONE, 2014, 9, e103417.	2.5	26
40	Arrested development: Erosional equilibrium in the southern Sierra Nevada, California, maintained by feedbacks between channel incision and hillslope sediment production. Bulletin of the Geological Society of America, 2019, 131, 1179-1202.	3.3	21
41	Subsurface Weathering Revealed in Hillslopeâ€Integrated Porosity Distributions. Geophysical Research Letters, 2020, 47, e2020GL088322.	4.0	21
42	Downvalley fining of hillslope sediment in an alpine catchment: implications for downstream fining of sediment flux in mountain rivers. Earth Surface Processes and Landforms, 2020, 45, 1828-1845.	2.5	20
43	Simulating Sediment Transport in a Flume with Forced Pool-Riffle Morphology: Examinations of Two One-Dimensional Numerical Models. Journal of Hydraulic Engineering, 2008, 134, 892-904.	1.5	19
44	Occupied and abandoned structures from ecosystem engineering differentially facilitate stream community colonization. Ecosphere, 2019, 10, e02734.	2.2	18
45	Ecogeomorphic feedbacks in regrowth of travertine step-pool morphology after dam decommissioning, Fossil Creek, Arizona. Geomorphology, 2011, 126, 314-332.	2.6	17
46	Aquatic macroinvertebrates stabilize gravel bed sediment: A test using silk net-spinning caddisflies in semi-natural river channels. PLoS ONE, 2019, 14, e0209087.	2.5	16
47	Accelerating and spatially-varying crustal uplift and its geomorphic expression, San Andreas Fault zone north of San Francisco, California. Tectonophysics, 2010, 495, 256-268.	2.2	11
48	Anisovolumetric weathering in granitic saprolite controlled by climate and erosion rate. Geology, 2021, 49, 551-555.	4.4	10
49	An Analytical Model for Lateral Erosion From Saltating Bedload Particle Impacts. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF006061.	2.8	10
50	Sediment size on talus slopes correlates with fracture spacing on bedrock cliffs: implications for predicting initial sediment size distributions on hillslopes. Earth Surface Dynamics, 2021, 9, 1073-1090.	2.4	9
51	Catchment power and the joint distribution of elevation and travel distance to the outlet. Earth Surface Dynamics, 2016, 4, 799-818.	2.4	8
52	Can environmental flows moderate riparian invasions? The influence of seedling morphology and density on scour losses in experimental floods. Freshwater Biology, 2019, 64, 474-484.	2.4	7
53	Experimental Study of Particle Size Reduction in Geophysical Granular Flows. International Journal of Erosion Control Engineering, 2016, 9, 122-129.	0.5	6
54	Sediment size and abrasion biases in detrital thermochronology. Earth and Planetary Science Letters, 2020, 531, 115929.	4.4	6

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55	Tools for gauging the capacity of salmon spawning substrates. Earth Surface Processes and Landforms, 2016, 41, 130-142.	2.5	5
56	The difficult, the dangerous, and the catastrophic: Managing the spectrum of climate risks. Earth's Future, 2014, 2, 114-118.	6.3	4
57	A Method for Developing Regional Road-Fill Failure Hazard Assessments Using GIS and Virtual Fieldwork. Environmental and Engineering Geoscience, 2008, 14, 221-229.	0.9	3
58	Flume Experiments to Constrain Bedload Adaptation Length. Journal of Hydrologic Engineering - ASCE, 2015, 20, 06014007.	1.9	2
59	An ephemeral gorge. Nature Geoscience, 2014, 7, 624-625.	12.9	1
60	Correction to â€œExperimental study of bedrock erosion by granular flowsâ€• Journal of Geophysical Research, 2008, 113, .	3.3	0
61	Reply to comment by S. P. Ferguson and C. D. Rennie on â€œA mechanistic model linking insect (Hydropsychidae) silk nets to incipient sediment motion in gravel-bedded streamsâ€• Journal of Geophysical Research F: Earth Surface, 2015, 120, 1151-1152.	2.8	0