Simon M. Mudd

List of Publications by Year
in descending order

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Version: 2024-02-01

88 papers	5,654 citations	71102 41 h-index	82547 72 g-index
116 all docs	116 docs citations	116 times ranked	4677 citing authors

#	Article	IF	Citations
1	Limits on the adaptability of coastal marshes to rising sea level. Geophysical Research Letters, 2010, 37, .	4.0	613
2	Numerical models of salt marsh evolution: Ecological, geomorphic, and climatic factors. Reviews of Geophysics, 2012, 50, .	23.0	511
3	Response of salt-marsh carbon accumulation to climate change. Nature, 2012, 489, 550-553.	27.8	257
4	Impact of dynamic feedbacks between sedimentation, sea-level rise, and biomass production on near-surface marsh stratigraphy and carbon accumulation. Estuarine, Coastal and Shelf Science, 2009, 82, 377-389.	2.1	253
5	How does vegetation affect sedimentation on tidal marshes? Investigating particle capture and hydrodynamic controls on biologically mediated sedimentation. Journal of Geophysical Research, 2010, 115, .	3.3	230
6	A theoretical model coupling chemical weathering rates with denudation rates. Geology, 2009, 37, 151-154.	4.4	191
7	Global analysis of the stream power law parameters based on worldwide 10Be denudation rates. Geomorphology, 2016, 268, 184-196.	2.6	183
8	The Gamburtsev mountains and the origin and early evolution of the Antarctic Ice Sheet. Nature, 2009, 459, 690-693.	27.8	150
9	The mobilization of debris flows from shallow landslides. Geomorphology, 2006, 74, 207-218.	2.6	147
10	A statistical framework to quantify spatial variation in channel gradients using the integral method of channel profile analysis. Journal of Geophysical Research F: Earth Surface, 2014, 119, 138-152.	2.8	147
11	Modeling the influence of hydroperiod and vegetation on the cross-sectional formation of tidal channels. Estuarine, Coastal and Shelf Science, 2006, 69, 311-324.	2.1	143
12	Using hilltop curvature to derive the spatial distribution of erosion rates. Journal of Geophysical Research, 2012, 117, .	3.3	131
13	Objective extraction of channel heads from high-resolution topographic data. Water Resources Research, 2014, 50, 4283-4304.	4.2	123
14	Impact of change in erosion rate and landscape steepness on hillslope and fluvial sediments grain size in the Feather River basin (Sierra Nevada, California). Earth Surface Dynamics, 2015, 3, 201-222.	2.4	110
15	Rain splash of dry sand revealed by high-speed imaging and sticky paper splash targets. Journal of Geophysical Research, 2007, 112, .	3.3	107
16	Bedrock erosion by root fracture and tree throw: A coupled biogeomorphic model to explore the humped soil production function and the persistence of hillslope soils. Journal of Geophysical Research, 2010, 115, .	3.3	99
17	Dynamic response of marshes to perturbations in suspended sediment concentrations and rates of relative sea level rise. Journal of Geophysical Research, 2011, 116, .	3.3	77
18	Quantifying the rate and depth dependence of bioturbation based on optically‐stimulated luminescence (OSL) dates and meteoric ¹⁰Be. Earth Surface Processes and Landforms, 2014, 39, 1188-1196.	2.5	77

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19	Discrepancy between mineral residence time and soil age: Implications for the interpretation of chemical weathering rates. Geology, 2008, 36, 35.	4.4	76
20	A rain splash transport equation assimilating field and laboratory measurements. Journal of Geophysical Research, 2010, 115, .	3.3	75
21	Toward process-based modeling of geochemical soil formation across diverse landforms: A new mathematical framework. Geoderma, 2008, 146, 248-260.	5.1	70
22	How concave are river channels?. Earth Surface Dynamics, 2018, 6, 505-523.	2.4	70
23	Influence of lithology on hillslope morphology and response to tectonic forcing in the northern Sierra Nevada of California. Journal of Geophysical Research F: Earth Surface, 2013, 118, 832-851.	2.8	63
24	Hillslopes Record the Growth and Decay of Landscapes. Science, 2013, 341, 868-871.	12.6	62
25	Flow, Sedimentation, and Biomass Production on a Vegetated Salt Marsh in South Carolina: Toward a Predictive Model of Marsh Morphologic and Ecologic Evolution. Coastal and Estuarine Studies, 0, , 165-188.	0.4	60
26	Reconstruction of a major storm event from its geomorphic signature: The Ladakh floods, 6 August 2010. Geology, 2012, 40, 483-486.	4.4	59
27	Responses of soil-mantled hillslopes to transient channel incision rates. Journal of Geophysical Research, 2007, 112, .	3.3	56
28	OCTOPUS: an open cosmogenic isotope and luminescence database. Earth System Science Data, 2018, 10, 2123-2139.	9.9	55
29	Geomorphometric delineation of floodplains and terraces from objectively defined topographic thresholds. Earth Surface Dynamics, 2017, 5, 369-385.	2.4	53
30	The life and death of salt marshes in response to anthropogenic disturbance of sediment supply. Geology, 2011, 39, 511-512.	4.4	52
31	How long is a hillslope?. Earth Surface Processes and Landforms, 2016, 41, 1039-1054.	2.5	52
32	Detection of transience in eroding landscapes. Earth Surface Processes and Landforms, 2017, 42, 24-41.	2.5	52
33	Investigation of the hydrodynamics of flash floods in ephemeral channels: Scaling analysis and simulation using a shock-capturing flow model incorporating the effects of transmission losses. Journal of Hydrology, 2006, 324, 65-79.	5.4	50
34	Field calibration of sediment flux dependent river incision. Journal of Geophysical Research, 2011, 116, .	3.3	49
35	Influence of chemical denudation on hillslope morphology. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	48
36	How does grid-resolution modulate the topographic expression of geomorphic processes?. Earth Surface Dynamics, 2016, 4, 627-653.	2.4	48

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37	A segmentation approach for the reproducible extraction and quantification of knickpoints from river long profiles. Earth Surface Dynamics, 2019, 7, 211-230.	2.4	48
38	Spatial patterns and controls of soil chemical weathering rates along a transient hillslope. Earth and Planetary Science Letters, 2009, 288, 184-193.	4.4	47
39	The CAIRN method: automated, reproducible calculation of catchment-averaged denudation rates from cosmogenic nuclide concentrations. Earth Surface Dynamics, 2016, 4, 655-674.	2.4	47
40	Colluvium supply in humid regions limits the frequency of storm-triggered landslides. Scientific Reports, 2016, 6, 34438.	3.3	46
41	Reservoir theory for studying the geochemical evolution of soils. Journal of Geophysical Research, 2010, 115, .	3.3	44
42	The relationship between drainage density, erosion rate, and hilltop curvature: Implications for sediment transport processes. Journal of Geophysical Research F: Earth Surface, 2016, 121, 1724-1745.	2.8	44
43	Short Communication: Humans and the missing C-sink: erosion and burial of soil carbon through time. Earth Surface Dynamics, 2013, 1, 45-52.	2.4	43
44	Lithological control on the post-orogenic topography and erosion history of the Pyrenees. Earth and Planetary Science Letters, 2019, 518, 53-66.	4.4	43
45	Using chemical tracers in hillslope soils to estimate the importance of chemical denudation under conditions of downslope sediment transport. Journal of Geophysical Research, 2006, 111, .	3.3	41
46	Erosion rates as a potential bottomâ€up control of forest structural characteristics in the Sierra Nevada Mountains. Ecology, 2015, 96, 31-38.	3.2	40
47	A nondimensional framework for exploring the relief structure of landscapes. Earth Surface Dynamics, 2016, 4, 309-325.	2.4	37
48	Prediction of flash flood hazard impact from Himalayan river profiles. Geophysical Research Letters, 2015, 42, 5888-5894.	4.0	36
49	Lateral migration of hillcrests in response to channel incision in soil-mantled landscapes. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	35
50	Topographic roughness as a signature of the emergence of bedrock in eroding landscapes. Earth Surface Dynamics, 2015, 3, 483-499.	2.4	35
51	Limits of windthrow-driven hillslope sediment flux due to varying storm frequency and intensity. Geomorphology, 2012, 175-176, 66-73.	2.6	33
52	Evolution of hillslope soils: The geomorphic theater and the geochemical play. Applied Geochemistry, 2011, 26, S149-S153.	3.0	29
53	Does soil erosion rejuvenate the soil phosphorus inventory?. Geoderma, 2018, 332, 45-59.	5.1	25
54	Impact of Changing Concavity Indices on Channel Steepness and Divide Migration Metrics. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF006060.	2.8	24

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55	Arable soil formation and erosion: a hillslope-based cosmogenic nuclide study in the United Kingdom. Soil, 2019, 5, 253-263.	4.9	22
56	Field experiments constraining the probability distribution of particle travel distances during natural rainstorms on different slope gradients. Earth Surface Processes and Landforms, 2012, 37, 473-485.	2.5	20
57	Detection of channel-hillslope coupling along a tectonic gradient. Earth and Planetary Science Letters, 2019, 522, 30-39.	4.4	20
58	Squeezing river catchments through tectonics: Shortening and erosion across the Indus Valley, NW Himalaya. Bulletin of the Geological Society of America, 2017, 129, 203-217.	3.3	19
59	Lithological control on the geomorphic evolution of the Shillong Plateau in Northeast India. Geomorphology, 2019, 330, 133-150.	2.6	18
60	Differences in channel and hillslope geometry record a migrating uplift wave at the Mendocino triple junction, California, USA. Geology, 2020, 48, 184-188.	4.4	18
61	Spatial distribution of water and wind erosion and their influence on the soil quality at the agropastoral ecotone of North China. International Soil and Water Conservation Research, 2020, 8, 253-265.	6.5	18
62	Source-to-sink constraints on tectonic and sedimentary evolution of the western Central Range and Cenderawasih Bay (Indonesia). Journal of Asian Earth Sciences, 2018, 156, 265-287.	2.3	17
63	Topographic data from satellites. Developments in Earth Surface Processes, 2020, 23, 91-128.	2.8	16
64	Assessing the significance of soil erosion. Transactions of the Institute of British Geographers, 2012, 37, 342-345.	2.9	15
65	Local topography and erosion rate control regolith thickness along a ridgeline in the Sierra Nevada, California. Earth Surface Processes and Landforms, 2015, 40, 1779-1790.	2.5	14
66	Detrital cosmogenic 21Ne records decoupling of source-to-sink signals by sediment storage and recycling in Miocene to present rivers of the Great Plains, Nebraska, USA. Geology, 2019, 47, 3-6.	4.4	14
67	Impact of climate on landscape form, sediment transfer and the sedimentary record. Earth Surface Processes and Landforms, 2021, 46, 990-1006.	2.5	14
68	Unsupervised detection of salt marsh platforms: a topographic method. Earth Surface Dynamics, 2018, 6, 239-255.	2.4	12
69	Storage and export of soil carbon and mineral surface area along an erosional gradient in the Sierra Nevada, California. Geoderma, 2018, 321, 151-163.	5.1	11
70	High Platform Elevations Highlight the Role of Storms and Spring Tides in Salt Marsh Evolution. Frontiers in Environmental Science, 2019, 7, .	3.3	11
71	Isolating Lithologic Versus Tectonic Signals of River Profiles to Test Orogenic Models for the Eastern and Southeastern Carpathians. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF005970.	2.8	11
72	Sediment accumulation in embayments controlled by bathymetric slope and wave energy: Implications for beach formation and persistence. Earth Surface Processes and Landforms, 2018, 43, 2421-2434.	2.5	10

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73	Controls on Zeroâ€Order Basin Morphology. Journal of Geophysical Research F: Earth Surface, 2018, 123, 3269.	2.8	10
74	Progressive evolution of thrust fold topography in the frontal Himalaya. Geomorphology, 2021, 384, 107717.	2.6	10
75	Hilltop Curvature Increases With the Square Root of Erosion Rate. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF005858.	2.8	8
76	Detecting the Morphology of Prograding and Retreating Marsh Marginsâ€"Example of a Mega-Tidal Bay. Remote Sensing, 2020, 12, 13.	4.0	7
77	Salt Marsh Hydrodynamics. , 2021, , 53-81.		7
78	Continuous measurements of valley floor width in mountainous landscapes. Earth Surface Dynamics, 2022, 10, 437-456.	2.4	7
79	Beyond the Long Profile. , 2022, , 22-52.		4
80	Reply to comment by <scp>P</scp>. <scp>P</scp>assalacqua and <scp>E</scp>. <scp>F</scp>oufoulaâ€<scp>G</scp>eorgiou on â€œObjective extraction of channel heads from highâ€resolution topographic dataâ€• Water Resources Research, 2015, 51, 1377-1379.	4.2	3
81	Reproducible topographic analysis. Developments in Earth Surface Processes, 2020, 23, 339-367.	2.8	2
82	Salt Marsh Ecosystems: Tidal Flow, Vegetation, and Carbon Dynamics. , 2016, , 407-434.		2
83	7.5 Influence of Chemical Weathering on Hillslope Forms. , 2013, , 56-65.		1
84	Quantifying Geomorphic Controls on Time in Weathering Systems. Procedia Earth and Planetary Science, 2014, 10, 249-253.	0.6	1
85	Seasonal fluxes and sediment routing in tropical catchments affected by nickel mining. Earth Surface Processes and Landforms, 2021, 46, 2632-2655.	2.5	1
86	DELINEATING FLOODPLAINS AND TERRACES FROM OBJECTIVELY DEFINED TOPOGRAPHIC THRESHOLDS. , 2017, , .		1
87	Reply to â€œComment on â€˜Investigation of the hydrodynamics of flash floods in ephemeral channels: Scaling analysis and simulation using a shock-capturing flow model incorporating the effects of transmission lossesâ€™ by S.M. Mudd, 2006 (Journal of Hydrology) 324, 65â€“79â€•by Cao and Yue. Journal of Hydrology, 2007, 336, 226-230.	5.4	0
88	Linking life and landscape with remote sensing. Developments in Earth Surface Processes, 2020, 23, 129-182.	2.8	0