

Gregory E Tucker

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

134
papers

10,179
citations

48
h-index

100
g-index

163
ext. papers

11,265
ext. citations

4.3
avg, IF

6.53
L-index

#	Paper	IF	Citations
134	CSDMS: a community platform for numerical modeling of Earth surface processes. <i>Geoscientific Model Development</i> , 2022 , 15, 1413-1439	6.3	2
133	The Babelizer: language interoperability for model coupling in the geosciences. <i>Journal of Open Source Software</i> , 2022 , 7, 3344	5.2	
132	Boulders as a lithologic control on river and landscape response to tectonic forcing at the Mendocino triple junction. <i>Bulletin of the Geological Society of America</i> , 2021 , 133, 647-662	3.9	5
131	Influence of Climate-Forcing Frequency on Hillslope Response. <i>Geophysical Research Letters</i> , 2021 , 48, e2021GL094305	4.9	1
130	A Community Approach to Modeling Earthscapes 2021 ,		
129	Short communication: Landlab v2.0: A software package for Earth surface dynamics 2020 ,		1
128	Modeling the Shape and Evolution of Normal-Fault Facets. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2019JF005305	3.8	5
127	River patterns reveal two stages of landscape evolution at an oblique convergent margin, Marlborough Fault System, New Zealand. <i>Earth Surface Dynamics</i> , 2020 , 8, 177-194	3.8	7
126	Inverting Topography for Landscape Evolution Model Process Representation: 1. Conceptualization and Sensitivity Analysis. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2018JF004961	3.8	11
125	Inverting Topography for Landscape Evolution Model Process Representation: 2. Calibration and Validation. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2018JF004963	3.8	11
124	Inverting Topography for Landscape Evolution Model Process Representation: 3. Determining Parameter Ranges for Select Mature Geomorphic Transport Laws and Connecting Changes in Fluvial Erodibility to Changes in Climate. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2019JF005287	3.8	14
123	Depth-dependent soil mixing persists across climate zones. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 8750-8756	11.5	12
122	GroundwaterDupuitPercolator: A Landlab component for groundwater flow. <i>Journal of Open Source Software</i> , 2020 , 5, 1935	5.2	6
121	The Basic Model Interface 2.0: A standard interface for coupling numerical models in the geosciences. <i>Journal of Open Source Software</i> , 2020 , 5, 2317	5.2	10
120	Short communication: Landlab v2.0: a software package for Earth surface dynamics. <i>Earth Surface Dynamics</i> , 2020 , 8, 379-397	3.8	23
119	Impact of vegetation on erosion: Insights from the calibration and test of a landscape evolution model in alpine badland catchments. <i>Earth Surface Processes and Landforms</i> , 2020 , 45, 1085-1099	3.7	5
118	Orographic Controls on Subdaily Rainfall Statistics and Flood Frequency in the Colorado Front Range, USA. <i>Geophysical Research Letters</i> , 2020 , 47, e2019GL085086	4.9	5

117	Projections of Landscape Evolution on a 10,000-Year Timescale With Assessment and Partitioning of Uncertainty Sources. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2020JF005795	3.8	1
116	The evolution of snow bedforms in the Colorado Front Range and the processes that shape them. <i>Cryosphere</i> , 2019 , 13, 1267-1281	5.5	4
115	Enabling Collaborative Numerical Modeling in Earth Sciences using Knowledge Infrastructure. <i>Environmental Modelling and Software</i> , 2019 , 120, 104424	5.2	13
114	The Timing and Style of Oblique Deformation Within New Zealand's Kaikūra Ranges and Marlborough Fault System Based on Low-Temperature Thermochronology. <i>Tectonics</i> , 2019 , 38, 1250-1272	4.3	11
113	Terrainbento 1.0: a Python package for multi-model analysis in long-term drainage basin evolution. <i>Geoscientific Model Development</i> , 2019 , 12, 1267-1297	6.3	13
112	Luminescence as a Sediment Tracer and Provenance Tool. <i>Reviews of Geophysics</i> , 2019 , 57, 987-1017	23.1	33
111	Canyon shape and erosion dynamics governed by channel-hillslope feedbacks. <i>Geology</i> , 2019 , 47, 650-654		17
110	umami: A Python package for Earth surface dynamics objective function construction. <i>Journal of Open Source Software</i> , 2019 , 4, 1776	5.2	4
109	Offset Channels May Not Accurately Record Strike-Slip Fault Displacement: Evidence From Landscape Evolution Models. <i>Journal of Geophysical Research: Solid Earth</i> , 2019 , 124, 13427-13451	3.6	23
108	The evolution of a colluvial hollow to a fluvial channel with periodic steps following two transformational disturbances: A wildfire and a historic flood. <i>Geomorphology</i> , 2018 , 309, 121-130	4.3	3
107	A hydroclimatological approach to predicting regional landslide probability using Landlab. <i>Earth Surface Dynamics</i> , 2018 , 6, 49-75	3.8	12
106	Variable-Threshold Behavior in Rivers Arising From Hillslope-Derived Blocks. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018 , 123, 1931-1957	3.8	21
105	A lattice grain model of hillslope evolution. <i>Earth Surface Dynamics</i> , 2018 , 6, 563-582	3.8	6
104	Statistical Classification of Self-Organized Snow Surfaces. <i>Geophysical Research Letters</i> , 2018 , 45, 6532-6541	4.1	9
103	Application of a Luminescence-Based Sediment Transport Model. <i>Geophysical Research Letters</i> , 2018 , 45, 6071	4.9	6
102	Lithology: A Landlab submodule for spatially variable rock properties. <i>Journal of Open Source Software</i> , 2018 , 3, 979	5.2	5
101	Which way do you lean? Using slope aspect variations to understand Critical Zone processes and feedbacks. <i>Earth Surface Processes and Landforms</i> , 2018 , 43, 1133-1154	3.7	46
100	Off-fault deformation rate along the southern San Andreas fault at Mecca Hills, southern California, inferred from landscape modeling of curved drainages. <i>Geology</i> , 2018 , 46, 59-62	5	25

99	A lattice grain model of hillslope evolution 2018 ,		1
98	The Role of Near-Fault Relief Elements in Creating and Maintaining a Strike-Slip Landscape. <i>Geophysical Research Letters</i> , 2018 , 45, 11,683	4.9	8
97	Developing and exploring a theory for the lateral erosion of bedrock channels for use in landscape evolution models. <i>Earth Surface Dynamics</i> , 2018 , 6, 1-27	3.8	34
96	Block-controlled hillslope form and persistence of topography in rocky landscapes. <i>Geology</i> , 2017 , 45, 311-314	5	25
95	On extracting sediment transport information from measurements of luminescence in river sediment. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017 , 122, 654-677	3.8	14
94	Creative computing with Landlab: an open-source toolkit for building, coupling, and exploring two-dimensional numerical models of Earth-surface dynamics. <i>Earth Surface Dynamics</i> , 2017 , 5, 21-46	3.8	101
93	The Landlab v1.0 OverlandFlow component: a Python tool for computing shallow-water flow across watersheds. <i>Geoscientific Model Development</i> , 2017 , 10, 1645-1663	6.3	24
92	The SPACE1.0 model: a Landlab component for 2-D calculation of sediment transport, bedrock erosion, and landscape evolution. <i>Geoscientific Model Development</i> , 2017 , 10, 4577-4604	6.3	39
91	Multi-scale characterization of topographic anisotropy. <i>Computers and Geosciences</i> , 2016 , 90, 102-116	4.5	17
90	A fault runs through it: Modeling the influence of rock strength and grain-size distribution in a fault-damaged landscape. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016 , 121, 1911-1930	3.8	24
89	Observed and simulated hydrologic response for a first-order catchment during extreme rainfall 3 years after wildfire disturbance. <i>Water Resources Research</i> , 2016 , 52, 9367-9389	5.4	30
88	Dynamic links among rock damage, erosion, and strain during orogenesis. <i>Geology</i> , 2016 , 44, 583-586	5	15
87	CellLab-CTS 2015: continuous-time stochastic cellular automaton modeling using Landlab. <i>Geoscientific Model Development</i> , 2016 , 9, 823-839	6.3	10
86	Episodic bedrock erosion by gully-head migration, Colorado High Plains, USA. <i>Earth Surface Processes and Landforms</i> , 2016 , 41, 1574-1582	3.7	4
85	Illuminating wildfire erosion and deposition patterns with repeat terrestrial lidar. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016 , 121, 588-608	3.8	35
84	Hillslope-derived blocks retard river incision. <i>Geophysical Research Letters</i> , 2016 , 43, 5070-5078	4.9	51
83	Application of an evolutionary algorithm for parameter optimization in a gully erosion model. <i>Environmental Modelling and Software</i> , 2016 , 80, 297-305	5.2	4
82	Soils, slopes and source rocks: Application of a soil chemistry model to nutrient delivery to rift lakes. <i>Sedimentary Geology</i> , 2015 , 323, 31-42	2.8	2

81	Evidence for climatic and hillslope-aspect controls on vadose zone hydrology and implications for saprolite weathering. <i>Earth Surface Processes and Landforms</i> , 2015 , 40, 1254-1269	3.7	26
80	Aspect-dependent soil saturation and insight into debris-flow initiation during extreme rainfall in the Colorado Front Range. <i>Geology</i> , 2015 , 43, 659-662	5	26
79	Dynamic Ridges and Valleys in a Strike-Slip Environment. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015 , 120, 2016-2026	3.8	30
78	Interpreting climate-modulated processes of terrace development along the Colorado Front Range using a landscape evolution model. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015 , 120, 2121-2138	3.8	12
77	The influence of crustal strength fields on the patterns and rates of fluvial incision. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015 , 120, 275-299	3.8	27
76	Effects of woody vegetation on overbank sand transport during a large flood, Rio Puerco, New Mexico. <i>Geomorphology</i> , 2014 , 207, 30-50	4.3	20
75	Analysis and modeling of gully headcut dynamics, North American high plains. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014 , 119, 983-1003	3.8	42
74	Six Myths About Mathematical Modeling in Geomorphology. <i>Geophysical Monograph Series</i> , 2013 , 63-79	1.1	16
73	A model for post-orogenic development of a mountain range and its foreland. <i>Basin Research</i> , 2013 , 25, 241-259	3.2	20
72	Frequency-dependent landscape response to climatic forcing. <i>Geophysical Research Letters</i> , 2013 , 40, 859-863	4.9	46
71	Runoff-generated debris flows: Observations and modeling of surge initiation, magnitude, and frequency. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 2190-2207	3.8	142
70	Structural inheritance and erosional controls on thrust kinematics in western Taiwan 2013 , 9, 1091-1101		1
69	Effects of riparian vegetation on topographic change during a large flood event, Rio Puerco, New Mexico, USA. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 1193-1209	3.8	31
68	Rock damage and regolith transport by frost: an example of climate modulation of the geomorphology of the critical zone. <i>Earth Surface Processes and Landforms</i> , 2013 , 38, 299-316	3.7	149
67	Field measurement of basal forces generated by erosive debris flows. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 589-602	3.8	46
66	The storage time, age, and erosion hazard of laterally accreted sediment on the floodplain of a simulated meandering river. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 1308-1319	3.8	39
65	Sediment entrainment by debris flows: In situ measurements from the headwaters of a steep catchment. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		95
64	Landscape scale linkages in critical zone evolution. <i>Comptes Rendus - Geoscience</i> , 2012 , 344, 586-596	1.4	40

63	Measuring gravel transport and dispersion in a mountain river using passive radio tracers. <i>Earth Surface Processes and Landforms</i> , 2012 , 37, 1034-1045	3.7	79
62	Geomorphic significance of postglacial bedrock scarps on normal-fault footwalls. <i>Journal of Geophysical Research</i> , 2011 , 116, n/a-n/a		48
61	Testing fluvial erosion models using the transient response of bedrock rivers to tectonic forcing in the Apennines, Italy. <i>Journal of Geophysical Research</i> , 2011 , 116,		71
60	The influence of sediment cover variability on long-term river incision rates: An example from the Peikang River, central Taiwan. <i>Journal of Geophysical Research</i> , 2011 , 116,		34
59	Linking Taiwan's subcritical Hsuehshan Range topography and foreland basin architecture. <i>Tectonics</i> , 2011 , 30, n/a-n/a	4.3	3
58	Exploring links between vadose zone hydrology and chemical weathering in the Boulder Creek critical zone observatory. <i>Applied Geochemistry</i> , 2011 , 26, S70-S71	3.5	10
57	Formation timescales of large Martian valley networks. <i>Earth and Planetary Science Letters</i> , 2011 , 312, 1-12	5.3	95
56	Incision and channel morphology across active structures along the Peikang River, central Taiwan: Implications for the importance of channel width. <i>Bulletin of the Geological Society of America</i> , 2010 , 122, 1192-1208	3.9	86
55	Evolution of a natural debris flow: In situ measurements of flow dynamics, video imagery, and terrestrial laser scanning. <i>Geology</i> , 2010 , 38, 735-738	5	108
54	Trouble with diffusion: Reassessing hillslope erosion laws with a particle-based model. <i>Journal of Geophysical Research</i> , 2010 , 115,		74
53	Fractional dispersion in a sand bed river. <i>Journal of Geophysical Research</i> , 2010 , 115,		86
52	Does climate change create distinctive patterns of landscape incision?. <i>Journal of Geophysical Research</i> , 2010 , 115,		62
51	Controls and limits on bedrock channel geometry. <i>Journal of Geophysical Research</i> , 2010 , 115,		97
50	Modeling the response of the Rhine-Meuse fluvial system to Late Pleistocene climate change. <i>Geomorphology</i> , 2010 , 114, 440-452	4.3	49
49	How rivers react to large earthquakes: Evidence from central Taiwan. <i>Geology</i> , 2010 , 38, 639-642	5	95
48	Modelling landscape evolution. <i>Earth Surface Processes and Landforms</i> , 2010 , 35, 28-50	3.7	335
47	Natural experiments in landscape evolution. <i>Earth Surface Processes and Landforms</i> , 2009 , 34, 1450-1460	3.7	56
46	Numerical and analytical models of cosmogenic radionuclide dynamics in landslide-dominated drainage basins. <i>Journal of Geophysical Research</i> , 2009 , 114,		113

45	Modeling fluvial incision and transient landscape evolution: Influence of dynamic channel adjustment. <i>Journal of Geophysical Research</i> , 2008 , 113,		113
44	Modeling the evolution of channel shape: Balancing computational efficiency with hydraulic fidelity. <i>Journal of Geophysical Research</i> , 2008 , 113,		27
43	Decoding temporal and spatial patterns of fault uplift using transient river long profiles. <i>Geomorphology</i> , 2008 , 100, 506-526	4.3	157
42	Modelling cockpit karst landforms. <i>Geological Society Special Publication</i> , 2008 , 296, 47-62	1.7	6
41	New constraints on sediment-flux-dependent river incision: Implications for extracting tectonic signals from river profiles. <i>Geology</i> , 2008 , 36, 535	5	102
40	Numerical Predictions of the Sensitivity of Grain Size and Channel Slope to an Increase in Precipitation 2008 , 367-394		3
39	The use of GIS-based digital morphometric techniques in the study of cockpit karst. <i>Earth Surface Processes and Landforms</i> , 2007 , 32, 165-179	3.7	33
38	Contrasting transient and steady-state rivers crossing active normal faults: new field observations from the Central Apennines, Italy. <i>Basin Research</i> , 2007 , 19, 529-556	3.2	106
37	Bedrock channel adjustment to tectonic forcing: Implications for predicting river incision rates. <i>Geology</i> , 2007 , 35, 103	5	190
36	The importance of the catchment area-length relationship in governing non-steady state hydrology, optimal junction angles and drainage network pattern. <i>Geomorphology</i> , 2007 , 88, 84-108	4.3	14
35	Statistical treatment of fluvial dose distributions from southern Colorado arroyo deposits. <i>Quaternary Geochronology</i> , 2007 , 2, 162-167	2.7	152
34	A simple algorithm for the mapping of TIN data onto a static grid: Applied to the stratigraphic simulation of river meander deposits. <i>Computers and Geosciences</i> , 2006 , 32, 749-766	4.5	13
33	Geoarchaeological simulation of meandering river deposits and settlement distributions: A three-dimensional approach. <i>Geoarchaeology - an International Journal</i> , 2006 , 21, 843-874	1.4	35
32	Headwater channel dynamics in semiarid rangelands, Colorado high plains, USA. <i>Bulletin of the Geological Society of America</i> , 2006 , 118, 959-974	3.9	48
31	Self-formed bedrock channels. <i>Geophysical Research Letters</i> , 2006 , 33, n/a-n/a	4.9	64
30	Correction to Self-formed bedrock channels <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	2
29	Investigating the surface process response to fault interaction and linkage using a numerical modelling approach. <i>Basin Research</i> , 2006 , 18, 231-266	3.2	94
28	Implications of bank failures and fluvial erosion for gully development: Field observations and modeling. <i>Journal of Geophysical Research</i> , 2005 , 110,		44

27	Drainage basin sensitivity to tectonic and climatic forcing: implications of a stochastic model for the role of entrainment and erosion thresholds. <i>Earth Surface Processes and Landforms</i> , 2004 , 29, 185-205	3.7	217
26	Network-scale dynamics of grain-size sorting: implications for downstream fining, stream-profile concavity, and drainage basin morphology. <i>Earth Surface Processes and Landforms</i> , 2004 , 29, 401-421	3.7	67
25	Modeling the effects of vegetation-erosion coupling on landscape evolution. <i>Journal of Geophysical Research</i> , 2004 , 109,		96
24	Effect of limited storm duration on landscape evolution, drainage basin geometry, and hydrograph shapes. <i>Journal of Geophysical Research</i> , 2004 , 109,		41
23	Implications of the shear stress river incision model for the timescale of postorogenic decay of topography. <i>Journal of Geophysical Research</i> , 2003 , 108,		91
22	Importance of a stochastic distribution of floods and erosion thresholds in the bedrock river incision problem. <i>Journal of Geophysical Research</i> , 2003 , 108,		136
21	Correction to Importance of a stochastic distribution of floods and erosion thresholds in the bedrock river incision problem. <i>Journal of Geophysical Research</i> , 2003 , 108,		8
20	Optical dating of potassium feldspar using far-red (665nm) IRSL emissions: a comparative study using fluvial sediments from the Loire River, France. <i>Quaternary Science Reviews</i> , 2003 , 22, 1093-1098	3.9	6
19	Channel response to tectonic forcing: field analysis of stream morphology and hydrology in the Mendocino triple junction region, northern California. <i>Geomorphology</i> , 2003 , 53, 97-127	4.3	178
18	Channel network morphology and sediment dynamics under alternating periglacial and temperate regimes: a numerical simulation study. <i>Geomorphology</i> , 2003 , 54, 257-277	4.3	46
17	Interactions between onshore bedrock-channel incision and nearshore wave-base erosion forced by eustasy and tectonics. <i>Basin Research</i> , 2002 , 14, 105-127	3.2	43
16	Topographic outcomes predicted by stream erosion models: Sensitivity analysis and intermodel comparison. <i>Journal of Geophysical Research</i> , 2002 , 107, ETG 1-1-ETG 1-16		279
15	Implications of sediment-flux-dependent river incision models for landscape evolution. <i>Journal of Geophysical Research</i> , 2002 , 107, ETG 3-1		421
14	Climate, exposed source-rock lithologies, crustal uplift and surface erosion: a theoretical analysis calibrated with data from the Alps/North Alpine Foreland Basin system. <i>International Journal of Earth Sciences</i> , 2001 , 90, 484-499	2.2	54
13	A quantitative evaluation of Playfair's law and its use in testing long-term stream erosion models. <i>Earth Surface Processes and Landforms</i> , 2001 , 26, 1317-1332	3.7	104
12	An object-oriented framework for distributed hydrologic and geomorphic modeling using triangulated irregular networks. <i>Computers and Geosciences</i> , 2001 , 27, 959-973	4.5	187
11	The Channel-Hillslope Integrated Landscape Development Model (CHILD) 2001 , 349-388		151
10	Statistical analysis of drainage density from digital terrain data. <i>Geomorphology</i> , 2001 , 36, 187-202	4.3	156

9	A stochastic approach to modeling the role of rainfall variability in drainage basin evolution. <i>Water Resources Research</i> , 2000 , 36, 1953-1964	5-4	246
8	Landscape response to tectonic forcing: Digital elevation model analysis of stream profiles in the Mendocino triple junction region, northern California. <i>Bulletin of the Geological Society of America</i> , 2000 , 112, 1250-1263	3-9	618
7	Downstream fining through selective particle sorting in an equilibrium drainage network. <i>Geology</i> , 1999 , 27, 1079	5	75
6	Dynamics of the stream-power river incision model: Implications for height limits of mountain ranges, landscape response timescales, and research needs. <i>Journal of Geophysical Research</i> , 1999 , 104, 17661-17674		1289
5	Hillslope processes, drainage density, and landscape morphology. <i>Water Resources Research</i> , 1998 , 34, 2751-2764	5-4	417
4	Drainage basin responses to climate change. <i>Water Resources Research</i> , 1997 , 33, 2031-2047	5-4	402
3	Predicting sediment flux from fold and thrust belts. <i>Basin Research</i> , 1996 , 8, 329-349	3-2	176
2	Erosional dynamics, flexural isostasy, and long-lived escarpments: A numerical modeling study. <i>Journal of Geophysical Research</i> , 1994 , 99, 12229-12243		345
1	CellLab-CTS 2015: a Python library for continuous-time stochastic cellular automaton modeling using Landlab		1