Jon D Pelletier

List of Publications by Year
in descending order

125	6,437	81900 39	74163 75
papers	citations	h-index	g-index

134	134	134	8139
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Quantification and classification of grainflow morphology on natural dunes. Earth Surface Processes and Landforms, 2022, 47, 1808-1819.	2.5	4
2	An algorithm to reduce a river network or other graph-like polygon to a set of lines. Computers and Geosciences, 2020, 145, 104554.	4.2	4
3	Earth surface modeling for education: How effective is it? Four semesters of classroom tests with WILSIMâ€GC. British Journal of Educational Technology, 2019, 50, 1462-1481.	6.3	0
4	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. Journal of Advances in Modeling Earth Systems, 2019, 11, 4245-4287.	3.8	692
5	Selfâ€Affine Fractal Spatial and Temporal Variability of the San Pedro River, Southern Arizona. Journal of Geophysical Research F: Earth Surface, 2019, 124, 1540-1558.	2.8	4
6	Hillslope Hydrology in Global Change Research and Earth System Modeling. Water Resources Research, 2019, 55, 1737-1772.	4.2	281
7	Controls on Yardang Development and Morphology: 1. Field Observations and Measurements at Ocotillo Wells, California. Journal of Geophysical Research F: Earth Surface, 2018, 123, 694-722.	2.8	17
8	Controls on Yardang Development and Morphology: 2. Numerical Modeling. Journal of Geophysical Research F: Earth Surface, 2018, 123, 723-743.	2.8	15
9	A net ecosystem carbon budget for snow dominated forested headwater catchments: linking water and carbon fluxes to critical zone carbon storage. Biogeochemistry, 2018, 138, 225-243.	3.5	17
10	Which way do you lean? Using slope aspect variations to understand Critical Zone processes and feedbacks. Earth Surface Processes and Landforms, 2018, 43, 1133-1154.	2.5	70
11	Signatures of Obliquity and Eccentricity in Soil Chronosequences. Geophysical Research Letters, 2018, 45, 11,147.	4.0	4
12	Controls on the aerodynamic roughness length and the grainâ€size dependence of aeolian sediment transport. Earth Surface Processes and Landforms, 2018, 43, 2616-2626.	2.5	30
13	Why Do Largeâ€Scale Land Surface Models Produce a Low Ratio of Transpiration to Evapotranspiration?. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9109-9130.	3.3	47
14	CO₂diffusion into pore spaces limits weathering rate of an experimental basalt landscape. Geology, 2017, 45, 203-206.	4.4	13
15	Quantifying geomorphic change at ephemeral stream restoration sites using a coupled-model approach. Geomorphology, 2017, 283, 1-16.	2.6	25
16	Asymmetry of weatheringâ€limited hillslopes: the importance of diurnal covariation in solar insolation and temperature. Earth Surface Processes and Landforms, 2017, 42, 1408-1418.	2.5	13
17	Coevolution of soil and topography across a semiarid cinder cone chronosequence. Catena, 2017, 156, 338-352.	5.0	12
18	Geochemical evolution of the <scp>C</scp>ritical <scp>Z</scp>one across variable time scales informs concentrationâ€discharge relationships: <scp>J</scp>emez <scp>R</scp>iver <scp>B</scp>asin <scp>C</scp>ritical <scp>Z</scp>one <scp>O</scp>bservatory. Water Resources Research, 2017, 53, 4169-4196.	4.2	57

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19	A probabilistic approach to quantifying soil physical properties via time-integrated energy and mass input. Soil, 2017, 3, 67-82.	4.9	5
20	Quantifying the controls on potential soil production rates: a case study of the San Gabriel Mountains, California. Earth Surface Dynamics, 2017, 5, 479-492.	2.4	8
21	The influence of Holocene vegetation changes on topography and erosion rates: a case study at Walnut Gulch Experimental Watershed, Arizona. Earth Surface Dynamics, 2016, 4, 471-488.	2.4	14
22	Predicting the roughness length of turbulent flows over landscapes with multi-scale microtopography. Earth Surface Dynamics, 2016, 4, 391-405.	2.4	15
23	The predominance of postâ€wildfire erosion in the longâ€term denudation of the Valles Caldera, New Mexico. Journal of Geophysical Research F: Earth Surface, 2016, 121, 843-864.	2.8	30
24	Controls on valley spacing in landscapes subject to rapid baseâ€level fall. Earth Surface Processes and Landforms, 2016, 41, 460-472.	2.5	29
25	Topographic correlations with soil and regolith thickness from shallowâ€seismic refraction constraints across upland hillslopes in the Valles Caldera, New Mexico. Earth Surface Processes and Landforms, 2016, 41, 1684-1696.	2.5	22
26	Colloids and organic matter complexation control trace metal concentration-discharge relationships in Marshall Gulch stream waters. Water Resources Research, 2016, 52, 7931-7944.	4.2	45
27	A gridded global data set of soil, intact regolith, and sedimentary deposit thicknesses for regional and global land surface modeling. Journal of Advances in Modeling Earth Systems, 2016, 8, 41-65.	3.8	161
28	Implementing and Evaluating Variable Soil Thickness in the Community Land Model, Version 4.5 (CLM4.5). Journal of Climate, 2016, 29, 3441-3461.	3.2	49
29	Scaling GIS analysis tasks from the desktop to the cloud utilizing contemporary distributed computing and data management approaches. , 2016, , .		3
30	Testing the hybridâ€3â€D hillslope hydrological model in a controlled environment. Water Resources Research, 2016, 52, 1089-1107.	4.2	18
31	Constraining frequencyâ€“magnitudeâ€“area relationships for rainfall and flood discharges using radar-derived precipitation estimates: example applications in the Upper and Lower Colorado River basins, USA. Hydrology and Earth System Sciences, 2016, 20, 4483-4501.	4.9	1
32	Dynamics of sediment storage and release on aeolian dune slip faces: A field study in Jericoacoara, Brazil. Journal of Geophysical Research F: Earth Surface, 2015, 120, 1911-1934.	2.8	17
33	Self-affinity and surface-area-dependent fluctuations of lake-level time series. Water Resources Research, 2015, 51, 7258-7269.	4.2	9
34	A hybridâ€3D hillslope hydrological model for use in <scp>E</scp>arth system models. Water Resources Research, 2015, 51, 8218-8239.	4.2	41
35	Critical Zone Services: Expanding Context, Constraints, and Currency beyond Ecosystem Services. Vadose Zone Journal, 2015, 14, vzj2014.10.0142.	2.2	60
36	Forecasting the response of Earth's surface to future climatic and land use changes: A review of methods and research needs. Earth's Future, 2015, 3, 220-251.	6.3	98

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37	Decadal-scale soil redistribution along hillslopes in the Mojave Desert. Earth Surface Dynamics, 2015, 3, 251-264.	2.4	3
38	Quantifying Topographic and Vegetation Effects on the Transfer of Energy and Mass to the Critical Zone. Vadose Zone Journal, 2015, 14, 1-16.	2.2	37
39	Laser vision: lidar as a transformative tool to advance critical zone science. Hydrology and Earth System Sciences, 2015, 19, 2881-2897.	4.9	37
40	Controls on the geometry of potholes in bedrock channels. Geophysical Research Letters, 2015, 42, 797-803.	4.0	27
41	Controls on the largeâ€scale spatial variations of dune field properties in the barchanoid portion of White Sands dune field, New Mexico. Journal of Geophysical Research F: Earth Surface, 2015, 120, 453-473.	2.8	15
42	The Landscape Evolution Observatory: A large-scale controllable infrastructure to study coupled Earth-surface processes. Geomorphology, 2015, 244, 190-203.	2.6	47
43	Geomorphic imprints of repeated tsunami waves in a coastal valley in northeastern Japan. Geomorphology, 2015, 242, 3-10.	2.6	12
44	From dust to dust: Quaternary wind erosion of the Mu Us Desert and Loess Plateau, China. Geology, 2015, 43, 835-838.	4.4	39
45	Quantifying the time scale of elevated geomorphic response following wildfires using multi-temporal LiDAR data: An example from the Las Conchas fire, Jemez Mountains, New Mexico. Geomorphology, 2015, 232, 224-238.	2.6	33
46	Rare earth elements as reactive tracers of biogeochemical weathering in forested rhyolitic terrain. Chemical Geology, 2015, 391, 19-32.	3.3	67
47	Incipient subsurface heterogeneity and its effect on overland flow generation â€“ insight from a modeling study of the first experiment at the Biosphere 2 Landscape Evolution Observatory. Hydrology and Earth System Sciences, 2014, 18, 1873-1883.	4.9	29
48	Hillslope-scale experiment demonstrates the role of convergence during two-step saturation. Hydrology and Earth System Sciences, 2014, 18, 3681-3692.	4.9	31
49	Assessing Ability to Forecast Geomorphic System Responses to Climate and Land-Use Changes. Eos, 2014, 95, 3-3.	0.1	0
50	Development of topographic asymmetry: Insights from dated cinder cones in the western United States. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1725-1750.	2.8	35
51	How do sediment yields from postâ€wildfire debrisâ€laden flows depend on terrain slope, soil burn severity class, and drainage basin area? Insights from airborneâ€LiDAR change detection. Earth Surface Processes and Landforms, 2014, 39, 1822-1832.	2.5	62
52	An integrated modelling framework of catchmentâ€scale ecohydrological processes: 2. The role of water subsidy by overland flow on vegetation dynamics in a semiâ€arid catchment. Ecohydrology, 2014, 7, 815-827.	2.4	20
53	Multiscale bed form interactions and their implications for the abruptness and stability of the downwind dune field margin at White Sands, New Mexico, USA. Journal of Geophysical Research F: Earth Surface, 2014, 119, 2396-2411.	2.8	11
54	The linkages among hillslope-vegetation changes, elevation, and the timing of late-Quaternary fluvial-system aggradation in the Mojave Desert revisited. Earth Surface Dynamics, 2014, 2, 455-468.	2.4	18

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55	Relationships between debris fan morphology and flow rheology for wet and dry flows on Earth and Mars: A numerical modeling investigation. Geomorphology, 2013, 197, 145-155.	2.6	3
56	2.3 Fundamental Principles and Techniques of Landscape Evolution Modeling. , 2013, , 29-43.		7
57	A robust, twoâ€parameter method for the extraction of drainage networks from highâ€resolution digital elevation models (<scp>DEMs</scp>): Evaluation using synthetic and realâ€world <scp>DEMs</scp>. Water Resources Research, 2013, 49, 75-89.	4.2	126
58	Cosmogenic 3He age estimates of Plio-Pleistocene alluvial-fan surfaces in the Lower Colorado River Corridor, Arizona, USA. Quaternary Research, 2013, 79, 86-99.	1.7	7
59	Predicting the thickness and aeolian fraction of soils in upland watersheds of the Mojave Desert. Geoderma, 2013, 195-196, 94-110.	5.1	23
60	Controls on the spacing and geometry of rill networks on hillslopes: Rain splash detachment, initial hillslope roughness, and the competition between fluvial and colluvial transport. Journal of Geophysical Research F: Earth Surface, 2013, 118, 241-256.	2.8	48
61	Deviations from self-similarity in barchan form and flux: The case of the Salton Sea dunes, California. Journal of Geophysical Research F: Earth Surface, 2013, 118, 2406-2420.	2.8	14
62	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.	2.8	76
63	Fundamental Principles and Techniques of Landscape Evolution Modeling. , 2013, , 27-42.		0
64	A spatially distributed model for the longâ€term suspended sediment discharge and delivery ratio of drainage basins. Journal of Geophysical Research, 2012, 117, .	3.3	90
65	Analytic solution for the morphology of a soil-mantled valley undergoing steady headward growth: Validation using case studies in southeastern Arizona. Journal of Geophysical Research, 2012, 117, n/a-n/a.	3.3	10
66	How do vegetation bands form in dry lands? Insights from numerical modeling and field studies in southern Nevada, USA. Journal of Geophysical Research, 2012, 117, .	3.3	16
67	Fluvial and slopeâ€wash erosion of soilâ€mantled landscapes: detachmentâ€or transportâ€limited?. Earth Surface Processes and Landforms, 2012, 37, 37-51.	2.5	60
68	The role of weathering in the formation of bedrock valleys on Earth and Mars: A numerical modeling investigation. Journal of Geophysical Research, 2011, 116, .	3.3	22
69	Calibration and testing of upland hillslope evolution models in a dated landscape: Banco Bonito, New Mexico. Journal of Geophysical Research, 2011, 116, .	3.3	28
70	An open system framework for integrating critical zone structure and function. Biogeochemistry, 2011, 102, 15-29.	3.5	103
71	How Water, Carbon, and Energy Drive Critical Zone Evolution: The Jemezâ€“Santa Catalina Critical Zone Observatory. Vadose Zone Journal, 2011, 10, 884-899.	2.2	111
72	Widespread hillslope gullying on the southeastern Tibetan Plateau: Human or climate-change induced?. Bulletin of the Geological Society of America, 2011, 123, 1926-1938.	3.3	14

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73	Wind erosion in the Qaidam basin, central Asia: Implications for tectonics, paleoclimate, and the source of the Loess Plateau. GSA Today, 2011, 21, 4-10.	2.0	593
74	Modeling the formation of bright slope deposits associated with gullies in Hale Crater, Mars: Implications for recent liquid water. Icarus, 2010, 205, 113-137.	2.5	39
75	Investigating gully flow emplacement mechanisms using apex slopes. Icarus, 2010, 208, 132-142.	2.5	29
76	How do pediments form?: A numerical modeling investigation with comparison to pediments in southern Arizona, USA. Bulletin of the Geological Society of America, 2010, 122, 1815-1829.	3.3	24
77	Numerical modeling of the late Cenozoic geomorphic evolution of Grand Canyon, Arizona. Bulletin of the Geological Society of America, 2010, 122, 595-608.	3.3	30
78	Relationships among climate, erosion, topography, and delamination in the Andes: A numerical modeling investigation. Geology, 2010, 38, 259-262.	4.4	14
79	Controls of glacial valley spacing on earth and mars. Geomorphology, 2010, 116, 189-201.	2.6	23
80	Minimizing the grid-resolution dependence of flow-routing algorithms for geomorphic applications. Geomorphology, 2010, 122, 91-98.	2.6	36
81	Wind-driven reorganization of coarse clasts on the surface of Mars. Geology, 2009, 37, 55-58.	4.4	3
82	Tectonic and structural control of fluvial channel morphology in metamorphic core complexes: The example of the Catalina-Rincon core complex, Arizona. , 2009, 5, 363-384.		18
83	The effects of interdune vegetation changes on eolian dune field evolution: a numericalâ€modeling case study at Jockey's Ridge, North Carolina, USA. Earth Surface Processes and Landforms, 2009, 34, 1245-1254.	2.5	43
84	Geomorphology, complexity, and the emerging science of the Earth's surface. Geomorphology, 2009, 103, 496-505.	2.6	120
85	Controls on the height and spacing of eolian ripples and transverse dunes: A numerical modeling investigation. Geomorphology, 2009, 105, 322-333.	2.6	55
86	Geomorphically based predictive mapping of soil thickness in upland watersheds. Water Resources Research, 2009, 45, .	4.2	115
87	Quantifying the climatic and tectonic controls on hillslope steepness and erosion rate. Lithosphere, 2009, 1, 73-80.	1.4	52
88	Evaluating suitability of a tephra dispersal model as part of a risk assessment framework. Journal of Volcanology and Geothermal Research, 2008, 177, 397-404.	2.1	3
89	Dispersion of channel-sediment contaminants in distributary fluvial systems: Application to fluvial tephra and radionuclide redistribution following a potential volcanic eruption at Yucca Mountain. Geomorphology, 2008, 94, 226-246.	2.6	6
90	Crack propagation by differential insolation on desert surface clasts. Geomorphology, 2008, 102, 472-481.	2.6	56

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91	Recent bright gully deposits on Mars: Wet or dry flow?. Geology, 2008, 36, 211.	4.4	124
92	Glacial erosion and mountain building. Geology, 2008, 36, 591.	4.4	11
93	Bedrock landscape development modeling: Calibration using field study, geochronology, and digital elevation model analysis. Bulletin of the Geological Society of America, 2007, 119, 157-173.	3.3	15
94	Erosion-rate determination from foreland basin geometry. Geology, 2007, 35, 5.	4.4	15
95	Cantor set model of eolian dust deposits on desert alluvial fan terraces. Geology, 2007, 35, 439.	4.4	19
96	Numerical modeling of the Cenozoic geomorphic evolution of the southern Sierra Nevada, California. Earth and Planetary Science Letters, 2007, 259, 85-96.	4.4	35
97	Fractal behavior in space and time in a simplified model of fluvial landform evolution. Geomorphology, 2007, 91, 291-301.	2.6	27
98	Nonlinear slope-dependent sediment transport in cinder cone evolution. Geology, 2007, 35, 1067.	4.4	31
99	Desert pavement dynamics: numerical modeling and field-based calibration. Earth Surface Processes and Landforms, 2007, 32, 1913-1927.	2.5	41
100	Eocene to recent variations in erosion across the central Andean fold-thrust belt, northern Bolivia: Implications for plateau evolution. Earth and Planetary Science Letters, 2006, 248, 118-133.	4.4	80
101	Evolution of the Bonneville shoreline scarp in west-central Utah: Comparison of scarp-analysis methods and implications for the diffusion model of hillslope evolution. Geomorphology, 2006, 74, 257-270.	2.6	40
102	Sensitivity of playa windblown-dust emissions to climatic and anthropogenic change. Journal of Arid Environments, 2006, 66, 62-75.	2.4	31
103	Deposition of playa windblown dust over geologic time scales. Geology, 2005, 33, 909.	4.4	27
104	Mountains, monsoons, and megafans. Geology, 2005, 33, 289.	4.4	209
105	An integrated approach to flood hazard assessment on alluvial fans using numerical modeling, field mapping, and remote sensing. Bulletin of the Geological Society of America, 2005, 117, 1167.	3.3	57
106	How do spiral troughs form on Mars?. Geology, 2004, 32, 365.	4.4	13
107	Correlation and dating of Quaternary alluvial-fan surfaces using scarp diffusion. Geomorphology, 2004, 60, 319-335.	2.6	24
108	Oscillations in arid alluvial-channel geometry. Geology, 2004, 32, 713.	4.4	21

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109	Estimate of three-dimensional flexural-isostatic response to unloading: Rock uplift due to late Cenozoic glacial erosion in the western United States. Geology, 2004, 32, 161.	4.4	29
110	Drainage basin evolution in the Rainfall Erosion Facility: dependence on initial conditions. Geomorphology, 2003, 53, 183-196.	2.6	92
111	Spring-block models of seismicity: Review and analysis of a structurally heterogeneous model coupled to a viscous asthenosphere. Geophysical Monograph Series, 2000, , 27-42.	0.1	16
112	Model Assessments of the Optimal Design of Nature Reserves for Maximizing Species Longevity. Journal of Theoretical Biology, 2000, 202, 25-32.	1.7	13
113	Are large complex ecosystems more unstable? A theoretical reassessment with predator switching. Mathematical Biosciences, 2000, 163, 91-96.	1.9	30
114	Species-Area Relation and Self-Similarity in a Biogeographical Model of Speciation and Extinction. Physical Review Letters, 1999, 82, 1983-1986.	7.8	17
115	Paleointensity variations of Earth's magnetic field and their relationship with polarity reversals. Physics of the Earth and Planetary Interiors, 1999, 110, 115-128.	1.9	11
116	Statistical self-similarity of magmatism and volcanism. Journal of Geophysical Research, 1999, 104, 15425-15438.	3.3	25
117	Self-Affine Time Series: II. Applications and Models. Advances in Geophysics, 1999, 40, 91-166.	2.8	80
118	Networks with Side Branching in Biology. Journal of Theoretical Biology, 1998, 193, 577-592.	1.7	117
119	The power spectral density of atmospheric temperature from time scales of 10â^'2 to 106 yr. Earth and Planetary Science Letters, 1998, 158, 157-164.	4.4	77
120	Analysis and Modeling of the Natural Variability of Climate. Journal of Climate, 1997, 10, 1331-1342.	3.2	112
121	Kardar-Parisi-Zhang Scaling of the Height of the Convective Boundary Layer and Fractal Structure of Cumulus Cloud Fields. Physical Review Letters, 1997, 78, 2672-2675.	7.8	30
122	Long-range persistence in climatological and hydrological time series: analysis, modeling and application to drought hazard assessment. Journal of Hydrology, 1997, 203, 198-208.	5.4	190
123	Scale-invariance of soil moisture variability and its implications for the frequency-size distribution of landslides. Engineering Geology, 1997, 48, 255-268.	6.3	196
124	Variations in Solar Luminosity from Timescales of Minutes to Months. Astrophysical Journal, 1996, 463, L41-L45.	4.5	4
125	Controlled Experiments of Hillslope Coevolution at the Biosphere 2 Landscape Evolution Observatory: Toward Prediction of Coupled Hydrological, Biogeochemical, and Ecological Change. , 0, , .		9