

Chris Paola

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144
papers

10,077
citations

55
h-index

98
g-index

152
ext. papers

11,072
ext. citations

5.6
avg, IF

6.35
L-index

#	Paper	IF	Citations
144	The large-scale dynamics of grain-size variation in alluvial basins, 1: Theory. <i>Basin Research</i> , 1992 , 4, 73-90	9.2	435
143	A cellular model of braided rivers. <i>Nature</i> , 1994 , 371, 54-57	50.4	364
142	Dynamic single-thread channels maintained by the interaction of flow and vegetation. <i>Geology</i> , 2007 , 35, 347	5	331
141	Quantitative models of sedimentary basin filling. <i>Sedimentology</i> , 2000 , 47, 121-178	3.3	327
140	The "unreasonable effectiveness" of stratigraphic and geomorphic experiments. <i>Earth-Science Reviews</i> , 2009 , 97, 1-43	10.2	325
139	Shredding of environmental signals by sediment transport. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	312
138	Physical basis for quasi-universal relations describing bankfull hydraulic geometry of single-thread gravel bed rivers. <i>Journal of Geophysical Research</i> , 2007 , 112,		284
137	Riparian vegetation controls on braided stream dynamics. <i>Water Resources Research</i> , 2001 , 37, 3275-3283	3.4	266
136	Interpreting avulsion process from ancient alluvial sequences: Guadalupe-Matarranya system (northern Spain) and Wasatch Formation (western Colorado). <i>Bulletin of the Geological Society of America</i> , 2000 , 112, 1787	3.9	247
135	Effects of vegetation on channel morphodynamics: results and insights from laboratory experiments. <i>Earth Surface Processes and Landforms</i> , 2010 , 35, 1014-1028	3.7	242
134	Two-phase stratigraphic model of foreland-basin sequences. <i>Geology</i> , 1988 , 16, 501	5	237
133	Experimental study of avulsion frequency and rate of deposition. <i>Geology</i> , 1995 , 23, 365	5	233
132	A new framework for modeling the migration of meandering rivers. <i>Earth Surface Processes and Landforms</i> , 2011 , 36, 70-86	3.7	219
131	Natural processes in delta restoration: application to the Mississippi Delta. <i>Annual Review of Marine Science</i> , 2011 , 3, 67-91	15.4	199
130	Modelling the effect of vegetation on channel pattern in bedload rivers. <i>Earth Surface Processes and Landforms</i> , 2003 , 28, 131-143	3.7	199
129	Grain Size Patchiness as a Cause of Selective Deposition and Downstream Fining. <i>Water Resources Research</i> , 1995 , 31, 1395-1407	5.4	195
128	Downstream fining by selective deposition in a laboratory flume. <i>Science</i> , 1992 , 258, 1757-60	33.3	179

127	Alluvial Fans Formed by Channelized Fluvial and Sheet Flow. I: Theory. <i>Journal of Hydraulic Engineering</i> , 1998 , 124, 985-995	1.8	167
126	A generalized Exner equation for sediment mass balance. <i>Journal of Geophysical Research</i> , 2005 , 110, n/a-n/a		163
125	Is It Feasible to Build New Land in the Mississippi River Delta?. <i>Eos</i> , 2009 , 90, 373-374	1.5	151
124	Properties of a cellular braided-stream model. <i>Earth Surface Processes and Landforms</i> , 1997 , 22, 1001-1037	3.7	139
123	Numerical simulation of aggradation and downstream fining. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 1996 , 34, 185-204	1.9	138
122	Compensational Stacking of Channelized Sedimentary Deposits. <i>Journal of Sedimentary Research</i> , 2009 , 79, 673-688	2.1	136
121	Reconstructing random topography from preserved stratification. <i>Sedimentology</i> , 1991 , 38, 553-565	3.3	136
120	Assembling the stratigraphic record: depositional patterns and time-scales in an experimental alluvial basin. <i>Basin Research</i> , 2002 , 14, 287-301	3.2	129
119	Palaeohydraulics revisited: palaeoslope estimation in coarse-grained braided rivers. <i>Basin Research</i> , 1996 , 8, 243-254	3.2	127
118	Channel Dynamics, Sediment Transport, and the Slope of Alluvial Fans: Experimental Study. <i>Journal of Geology</i> , 1998 , 106, 677-694	2	126
117	Fluvio-deltaic sedimentation: A generalized Stefan problem. <i>European Journal of Applied Mathematics</i> , 2000 , 11, 433-452	1	122
116	Landscape instability in an experimental drainage basin. <i>Geology</i> , 2000 , 28, 1067	5	122
115	Secondary flow in anabranch confluences of a braided, gravel-bed stream. <i>Earth Surface Processes and Landforms</i> , 1992 , 17, 299-311	3.7	120
114	Valleys That Never Were: Time Surfaces Versus Stratigraphic Surfaces. <i>Journal of Sedimentary Research</i> , 2008 , 78, 579-593	2.1	115
113	Dynamics of channel bifurcations in noncohesive sediments. <i>Water Resources Research</i> , 2003 , 39,	5.4	113
112	Experiments on Downstream Fining of Gravel: I. Narrow-Channel Runs. <i>Journal of Hydraulic Engineering</i> , 1997 , 123, 874-884	1.8	109
111	Fluvial and marine controls on combined subaerial and subaqueous delta progradation: Morphodynamic modeling of compound-clinoform development. <i>Journal of Geophysical Research</i> , 2005 , 110,		107
110	Battling to Save the World's River Deltas. <i>Bulletin of the Atomic Scientists</i> , 2009 , 65, 31-43	1.6	103

109	Upper-regime parallel lamination as the result of turbulent sediment transport and low-amplitude bed forms. <i>Sedimentology</i> , 1989 , 36, 47-59	3.3	100
108	Transfer function for the deposition of poorly sorted gravel in response to streambed aggradation. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 1996 , 34, 35-53	1.9	94
107	The large-scale dynamics of grain-size variation in alluvial basins, 2: Application to syntectonic conglomerate. <i>Basin Research</i> , 1992 , 4, 91-102	3.2	91
106	Riparian vegetation as a primary control on channel characteristics in multi-thread rivers. <i>Water Science and Application</i> , 2004 , 43-58		89
105	Monitoring River-Channel Change Using Terrestrial Oblique Digital Imagery and Automated Digital Photogrammetry. <i>Annals of the American Association of Geographers</i> , 2002 , 92, 631-644		87
104	Experimental Stratigraphy. <i>GSA Today</i> , 2001 , 11, 4	2.8	79
103	Shoreline response to autogenic processes of sediment storage and release in the fluvial system. <i>Journal of Geophysical Research</i> , 2006 , 111,		72
102	Quantitative metrics that describe river deltas and their channel networks. <i>Journal of Geophysical Research</i> , 2011 , 116,		71
101	Observations of Downstream Fining on the North Fork Toutle River Near Mount St. Helens, Washington. <i>Water Resources Research</i> , 1995 , 31, 1409-1419	5.4	71
100	Toward a unified science of the Earth's surface: Opportunities for synthesis among hydrology, geomorphology, geochemistry, and ecology. <i>Water Resources Research</i> , 2006 , 42,	5.4	70
99	Experiments on upstream-migrating erosional narrowing and widening of an incisional channel caused by dam removal. <i>Water Resources Research</i> , 2004 , 40,	5.4	65
98	A two-diffusion model of fluvial stratigraphy in closed depositional basins. <i>Basin Research</i> , 2000 , 12, 381-398	3.9	65
97	Experimental Measurement of the Relative Importance of Controls on Shoreline Migration. <i>Journal of Sedimentary Research</i> , 2006 , 76, 270-283	2.1	62
96	Numerical model linking bed and bank evolution of incisional channel created by dam removal. <i>Water Resources Research</i> , 2007 , 43,	5.4	61
95	Experimental Steep, Braided Flow: Application to Flooding Risk on Fans. <i>Journal of Hydraulic Engineering</i> , 2002 , 128, 322-330	1.8	61
94	River channel lateral mobility: metrics, time scales, and controls. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 396-412	3.8	58
93	Similarity solutions for fluvial sediment fining by selective deposition. <i>Journal of Geophysical Research</i> , 2007 , 112,		58
92	Fluvial fan deltas: Linking channel processes with large-scale morphodynamics. <i>Water Resources Research</i> , 2002 , 38, 26-1-26-10	5.4	57

91	Sequence stratigraphy of experimental strata under known conditions of differential subsidence and variable base level. <i>AAPG Bulletin</i> , 2009 , 93, 503-533	2.5	56
90	Delta allometry: Growth laws for river deltas. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	55
89	Experimental Test of Tectonic Controls on Three-Dimensional Alluvial Facies Architecture. <i>Journal of Sedimentary Research</i> , 2005 , 75, 710-722	2.1	54
88	Geomorphic signatures of deltaic processes and vegetation: The Ganges-Brahmaputra-Jamuna case study. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 1838-1849	3.8	53
87	Space-time dynamics of depositional systems: Experimental evidence and theoretical modeling of heavy-tailed statistics. <i>Journal of Geophysical Research</i> , 2011 , 116,		53
86	Long-period cyclic sedimentation with constant tectonic forcing in an experimental relay ramp. <i>Geology</i> , 2007 , 35, 331	5	53
85	Influence of steady base-level rise on channel mobility, shoreline migration, and scaling properties of a cohesive experimental delta. <i>Journal of Geophysical Research</i> , 2009 , 114,		50
84	Effects of tectonic deformation and sea level on river path selection: Theory and application to the Ganges-Brahmaputra-Meghna River Delta. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015 , 120, 671-689	3.8	48
83	A reduced-complexity model for river delta formation [Part 1: Modeling deltas with channel dynamics. <i>Earth Surface Dynamics</i> , 2015 , 3, 67-86	3.8	47
82	Bias and precision of percentiles of bulk grain size distributions. <i>Earth Surface Processes and Landforms</i> , 1997 , 22, 1061-1077	3.7	43
81	Experimental migration of knickpoints: influence of style of base-level fall and bed lithology. <i>Earth Surface Dynamics</i> , 2016 , 4, 11-23	3.8	43
80	Fluvial bevelling of topography controlled by lateral channel mobility and uplift rate. <i>Nature Geoscience</i> , 2016 , 9, 706-710	18.3	43
79	Time Not Our Time: Physical Controls on the Preservation and Measurement of Geologic Time. <i>Annual Review of Earth and Planetary Sciences</i> , 2018 , 46, 409-438	15.3	41
78	Application of dynamic subgrid-scale concepts from large-eddy simulation to modeling landscape evolution. <i>Water Resources Research</i> , 2006 , 42,	5.4	40
77	Skin friction behind isolated hemispheres and the formation of obstacle marks. <i>Sedimentology</i> , 1986 , 33, 279-293	3.3	38
76	Subsidence and Gravel Transport in Alluvial Basins. <i>Frontiers in Sedimentary Geology</i> , 1988 , 231-243		38
75	Steering of experimental channels by lateral basin tilting. <i>Basin Research</i> , 2010 , 22, 286-301	3.2	37
74	A New Quantitative Test of Geomorphic Models, Applied to a Model of Braided Streams. <i>Water Resources Research</i> , 1996 , 32, 2579-2587	5.4	36

73	Can anomalous diffusion describe depositional fluvial profiles?. <i>Journal of Geophysical Research</i> , 2010 , 115,		35
72	An image-based method for shoreline mapping on complex coasts. <i>Geophysical Research Letters</i> , 2008 , 35, n/a-n/a	4.9	34
71	Mass-Balance Effects In Depositional Systems. <i>Journal of Sedimentary Research</i> , 2012 , 82, 435-450	2.1	33
70	Surging Versus Continuous Turbidity Currents: Flow Dynamics and Deposits in an Experimental Intraslope Minibasin. <i>Journal of Sedimentary Research</i> , 2004 , 74, 148-155	2.1	33
69	A base-level stratigraphic approach to determining Holocene subsidence of the GangesMeghnaBrahmaputra Delta plain. <i>Earth and Planetary Science Letters</i> , 2018 , 499, 23-36	5.3	30
68	A similarity solution for a dual moving boundary problem associated with a coastal-plain depositional system. <i>Journal of Fluid Mechanics</i> , 2009 , 628, 427-443	3.7	30
67	An enthalpy method for moving boundary problems on the earth's surface. <i>International Journal of Numerical Methods for Heat and Fluid Flow</i> , 2006 , 16, 641-654	4.5	30
66	Lateral erosion in an experimental bedrock channel: The influence of bed roughness on erosion by bed load impacts. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016 , 121, 1084-1105	3.8	27
65	Exploring the role of organic matter accumulation on delta evolution. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		26
64	Kinematic controls on the geometry of the preserved cross sets. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 1296-1307	3.8	25
63	Reduction of deltaic channel mobility by tidal action under rising relative sea level. <i>Geology</i> , 2018 , 46, 599-602	5	24
62	Morphodynamic Hierarchy and the Fabric of the Sedimentary Record. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL087921	4.9	23
61	Creation and Preservation of Channel-Form Sand Bodies in an Experimental Alluvial System555-567		23
60	Control of Delta Avulsion by Downstream Sediment Sinks. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018 , 123, 142-166	3.8	21
59	A global delta dataset and the environmental variables that predict delta formation on marine coastlines. <i>Earth Surface Dynamics</i> , 2019 , 7, 773-787	3.8	20
58	Effect of Flood Hydrograph Duration, Magnitude, and Shape on Bed Load Transport Dynamics. <i>Geophysical Research Letters</i> , 2018 , 45, 8264-8271	4.9	20
57	Characterization of river delta shorelines. <i>Geophysical Research Letters</i> , 2012 , 39, n/a-n/a	4.9	20
56	A Mass-Balance Framework for Quantifying Downstream Changes in Fluvial Architecture243-253		20

55	Fluvial Landscapes and Stratigraphy in a Flume. <i>The Sedimentary Record</i> , 2006 , 4, 4-8	3.3	20
54	A two-diffusion model of fluvial stratigraphy in closed depositional basins. <i>Basin Research</i> , 2000 , 12, 381-398	3.9	19
53	Experimental study of the effect of grain sizes in a bimodal mixture on bed slope, bed texture, and the transition to washload. <i>Water Resources Research</i> , 2017 , 53, 923-941	5.4	17
52	Prevalence of exponential bed thickness distributions in the stratigraphic record: Experiments and theory. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		16
51	Experiments on Reworking by Successive Unconfined Subaqueous and Subaerial Muddy Debris Flows. <i>Journal of Hydraulic Engineering</i> , 2004 , 130, 38-48	1.8	16
50	Migrating Bedforms Generated by Solitary Waves. <i>Geophysical Research Letters</i> , 2019 , 46, 4738-4746	4.9	15
49	Experimental Investigation of Sediment-Dominated Vs. Tectonics-Dominated Sediment Transport Systems In Subsiding Basins. <i>Journal of Sedimentary Research</i> , 2014 , 83, 1162-1180	2.1	15
48	Does the flow of information in a landscape have direction?. <i>Geophysical Research Letters</i> , 2012 , 39, n/a-n/a	1.9	15
47	A Mind of Their Own		15
46	Braiding of submarine channels controlled by aspect ratio similar to rivers. <i>Nature Geoscience</i> , 2015 , 8, 700-703	18.3	14
45	Geostatistical analysis of an experimental stratigraphy. <i>Water Resources Research</i> , 2005 , 41,	5.4	14
44	Experiment on Turbidity Currents and Their Deposits in a Model 3D Subsiding Minibasin. <i>Journal of Sedimentary Research</i> , 2005 , 75, 820-843	2.1	14
43	Advance and application of the stratigraphic simulation model 2D-SedFlux: From tank experiment to geological scale simulation. <i>Sedimentary Geology</i> , 2005 , 178, 187-195	2.8	13
42	Controls on the lateral channel-migration rate of braided channel systems in coarse non-cohesive sediment. <i>Earth Surface Processes and Landforms</i> , 2019 , 44, 2823-2836	3.7	12
41	Amplification of Shoreline Response To Sea-Level Change By Back-Tilted Subsidence. <i>Journal of Sedimentary Research</i> , 2014 , 84, 470-474	2.1	12
40	Fluvial Morphology and Sediment-Flux Steering of Axial-Transverse Boundaries In An Experimental Basin. <i>Journal of Sedimentary Research</i> , 2012 , 82, 310-325	2.1	12
39	StreamLab Collaboratory: Experiments, data sets, and research synthesis. <i>Water Resources Research</i> , 2013 , 49, 1746-1752	5.4	11
38	Competition between uplift and transverse sedimentation in an experimental delta. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017 , 122, 1339-1354	3.8	11

37	Self-similar growth of a bimodal laboratory fan. <i>Earth Surface Dynamics</i> , 2017 , 5, 239-252	3.8	11
36	Mass-balance control on the interaction of axial and transverse channel systems. <i>Geology</i> , 2011 , 39, 611-614		11
35	Geometric constraints on composition of sediment derived from erosional landscapes. <i>Basin Research</i> , 1998 , 10, 37-47	3.2	11
34	Quantifying natural delta variability using a multiple-point geostatistics prior uncertainty model. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016 , 121, 1800-1818	3.8	11
33	Hydrodynamic and suspended sediment transport controls on river mouth morphology. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014 , 119, 1-11	3.8	9
32	A combined nonlinear and nonlocal model for topographic evolution in channelized depositional systems. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 1617-1627	3.8	9
31	Stratigraphic Architecture of An Experimental Basin With Interacting Drainages. <i>Journal of Sedimentary Research</i> , 2012 , 82, 326-344	2.1	9
30	How does the downstream boundary affect avulsion dynamics in a laboratory bifurcation?. <i>Earth Surface Dynamics</i> , 2019 , 7, 911-927	3.8	8
29	A geometric model for the dynamics of a fluviially dominated deltaic system under base-level change. <i>Computers and Geosciences</i> , 2013 , 53, 39-47	4.5	8
28	The Control-Volume Weighted Flux Scheme (CVWFS) for Nonlocal Diffusion and Its Relationship to Fractional Calculus. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 2011 , 59, 421-441	1.3	8
27	Downstream fining in gravel bed rivers. <i>Eos</i> , 1989 , 70, 852	1.5	8
26	Experimental delta evolution in tidal environments: Morphologic response to relative sea-level rise and net deposition. <i>Earth Surface Processes and Landforms</i> , 2019 , 44, 2000-2015	3.7	7
25	How Predictable is Local Erosion Rate in Eroding Landscapes?. <i>Geophysical Monograph Series</i> , 2013 , 231-240		7
24	Geometry, Flow, and Sediment Transport of Alluvial Deposits Induced By Topographically Driven Flow Expansions. <i>Journal of Sedimentary Research</i> , 2014 , 84, 122-135	2.1	7
23	Geometry and dynamics of braided channels and bars under experimental density currents. <i>Sedimentology</i> , 2018 , 65, 1947-1972	3.3	5
22	The thin blue line: A review of shoreline dynamics across time scales and environments. <i>Earth Surface Processes and Landforms</i> , 2020 , 45, 96-108	3.7	5
21	Impact of glacial-lake paleofloods on valley development since glacial termination II: A conundrum of hydrology and scale for the lowstand Brahmaputra-Jamuna paleovalley system. <i>Bulletin of the Geological Society of America</i> , 2019 , 131, 58-70	3.9	4
20	Linking the Surface and Subsurface in River Deltas Part 2: Relating Subsurface Geometry to Groundwater Flow Behavior. <i>Water Resources Research</i> , 2021 , 57, e2020WR029281	5.4	4

19	Computational Models of Flow, Sediment Transport and Morphodynamics in Rivers 2017 , 1-31		3
18	Stream power controls the braiding intensity of submarine channels similarly to rivers. <i>Geophysical Research Letters</i> , 2017 , 44, 5062-5070	4.9	3
17	Experimental migration of knickpoints: influence of style of base-level fall and bed lithology		3
16	Impacts of changing hydrology on permanent gully growth: experimental results. <i>Hydrology and Earth System Sciences</i> , 2018 , 22, 3261-3273	5.5	3
15	Linking the Surface and Subsurface in River Deltas Part 1: Relating Surface and Subsurface Geometries. <i>Water Resources Research</i> , 2021 , 57, e2020WR029282	5.4	3
14	Properties of a cellular braided-stream model 1997 , 22, 1001		3
13	On the incipient formation of bars and channels on alluvial fans. <i>Earth Surface Processes and Landforms</i> , 2019 , 44, 2479-2493	3.7	2
12	Coupling Mass Extraction and Downstream Fining With Fluvial Facies Changes Across the Sylhet Basin of the Ganges-Brahmaputra-Meghna Delta. <i>Journal of Geophysical Research F: Earth Surface</i> , 2019 , 124, 400-413	3.8	2
11	Chaos in a simple model of a delta network. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 27179-27187	11.5	2
10	Sediment modeling system enhances education and research. <i>Eos</i> , 2002 , 83, 578	1.5	1
9	Channel migration in experimental river networks mapped by particle image velocimetry. <i>Journal of Geophysical Research F: Earth Surface</i> , e2021JF006300	3.8	1
8	A reduced-complexity model for river delta formation Part 1: Modeling deltas with channel dynamics		1
7	Flexural deformation controls on Late Quaternary sediment dispersal in the Garo-Rajmahal Gap, NW Bengal Basin. <i>Basin Research</i> , 2020 , 32, 1242-1260	3.2	1
6	Properties of a cellular braided-stream model 1997 , 22, 1001		1
5	Experimental studies and practical challenges in fluvial geomorphology 2016 , 456-475		0
4	Closure to Probabilistic Exner Sediment Continuity Equation for Mixtures with No Active Layer By Gary Parker, Chris Paola, and Suzanne Leclair. <i>Journal of Hydraulic Engineering</i> , 2002 , 128, 801-801	1.8	0
3	Intermittent Retreat Behavior in Experimental Barrier Island Response to Constant Sea Level Rise and Wave Forcing. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021 , 126, e2021JF006086	3.8	0
2	StreamLab Collaboratory: Experiments, data sets, and research synthesis 2013 , 49, 1746		0

1 Sedimentary Processes, Environments and Basins A tribute to Peter Friend: Introduction 1-7