

Chris Paola

List of Publications by Year in descending order

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141
papers

12,616
citations

20817

60
h-index

24982

109
g-index

152
all docs

152
docs citations

152
times ranked

5527
citing authors

#	ARTICLE	IF	CITATIONS
1	The large-scale dynamics of grain-size variation in alluvial basins, 1: Theory. <i>Basin Research</i> , 1992, 4, 73-90.	2.7	553
2	A cellular model of braided rivers. <i>Nature</i> , 1994, 371, 54-57.	27.8	424
3	Quantitative models of sedimentary basin filling. <i>Sedimentology</i> , 2000, 47, 121-178.	3.1	405
4	The "unreasonable effectiveness" of stratigraphic and geomorphic experiments. <i>Earth-Science Reviews</i> , 2009, 97, 1-43.	9.1	399
5	Shredding of environmental signals by sediment transport. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	397
6	Dynamic single-thread channels maintained by the interaction of flow and vegetation. <i>Geology</i> , 2007, 35, 347.	4.4	391
7	Physical basis for quasi-universal relations describing bankfull hydraulic geometry of single-thread gravel bed rivers. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	342
8	Title is missing!. <i>Bulletin of the Geological Society of America</i> , 2000, 112, 1787.	3.3	324
9	Riparian vegetation controls on braided stream dynamics. <i>Water Resources Research</i> , 2001, 37, 3275-3283.	4.2	322
10	Two-phase stratigraphic model of foreland-basin sequences. <i>Geology</i> , 1988, 16, 501.	4.4	303
11	Experimental study of avulsion frequency and rate of deposition. <i>Geology</i> , 1995, 23, 365.	4.4	294
12	Effects of vegetation on channel morphodynamics: results and insights from laboratory experiments. <i>Earth Surface Processes and Landforms</i> , 2010, 35, 1014-1028.	2.5	291
13	A new framework for modeling the migration of meandering rivers. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 70-86.	2.5	267
14	Natural Processes in Delta Restoration: Application to the Mississippi Delta. <i>Annual Review of Marine Science</i> , 2011, 3, 67-91.	11.6	246
15	Modelling the effect of vegetation on channel pattern in bedload rivers. <i>Earth Surface Processes and Landforms</i> , 2003, 28, 131-143.	2.5	234
16	Grain Size Patchiness as a Cause of Selective Deposition and Downstream Fining. <i>Water Resources Research</i> , 1995, 31, 1395-1407.	4.2	230
17	Downstream Fining by Selective Deposition in a Laboratory Flume. <i>Science</i> , 1992, 258, 1757-1760.	12.6	208
18	Alluvial Fans Formed by Channelized Fluvial and Sheet Flow. I: Theory. <i>Journal of Hydraulic Engineering</i> , 1998, 124, 985-995.	1.5	201

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19	A generalized Exner equation for sediment mass balance. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	201
20	Is It Feasible to Build New Land in the Mississippi River Delta?. <i>Eos</i> , 2009, 90, 373-374.	0.1	178
21	Compensational Stacking of Channelized Sedimentary Deposits. <i>Journal of Sedimentary Research</i> , 2009, 79, 673-688.	1.6	175
22	Assembling the stratigraphic record: depositional patterns and time-scales in an experimental alluvial basin. <i>Basin Research</i> , 2002, 14, 287-301.	2.7	171
23	Reconstructing random topography from preserved stratification. <i>Sedimentology</i> , 1991, 38, 553-565.	3.1	170
24	Palaeohydraulics revisited: palaeoslope estimation in coarse-grained braided rivers. <i>Basin Research</i> , 1996, 8, 243-254.	2.7	165
25	Properties of a cellular braided-stream model. <i>Earth Surface Processes and Landforms</i> , 1997, 22, 1001-1025.	2.5	159
26	Valleys That Never Were: Time Surfaces Versus Stratigraphic Surfaces. <i>Journal of Sedimentary Research</i> , 2008, 78, 579-593.	1.6	159
27	Channel Dynamics, Sediment Transport, and the Slope of Alluvial Fans: Experimental Study. <i>Journal of Geology</i> , 1998, 106, 677-694.	1.4	158
28	Landscape instability in an experimental drainage basin. <i>Geology</i> , 2000, 28, 1067.	4.4	155
29	Numerical simulation of aggradation and downstream fining. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 1996, 34, 185-204.	1.7	151
30	Secondary flow in anabranch confluences of a braided, gravel-bed stream. <i>Earth Surface Processes and Landforms</i> , 1992, 17, 299-311.	2.5	142
31	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, .	3.3	138
32	Fluvio-deltaic sedimentation: A generalized Stefan problem. <i>European Journal of Applied Mathematics</i> , 2000, 11, 433-452.	2.9	136
33	Upper-regime parallel lamination as the result of turbulent sediment transport and low-amplitude bed forms. <i>Sedimentology</i> , 1989, 36, 47-59.	3.1	132
34	Battling to Save the World's River Deltas. <i>Bulletin of the Atomic Scientists</i> , 2009, 65, 31-43.	0.6	129
35	Dynamics of channel bifurcations in noncohesive sediments. <i>Water Resources Research</i> , 2003, 39, .	4.2	121
36	Experiments on Downstream Fining of Gravel: λ Narrow-Channel Runs. <i>Journal of Hydraulic Engineering</i> , 1997, 123, 874-884.	1.5	120

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37	Riparian vegetation as a primary control on channel characteristics in multi-thread rivers. <i>Water Science and Application</i> , 2004, , 43-58.	0.3	119
38	The large-scale dynamics of grain-size variation in alluvial basins, 2: Application to syntectonic conglomerate. <i>Basin Research</i> , 1992, 4, 91-102.	2.7	114
39	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.	1.7	105
40	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.	3.0	99
41	Shoreline response to autogenic processes of sediment storage and release in the fluvial system. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	93
42	Quantitative metrics that describe river deltas and their channel networks. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	90
43	Experimental Measurement of the Relative Importance of Controls on Shoreline Migration. <i>Journal of Sedimentary Research</i> , 2006, 76, 270-283.	1.6	87
44	Observations of Downstream Fining on the North Fork Toutle River Near Mount St. Helens, Washington. <i>Water Resources Research</i> , 1995, 31, 1409-1419.	4.2	86
45	Experimental Stratigraphy. <i>GSA Today</i> , 2001, 11, 4.	2.0	86
46	Sequence stratigraphy of experimental strata under known conditions of differential subsidence and variable base level. <i>AAPG Bulletin</i> , 2009, 93, 503-533.	1.5	84
47	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, .	4.2	83
48	River channel lateral mobility: metrics, time scales, and controls. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 396-412.	2.8	83
49	Experiments on upstream-migrating erosional narrowing and widening of an incisional channel caused by dam removal. <i>Water Resources Research</i> , 2004, 40, .	4.2	77
50	Long-period cyclic sedimentation with constant tectonic forcing in an experimental relay ramp. <i>Geology</i> , 2007, 35, 331.	4.4	75
51	Numerical model linking bed and bank evolution of incisional channel created by dam removal. <i>Water Resources Research</i> , 2007, 43, .	4.2	75
52	Experimental Test of Tectonic Controls on Three-Dimensional Alluvial Facies Architecture. <i>Journal of Sedimentary Research</i> , 2005, 75, 710-722.	1.6	74
53	Experimental Steep, Braided Flow: Application to Flooding Risk on Fans. <i>Journal of Hydraulic Engineering</i> , 2002, 128, 322-330.	1.5	72
54	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.	2.8	71

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55	Simplicity versus complexity. <i>Nature</i> , 2011, 469, 38-39.	27.8	69
56	Fluvial fan deltas: Linking channel processes with large-scale morphodynamics. <i>Water Resources Research</i> , 2002, 38, 26-1-26-10.	4.2	67
57	Similarity solutions for fluvial sediment fining by selective deposition. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	67
58	A two-diffusion model of fluvial stratigraphy in closed depositional basins. <i>Basin Research</i> , 2000, 12, 381-398.	2.7	67
59	Delta allometry: Growth laws for river deltas. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	66
60	A reduced-complexity model for river delta formation – Part 1: Modeling deltas with channel dynamics. <i>Earth Surface Dynamics</i> , 2015, 3, 67-86.	2.4	66
61	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.	11.0	65
62	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, .	3.3	64
63	Space-time dynamics of depositional systems: Experimental evidence and theoretical modeling of heavy-tailed statistics. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	63
64	Fluvial bevelling of topography controlled by lateral channel mobility and uplift rate. <i>Nature Geoscience</i> , 2016, 9, 706-710.	12.9	62
65	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.	2.8	61
66	Experimental migration of knickpoints: influence of style of base-level fall and bed lithology. <i>Earth Surface Dynamics</i> , 2016, 4, 11-23.	2.4	59
67	Surging Versus Continuous Turbidity Currents: Flow Dynamics and Deposits in an Experimental Intraslope Minibasin. <i>Journal of Sedimentary Research</i> , 2004, 74, 148-155.	1.6	54
68	Steering of experimental channels by lateral basin tilting. <i>Basin Research</i> , 2010, 22, 286-301.	2.7	51
69	A global delta dataset and the environmental variables that predict delta formation on marine coastlines. <i>Earth Surface Dynamics</i> , 2019, 7, 773-787.	2.4	51
70	Bias and precision of percentiles of bulk grain size distributions. <i>Earth Surface Processes and Landforms</i> , 1997, 22, 1061-1077.	2.5	48
71	Mass-Balance Effects In Depositional Systems. <i>Journal of Sedimentary Research</i> , 2012, 82, 435-450.	1.6	47
72	An image-based method for shoreline mapping on complex coasts. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	43

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73	Application of dynamic subgrid-scale concepts from large-eddy simulation to modeling landscape evolution. <i>Water Resources Research</i> , 2006, 42, .	4.2	42
74	Can anomalous diffusion describe depositional fluvial profiles?. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	42
75	Morphodynamic Hierarchy and the Fabric of the Sedimentary Record. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087921.	4.0	41
76	Subsidence and Gravel Transport in Alluvial Basins. <i>Frontiers in Sedimentary Geology</i> , 1988, , 231-243.	0.2	41
77	Skin friction behind isolated hemispheres and the formation of obstacle marks. <i>Sedimentology</i> , 1986, 33, 279-293.	3.1	40
78	A New Quantitative Test of Geomorphic Models, Applied to a Model of Braided Streams. <i>Water Resources Research</i> , 1996, 32, 2579-2587.	4.2	40
79	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.	2.8	35
80	Exploring the role of organic matter accumulation on delta evolution. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	35
81	Kinematic controls on the geometry of the preserved cross sets. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 1296-1307.	2.8	35
82	Reduction of deltaic channel mobility by tidal action under rising relative sea level. <i>Geology</i> , 2018, 46, 599-602.	4.4	35
83	A base-level stratigraphic approach to determining Holocene subsidence of the Gangesâ€“Meghnaâ€“Brahmaputra Delta plain. <i>Earth and Planetary Science Letters</i> , 2018, 499, 23-36.	4.4	34
84	Effect of Flood Hydrograph Duration, Magnitude, and Shape on Bed Load Transport Dynamics. <i>Geophysical Research Letters</i> , 2018, 45, 8264-8271.	4.0	33
85	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.	3.4	32
86	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.	2.8	32
87	When streams collide. <i>Nature</i> , 1997, 387, 232-233.	27.8	31
88	Controls on the lateral channelâ€“migration rate of braided channel systems in coarse nonâ€“cohesive sediment. <i>Earth Surface Processes and Landforms</i> , 2019, 44, 2823-2836.	2.5	31
89	Control of Delta Avulsion by Downstream Sediment Sinks. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 142-166.	2.8	30
90	A twoâ€“diffusion model of fluvial stratigraphy in closed depositional basins. <i>Basin Research</i> , 2000, 12, 381-398.	2.7	29

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91	Fluvial Landscapes and Stratigraphy in a Flume. <i>The Sedimentary Record</i> , 2006, 4, 4-8.	0.6	29
92	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.	4.2	25
93	Migrating Bedforms Generated by Solitary Waves. <i>Geophysical Research Letters</i> , 2019, 46, 4738-4746.	4.0	25
94	Experiment on Turbidity Currents and Their Deposits in a Model 3D Subsiding Minibasin. <i>Journal of Sedimentary Research</i> , 2005, 75, 820-843.	1.6	22
95	Characterization of river delta shorelines. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	22
96	A Mind of Their Own: Recent Advances in Autogenic Dynamics in Rivers and Deltas. , 2017, , 5-17.		22
97	Experiments on Reworking by Successive Unconfined Subaqueous and Subaerial Muddy Debris Flows. <i>Journal of Hydraulic Engineering</i> , 2004, 130, 38-48.	1.5	21
98	Fluvial Morphology and Sediment-Flux Steering of Axial-Transverse Boundaries In An Experimental Basin. <i>Journal of Sedimentary Research</i> , 2012, 82, 310-325.	1.6	20
99	Prevalence of exponential bed thickness distributions in the stratigraphic record: Experiments and theory. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	20
100	Geostatistical analysis of an experimental stratigraphy. <i>Water Resources Research</i> , 2005, 41, .	4.2	19
101	Does the flow of information in a landscape have direction?. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	19
102	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.	2.8	19
103	Mass-balance control on the interaction of axial and transverse channel systems. <i>Geology</i> , 2011, 39, 611-614.	4.4	18
104	Experimental Investigation of Sediment-Dominated Vs. Tectonics-Dominated Sediment Transport Systems In Subsiding Basins. <i>Journal of Sedimentary Research</i> , 2014, 83, 1162-1180.	1.6	18
105	Hydrodynamic and suspended sediment transport controls on river mouth morphology. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014, 119, 1-11.	2.8	18
106	Amplification of Shoreline Response To Sea-Level Change By Back-Tilted Subsidence. <i>Journal of Sedimentary Research</i> , 2014, 84, 470-474.	1.6	17
107	Braiding of submarine channels controlled by aspect ratio similar to rivers. <i>Nature Geoscience</i> , 2015, 8, 700-703.	12.9	17
108	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.	2.1	16

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109	Self-similar growth of a bimodal laboratory fan. <i>Earth Surface Dynamics</i> , 2017, 5, 239-252.	2.4	16
110	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.	2.5	15
111	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.	4.2	14
112	Geometric constraints on composition of sediment derived from erosional landscapes. <i>Basin Research</i> , 1998, 10, 37-47.	2.7	13
113	Competition between uplift and transverse sedimentation in an experimental delta. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017, 122, 1339-1354.	2.8	13
114	A geometric model for the dynamics of a fluviually dominated deltaic system under base-level change. <i>Computers and Geosciences</i> , 2013, 53, 39-47.	4.2	12
115	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.	3.3	12
116	Linking the Surface and Subsurface in River Deltas—Part 1: Relating Surface and Subsurface Geometries. <i>Water Resources Research</i> , 2021, 57, e2020WR029282.	4.2	12
117	Stratigraphic Architecture of An Experimental Basin With Interacting Drainages. <i>Journal of Sedimentary Research</i> , 2012, 82, 326-344.	1.6	11
118	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.	2.8	11
119	StreamLab Collaboratory: Experiments, data sets, and research synthesis. <i>Water Resources Research</i> , 2013, 49, 1746-1752.	4.2	11
120	How does the downstream boundary affect avulsion dynamics in a laboratory bifurcation?. <i>Earth Surface Dynamics</i> , 2019, 7, 911-927.	2.4	11
121	How Predictable is Local Erosion Rate in Eroding Landscapes?. <i>Geophysical Monograph Series</i> , 0, , 231-240.	0.1	10
122	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.	0.9	9
123	Downstream fining in gravel bed rivers. <i>Eos</i> , 1989, 70, 852.	0.1	8
124	Geometry, Flow, and Sediment Transport of Alluvial Deposits Induced By Topographically Driven Flow Expansions. <i>Journal of Sedimentary Research</i> , 2014, 84, 122-135.	1.6	8
125	Geometry and dynamics of braided channels and bars under experimental density currents. <i>Sedimentology</i> , 2018, 65, 1947-1972.	3.1	8
126	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.	2.8	8

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127	Chaos in a simple model of a delta network. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27179-27187.	7.1	8
128	The thin blue line: A review of shoreline dynamics across time scales and environments. Earth Surface Processes and Landforms, 2020, 45, 96-108.	2.5	6
129	Flexural deformation controls on Late Quaternary sediment dispersal in the Goro-Rajmahal Gap, NW Bengal Basin. Basin Research, 2020, 32, 1242-1260.	2.7	6
130	Channel Migration in Experimental River Networks Mapped by Particle Image Velocimetry. Journal of Geophysical Research F: Earth Surface, 2022, 127, e2021JF006300.	2.8	6
131	Stream power controls the braiding intensity of submarine channels similarly to rivers. Geophysical Research Letters, 2017, 44, 5062-5070.	4.0	5
132	Reconstructing subsurface sandbody connectivity from temporal evolution of surface networks. Basin Research, 2022, 34, 1486-1506.	2.7	5
133	Impacts of changing hydrology on permanent gully growth: experimental results. Hydrology and Earth System Sciences, 2018, 22, 3261-3273.	4.9	4
134	Properties of a cellular braided-stream model. Earth Surface Processes and Landforms, 1997, 22, 1001-1025.	2.5	4
135	On the incipient formation of bars and channels on alluvial fans. Earth Surface Processes and Landforms, 2019, 44, 2479-2493.	2.5	3
136	Sediment modeling system enhances education and research. Eos, 2002, 83, 578.	0.1	2
137	Intermittent Retreat Behavior in Experimental Barrier Island Response to Constant Sea Level Rise and Wave Forcing. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2021JF006086.	2.8	2
138	Sediment Load and Grain Size Controls on Channel Migration Patterns in Experimental Deltas. Journal of Geophysical Research F: Earth Surface, 2022, 127, .	2.8	2
139	Closure to "Probabilistic Exner Sediment Continuity Equation for Mixtures with No Active Layer" by Gary Parker, Chris Paola, and Suzanne Leclair. Journal of Hydraulic Engineering, 2002, 128, 801-801.	1.5	1
140	Properties of a cellular braided-stream model. , 1997, 22, 1001.		1
141	StreamLab Collaboratory: Experiments, data sets, and research synthesis. , 2013, 49, 1746.		1