

Michael Church

List of Publications by Year in descending order

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132
papers

10,120
citations

30070

54
h-index

39675

94
g-index

194
all docs

194
docs citations

194
times ranked

4834
citing authors

#	ARTICLE	IF	CITATIONS
1	BED MATERIAL TRANSPORT AND THE MORPHOLOGY OF ALLUVIAL RIVER CHANNELS. Annual Review of Earth and Planetary Sciences, 2006, 34, 325-354.	11.0	555
2	Disequilibrium of Holocene sediment yield in glaciated British Columbia. Nature, 1989, 337, 452-454.	27.8	480
3	Geomorphic thresholds in riverine landscapes. Freshwater Biology, 2002, 47, 541-557.	2.4	417
4	A Simple Universal Equation for Grain Settling Velocity. Journal of Sedimentary Research, 2004, 74, 933-937.	1.6	383
5	Stabilizing self-organized structures in gravel-bed stream channels: Field and experimental observations. Water Resources Research, 1998, 34, 3169-3179.	4.2	291
6	Grain size along two gravel-bed rivers: statistical variation, spatial pattern and sedimentary links. Earth Surface Processes and Landforms, 1998, 23, 345-363.	2.5	259
7	Channel morphology, gradient profiles and bed stresses during flood in a step-pool channel. Geomorphology, 2001, 40, 311-327.	2.6	210
8	Geomorphic response to river flow regulation: Case studies and time-scales. River Research and Applications, 1995, 11, 3-22.	0.8	193
9	Form and stability of step-pool channels: Research progress. Water Resources Research, 2007, 43, .	4.2	185
10	Virtual rate and mean distance of travel of individual clasts in gravel-bed channels. Earth Surface Processes and Landforms, 1992, 17, 617-627.	2.5	163
11	GEOMORPHOLOGY OF STEEPLAND HEADWATERS: THE TRANSITION FROM HILLSLOPES TO CHANNELS. Journal of the American Water Resources Association, 2005, 41, 835-851.	2.4	163
12	On the misuse of regression in earth science. Journal of the International Association for Mathematical Geology, 1977, 9, 63-75.	0.8	162
13	Bed material transport estimated from the virtual velocity of sediment. Earth Surface Processes and Landforms, 1998, 23, 791-808.	2.5	162
14	Sediment transport along lower Fraser River: 1. Measurements and hydraulic computations. Water Resources Research, 1999, 35, 2533-2548.	4.2	161
15	Rational regime model of alluvial channel morphology and response. Earth Surface Processes and Landforms, 2004, 29, 511-529.	2.5	154
16	Morphodynamics: Rivers beyond steady state. Water Resources Research, 2015, 51, 1883-1897.	4.2	153
17	Bed-material transport estimated from channel surveys: Vedder River, British Columbia. Earth Surface Processes and Landforms, 1995, 20, 347-361.	2.5	138
18	The sediment budget in severely disturbed watersheds, Queen Charlotte Ranges, British Columbia. Canadian Journal of Forest Research, 1986, 16, 1092-1106.	1.7	137

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19	Classification and Analysis of River Processes. Journal of Hydraulic Engineering, 1976, 102, 813-829.	0.2	135
20	Experiments on surface structure and partial sediment transport on a gravel bed. Water Resources Research, 2000, 36, 1885-1895.	4.2	131
21	SEDIMENT TRANSPORT AND CHANNEL MORPHOLOGY OF SMALL, FORESTED STREAMS. Journal of the American Water Resources Association, 2005, 41, 853-876.	2.4	131
22	GEOMORPHOLOGY OF STEEPLAND HEADWATERS: THE TRANSITION FROM HILLSLOPES TO CHANNELS. Journal of the American Water Resources Association, 2005, 41, 835-851.	2.4	127
23	Morphology and evolution of bars in a wandering gravel-bed river; lower Fraser river, British Columbia, Canada. Sedimentology, 2009, 56, 709-736.	3.1	123
24	Sediment transfer by shallow landsliding in the Queen Charlotte Islands, British Columbia. Canadian Journal of Earth Sciences, 2002, 39, 189-205.	1.3	122
25	Mobility of bed material in Harris Creek. Water Resources Research, 2002, 38, 19-1-19-12.	4.2	115
26	Step-pool stability: Testing the jammed state hypothesis. Journal of Geophysical Research, 2010, 115, .	3.3	115
27	Representing the landslide magnitude-frequency relation: Capilano River basin, British Columbia. Earth Surface Processes and Landforms, 2004, 29, 115-124.	2.5	109
28	Fluvial clastic sediment yield in Canada: scaled analysis. Canadian Journal of Earth Sciences, 1999, 36, 1267-1280.	1.3	108
29	Bed-material transport estimated from channel morphodynamics: Chilliwack River, British Columbia. Earth Surface Processes and Landforms, 2000, 25, 1123-1142.	2.5	104
30	Morphodynamics of small-scale superimposed sand waves over migrating dune bed forms. Water Resources Research, 2005, 41, .	4.2	102
31	Mapping spatial distributions and uncertainty of water and sediment flux in a large gravel bed river reach using an acoustic Doppler current profiler. Journal of Geophysical Research, 2010, 115, .	3.3	97
32	Form and growth of bars in a wandering gravel-bed river. Earth Surface Processes and Landforms, 2009, 34, 1422-1432.	2.5	91
33	CHANNEL AND FLOODPLAIN FACIES IN A WANDERING GRAVEL-BED RIVER. , 1987, , 99-109.		88
34	Vertical mixing of coarse particles in gravel bed rivers: A kinematic model. Water Resources Research, 1994, 30, 1173-1185.	4.2	86
35	Diffusion in Landscape Development Models: On The Nature of Basic Transport Relations. Earth Surface Processes and Landforms, 1997, 22, 273-279.	2.5	81
36	Postglacial topographic evolution of glaciated valleys: a stochastic landscape evolution model. Earth Surface Processes and Landforms, 2005, 30, 1387-1403.	2.5	81

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37	Grain-size sorting within river bars in relation to downstream fining along a wandering channel. <i>Sedimentology</i> , 2010, 57, 232-251.	3.1	80
38	Bedload: a granular phenomenon. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 58-69.	2.5	80
39	Bed load bias: Comparison of measurements obtained using two (76 and 152 mm) Helley-Smith samplers in a gravel bed river. <i>Water Resources Research</i> , 2006, 42, .	4.2	78
40	A Test of Equal Mobility in Fluvial Sediment Transport: Behavior of the Sand Fraction. <i>Water Resources Research</i> , 1991, 27, 2941-2951.	4.2	77
41	Sensitivity of bed load transport in Harris Creek: Seasonal and spatial variation over a cobble-gravel bar. <i>Water Resources Research</i> , 2001, 37, 813-825.	4.2	76
42	Reconstructing a sediment pulse: Modeling the effect of placer mining on Fraser River, Canada. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 1436-1454.	2.8	74
43	Channel units in small, high gradient streams on Vancouver Island, British Columbia. <i>Geomorphology</i> , 2002, 43, 243-256.	2.6	73
44	Sediment transport-storage relations for degrading, gravel bed channels. <i>Water Resources Research</i> , 2002, 38, 1-1-1-14.	4.2	72
45	Predicting downstream hydraulic geometry: A test of rational regime theory. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	71
46	Suspended sediment transport regime in a debris-flow gully on Vancouver Island, British Columbia. <i>Hydrological Processes</i> , 2005, 19, 861-885.	2.6	70
47	Identification of steps and pools from stream longitudinal profile data. <i>Geomorphology</i> , 2008, 102, 395-406.	2.6	70
48	What is the "active layer"? <i>Water Resources Research</i> , 2017, 53, 5-10.	4.2	70
49	Estimating shear stress from moving boat acoustic Doppler velocity measurements in a large gravel bed river. <i>Water Resources Research</i> , 2007, 43, .	4.2	69
50	Morphology and controls on the position of a gravel-sand transition: Fraser River, British Columbia. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014, 119, 1959-1976.	2.8	67
51	A graded stream response relation for bed load-dominated streams. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	62
52	Flow in bedrock canyons. <i>Nature</i> , 2014, 513, 534-537.	27.8	62
53	Scaling and regionalization of flood flows in British Columbia, Canada. <i>Hydrological Processes</i> , 2002, 16, 3245-3263.	2.6	61
54	Breaking from the average: Why large grains matter in gravel-bed streams. <i>Earth Surface Processes and Landforms</i> , 2018, 43, 3190-3196.	2.5	61

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55	What Is a Debris Flood?. <i>Water Resources Research</i> , 2020, 56, e2020WR027144.	4.2	60
56	A conceptual model for meander initiation in bedload-dominated streams. <i>Earth Surface Processes and Landforms</i> , 2006, 31, 875-891.	2.5	54
57	Temporal variability and memory in sediment transport in an experimental step-pool channel. <i>Water Resources Research</i> , 2015, 51, 9325-9337.	4.2	53
58	Placer mining along the Fraser River, British Columbia: The geomorphic impact. <i>Bulletin of the Geological Society of America</i> , 2012, 124, 1212-1228.	3.3	52
59	Bed material texture in low order streams on the Queen Charlotte Islands, British Columbia. , 1996, 21, 1-18.		51
60	Re-examination of Bagnold's empirical bedload $\tau_c^{1/2}$ formulae. <i>Earth Surface Processes and Landforms</i> , 2000, 25, 1011-1024.	2.5	51
61	Sediment trapping characteristics of a pit trap and the Helley-Smith sampler in a cobble gravel bed river. <i>Water Resources Research</i> , 2002, 38, 19-1-19-11.	4.2	51
62	A field experiment on streambed stabilization by gravel structures. <i>Geomorphology</i> , 2006, 78, 335-350.	2.6	50
63	A critical perspective on 1D modeling of river processes: Gravel load and aggradation in lower Fraser River. <i>Water Resources Research</i> , 2009, 45, .	4.2	50
64	The gravel-sand transition: Sediment dynamics in a diffuse extension. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 943-963.	2.8	47
65	Evolution of an advancing gravel front: observations from Vedder Canal, British Columbia. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 1172-1182.	2.5	46
66	Reconnaissance sediment budgets for Lynn Valley, British Columbia: Holocene and contemporary time scales. <i>Canadian Journal of Earth Sciences</i> , 2003, 40, 701-713.	1.3	45
67	Dunes and associated sand transport in a tidally influenced sand-bed channel: Fraser River, British Columbia. <i>Canadian Journal of Earth Sciences</i> , 2003, 40, 115-130.	1.3	45
68	Spatial and temporal variation of sediment yield in the landscape: Example of Huanghe (Yellow River). <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	45
69	A rational sediment transport scaling relation based on dimensionless stream power. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 901-910.	2.5	43
70	Evolution of subglacial overdeepenings in response to sediment redistribution and glaciohydraulic supercooling. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 423-446.	2.8	42
71	Continental drift. <i>Earth Surface Processes and Landforms</i> , 2005, 30, 129-130.	2.5	40
72	On interfacial instability as a cause of transverse subcritical bed forms. <i>Water Resources Research</i> , 2006, 42, .	4.2	39

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73	Flow and sediment suspension events over low-angle dunes: Fraser Estuary, Canada. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 1693-1709.	2.8	38
74	Hydraulic geometry of secondary channels of lower Fraser River, British Columbia, from acoustic Doppler profiling. <i>Water Resources Research</i> , 2005, 41, .	4.2	37
75	Video-based gravel transport measurements with a flume mounted light table. <i>Earth Surface Processes and Landforms</i> , 2008, 33, 2285-2296.	2.5	36
76	Use of ADCPs for suspended sediment transport monitoring: An empirical approach. <i>Water Resources Research</i> , 2016, 52, 2715-2736.	4.2	35
77	Response of low-angle dunes to variable flow. <i>Sedimentology</i> , 2016, 63, 743-760.	3.1	34
78	Refocusing geomorphology: Field work in four acts. <i>Geomorphology</i> , 2013, 200, 184-192.	2.6	33
79	Spatial and temporal variation of in-reach suspended sediment dynamics along the mainstem of Changjiang (Yangtze River), China. <i>Water Resources Research</i> , 2010, 46, .	4.2	32
80	Geomorphic and Ecological Consequences of Riprap Placement in River Systems. <i>Journal of the American Water Resources Association</i> , 2015, 51, 1043-1059.	2.4	32
81	Observations and Experiments. , 2011, , 121-141.		32
82	A method for error analysis of sediment yields derived from estimates of lacustrine sediment accumulation. <i>Earth Surface Processes and Landforms</i> , 2000, 25, 1257-1267.	2.5	31
83	Lithologic and glacially conditioned controls on regional debris-flow sediment dynamics. <i>Geology</i> , 2012, 40, 455-458.	4.4	30
84	Infiltration of fine sediment into a coarse mobile bed: a phenomenological study. <i>Earth Surface Processes and Landforms</i> , 2017, 42, 1171-1185.	2.5	30
85	Simulations of cobble structure on a gravel streambed. <i>Water Resources Research</i> , 1999, 35, 311-318.	4.2	27
86	Scale variation of post-glacial sediment yield in Chilliwack Valley, British Columbia. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 229-243.	2.5	27
87	Palaeovelocity: A parsimonious proposal. <i>Earth Surface Processes and Landforms</i> , 1990, 15, 475-480.	2.5	26
88	Channel stability in bed load-dominated streams with nonerodible banks: Inferences from experiments in a sinuous flume. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	24
89	Morphodynamics of an extended bar complex, Fraser River, British Columbia. <i>Earth Surface Processes and Landforms</i> , 2012, 37, 1074-1089.	2.5	21
90	Mapping sub-pixel fluvial grain sizes with hyperspatial imagery. <i>Sedimentology</i> , 2014, 61, 691-711.	3.1	21

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91	Modified Freeze-Core Technique for Sampling the Permanently Wetted Streambed. North American Journal of Fisheries Management, 1994, 14, 852-861.	1.0	20
92	What are the contemporary sources of sediment in the Mississippi River?. Geophysical Research Letters, 2017, 44, 8919-8924.	4.0	19
93	Quantifying variability in stream channel morphology. Water Resources Research, 2003, 39, .	4.2	18
94	Experimental Insights Into the Threshold of Motion in Alluvial Channels: Sediment Supply and Streambed State. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2020JF005736.	2.8	18
95	Representative pointâ€”integrated suspended sediment sampling in rivers. Water Resources Research, 2017, 53, 2956-2971.	4.2	17
96	Rock Control of River Geometry: The Fraser Canyons. Journal of Geophysical Research F: Earth Surface, 2018, 123, 1860-1878.	2.8	17
97	Chapter 9 Upland gravel-bed rivers with low sediment transport. Developments in Earth Surface Processes, 2005, 7, 141-168.	2.8	15
98	Rare and dangerous: Recognizing extra-ordinary events in stream channels. Canadian Water Resources Journal, 2016, 41, 161-173.	1.2	15
99	Introducing Finer Grains Into Bedload: The Transition to a New Equilibrium. Journal of Geophysical Research F: Earth Surface, 2018, 123, 2602-2619.	2.8	15
100	1 Multiple scales in rivers. Developments in Earth Surface Processes, 2007, , 3-28.	2.8	14
101	Postglacial sediment budget of Chilliwack Valley, British Columbia. Earth Surface Processes and Landforms, 2012, 37, 1243-1262.	2.5	14
102	Suspended sediment transport in Fraser River at Mission, British Columbia: New observations and comparison to historical records. Canadian Water Resources Journal, 2014, 39, 356-371.	1.2	14
103	Channel Stability: Morphodynamics and the Morphology of Rivers. GeoPlanet: Earth and Planetary Sciences, 2015, , 281-321.	0.2	14
104	Interpreting sediment yield scaling. Earth Surface Processes and Landforms, 2017, 42, 1895-1898.	2.5	13
105	Comparing the behaviour of spherical beads and natural grains in bedload mixtures. Earth Surface Processes and Landforms, 2020, 45, 831-840.	2.5	13
106	Suspended sediment balance for the mainstem of Changjiang (Yangtze River) in the period 1964â€”1985. Hydrological Processes, 2011, 25, 2339-2353.	2.6	12
107	Supplyâ€”limited bedform patterns and scaling downstream of a gravelâ€”sand transition. Sedimentology, 2019, 66, 2538-2556.	3.1	12
108	Postglacial sediment yield to Chilliwack Lake, British Columbia, Canada. Boreas, 2012, 41, 84-101.	2.4	11

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109	Reconstructing Periglacial Geomorphology: The Contribution of J. Ross Mackay. Permafrost and Periglacial Processes, 2017, 28, 517-522.	3.4	11
110	Promise, performance and current limitations of a magnetic Bedload Movement Detector. Earth Surface Processes and Landforms, 2009, 34, 1022-1032.	2.5	9
111	Mapping Water and Sediment Flux Distributions in Gravel-Bed Rivers Using ADCPs. , 2012, , 342-350.		9
112	What is a Geomorphological Prediction?. Geophysical Monograph Series, 0, , 183-194.	0.1	9
113	Aspects of Secondary Flow in Open Channels: A Critical Literature Review. , 2012, , 31-35.		6
114	9.27 Steep Headwater Channels. , 2013, , 528-549.		6
115	Crestline bifurcation and dynamics in fluvially-dominated, tidally-influenced flow. Sedimentology, 2018, 65, 2621-2636.	3.1	6
116	Covariation in width and depth in bedrock rivers. Earth Surface Processes and Landforms, 2022, 47, 1570-1582.	2.5	6
117	Estimating Bedload in Sand-Bed Channels Using Bottom Tracking from an Acoustic Doppler Profiler. , 0, , 197-209.		5
118	Physical experiments in geomorphology. Geological Society Memoir, 0, , M58-2021-3.	1.7	5
119	Discussion of "Stability of Channel Beds by Armoring". Journal of Hydraulic Engineering, 1977, 103, 826-827.	0.2	5
120	A 1D morphodynamic model of postglacial valley incision. Journal of Geophysical Research F: Earth Surface, 2015, 120, 2253-2279.	2.8	4
121	A flood risk assessment for the City of Chilliwack on the Fraser River, British Columbia, Canada. International Journal of River Basin Management, 2015, 13, 263-270.	2.7	4
122	Are Results in Geomorphology Reproducible?. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2020JF005553.	2.8	4
123	Horton's slope function. Earth Surface Processes and Landforms, 1981, 6, 199-201.	2.5	2
124	Problem orientation in physical geography teaching. Journal of Geography in Higher Education, 1988, 12, 51-65.	2.6	2
125	Deconstructing geomorphology: an appreciation of the contributions of Barbara A. Kennedy (1943-2014). Earth Surface Processes and Landforms, 2014, 39, 1269-1272.	2.5	2
126	Re-examination of Bagnold's empirical bedload formulae. Earth Surface Processes and Landforms, 2000, 25, 1011-1024.	2.5	2

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127	Introduction to the special issue on sediment transport dynamics. <i>Earth Surface Processes and Landforms</i> , 2001, 26, 1367-1368.	2.5	1
128	Bed-material transport estimated from channel morphodynamics: Chilliwack River, British Columbia. <i>Earth Surface Processes and Landforms</i> , 2000, 25, 1123-1142.	2.5	1
129	Amplification of plunging flows in bedrock canyons. <i>Geophysical Research Letters</i> , 0, , .	4.0	1
130	Discussion of "Nonequilibrium River Form". <i>Journal of Hydraulic Engineering</i> , 1976, 102, 115-117.	0.2	0
131	Fraser River: History in a Changing Landscape. <i>World Geomorphological Landscapes</i> , 2017, , 381-393.	0.3	0
132	Specific Fluvial Environments: Steep Headwater Channels. , 2019, , .		0