Bruce W Melville

List of Publications by Year
in descending order

136 papers	5,135 citations	117453 34 h-index	98622 67 g-index
140 all docs	140 docs citations	140 times ranked	2479 citing authors

#	Article	IF	Citations
1	Time Scale for Local Scour at Bridge Piers. Journal of Hydraulic Engineering, 1999, 125, 59-65.	0.7	574
2	Pier and Abutment Scour: Integrated Approach. Journal of Hydraulic Engineering, 1997, 123, 125-136.	0.7	484
3	FLOW CHARACTERISTICS IN LOCAL SCOUR AT BRIDGE PIERS. Journal of Hydraulic Research/De Recherches Hydrauliques, 1977, 15, 373-380.	0.7	225
4	Scale Effect in Pier-Scour Experiments. Journal of Hydraulic Engineering, 1998, 124, 639-642.	0.7	191
5	Comparison of SDSM and LARS-WG for simulation and downscaling of extreme precipitation events in a watershed. Stochastic Environmental Research and Risk Assessment, 2011, 25, 475-484.	1.9	161
6	Riprap Protection at Bridge Piers. Journal of Hydraulic Engineering, 2001, 127, 412-418.	0.7	145
7	Clear-water scour development at bridge abutments. Journal of Hydraulic Research/De Recherches Hydrauliques, 2003, 41, 521-531.	0.7	126
8	Initiation of Bed Forms on a Flat Sand Bed. Journal of Hydraulic Engineering, 1996, 122, 301-310.	0.7	124
9	Clear-Water Local Scour around Pile Groups in Shallow-Water Flow. Journal of Hydraulic Engineering, 2012, 138, 177-185.	0.7	121
10	Comparative study of different wavelet based neural network models for rainfallâ€“runoff modeling. Journal of Hydrology, 2014, 515, 47-58.	2.3	121
11	Bedâ€Form Development. Journal of Hydraulic Engineering, 1994, 120, 544-560.	0.7	116
12	Bridge Pier Scour with Debris Accumulation. Journal of Hydraulic Engineering, 1992, 118, 1306-1310.	0.7	107
13	Effects of Foundation Geometry on Bridge Pierâ€‰Scour. Journal of Hydraulic Engineering, 1996, 122, 203-209.	0.7	107
14	Local scour and flow measurements at bridge abutments. Journal of Hydraulic Research/De Recherches Hydrauliques, 1994, 32, 661-673.	0.7	87
15	Flow Patterns and Turbulence Structures in a Scour Hole Downstream of a Submerged Weir. Journal of Hydraulic Engineering, 2014, 140, 68-76.	0.7	84
16	Experimental investigation of tsunami bore impact force and pressure on a square prism. Coastal Engineering, 2016, 110, 1-16.	1.7	84
17	Statistical downscaling of watershed precipitation using Gene Expression Programming (GEP). Environmental Modelling and Software, 2011, 26, 1639-1646.	1.9	83
18	Use of Sacrificial Piles as Pier Scour Countermeasures. Journal of Hydraulic Engineering, 1999, 125, 1221-1224.	0.7	80

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19	Hydrodynamics, Sediment Transport and Morphological Features at the Confluence Between the Yangtze River and the Poyang Lake. Water Resources Research, 2021, 57, e2020WR028284.	1.7	79
20	A comparison between wavelet based static and dynamic neural network approaches for runoff prediction. Journal of Hydrology, 2016, 535, 211-225.	2.3	78
21	Flow-Field Complexity and Design Estimation of Pier-Scour Depth: Sixty Years since Laursen and Toch. Journal of Hydraulic Engineering, 2017, 143, .	0.7	77
22	Runoff forecasting using hybrid Wavelet Gene Expression Programming (WGEP) approach. Journal of Hydrology, 2015, 527, 326-344.	2.3	73
23	Liveâ€bed Scour at Bridge Piers. Journal of Hydraulic Engineering, 1984, 110, 1234-1247.	0.7	71
24	Bayesian neural networks for prediction of equilibrium and time-dependent scour depth around bridge piers. Advances in Engineering Software, 2007, 38, 102-111.	1.8	70
25	Hydrodynamic Forces Generated on a Spherical Sediment Particle during Entrainment. Journal of Hydraulic Engineering, 2010, 136, 756-769.	0.7	66
26	Live-Bed Scour at Submerged Weirs. Journal of Hydraulic Engineering, 2015, 141, .	0.7	63
27	Flow structures and hydrodynamic force during sediment entrainment. Water Resources Research, 2011, 47, .	1.7	61
28	Three-dimensional analysis of coherent turbulent flow structure around a single circular bridge pier. Environmental Fluid Mechanics, 2014, 14, 821-847.	0.7	53
29	Current-induced scour at monopile foundations subjected to lateral vibrations. Coastal Engineering, 2019, 144, 15-21.	1.7	50
30	Sediment Control at Waterâ€‰Intakes. Journal of Hydraulic Engineering, 1996, 122, 353-356.	0.7	49
31	Local scour at submerged weirs in sand-bed channels. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 172-184.	0.7	49
32	Bridge Abutment Scour in Compound Channels. Journal of Hydraulic Engineering, 1995, 121, 863-868.	0.7	44
33	A Comparative Study of Various Hybrid Wavelet Feedforward Neural Network Models for Runoff Forecasting. Water Resources Management, 2018, 32, 83-103.	1.9	42
34	Local scour at piled bridge piers including an examination of the superposition method. Canadian Journal of Civil Engineering, 2014, 41, 461-471.	0.7	39
35	Estimation of maximum scour depths at upstream of front and rear piers for two in-line circular columns. Environmental Fluid Mechanics, 2018, 18, 537-550.	0.7	37
36	Experimental study on local scour at complex bridge pier under combined waves and current. Coastal Engineering, 2020, 160, 103730.	1.7	34

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37	Case Study: New Zealand Bridge Scour Experiences. Journal of Hydraulic Engineering, 2001, 127, 535-546.	0.7	32
38	Countermeasure Toe Protection at Spill-Through Abutments. Journal of Hydraulic Engineering, 2006, 132, 235-245.	0.7	32
39	Local Scour at Downstream Sloped Submerged Weirs. Journal of Hydraulic Engineering, 2018, 144, .	0.7	32
40	Scour Countermeasures for Wing-Wall Abutments. Journal of Hydraulic Engineering, 2006, 132, 563-574.	0.7	31
41	Scour Caused by 2D Horizontal Jets. Journal of Hydraulic Engineering, 2014, 140, 149-155.	0.7	31
42	Fluvial Entrainment of Protruding Fractured Rock. Journal of Hydraulic Engineering, 2003, 129, 872-884.	0.7	29
43	Measurements of tsunami-borne debris impact on structures using an embedded accelerometer. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 435-449.	0.7	29
44	Design of Storm-Water Retention Ponds with Floating Treatment Wetlands. Journal of Environmental Engineering, ASCE, 2013, 139, 1343-1349.	0.7	27
45	Scour at wind turbine tripod foundation under steady flow. Ocean Engineering, 2017, 141, 277-282.	1.9	27
46	Clear-Water Local Scour at Skewed Complex Bridge Piers. Journal of Hydraulic Engineering, 2018, 144, 04018019.	0.7	26
47	Temporal Evolution of Clear-Water Local Scour at Aligned and Skewed Complex Bridge Piers. Journal of Hydraulic Engineering, 2020, 146, .	0.7	26
48	Experimental study of uplift loads due to tsunami bore impact on a wharf model. Coastal Engineering, 2016, 117, 126-137.	1.7	25
49	Effects of Upstream Weir Slope on Local Scour at Submerged Weirs. Journal of Hydraulic Engineering, 2018, 144, .	0.7	25
50	Countermeasures for local scour at offshore wind turbine monopile foundations: A review. Water Science and Engineering, 2022, 15, 15-28.	1.4	25
51	Riprap Size Selection at Wing-Wall Abutments. Journal of Hydraulic Engineering, 2007, 133, 1265-1269.	0.7	21
52	Analysis of hydrodynamic lift on a bed sediment particle. Journal of Geophysical Research, 2011, 116, .	3.3	21
53	Drag force on a sediment particle from point velocity measurements: A spectral approach. Water Resources Research, 2010, 46, .	1.7	20
54	An Experimental Investigation of Tsunami Bore Impacts on a Coastal Bridge Model with Different Contraction Ratios. Journal of Coastal Research, 2018, 342, 460-469.	0.1	20

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55	Effects of a downstream submerged weir on local scour at bridge piers. Journal of Hydro-Environment Research, 2018, 20, 101-109.	1.0	20
56	Mitigation of tsunami bore impact on a vertical wall behind a barrier. Coastal Engineering, 2021, 164, 103833.	1.7	19
57	Hybrid Wavelet Neuro-Fuzzy Approach for Rainfall-Runoff Modeling. Journal of Computing in Civil Engineering, 2016, 30, .	2.5	18
58	A Multi-Scale Analysis of Single-Unit Housing Water Demand Through Integration of Water Consumption, Land Use and Demographic Data. Water Resources Management, 2017, 31, 2173-2186.	1.9	17
59	A wavelet based approach for combining the outputs of different rainfallâ€“runoff models. Stochastic Environmental Research and Risk Assessment, 2018, 32, 155-168.	1.9	17
60	Live-Bed Scour at Wide and Long-Skewed Bridge Piers in Comparatively Shallow Water. Journal of Hydraulic Engineering, 2019, 145, .	0.7	17
61	Investigation of Flow Patterns in Storm Water Retention Ponds using CFD. Journal of Environmental Engineering, ASCE, 2013, 139, 61-69.	0.7	16
62	Knowledge Extraction from Artificial Neural Networks for Rainfall-Runoff Model Combination Systems. Journal of Hydrologic Engineering - ASCE, 2014, 19, 1422-1429.	0.8	16
63	The effect of different baffles on hydraulic performance of a sediment retention pond. Ecological Engineering, 2015, 81, 228-232.	1.6	16
64	Statistical Properties of Partial Duration Series: Case Study of North Island, New Zealand. Journal of Hydrologic Engineering - ASCE, 2014, 19, 807-815.	0.8	15
65	Temporal Evolution of Clear-Water Scour Depth at Submerged Weirs. Journal of Hydraulic Engineering, 2020, 146, .	0.7	15
66	Experimental investigation of tsunami bore-induced forces and pressures on skewed box section bridges. Ocean Engineering, 2021, 224, 108730.	1.9	15
67	Local Scour at Complex Bridge Piers in Close Proximity under Clear-Water and Live-Bed Flow Regime. Water (Switzerland), 2019, 11, 1530.	1.2	14
68	Retrofitting a stormwater retention pond using a deflector island. Water Science and Technology, 2011, 63, 2867-2872.	1.2	13
69	Role of Turbulence and Particle Exposure on Entrainment of Large Spherical Particles in Flows with Low Relative Submergence. Journal of Hydraulic Engineering, 2012, 138, 1022-1030.	0.7	13
70	Statistically downscaled probabilistic multiâ€model ensemble projections of precipitation change in a watershed. Hydrological Processes, 2013, 27, 1021-1032.	1.1	13
71	Evaluation of hydraulic performance indices for retention ponds. Water Science and Technology, 2015, 72, 10-21.	1.2	13
72	Experimental investigation of tsunami-borne debris impact force on structures: Factors affecting impulse-momentum formula. Ocean Engineering, 2016, 127, 158-169.	1.9	13

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73	Scour Estimation Downstream of Submerged Weirs. Journal of Hydraulic Engineering, 2019, 145, .	0.7	13
74	Impacts of Bridge Piers on Scour at Downstream River Training Structures: Submerged Weir as an Example. Water Resources Research, 2020, 56, e2019WR026720.	1.7	13
75	Dynamic morphology in a bridge-contracted compound channel during extreme floods: Effects of abutments, bed-forms and scour countermeasures. Journal of Hydrology, 2021, 594, 125930.	2.3	12
76	Experimental study on local scour at complex bridge piers under steady currents with bed-form migration. Ocean Engineering, 2021, 234, 109329.	1.9	12
77	Stability of Composite Breakwaters under Tsunami Attack. Journal of Waterway, Port, Coastal and Ocean Engineering, 2020, 146, .	0.5	9
78	Effects of Streamwise Abutment Length on Scour at Riprap Apron-Protected Setback Abutments in Compound Channels. Journal of Hydraulic Engineering, 2021, 147, .	0.7	9
79	Discussions and Closure: Pier and Abutment Scour: Integrated Approach. Journal of Hydraulic Engineering, 1998, 124, 769-774.	0.7	8
80	Testing and calibration of smart pebble for river bed sediment transport monitoring. , 2007, , .		8
81	Estimation of the effects of price on apartment water demand using cointegration and error correction techniques. Applied Economics, 2016, 48, 461-470.	1.2	8
82	Future implications of urban intensification on residential water demand. Journal of Environmental Planning and Management, 2017, 60, 1809-1824.	2.4	8
83	Instant tsunami bore pressure and force on a cylindrical structure. Journal of Hydro-Environment Research, 2018, 19, 28-40.	1.0	8
84	Assessment of the Myitnge River flow responses in Myanmar under changes in land use and climate. Modeling Earth Systems and Environment, 2021, 7, 1393-1415.	1.9	8
85	Projection of future extreme precipitation: a robust assessment of downscaled daily precipitation. Natural Hazards, 2021, 107, 311-329.	1.6	8
86	Tsunami loads on slab bridges. Coastal Engineering, 2021, 165, 103853.	1.7	8
87	Novel Riprap Structure for Improved Bridge Pier Scour Protection. Journal of Hydraulic Engineering, 2022, 148, .	0.7	8
88	Implementation Aspects and Offline Digital Signal Processing of a Smart Pebble for River Bed Sediment Transport Monitoring. , 2006, , .		7
89	Flow Measurement Using Flying ADV Probes. Journal of Hydraulic Engineering, 2007, 133, 1345-1355.	0.7	7
90	SWAT.nz: New-Zeland-based â€œSand Waves and Turbulenceâ€•experimental programme. Acta Geophysica, 2008, 56, 417-439.	1.0	7

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91	Impact of Ensemble Size on Forecasting Occurrence of Rainfall Using TIGGE Precipitation Forecasts. Journal of Hydrologic Engineering - ASCE, 2014, 19, 732-738.	0.8	7
92	Stratification of NWP Forecasts for Medium-Range Ensemble Streamflow Forecasting. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	0.8	7
93	Temporal evolution of scour at bridge abutments in compound channels. International Journal of Sediment Research, 2022, 37, 662-674.	1.8	7
94	Statistical Properties of Partial Duration Series and Its Implication on Regional Frequency Analysis. Journal of Hydrologic Engineering - ASCE, 2014, 19, 1471-1480.	0.8	6
95	Hybrid Wavelet Neural Network Approach. Studies in Computational Intelligence, 2016, , 127-143.	0.7	6
96	Hydraulic investigation of the impact of retrofitting floating treatment wetlands in retention ponds. Water Science and Technology, 2019, 80, 1476-1484.	1.2	6
97	Pickup rate of non-cohesive sediments in low-velocity flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2022, 60, 125-135.	0.7	6
98	Flow Redistribution at Bridge Contractions in Compound Channel for Extreme Hydrological Events and Implications for Sediment Scour. Journal of Hydraulic Engineering, 2021, 147, 04021005.	0.7	6
99	Flow-Induced Failure of Cable-Tied Blocks. Journal of Hydraulic Engineering, 2006, 132, 324-327.	0.7	5
100	Assessment of Climate Change Impact on Water Balance of Forested and Farmed Catchments. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	0.8	5
101	A Multiâ€Scale Analysis of Lowâ€Rise Apartment Water Demand through Integration of Water Consumption, Land Use, and Demographic Data. Journal of the American Water Resources Association, 2016, 52, 1056-1067.	1.0	5
102	Clear-water scour at long skewed bridge piers. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2017, 40, 10-18.	0.6	5
103	Mitigation Effect of Vertical Walls on a Wharf Model Subjected to Tsunami Bores. Journal of Earthquake and Tsunami, 2017, 11, 1750004.	0.7	5
104	Investigations of Reduction Effect of Vertical Wall on Dam-Break-Simulated Tsunami Surge Exerted on Wharf Piles. Journal of Earthquake and Tsunami, 2018, 12, 1840006.	0.7	5
105	Experimental investigation of the effect of temperature differentials on hydraulic performance and flow pattern of a sediment retention pond. Water Science and Technology, 2018, 77, 2896-2906.	1.2	5
106	Improving the Summer Power Generation of a Hydropower Reservoir Using the Modified Multi-Step Ahead Time-Varying Hedging Rule. Water Resources Management, 2022, 36, 853.	1.9	5
107	Fluctuating Frequency of Live Bed Scour Depth around Submerged Weirs at Equilibrium Stages. Journal of Hydraulic Engineering, 2022, 148, .	0.7	5
108	Scale Effect in Pier-Scour Experiments. Journal of Hydraulic Engineering, 1999, 125, 894-895.	0.7	4

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109	Riprap Protection of Bridge Abutments under Clear Water Conditions. , 2000, , 1.		4
110	Impact of Ensemble Size on TIGGE Precipitation Forecasts: An End-User Perspective. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	0.8	4
111	Evaluating the determinants of high-rise apartment water demand through integration of water consumption, land use and demographic data. Water Policy, 2018, 20, 966-981.	0.7	4
112	Numerical Simulation of Turbidity Current in Approach Channels with a Closed End. Journal of Waterway, Port, Coastal and Ocean Engineering, 2020, 146, .	0.5	4
113	Characteristics of the flow field within a developing scour hole at a submerged weir. Journal of Hydraulic Research/De Recherches Hydrauliques, 2022, 60, 283-294.	0.7	4
114	Closure to â€œ Local Scour at Bridge Abutments â€•by B. W. Melville (April, 1992, Vol. 118, No. 4). Journal of Hydraulic Engineering, 1993, 119, 1071-1073.	0.7	3
115	Bridge-Scour Prevention and Countermeasures. , 2008, , 543-577.		3
116	Low-Cost Autonomous 3-D Monitoring Systems for Hydraulic Engineering Environments and Applications With Limited Accuracy Requirements. IEEE Sensors Journal, 2010, 10, 331-339.	2.4	3
117	Closure to â€œClear-Water Local Scour around Pile Groups in Shallow-Water Flowâ€•by Ata Amini, Bruce W. Melville, Thamer M. Ali, and Abdul H. Ghazali. Journal of Hydraulic Engineering, 2013, 139, 680-681.	0.7	3
118	Estimation of soil hydraulic properties and their uncertainty through the Beerkan infiltration experiment. Hydrological Processes, 2015, 29, 3699-3713.	1.1	3
119	Experimental Investigation of Tsunami Bore-Induced Forces on Skewed Deck Girder Section Bridges. Journal of Hydraulic Engineering, 2021, 147, .	0.7	3
120	Waves Generated by Discrete and Sustained Gas Eruptions With Implications for Submarine Volcanic Tsunamis. Geophysical Research Letters, 2021, 48, e2021GL094539.	1.5	3
121	Closure to â€œ Bridge Pier Scour with Debris Accumulation â€•by Bruce W. Melville and D. M. Dongol (September, 1992, Vol. 118, No. 9). Journal of Hydraulic Engineering, 1994, 120, 523-524.	0.7	2
122	Closure to â€œTime Scale for Local Scour at Bridge Piersâ€•by Bruce W. Melville and Yeeâ€Meng Chiew. Journal of Hydraulic Engineering, 2000, 126, 794-794.	0.7	2
123	Local Scour at Complex Piers. , 2006, , 1.		2
124	Effect of baffles on the hydraulic performance of sediment retention ponds. Water Science and Technology, 2017, 75, 1991-1996.	1.2	2
125	Scour geometry at long skewed bridge piers under shallow water flows. Water Management, 2018, 171, 241-252.	0.4	2
126	Stream Temperature Modeling and Fiber Optic Temperature Sensing to Characterize Groundwater Discharge. Ground Water, 2020, 58, 661-673.	0.7	2

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127	The effect of inlet width on the performance of sediment retention ponds in thermally induced flows. Journal of Hydrology, 2022, 606, 127377.	2.3	2
128	Discussion of â€œ Effects of Footing Location on Bridge Pier Scour â€•by J. Sterling Jones, Roger T. Kilgore, and Mark P. Mistichelli (February, 1992, Vol. 118, No. 2). Journal of Hydraulic Engineering, 1993, 119, 296-298.	0.7	1
129	Evaluating spatial and seasonal determinants of residential water demand across different housing types through data integration. Water International, 2018, 43, 926-942.	0.4	1
130	Experimental investigation of the effects of contraction on tsunami-induced forces and pressures on a box section bridge. Journal of Hydro-Environment Research, 2022, 40, 116-130.	1.0	1
131	Discussion of â€œStudy of Timeâ€Dependent Local Scour Around Bridge Piersâ€•by A. Melih Yanmaz and H. DogË‡an Altmbilek (October, 1991, Vol. 117, No. 10). Journal of Hydraulic Engineering, 1992, 118, 1593-1595.	0.7	0
132	Closure to â€œFluvial Entrainment of Protruding Fractured Rockâ€•by Stephen E. Coleman, Bruce W. Melville, and Lance Gore. Journal of Hydraulic Engineering, 2005, 131, 143-144.	0.7	0
133	Pattern Observation during Bed-Form Development. , 2008, , .		0
134	A preliminary study on scour at submerged weirs in live bed conditions. , 2014, , 1401-1406.		0
135	Book Review - Experimental Hydraulics: Methods, Instrumentation, Data Processing and Management. ÂMarian MusteÂ(Editor in Chief). IAHR Monographs, two volumes, CRC Press, 2017. 906Âpp. ISBN: 9781138027534. Â£190.00.. Journal of Fluid Mechanics, 2018, 855, 1238-1241.	1.4	0
136	Hydrodynamic Uplift Forces on Submerged Bridge Decks during Bedform Migration. Journal of Hydraulic Engineering, 2022, 148, .	0.7	0