Zhi-xian Cao

List of Publications by Year
in descending order

74 papers	1,950 citations	236925 25 h-index	265206 42 g-index
83 all docs	83 docs citations	83 times ranked	1102 citing authors

#	Article	IF	Citations
1	Computational Dam-Break Hydraulics over Erodible Sediment Bed. Journal of Hydraulic Engineering, 2004, 130, 689-703.	1.5	288
2	Coupled and Decoupled Numerical Modeling of Flow and Morphological Evolution in Alluvial Rivers. Journal of Hydraulic Engineering, 2002, 128, 306-321.	1.5	107
3	Dam-break flows over mobile beds: experiments and benchmark tests for numerical models. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 364-375.	1.7	91
4	Landslide dam failure and flood hydraulics. Part I: experimental investigation. Natural Hazards, 2011, 59, 1003-1019.	3.4	75
5	Landslide dam failure and flood hydraulics. Part II: coupled mathematical modelling. Natural Hazards, 2011, 59, 1021-1045.	3.4	71
6	Shallow water hydrodynamic models for hyperconcentrated sediment-laden floods over erodible bed. Advances in Water Resources, 2006, 29, 546-557.	3.8	65
7	Flow reversal over a natural pool-riffle sequence: a computational study. Earth Surface Processes and Landforms, 2003, 28, 689-705.	2.5	60
8	Numerical modelling of turbidity currents in the Xiaolangdi reservoir, Yellow River, China. Journal of Hydrology, 2012, 464-465, 41-53.	5.4	58
9	Role of suspended-sediment particle size in modifying velocity profiles in open channel flows. Water Resources Research, 2003, 39, .	4.2	53
10	A double layer-averaged model for dam-break flows over mobile bed. Journal of Hydraulic Research/De Recherches Hydrauliques, 2013, 51, 518-534.	1.7	52
11	Fully coupled mathematical modeling of turbidity currents over erodible bed. Advances in Water Resources, 2009, 32, 1-15.	3.8	51
12	Multiple time scales of alluvial rivers carrying suspended sediment and their implications for mathematical modeling. Advances in Water Resources, 2007, 30, 715-729.	3.8	50
13	Numerical modelling of alternate bar formation, development and sediment sorting in straight channels. Earth Surface Processes and Landforms, 2017, 42, 555-574.	2.5	48
14	Turbulent flow across a natural compound channel. Water Resources Research, 2002, 38, 6-1-6-11.	4.2	47
15	A depthâ€averaged twoâ€phase model for debris flows over erodible beds. Earth Surface Processes and Landforms, 2018, 43, 817-839.	2.5	45
16	Modelling roll waves with shallow water equations and turbulent closure. Journal of Hydraulic Research/De Recherches Hydrauliques, 2015, 53, 161-177.	1.7	38
17	Multiple Time Scales of Fluvial Processes with Bed Load Sediment and Implications for Mathematical Modeling. Journal of Hydraulic Engineering, 2011, 137, 267-276.	1.5	36
18	Whole-Process Modeling of Reservoir Turbidity Currents by a Double Layer-Averaged Model. Journal of Hydraulic Engineering, 2015, 141, .	1.5	36

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19	Well-balanced numerical modelling of non-uniform sediment transport in alluvial rivers. International Journal of Sediment Research, 2015, 30, 117-130.	3.5	35
20	Computationally efficient modeling of hydro-sediment-morphodynamic processes using a hybrid local time step/global maximum time step. Advances in Water Resources, 2019, 127, 26-38.	3.8	34
21	Shallow Water Hydro-Sediment-Morphodynamic Equations for Fluvial Processes. Journal of Hydraulic Engineering, 2017, 143, .	1.5	32
22	Flow Resistance and Momentum Flux in Compound Open Channels. Journal of Hydraulic Engineering, 2006, 132, 1272-1282.	1.5	30
23	Experimental Study of Landslide Dam-Break Flood Over Erodible Bed in Open Channels. Journal of Hydrodynamics, 2009, 21, 124-130.	3.2	27
24	Experimental investigations of graded sediment transport under unsteady flow hydrographs. International Journal of Sediment Research, 2015, 30, 306-320.	3.5	27
25	Numerical modelling of riverbed grain size stratigraphic evolution. International Journal of Sediment Research, 2014, 29, 329-343.	3.5	26
26	Derivation of operation rules for reservoirs in parallel with joint water demand. Water Resources Research, 2015, 51, 9539-9563.	4.2	26
27	Non-capacity or capacity model for fluvial sediment transport. Water Management, 2012, 165, 193-211.	1.2	24
28	Hydro-sediment-morphodynamic processes of the baige landslide-induced barrier Lake, Jinsha River, China. Journal of Hydrology, 2021, 596, 126134.	5.4	24
29	Barrier lake formation due to landslide impacting a river: A numerical study using a double layer-averaged two-phase flow model. Applied Mathematical Modelling, 2020, 80, 574-601.	4.2	23
30	Two-dimensional coupled mathematical modeling of fluvial processes with intense sediment transport and rapid bed evolution. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 1427-1438.	0.2	22
31	Coupled 2D hydrodynamic and sediment transport modeling of megaflood due to glacier dam-break in Altai Mountains, Southern Siberia. Journal of Mountain Science, 2014, 11, 1442-1453.	2.0	21
32	On evolution of bed material waves in alluvial rivers. Earth Surface Processes and Landforms, 2003, 28, 437-441.	2.5	20
33	A 2D hydrodynamic model for shallow water flows with significant infiltration losses. Hydrological Processes, 2020, 34, 2263-2280.	2.6	19
34	Coupled flood and sediment transport modelling with adaptive mesh refinement. Science China Technological Sciences, 2015, 58, 1425-1438.	4.0	18
35	Non-capacity transport of non-uniform bed load sediment in alluvial rivers. Journal of Mountain Science, 2016, 13, 377-396.	2.0	18
36	Full 2D hydrodynamic modelling of rainfall-induced flash floods. Journal of Mountain Science, 2015, 12, 1203-1218.	2.0	15

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37	Improved Local Time Step for 2D Shallow-Water Modeling Based on Unstructured Grids. Journal of Hydraulic Engineering, 2019, 145, .	1.5	15
38	A depth-averaged two-phase model for debris flows over fixed beds. International Journal of Sediment Research, 2018, 33, 462-477.	3.5	14
39	A quasi single-phase model for debris flows and its comparison with a two-phase model. Journal of Mountain Science, 2018, 15, 1071-1089.	2.0	14
40	Waves and Sediment Transport Due to Granular Landslides Impacting Reservoirs. Water Resources Research, 2019, 55, 495-518.	4.2	14
41	Reconciled bedload sediment transport rates in ephemeral and perennial rivers. Earth Surface Processes and Landforms, 2010, 35, 1655-1665.	2.5	13
42	Graded and uniform bed load sediment transport in a degrading channel. International Journal of Sediment Research, 2016, 31, 376-385.	3.5	13
43	Role of barâ€channel interactions in a dominant branch shift: The Taipingkou waterway, Yangtze River, China. River Research and Applications, 2021, 37, 494-508.	1.7	12
44	Characterizing vertical migration of Microcystis aeruginosa and conditions for algal bloom development based on a lightâ€driven migration model. Ecological Research, 2017, 32, 961-969.	1.5	11
45	Enhanced bed load sediment transport by unsteady flows in a degrading channel. International Journal of Sediment Research, 2018, 33, 327-339.	3.5	11
46	New experimental dataset for partial dam-break floods over mobile beds. Journal of Hydraulic Research/De Recherches Hydrauliques, 2018, 56, 124-135.	1.7	11
47	Mathematical modeling of shallow-water flows on steep slopes. Journal of Hydrology and Hydromechanics, 2019, 67, 252-259.	2.0	10
48	Coupled modelling of flood due to natural landslide dam breach. Water Management, 2012, 165, 525-542.	1.2	9
49	Numerical algorithms for solving shallow water hydro-sediment-morphodynamic equations. Engineering Computations, 2017, 34, 2836-2861.	1.4	7
50	A New Flash Flood Warning Scheme Based on Hydrodynamic Modelling. Water (Switzerland), 2019, 11, 1221.	2.7	7
51	A depth-averaged two-phase model for fluvial sediment-laden flows over erodible beds. Advances in Water Resources, 2019, 129, 338-353.	3.8	7
52	Uncertainty quantification in shallow water-sediment flows: A stochastic Galerkin shallow water hydro-sediment-morphodynamic model. Applied Mathematical Modelling, 2021, 99, 458-477.	4.2	7
53	Well-balanced two-dimensional coupled modelling of submarine turbidity currents. Proceedings of the Institution of Civil Engineers: Maritime Engineering, 2012, 165, 169-188.	0.2	6
54	Limitations of empirical sediment transport formulas for shallow water and their consequences for swash zone modelling. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 114-120.	1.7	6

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55	Modelling of urban flooding due to Yangtze River dike break. Water Management, 2011, 164, 3-14.	1.2	5
56	Approximate Solutions for Ideal Damâ€Break Sedimentâ€Laden Flows on Uniform Slopes. Water Resources Research, 2018, 54, 2731-2748.	4.2	5
57	Discussion of â€œImpact of Turbidity Currents on Reservoir Sedimentationâ€•by Giovanni De Cesare, Anton Schleiss, and Felix Hermann. Journal of Hydraulic Engineering, 2002, 128, 644-645.	1.5	4
58	Further perspectives on the evolution of bed material waves in alluvial rivers. Earth Surface Processes and Landforms, 2005, 30, 115-120.	2.5	3
59	Comments on the paper by Guy Simpson and Sebastien Castelltort, â€œCoupled model of surface water flow, sediment transport and morphological evolutionâ€, Computers & Geosciences 32 (2006) 1600â€“1614. Computers and Geosciences, 2007, 33, 976-978.	4.2	3
60	Comment on â€œLong waves in erodible channels and morphodynamic influenceâ€•by Stefano Lanzoni et al.. Water Resources Research, 2008, 44, .	4.2	3
61	Numerical analysis of adaptation-to-capacity length for fluvial sediment transport. Journal of Mountain Science, 2014, 11, 1491-1498.	2.0	3
62	Quantifying multiple uncertainties in modelling shallow water-sediment flows: A stochastic Galerkin framework with Haar wavelet expansion and an operator-splitting approach. Applied Mathematical Modelling, 2022, 106, 259-275.	4.2	3
63	Coupled modelling of flow and non-capacity sediment transport in sewer flushing channel. Water Research, 2022, 219, 118557.	11.3	3
64	Coupled modeling of rainfall-induced floods and sediment transport at the catchment scale. International Journal of Sediment Research, 2022, 37, 715-728.	3.5	3
65	A new two-phase shallow water hydro-sediment-morphodynamic model based on the HLLC solver and the hybrid LTS/GMaTS approach. Advances in Water Resources, 2022, 166, 104254.	3.8	3
66	Pointwise and Upwind Discretizations of Source Terms in Open-Channel Flood Routing. Journal of Hydrodynamics, 2006, 18, 379-386.	3.2	2
67	Grainâ€energy release governs mobility of debris flow due to solidâ€“liquid mass release. Earth Surface Processes and Landforms, 2020, 45, 2912-2926.	2.5	2
68	Impacts of massive pumping on flood processes in poldersâ€”with a case study on Lannihu basin in the Dongting Lake District, China. Hydrological Processes, 2021, 35, e14365.	2.6	2
69	Morphodynamic processes in rivers with cascade movable weirs - a case study of the middle Fen River. Journal of Hydrology, 2021, 603, 127133.	5.4	2
70	A GPU-Accelerated and LTS-Based Finite Volume Shallow Water Model. Water (Switzerland), 2022, 14, 922.	2.7	2
71	Multiple time scales of fluvial processes â€” theory and applications. Theoretical and Applied Mechanics Letters, 2011, 1, 052001.	2.8	1
72	A 2D well-balanced, coupled model of water flow, sediment transport, and bed evolution based on unstructured grids with efficient variable storage strategy. International Journal of Sediment Research, 2021, 36, 151-160.	3.5	1

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73	Dredging Volume Estimation and Dredging Timing for Waterway Maintenance: A Case Study Using a Depth-Averaged Hydrosedimentâ€“Morphodynamic Model with Transient Dredging Effects. Journal of Waterway, Port, Coastal and Ocean Engineering, 2022, 148, .	1.2	1
74	Effect of tributary inflow on reservoir turbidity current. Environmental Fluid Mechanics, 0, , .	1.6	0