Eddy J Langendoen

List of Publications by Year
in descending order

102	2,979	172457	175258
papers	citations	29 h-index	52 g-index

107	107	107	2073
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bank and near-bank processes in an incised channel. Geomorphology, 2000, 35, 193-217.	2.6	387
2	Measuring streambank erosion due to ground water seepage: correlation to bank pore water pressure, precipitation and stream stage. Earth Surface Processes and Landforms, 2007, 32, 1558-1573.	2.5	198
3	Earthen Embankment Breaching. Journal of Hydraulic Engineering, 2011, 137, 1549-1564.	1.5	170
4	Modeling the Evolution of Incised Streams. II: Streambank Erosion. Journal of Hydraulic Engineering, 2008, 134, 905-915.	1.5	125
5	A simplified 2D model for meander migration with physically-based bank evolution. Geomorphology, 2012, 163-164, 10-25.	2.6	117
6	Spatial variability in bank resistance to erosion on a large meandering, mixed bedrock-alluvial river. Geomorphology, 2016, 252, 80-97.	2.6	108
7	Modeling the Evolution of Incised Streams: I. Model Formulation and Validation of Flow and Streambed Evolution Components. Journal of Hydraulic Engineering, 2008, 134, 749-762.	1.5	74
8	INFLUENCE OF TWO WOODY RIPARIAN SPECIES ON CRITICAL CONDITIONS FOR STREAMBANK STABILITY: UPPER TRUCKEE RIVER, CALIFORNIA. Journal of the American Water Resources Association, 2006, 42, 99-113.	2.4	71
9	Evaluating a processâ€based model for use in streambank stabilization: insights on the Bank Stability and Toe Erosion Model (BSTEM). Earth Surface Processes and Landforms, 2017, 42, 191-213.	2.5	71
10	The effects of floodplain soil heterogeneity on meander planform shape. Water Resources Research, 2012, 48, .	4.2	69
11	Modification of meander migration by bank failures. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1026-1042.	2.8	63
12	Improved numerical modeling of morphodynamics of rivers with steep banks. Advances in Water Resources, 2016, 93, 4-14.	3.8	62
13	Threeâ€dimensional flow structure and bed morphology in large elongate meander loops with different outer bank roughness characteristics. Water Resources Research, 2016, 52, 9621-9641.	4.2	60
14	A Biophysical and Economic Assessment of a Communityâ€based Rehabilitated Gully in the Ethiopian Highlands. Land Degradation and Development, 2016, 27, 270-280.	3.9	56
15	Morphological dynamics of gully systems in the subhumid Ethiopian Highlands: the Debre Mawi watershed. Soil, 2016, 2, 443-458.	4.9	55
16	Test of a Method to Calculate Near-Bank Velocity and Boundary Shear Stress. Journal of Hydraulic Engineering, 2009, 135, 588-601.	1.5	54
17	Seepage-Induced Streambank Erosion and Instability: In Situ Constant-Head Experiments. Journal of Hydrologic Engineering - ASCE, 2013, 18, 1200-1210.	1.9	50
18	Resilience of River Deltas in the Anthropocene. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005201.	2.8	48

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19	Quantifying Reductions of Massâ€Failure Frequency and Sediment Loadings From Streambanks Using Toe Protection and Other Means: Lake Tahoe, United States¹. Journal of the American Water Resources Association, 2009, 45, 170-186.	2.4	45
20	Physical-scale model designs for engineered log jams in rivers. Journal of Hydro-Environment Research, 2014, 8, 115-128.	2.2	44
21	Length scales and statistical characteristics of outer bank roughness for large elongate meander bends: The influence of bank material properties, floodplain vegetation and flow inundation. Earth Surface Processes and Landforms, 2017, 42, 2024-2037.	2.5	40
22	Measuring ephemeral gully erosion rates and topographical thresholds in an urban watershed using unmanned aerial systems and structure from motion photogrammetric techniques. Land Degradation and Development, 2018, 29, 1896-1905.	3.9	40
23	Stability Analysis of Semicohesive Streambanks with CONCEPTS : Coupling Field and Laboratory Investigations to Quantify the Onset of Fluvial Erosion and Mass Failure. Journal of Hydraulic Engineering, 2014, 140, .	1.5	36
24	Assessing the impact of riparian processes on streambank stability. Ecohydrology, 2009, 2, 360-369.	2.4	35
25	Causes and Controlling Factors of Valley Bottom Gullies. Land, 2019, 8, 141.	2.9	35
26	Sand Transport over an Immobile Gravel Substrate. Journal of Hydraulic Engineering, 2013, 139, 167-176.	1.5	33
27	Gully Head Retreat in the Subâ€Humid Ethiopian Highlands: The Eneâ€Chilala Catchment. Land Degradation and Development, 2017, 28, 1579-1588.	3.9	33
28	Gullies, a critical link in landscape soil loss: A case study in the subhumid highlands of Ethiopia. Land Degradation and Development, 2018, 29, 1222-1232.	3.9	33
29	Root reinforcement to soils provided by common Ethiopian highland plants for gully erosion control. Ecohydrology, 2018, 11, e1940.	2.4	31
30	Susceptibility to Gully Erosion: Applying Random Forest (RF) and Frequency Ratio (FR) Approaches to a Small Catchment in Ethiopia. Water (Switzerland), 2021, 13, 216.	2.7	31
31	How does root biodegradation after plant felling change root reinforcement to soil?. Plant and Soil, 2020, 446, 211-227.	3.7	30
32	Simulation and control of sediment transport due to dam removal. Journal of Applied Water Engineering and Research, 2018, 6, 95-108.	1.8	29
33	Numerically predicting seepage gradient forces and erosion: Sensitivity to soil hydraulic properties. Journal of Hydrology, 2010, 389, 354-362.	5.4	28
34	Global analysis of cover management and support practice factors that control soil erosion and conservation. International Soil and Water Conservation Research, 2022, 10, 161-176.	6.5	28
35	Modeling the Evolution of Incised Streams. III: Model Application. Journal of Hydraulic Engineering, 2009, 135, 476-486.	1.5	25
36	Flow, turbulence, and drag associated with engineered log jams in a fixed-bed experimental channel. Geomorphology, 2015, 248, 172-184.	2.6	25

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37	EROSION PROCESSES IN GULLIES MODIFIED BY ESTABLISHING GRASS HEDGES. Transactions of the American Society of Agricultural Engineers, 2004, 47, 1561-1571.	0.9	24
38	Understanding mass fluvial erosion along a bank profile: using PEEP technology for quantifying retreat lengths and identifying event timing. Earth Surface Processes and Landforms, 2017, 42, 1717-1732.	2.5	23
39	Evaluating erosion control practices in an actively gullying watershed in the highlands of Ethiopia. Earth Surface Processes and Landforms, 2018, 43, 2835-2843.	2.5	23
40	Improving watershed management practices in humid regions. Hydrological Processes, 2017, 31, 3294-3301.	2.6	23
41	ADAPTING EXISTING MODELS TO EXAMINE EFFECTS OF AGRICULTURAL CONSERVATION PROGRAMS ON STREAM HABITAT QUALITY. Journal of the American Water Resources Association, 2006, 42, 25-33.	2.4	22
42	Modeling Pre- and Post-Dam Removal Sediment Dynamics: The Kalamazoo River, Michigan. Journal of the American Water Resources Association, 2007, 43, 773-785.	2.4	22
43	Spatially Distributed Sheet, Rill, and Ephemeral Gully Erosion. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	1.9	21
44	Stream channel erosion in a rapidly urbanizing region of the USâ€“Mexico border: documenting the importance of channel hardpoints with Structureâ€fromâ€Motion photogrammetry. Earth Surface Processes and Landforms, 2018, 43, 1465-1477.	2.5	21
45	Effects of sand addition on turbulent flow over an immobile gravel bed. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	20
46	Flow patterns and exchange of matter in tidal harbours. Journal of Hydraulic Research/De Recherches Hydrauliques, 1994, 32, 259-270.	1.7	19
47	A nine-year study on the benefits and risks of soil and water conservation practices in the humid highlands of Ethiopia: The Debre Mawi watershed. Journal of Environmental Management, 2020, 270, 110885.	7.8	19
48	Improving efficacy of landscape interventions in the (sub) humid Ethiopian highlands by improved understanding of runoff processes. Frontiers in Earth Science, 2015, 3, .	1.8	18
49	Validity of Uniform Flow Hypothesis in One-Dimensional Morphodynamic Models. Journal of Hydraulic Engineering, 2011, 137, 183-195.	1.5	16
50	Turbulent Flow and Sand Transport over a Cobble Bed in a Laboratory Flume. Journal of Hydraulic Engineering, 2014, 140, .	1.5	16
51	Morphodynamic Trends of the Ribb River, Ethiopia, Prior to Dam Construction. Geosciences (Switzerland), 2018, 8, 255.	2.2	16
52	Fluvial Geomorphology, Root Distribution, and Tensile Strength of the Invasive Giant Reed, Arundo Donax and Its Role on Stream Bank Stability in the Santa Clara River, Southern California. Geosciences (Switzerland), 2018, 8, 304.	2.2	16
53	Effect of Sediment Transport Boundary Conditions on the Numerical Modeling of Bed Morphodynamics. Journal of Hydraulic Engineering, 2017, 143, .	1.5	15
54	Modelling Ephemeral Gully Erosion from Unpaved Urban Roads: Equifinality and Implications for Scenario Analysis. Geosciences (Switzerland), 2018, 8, 137.	2.2	13

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55	Erosion of Sand from a Gravel Bed. Journal of Hydraulic Engineering, 2016, 142, .	1.5	12
56	Modelling Runoff and Sediment Loads in a Developing Coastal Watershed of the US-Mexico Border. Water (Switzerland), 2019, 11, 1024.	2.7	12
57	Uncertainty and sensitivity in a bank stability model: implications for estimating phosphorus loading. Earth Surface Processes and Landforms, 2017, 42, 612-623.	2.5	11
58	The USDAâ€ARS Experimental Watershed Network: Evolution, Lessons Learned, Societal Benefits, and Moving Forward. Water Resources Research, 2021, 57, e2019WR026473.	4.2	11
59	Bank stability and toe erosion model as a decision tool for gully bank stabilization in sub humid Ethiopian highlands. Ecohydrology and Hydrobiology, 2020, 20, 301-311.	2.3	10
60	Assessment of Practices for Controlling Shallow Valley-Bottom Gullies in the Sub-Humid Ethiopian Highlands. Water (Switzerland), 2018, 10, 389.	2.7	9
61	Prediction of Sand Transport over Immobile Gravel from Supply-Limited to Capacity Conditions. Journal of Hydraulic Engineering, 2017, 143, 04017010.	1.5	8
62	Modeling the Impact of Riparian Buffer Systems on Bank Stability of an Incised Stream. , 2005, , 1.		7
63	Numerical Simulation of Post Dam Removal Sediment Dynamics along the Kalamazoo River Between Otsego and Plainwell, Michigan. , 2005, , 1.		7
64	Comparison of terrestrial lidar, SfM, and MBES resolution and accuracy for geomorphic analyses in physical systems that experience subaerial and subaqueous conditions. Geomorphology, 2020, 355, 107056.	2.6	7
65	Closure to â€œModeling the Evolution of Incised Streams. II: Streambank Erosionâ€•by Eddy J. Langendoen and Andrew Simon. Journal of Hydraulic Engineering, 2009, 135, 1107-1108.	1.5	6
66	Spatiotemporal Patterns of Fractional Suspended Sediment Dynamics in Small Watersheds. Water Resources Research, 2021, 57, e2021WR030851.	4.2	6
67	Modeling Channel Instabilities and Mitigation Strategies in Eastern Nebraska. , 2000, , 1.		5
68	Application of the CONCEPTS Channel Evolution Model in Stream Restoration Strategies. Geophysical Monograph Series, 2013, , 487-502.	0.1	5
69	A note on acoustic measurements of turbulence, suspended sediment, and bed forms in mobile-bed experiments. Journal of Hydro-Environment Research, 2014, 8, 164-173.	2.2	5
70	Bed Topography and Sand Transport Responses to a Step Change in Discharge and Water Depth. Journal of Hydraulic Engineering, 2016, 142, 04016040.	1.5	5
71	Long-term effects of dam operations for water supply to irrigation on downstream river reaches. The case of the Ribb River, Ethiopia. International Journal of River Basin Management, 2021, 19, 429-443.	2.7	5
72	Relationship of point bar morphology to channel curvature and planform evolution. Geomorphology, 2021, 375, 107541.	2.6	5

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73	Depositional patterns of slowly plugging neck cutoffs from core analysis and estimates of bedload transport, White River, Arkansas. Sedimentology, 2022, 69, 568-591.	3.1	5
74	Connecting hillslope and runoff generation processes in the Ethiopian Highlands: The Ene-Chilala watershed. Journal of Hydrology and Hydromechanics, 2020, 68, 313-327.	2.0	5
75	The National Sedimentation Laboratory: 50 years of soil and water research in a changing agricultural environment. Ecohydrology, 2009, 2, 227-234.	2.4	4
76	Bank Stability Analysis for Fluvial Erosion and Mass Failure. , 2014, , .		4
77	Predicting bed load transport of sand and gravel on Goodwin Creek. Journal of Hydro-Environment Research, 2014, 8, 153-163.	2.2	4
78	Sediment Transport and Bed-Form Characteristics for a Range of Step-Down Flows. Journal of Hydraulic Engineering, 2020, 146, 04019060.	1.5	4
79	CONCEPTS: A Process-Based Computer Model of Instream and Riparian Processes. , 2006, , 1.		3
80	Enhancements of a Bank-Stability and Toe-Erosion Model and the Addition of Improved Mechanical Root-Reinforcement Algorithms. , 2007, , 1.		3
81	Evaluating sediment transport capacity relationships for use in ephemeral gully erosion models. Proceedings of the International Association of Hydrological Sciences, 0, 367, 128-133.	1.0	3
82	Rapid assessment of abrupt urban mega-gully and landslide events with structure-from-motion photogrammetric techniques validates link to water resources infrastructure failures in an urban periphery. Natural Hazards and Earth System Sciences, 2022, 22, 523-538.	3.6	3
83	Structural Changes of Mobile Gravel Bed Surface for Increasing Flow Intensity. Journal of Hydraulic Engineering, 2020, 146, .	1.5	2
84	Elements for the Successful Computer Simulation of Sediment Management Strategies for Reservoirs. Water (Switzerland), 2020, 12, 714.	2.7	2
85	Alteration of the Fogera Plain flood regime due to Ribb Dam construction, Upper Blue Nile Basin, Ethiopia. Journal of Applied Water Engineering and Research, 0, , 1-22.	1.8	2
86	Reach-scale morphodynamics: Insights from 20Âyears of observations and model simulations. Geomorphology, 2022, 413, 108375.	2.6	2
87	A Deterministic Bank-Stability and Toe-Erosion Model for Stream Restoration. , 2006, , 1.		1
88	Evaluation of the Conservational Channel Evolution and Pollutant Transport System (CONCEPTS) Applied to Composite Streambanks in the Ozark Highlands Ecoregion. , 2013, , .		1
89	Sampling Interval Analysis and CDF Generation for Grain-Scale Gravel Bed Topography. Journal of Hydraulic Engineering, 2018, 144, 04018065.	1.5	1
90	On the governing equations for horizontal and vertical coupling of one- and two-dimensional open channel flow models. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 709-724.	1.7	1

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91	Long term agroecosystem research experimental watershed network. Hydrological Processes, 2022, 36, .	2.6	1
92	Reply To Discussionby Xixi Wang, Assefa M. Melesse, Steve W. Kelsch, and Wanhong Yang¹. Journal of the American Water Resources Association, 2006, 42, 1715-1716.	2.4	0
93	Comparison of Empirical and Analytical Physical Assessment Approaches for Stream Restoration: A Case Study on Abrams Creek, Great Smoky Mountains National Park, Tennessee. , 2008, , .		0
94	Quantifying Existing and Potential Reductions in Sediment Loads from Streambanks. , 2008, , .		0
95	Streambank Erosion Assessment in Southeastern Plains Ecoregion Channels Using In Situ Monitoring and Submerged Jet Testing. , 2010, , .		0
96	Guest Editors' note. Journal of Hydro-Environment Research, 2014, 8, 75-76.	2.2	0
97	Responses of Experimental River Corridors to Engineered Log Jams. , 2015, , .		0
98	Examining the Generality of Ï„0/TKE for Gravel and Cobble Beds with Sand Fill. Journal of Hydraulic Engineering, 2017, 143, 06016028.	1.5	0
99	Changes in Sediment Transport and Bed Topography in Response to Step-Up Flows in Laboratory Flume. Journal of Hydraulic Engineering, 2021, 147, 06021002.	1.5	0
100	Effect of Increasing Antecedent Flows on Equilibrium Bed-Load Transport Rates in a Laboratory Channel with a Sand and Gravel Bed Channel. Journal of Hydraulic Engineering, 2021, 147, 04021038.	1.5	0
101	Cyclical Fluvial Response Caused by Rechannelization. , 2011, , .		0
102	USDA-ARS National Sedimentation Laboratory: A Historic Perspective. Journal of Water Resource and Protection, 2015, 07, 228-246.	0.8	0