

# Garry R Willgoose

## List of Publications by Year in descending order

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Version: 2024-02-01

90  
papers

5,635  
citations

94433

37  
h-index

79698

73  
g-index

110  
all docs

110  
docs citations

110  
times ranked

4249  
citing authors

#	ARTICLE	IF	CITATIONS
1	Observed spatial organization of soil moisture and its relation to terrain indices. <i>Water Resources Research</i> , 1999, 35, 797-810.	4.2	646
2	A coupled channel network growth and hillslope evolution model: 1. Theory. <i>Water Resources Research</i> , 1991, 27, 1671-1684.	4.2	602
3	Revisiting the hypsometric curve as an indicator of form and process in transport-limited catchment. <i>Earth Surface Processes and Landforms</i> , 1998, 23, 611-623.	2.5	240
4	In situ measurement of soil moisture: a comparison of techniques. <i>Journal of Hydrology</i> , 2004, 293, 85-99.	5.4	240
5	Results from a new model of river basin evolution. <i>Earth Surface Processes and Landforms</i> , 1991, 16, 237-254.	2.5	215
6	A coupled channel network growth and hillslope evolution model: 2. Nondimensionalization and applications. <i>Water Resources Research</i> , 1991, 27, 1685-1696.	4.2	197
7	One-dimensional soil moisture profile retrieval by assimilation of near-surface observations: a comparison of retrieval algorithms. <i>Advances in Water Resources</i> , 2001, 24, 631-650.	3.8	180
8	On the effect of digital elevation model accuracy on hydrology and geomorphology. <i>Water Resources Research</i> , 1999, 35, 2259-2268.	4.2	167
9	A physical explanation of an observed link area-slope relationship. <i>Water Resources Research</i> , 1991, 27, 1697-1702.	4.2	150
10	Mathematical Modeling of Whole Landscape Evolution. <i>Annual Review of Earth and Planetary Sciences</i> , 2005, 33, 443-459.	11.0	149
11	A physical explanation for an observed area-slope-elevation relationship for catchments with declining relief. <i>Water Resources Research</i> , 1994, 30, 151-159.	4.2	139
12	One-Dimensional Soil Moisture Profile Retrieval by Assimilation of Near-Surface Measurements: A Simplified Soil Moisture Model and Field Application. <i>Journal of Hydrometeorology</i> , 2001, 2, 356-373.	1.9	121
13	Characterisation of the hydrology of an estuarine wetland. <i>Journal of Hydrology</i> , 1998, 211, 34-49.	5.4	119
14	Medium-term erosion simulation of an abandoned mine site using the SIBERIA landscape evolution model. <i>Soil Research</i> , 2000, 38, 249.	1.1	96
15	Use of a landscape simulator in the validation of the SIBERIA Catchment Evolution Model: Declining equilibrium landforms. <i>Water Resources Research</i> , 2001, 37, 1981-1992.	4.2	91
16	Goulburn River experimental catchment data set. <i>Water Resources Research</i> , 2007, 43, .	4.2	83
17	The long-term stability of engineered landforms of the Ranger Uranium Mine, Northern Territory, Australia: application of a catchment evolution model. <i>Earth Surface Processes and Landforms</i> , 1998, 23, 237-259.	2.5	82
18	Active microwave remote sensing for soil moisture measurement: a field evaluation using ERS-2. <i>Hydrological Processes</i> , 2004, 18, 1975-1997.	2.6	81

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19	A linked surface water-groundwater modelling approach to more realistically simulate rainfall-runoff non-stationarity in semi-arid regions. <i>Journal of Hydrology</i> , 2019, 575, 273-291.	5.4	74
20	Mechanisms influencing non-stationarity in rainfall-runoff relationships in southeast Australia. <i>Journal of Hydrology</i> , 2019, 571, 749-764.	5.4	74
21	A statistic for testing the elevation characteristics of landscape simulation models. <i>Journal of Geophysical Research</i> , 1994, 99, 13987-13996.	3.3	70
22	Spatial prediction of temporal soil moisture dynamics using HYDRUS-1D. <i>Hydrological Processes</i> , 2014, 28, 171-185.	2.6	67
23	Post-mining landform evolution modelling: 2. Effects of vegetation and surface ripping. <i>Earth Surface Processes and Landforms</i> , 2000, 25, 803-823.	2.5	62
24	Three-dimensional soil moisture profile retrieval by assimilation of near-surface measurements: Simplified Kalman filter covariance forecasting and field application. <i>Water Resources Research</i> , 2002, 38, 37-1-37-13.	4.2	61
25	Post-mining landform evolution modelling: 1. Derivation of sediment transport model and rainfall-runoff model parameters. <i>Earth Surface Processes and Landforms</i> , 2000, 25, 743-763.	2.5	60
26	Effects of vertical resolution and map scale of digital elevation models on geomorphological parameters used in hydrology. <i>Hydrological Processes</i> , 1995, 9, 363-382.	2.6	58
27	Channel network simulation models compared with data from the Ashley River, New Zealand. <i>Water Resources Research</i> , 1999, 35, 3875-3890.	4.2	58
28	The interaction between hydrology and geomorphology in a landscape simulator experiment. <i>Hydrological Processes</i> , 2001, 15, 115-133.	2.6	54
29	The mARM spatially distributed soil evolution model: A computationally efficient modeling framework and analysis of hillslope soil surface organization. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	49
30	Estimating evapotranspiration for a temperate salt marsh, Newcastle, Australia. <i>Hydrological Processes</i> , 2001, 15, 957-975.	2.6	47
31	Multivariate data assimilation of GRACE, SMOS, SMAP measurements for improved regional soil moisture and groundwater storage estimates. <i>Advances in Water Resources</i> , 2020, 135, 103477.	3.8	47
32	Variations in hydrological connectivity of Australian semiarid landscapes indicate abrupt changes in rainfall-use efficiency of vegetation. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	45
33	A physical explanation of the cumulative area distribution curve. <i>Water Resources Research</i> , 1998, 34, 1335-1343.	4.2	44
34	The production of digital elevation models for experimental model landscapes. <i>Earth Surface Processes and Landforms</i> , 2001, 26, 475-490.	2.5	43
35	Towards a general equation for frequency domain reflectometers. <i>Journal of Hydrology</i> , 2010, 383, 319-329.	5.4	41
36	The Nerrigundah Data Set: Soil moisture patterns, soil characteristics, and hydrological flux measurements. <i>Water Resources Research</i> , 2001, 37, 2653-2658.	4.2	40

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37	A one-dimensional model for simulating armouring and erosion on hillslopes: 1. model development and event-scale dynamics. <i>Earth Surface Processes and Landforms</i> , 2006, 31, 970-991.	2.5	39
38	The interaction between armouring and particle weathering for eroding landscapes. <i>Earth Surface Processes and Landforms</i> , 2006, 31, 1195-1210.	2.5	38
39	Laboratory simulation of the salt weathering of schist: 1. Weathering of schist blocks in a seasonally wet tropical environment. <i>Earth Surface Processes and Landforms</i> , 2006, 31, 339-354.	2.5	37
40	The mARM3D spatially distributed soil evolution model: Three-dimensional model framework and analysis of hillslope and landform responses. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	37
41	A model of river basin evolution. <i>Eos</i> , 1990, 71, 1806.	0.1	34
42	Spatial organization of soil depths using a landform evolution model. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	34
43	A methodology for calculating the spatial distribution of the area-slope equation and the hypsometric integral within a catchment. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	34
44	Estimating catchment scale soil moisture at a high spatial resolution: Integrating remote sensing and machine learning. <i>Science of the Total Environment</i> , 2021, 776, 145924.	8.0	32
45	The relationship between catchment and hillslope properties: implications of a catchment evolution model. <i>Geomorphology</i> , 1992, 5, 21-37.	2.6	30
46	A hybrid model for point rainfall modeling. <i>Water Resources Research</i> , 1997, 33, 1699-1706.	4.2	30
47	A simple model of saturation excess runoff generation based on geomorphology, steady state soil moisture. <i>Water Resources Research</i> , 2001, 37, 147-155.	4.2	29
48	Investigating the impact of leaf area index temporal variability on soil moisture predictions using remote sensing vegetation data. <i>Journal of Hydrology</i> , 2015, 522, 274-284.	5.4	29
49	Mining rehabilitation – Using geomorphology to engineer ecologically sustainable landscapes for highly disturbed lands. <i>Ecological Engineering</i> , 2020, 155, 105836.	3.6	28
50	The role of moisture cycling in the weathering of a quartz chlorite schist in a tropical environment: findings of a laboratory simulation. <i>Earth Surface Processes and Landforms</i> , 2005, 30, 413-428.	2.5	26
51	Environmental and site factors controlling the vertical distribution and radiocarbon ages of organic carbon in a sandy soil. <i>Biology and Fertility of Soils</i> , 2013, 49, 1015-1026.	4.3	26
52	An in-situ data based model to downscale radiometric satellite soil moisture products in the Upper Hunter Region of NSW, Australia. <i>Journal of Hydrology</i> , 2019, 572, 820-838.	5.4	26
53	Stability and storage of soil organic carbon in a heavy-textured Karst soil from south-eastern Australia. <i>Soil Research</i> , 2014, 52, 476.	1.1	24
54	The feasibility of predicting the spatial pattern of soil particle-size distribution using a pedogenesis model. <i>Geoderma</i> , 2019, 341, 195-205.	5.1	24

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55	Generalisation of a hybrid model for point rainfall. <i>Journal of Hydrology</i> , 1999, 219, 218-224.	5.4	23
56	A one-dimensional model for simulating armouring and erosion on hillslopes: 2. Long term erosion and armouring predictions for two contrasting mine spoils. <i>Earth Surface Processes and Landforms</i> , 2007, 32, 1437-1453.	2.5	23
57	Exploring the sensitivity on a soil area-slope-grading relationship to changes in process parameters using a pedogenesis model. <i>Earth Surface Dynamics</i> , 2016, 4, 607-625.	2.4	22
58	Geomorphic design and modelling at catchment scale for best mine rehabilitation – The Drayton mine example (New South Wales, Australia). <i>Environmental Modelling and Software</i> , 2019, 114, 140-151.	4.5	22
59	An experimental and computer simulation study of erosion on a mine tailings dam wall. <i>Earth Surface Processes and Landforms</i> , 2004, 29, 457-475.	2.5	21
60	A Framework for the Quantitative Testing of Landform Evolution Models. <i>Geophysical Monograph Series</i> , 2013, , 195-216.	0.1	20
61	The effects of sediment transport, weathering, and aeolian mechanisms on soil evolution. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 260-274.	2.8	20
62	A coupled soilscape–landform evolution model: model formulation and initial results. <i>Earth Surface Dynamics</i> , 2019, 7, 591-607.	2.4	20
63	A Comparative Study of Australian Cartometric and Photogrammetric Digital Elevation Model Accuracy. <i>Photogrammetric Engineering and Remote Sensing</i> , 2006, 72, 771-779.	0.6	19
64	Detecting inundation thresholds for dryland wetland vulnerability. <i>Advances in Water Resources</i> , 2019, 128, 168-182.	3.8	19
65	Catchment-scale drought: capturing the whole drought cycle using multiple indicators. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 1985-2002.	4.9	19
66	Disaggregating satellite soil moisture products based on soil thermal inertia: A comparison of a downscaling model built at two spatial scales. <i>Journal of Hydrology</i> , 2021, 594, 125894.	5.4	19
67	Monitoring irrigation water use over paddock scales using climate data and landsat observations. <i>Agricultural Water Management</i> , 2019, 221, 175-191.	5.6	17
68	Monitoring irrigation using landsat observations and climate data over regional scales in the Murray-Darling Basin. <i>Journal of Hydrology</i> , 2020, 590, 125356.	5.4	17
69	Soil–landscape response to mid and late Quaternary climate fluctuations based on numerical simulations. <i>Quaternary Research</i> , 2013, 79, 452-457.	1.7	16
70	Development and evaluation of a stochastic daily rainfall model with long-term variability. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 6541-6558.	4.9	15
71	A qualitative and quantitative evaluation of experimental model catchment evolution. <i>Hydrological Processes</i> , 2003, 17, 2347-2363.	2.6	14
72	Stochastic Generation of Future Hydroclimate Using Temperature as a Climate Change Covariate. <i>Water Resources Research</i> , 2021, 57, 2020WR027331.	4.2	13

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73	Estimation of subgrid scale kinematic wave parameters for hillslopes. <i>Hydrological Processes</i> , 1995, 9, 469-482.	2.6	10
74	The effect of fragmentation on the distribution of hillslope rock size and abundance: Insights from contrasting field and model data. <i>Geoderma</i> , 2019, 352, 228-240.	5.1	10
75	Patch organization and resilience of dryland wetlands. <i>Science of the Total Environment</i> , 2020, 726, 138581.	8.0	10
76	Geomorphological evolution and sediment stratigraphy of numerically simulated alluvial fans. <i>Earth Surface Processes and Landforms</i> , 2020, 45, 2148-2166.	2.5	10
77	Evaluation of the hydrology of the IBIS land surface model in a semi-arid catchment. <i>Hydrological Processes</i> , 2015, 29, 653-670.	2.6	9
78	Predicting gully erosion using landform evolution models: Insights from mining landforms. <i>Earth Surface Processes and Landforms</i> , 2021, 46, 3271-3290.	2.5	9
79	Profile soil moisture estimation using the modified IEM. , 0, , .		7
80	The fingerprints of weathering: Grain size distribution changes along weathering sequences in different lithologies. <i>Geoderma</i> , 2021, 383, 114753.	5.1	7
81	Links between East Coast Lows and the spatial and temporal variability of rainfall along the eastern seaboard of Australia. <i>Journal of Southern Hemisphere Earth Systems Science</i> , 2016, 66, 162.	1.8	7
82	Laboratory simulation of the salt weathering of schist: II. Fragmentation of fine schist particles. <i>Earth Surface Processes and Landforms</i> , 2007, 32, 687-697.	2.5	6
83	Evaluating a new landform evolution model: A case study using a proposed mine rehabilitation landform. <i>Earth Surface Processes and Landforms</i> , 2021, 46, 2298-2314.	2.5	6
84	East Coast Lows and the Pasha Bulker storm - lessons learned nine years on. <i>Journal of Southern Hemisphere Earth Systems Science</i> , 2016, 66, 152.	1.8	6
85	A Comparison of SRTM V4 and ASTER GDEM for Hydrological Applications in Low Relief Terrain. <i>Photogrammetric Engineering and Remote Sensing</i> , 2012, 78, 757-766.	0.6	5
86	Soilscape evolution of aeolian-dominated hillslopes during the Holocene: investigation of sediment transport mechanisms and climatic-anthropogenic drivers. <i>Earth Surface Dynamics</i> , 2017, 5, 101-112.	2.4	4
87	Using paleoclimate reconstructions to analyse hydrological epochs associated with Pacific decadal variability. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 6399-6414.	4.9	4
88	An assessment of the fluvial geomorphology of subcatchments in Parana Valles, Mars. <i>Geomorphology</i> , 2013, 183, 96-109.	2.6	3
89	The long-term stability of engineered landforms of the Ranger Uranium Mine, Northern Territory, Australia: application of a catchment evolution model. <i>Earth Surface Processes and Landforms</i> , 1998, 23, 237-259.	2.5	3
90	Case study on the use of dynamically downscaled climate model data for assessing water security in the Lower Hunter region of the eastern seaboard of Australia. <i>Journal of Southern Hemisphere Earth Systems Science</i> , 2016, 66, 177-202.	1.8	2