Andrew W. Western

List of Publications by Year
in descending order

115 papers	9,260 citations	70961 41 h-index	40881 93 g-index
115 all docs	115 docs citations	115 times ranked	8110 citing authors

#	Article	IF	Citations
1	A review of paired catchment studies for determining changes in water yield resulting from alterations in vegetation. Journal of Hydrology, 2005, 310, 28-61.	2.3	1,229
2	Observed spatial organization of soil moisture and its relation to terrain indices. Water Resources Research, 1999, 35, 797-810.	1.7	646
3	Preferred states in spatial soil moisture patterns: Local and nonlocal controls. Water Resources Research, 1997, 33, 2897-2908.	1.7	608
4	Spatial correlation of soil moisture in small catchments and its relationship to dominant spatial hydrological processes. Journal of Hydrology, 2004, 286, 113-134.	2.3	532
5	Scaling of Soil Moisture: A Hydrologic Perspective. Annual Review of Earth and Planetary Sciences, 2002, 30, 149-180.	4.6	428
6	On the spatial scaling of soil moisture. Journal of Hydrology, 1999, 217, 203-224.	2.3	395
7	Towards areal estimation of soil water content from point measurements: time and space stability of mean response. Journal of Hydrology, 1998, 207, 68-82.	2.3	355
8	Toward capturing hydrologically significant connectivity in spatial patterns. Water Resources Research, 2001, 37, 83-97.	1.7	338
9	How old is streamwater? Open questions in catchment transit time conceptualization, modelling and analysis. Hydrological Processes, 2010, 24, 1745-1754.	1.1	276
10	Geostatistical characterisation of soil moisture patterns in the Tarrawarra catchment. Journal of Hydrology, 1998, 205, 20-37.	2.3	240
11	The Tarrawarra Data Set: Soil moisture patterns, soil characteristics, and hydrological flux measurements. Water Resources Research, 1998, 34, 2765-2768.	1.7	221
12	Advances in the use of observed spatial patterns of catchment hydrological response. Advances in Water Resources, 2002, 25, 1313-1334.	1.7	198
13	Key factors influencing differences in stream water quality across space. Wiley Interdisciplinary Reviews: Water, 2018, 5, e1260.	2.8	173
14	The influence of multiyear drought on the annual rainfallâ€runoff relationship: An <scp>A</scp>ustralian perspective. Water Resources Research, 2015, 51, 2444-2463.	1.7	158
15	Simulating runoff under changing climatic conditions: Revisiting an apparent deficiency of conceptual rainfallâ€runoff models. Water Resources Research, 2016, 52, 1820-1846.	1.7	136
16	A terrain and data-based method for generating the spatial distribution of soil moisture. Advances in Water Resources, 2005, 28, 43-54.	1.7	123
17	Impact of forest cover changes on annual streamflow and flow duration curves. Journal of Hydrology, 2013, 483, 39-50.	2.3	118
18	Inter-comparison of microwave satellite soil moisture retrievals over the Murrumbidgee Basin, southeast Australia. Remote Sensing of Environment, 2013, 134, 1-11.	4.6	112

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19	An analysis of the influence of riparian vegetation on the propagation of flood waves. Environmental Modelling and Software, 2006, 21, 1290-1296.	1.9	99
20	Improving operational flood ensemble prediction by the assimilation of satellite soil moisture: comparison between lumped and semi-distributed schemes. Hydrology and Earth System Sciences, 2015, 19, 1659-1676.	1.9	98
21	Beyond triple collocation: Applications to soil moisture monitoring. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6419-6439.	1.2	97
22	Assimilation of remotely sensed data for improved latent and sensible heat flux prediction: A comparative synthetic study. Remote Sensing of Environment, 2008, 112, 1295-1305.	4.6	89
23	Predicting groundwater recharge for varying land cover and climate conditions â€“ a global meta-study. Hydrology and Earth System Sciences, 2018, 22, 2689-2703.	1.9	89
24	The Tarrawarra project: high resolution spatial measurement, modelling and analysis of soil moisture and hydrological response. Hydrological Processes, 1999, 13, 633-652.	1.1	88
25	Spatial distribution of soil moisture over 6 and 30cm depth, Mahurangi river catchment, New Zealand. Journal of Hydrology, 2003, 276, 254-274.	2.3	88
26	Predicting shifts in rainfallâ€runoff partitioning during multiyear drought: Roles of dry period and catchment characteristics. Water Resources Research, 2016, 52, 9290-9305.	1.7	86
27	Forecasting daily reference evapotranspiration for Australia using numerical weather prediction outputs. Agricultural and Forest Meteorology, 2014, 194, 50-63.	1.9	82
28	The impacts of assimilating satellite soil moisture into a rainfallâ€“runoff model in a semi-arid catchment. Journal of Hydrology, 2014, 519, 2763-2774.	2.3	72
29	Key Factors Affecting Temporal Variability in Stream Water Quality. Water Resources Research, 2019, 55, 112-129.	1.7	72
30	Bias in streamflow projections due to climateâ€induced shifts in catchment response. Geophysical Research Letters, 2016, 43, 1574-1581.	1.5	68
31	Improved Rainfallâ€Runoff Calibration for Drying Climate: Choice of Objective Function. Water Resources Research, 2018, 54, 3392-3408.	1.7	68
32	Terrain and the distribution of soil moisture. Hydrological Processes, 2001, 15, 2689-2690.	1.1	65
33	Evolution of the societal value of water resources for economic development versus environmental sustainability in Australia from 1843 to 2011. Global Environmental Change, 2017, 42, 82-92.	3.6	65
34	Simulating Runoff Under Changing Climatic Conditions: A Framework for Model Improvement. Water Resources Research, 2018, 54, 9812-9832.	1.7	58
35	What Are the Key Catchment Characteristics Affecting Spatial Differences in Riverine Water Quality?. Water Resources Research, 2018, 54, 7252-7272.	1.7	58
36	Equifinality and Flux Mapping: A New Approach to Model Evaluation and Process Representation Under Uncertainty. Water Resources Research, 2019, 55, 8922-8941.	1.7	57

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37	Multiple runoff processes and multiple thresholds control agricultural runoff generation. Hydrology and Earth System Sciences, 2016, 20, 4525-4545.	1.9	55
38	Many Commonly Used Rainfallâ€Runoff Models Lack Long, Slow Dynamics: Implications for Runoff Projections. Water Resources Research, 2020, 56, e2019WR025286.	1.7	54
39	Nonlinear timeâ€series modeling of unconfined groundwater head. Water Resources Research, 2014, 50, 8330-8355.	1.7	53
40	Dual assimilation of satellite soil moisture to improve streamflow prediction in dataâ€scarce catchments. Water Resources Research, 2016, 52, 5357-5375.	1.7	49
41	The effect of year-to-year variability of leaf area index on Variable Infiltration Capacity model performance and simulation of runoff. Advances in Water Resources, 2015, 83, 310-322.	1.7	46
42	Water sources accessed by arid zone riparian trees in highly saline environments, Australia. Oecologia, 2008, 156, 43-52.	0.9	44
43	Linking water quality trends with land use intensification in dairy farming catchments. Journal of Hydrology, 2013, 476, 1-12.	2.3	44
44	Process parameterization and temporal scaling in surface runoff and erosion modelling. Hydrological Processes, 2004, 18, 1423-1446.	1.1	43
45	Evolution of newspaper coverage of water issues in Australia during 1843â€“2011. Ambio, 2015, 44, 319-331.	2.8	43
46	Assimilation of stream discharge for flood forecasting: The benefits of accounting for routing time lags. Water Resources Research, 2013, 49, 1887-1900.	1.7	42
47	An integrated error parameter estimation and lag-aware data assimilation scheme for real-time flood forecasting. Journal of Hydrology, 2014, 519, 2722-2736.	2.3	42
48	Towards a general equation for frequency domain reflectometers. Journal of Hydrology, 2010, 383, 319-329.	2.3	41
49	Inferring the location of catchment characteristic soil moisture monitoring sites. Covariance structures in the temporal domain. Journal of Hydrology, 2003, 280, 13-32.	2.3	36
50	Evolution of the humanâ€“water relationships in the Heihe River basin in the past 2000 years. Hydrology and Earth System Sciences, 2015, 19, 2261-2273.	1.9	36
51	Assimilation of stream discharge for flood forecasting: Updating a semidistributed model with an integrated data assimilation scheme. Water Resources Research, 2015, 51, 3238-3258.	1.7	34
52	Stand-alone error characterisation of microwave satellite soil moisture using a Fourier method. Remote Sensing of Environment, 2014, 154, 115-126.	4.6	32
53	Characterisation of spatial variability in water quality in the Great Barrier Reef catchments using multivariate statistical analysis. Marine Pollution Bulletin, 2018, 137, 137-151.	2.3	32
54	A calibration and temperature correction procedure for the water-content reflectometer. Hydrological Processes, 2005, 19, 3785-3793.	1.1	31

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55	An analysis of the impact of spatial variability in rainfall on runoff and sediment predictions from a distributed model. Hydrological Processes, 2012, 26, 3263-3280.	1.1	29
56	Leaf Area Index Variation for Crop, Pasture, and Tree in Response to Climatic Variation in the Goulburnâ€“Broken Catchment, Australia. Journal of Hydrometeorology, 2014, 15, 1592-1606.	0.7	29
57	A method for characterising longitudinal irregularity in river channels. Geomorphology, 1997, 21, 39-51.	1.1	28
58	Can we manage groundwater? A method to determine the quantitative testability of groundwater management plans. Water Resources Research, 2016, 52, 4863-4882.	1.7	27
59	A data-based predictive model for spatiotemporal variability in stream water quality. Hydrology and Earth System Sciences, 2020, 24, 827-847.	1.9	26
60	Comparison of hourly and daily reference crop evapotranspiration equations across seasons and climate zones in Australia. Agricultural Water Management, 2015, 148, 84-96.	2.4	25
61	A downward approach to identifying the structure and parameters of a process-based model for a small experimental catchment. Hydrological Processes, 2003, 17, 2239-2258.	1.1	24
62	Deâ€noising of passive and active microwave satellite soil moisture time series. Geophysical Research Letters, 2013, 40, 3624-3630.	1.5	24
63	The Effect of Soil and Vegetation Parameters in the ECMWF Land Surface Scheme. Journal of Hydrometeorology, 2004, 5, 1131-1146.	0.7	23
64	Performance of a wheat yield prediction model and factors influencing the performance: A review and meta-analysis. Agricultural Systems, 2021, 194, 103278.	3.2	23
65	Statistical Interpolation of Groundwater Hydrographs. Water Resources Research, 2018, 54, 4663-4680.	1.7	22
66	Groundwater surface mapping informs sources of catchment baseflow. Hydrology and Earth System Sciences, 2015, 19, 1599-1613.	1.9	21
67	Groundwater recharge and discharge dynamics in an arid-zone ephemeral lake system, Australia. Limnology and Oceanography, 2009, 54, 86-100.	1.6	20
68	Relating Trends in Streamflow to Anthropogenic Influences: A Case Study of Himayat Sagar Catchment, India. Water Resources Management, 2014, 28, 1579-1595.	1.9	20
69	Including the dynamic relationship between climatic variables and leaf area index in a hydrological model to improve streamflow prediction under a changing climate. Hydrology and Earth System Sciences, 2015, 19, 2821-2836.	1.9	20
70	On the structural limitations of recursive digital filters for base flow estimation. Water Resources Research, 2016, 52, 4745-4764.	1.7	20
71	Ensemble forecasting of shortâ€term system scale irrigation demands using realâ€time flow data and numerical weather predictions. Water Resources Research, 2016, 52, 4801-4822.	1.7	19
72	A New Drought Index for Soil Moisture Monitoring Based on MPDI-NDVI Trapezoid Space Using MODIS Data. Remote Sensing, 2021, 13, 122.	1.8	19

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73	A framework for incorporating social processes in hydrological models. Current Opinion in Environmental Sustainability, 2018, 33, 42-50.	3.1	18
74	Improving the representation of cropland sites in the Community Land Model (CLM) version 5.0. Geoscientific Model Development, 2021, 14, 573-601.	1.3	18
75	Healthy waterways and ecologically sustainable cities in <scp>Beijingâ€Tianjinâ€Hebei</scp> urban agglomeration (northern China): Challenges and future directions. Wiley Interdisciplinary Reviews: Water, 2021, 8, e1500.	2.8	18
76	A system for collecting spatially variable terrain data. Computers and Electronics in Agriculture, 1998, 19, 113-128.	3.7	17
77	A catchment study of sources and sinks of nutrients and sediments in south-east Australia. Journal of Hydrology, 2014, 515, 166-179.	2.3	17
78	Estimating aquifer properties using groundwater hydrograph modelling. Hydrological Processes, 2015, 29, 5424-5437.	1.1	16
79	A multi-model approach to assessing the impacts of catchment characteristics on spatial water quality in the Great Barrier Reef catchments. Environmental Pollution, 2021, 288, 117337.	3.7	16
80	Which multispectral indices robustly measure canopy nitrogen across seasons: Lessons from an irrigated pasture crop. Computers and Electronics in Agriculture, 2021, 182, 106000.	3.7	15
81	A Bayesian approach to understanding the key factors influencing temporal variability in stream water quality â€“ a case study in the Great Barrier Reef catchments. Hydrology and Earth System Sciences, 2021, 25, 2663-2683.	1.9	15
82	Multiple hydrological attractors under stochastic daily forcing: 1. Can multiple attractors exist?. Water Resources Research, 2014, 50, 2993-3009.	1.7	14
83	Sorption and transport behavior of zinc in the soil; Implications for stormwater management. Geoderma, 2020, 367, 114243.	2.3	14
84	Predicting nitrogen dynamics in a dairy farming catchment using systems synthesis modelling. Agricultural Systems, 2013, 115, 144-154.	3.2	13
85	Multiple hydrological attractors under stochastic daily forcing: 2. Can multiple attractors emerge?. Water Resources Research, 2014, 50, 3010-3029.	1.7	13
86	A synthetic study to evaluate the utility of hydrological signatures for calibrating a base flow separation filter. Water Resources Research, 2016, 52, 6526-6540.	1.7	13
87	Reply to comment by Tromp van Meerveld and McDonnell on Spatial correlation of soil moisture in small catchments and its relationship to dominant spatial hydrological processes. Journal of Hydrology, 2005, 303, 313-315.	2.3	12
88	A framework for assessing the potential of remote-sensed gravity to provide new insight on the hydrology of the Murray-Darling Basin. Australian Journal of Water Resources, 2006, 10, 125-138.	1.6	12
89	Uncertainties around modelling of steady-state phreatic evaporation with field soil profiles of Î´18O and chloride. Journal of Hydrology, 2014, 511, 229-241.	2.3	11
90	An evaluation of a methodology for seasonal soil water forecasting for Australian dry land cropping systems. Agricultural and Forest Meteorology, 2018, 253-254, 161-175.	1.9	11

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91	A theory of patterns of passby noise. Journal of Sound and Vibration, 2003, 262, 1047-1056.	2.1	10
92	The evolution of policy instruments used in water, land and environmental governances in Victoria, Australia from 1860â€“2016. Environmental Science and Policy, 2020, 112, 348-360.	2.4	10
93	Assimilation of multiple data types for improved heat flux prediction: A one-dimensional field study. Remote Sensing of Environment, 2013, 136, 315-329.	4.6	9
94	Towards an ensemble-based short-term flood forecasting using an event-based flood model-incorporating catchment-average estimates of soil moisture. Journal of Hydrology, 2021, 593, 125828.	2.3	9
95	The behavior of stratified pools in the Wimmera River, Australia. Water Resources Research, 1996, 32, 3197-3206.	1.7	8
96	On the ability of AirSAR to measure patterns of dielectric constant at the hillslope scale. Journal of Hydrology, 2004, 289, 9-22.	2.3	8
97	Multivariate time series modeling of short-term system scale irrigation demand. Journal of Hydrology, 2015, 531, 1003-1019.	2.3	8
98	Towards more realistic runoff projections by removing limits on simulated soil moisture deficit. Journal of Hydrology, 2021, 600, 126505.	2.3	8
99	Estimating extractable soil moisture content for Australian soils from field measurements. Soil Research, 2006, 44, 531.	0.6	7
100	Using uncertainty analysis and groundwater measurements to improve the confidence of river water balance estimates. Journal of Hydrology, 2013, 503, 209-221.	2.3	7
101	Understanding ourselves and the environment in which we live. Current Opinion in Environmental Sustainability, 2018, 33, 161-166.	3.1	7
102	Impacts of stormwater infiltration on downslope soil moisture and tree water use. Environmental Research Letters, 2021, 16, 104014.	2.2	7
103	Understanding the Impact of Soil Clay Mineralogy on the Adsorption Behavior of Zinc. International Journal of Environmental Research, 2021, 15, 559-569.	1.1	6
104	The within-day behaviour of 6 minute rainfall intensity in Australia. Hydrology and Earth System Sciences, 2011, 15, 2561-2579.	1.9	5
105	The politicisation of science in the Murray-Darling Basin, Australia: discussion of â€˜Scientific integrity, public policy and water governanceâ€™. Australian Journal of Water Resources, 2021, 25, 141-158.	1.6	5
106	Determining vertical leakage from the Great Artesian Basin, Australia, through up-scaling field estimates of phreatic evapotranspiration. Journal of Hydrology, 2015, 529, 1079-1094.	2.3	4
107	Justin Costelloe: a champion of arid-zone water research. Hydrogeology Journal, 2020, 28, 37-41.	0.9	4
108	A simulation-based approach to assess the power of trend detection in high- and low-frequency water quality records. Environmental Monitoring and Assessment, 2020, 192, 628.	1.3	4

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109	A comprehensive assessment framework for attributing trends in streamflow and groundwater storage to climatic and anthropogenic changes: A case study in the typical semiâ€arid catchments of southern India. Hydrological Processes, 2021, 35, e14305.	1.1	3
110	Understanding Policy Instruments as Rules of Interaction in Social-Ecological System Frameworks. Geography and Sustainability, 2020, 1, 295-303.	1.9	3
111	Enhancing the Accuracy and Temporal Transferability of Irrigated Cropping Field Classification Using Optical Remote Sensing Imagery. Remote Sensing, 2022, 14, 997.	1.8	3
112	Towards estimating rootâ€zone soil moisture using surface multispectral and thermal sensing: A spectral and hydrometeorological dataset from the Dookie experiment site, Victoria, Australia. Hydrological Processes, 2019, 33, 2037-2043.	1.1	1
113	Remote sensing estimates of actual evapotranspiration in an irrigation district. Australian Journal of Water Resources, 2006, 10, 207-212.	1.6	0
114	Investigating spatial and temporal variability in runoff and sediment generation using a physically-based model, Thales. Australian Journal of Water Resources, 2008, 12, 233-243.	1.6	0
115	Reconstructing climate trends adds skills to seasonal reference crop evapotranspiration forecasting. Hydrology and Earth System Sciences, 2022, 26, 941-954.	1.9	0