Alan M Macdonald

List of Publications by Year
in descending order

98 papers	6,339 citations	126708 33 h-index	69108 77 g-index
110 all docs	110 docs citations	110 times ranked	6472 citing authors

#	Article	IF	Citations
1	Ground water and climate change. Nature Climate Change, 2013, 3, 322-329.	8.1	1,513
2	Quantitative maps of groundwater resources in Africa. Environmental Research Letters, 2012, 7, 024009.	2.2	417
3	Water Supply and Health. PLoS Medicine, 2010, 7, e1000361.	3.9	344
4	Groundwater quality and depletion in the Indo-Gangetic Basin mapped from inÂsituÂobservations. Nature Geoscience, 2016, 9, 762-766.	5.4	341
5	Evidence of the dependence of groundwater resources on extreme rainfall in East Africa. Nature Climate Change, 2013, 3, 374-378.	8.1	257
6	Ground Water Security and Drought in Africa: Linking Availability, Access, and Demand. Ground Water, 2010, 48, 246-256.	0.7	171
7	Observed controls on resilience of groundwater to climate variability in sub-Saharan Africa. Nature, 2019, 572, 230-234.	13.7	168
8	Groundwater quality in the alluvial aquifer system of northwest India: New evidence of the extent of anthropogenic and geogenic contamination. Science of the Total Environment, 2017, 599-600, 1433-1444.	3.9	136
9	Climate Change and Water and Sanitation: Likely Impacts and Emerging Trends for Action. Annual Review of Environment and Resources, 2016, 41, 253-276.	5.6	129
10	Changes in global groundwater organic carbon driven by climate change and urbanization. Nature Communications, 2020, 11, 1279.	5.8	128
11	Hydrogeological typologies of the Indo-Gangetic basin alluvial aquifer, South Asia. Hydrogeology Journal, 2017, 25, 1377-1406.	0.9	117
12	What impact will climate change have on rural groundwater supplies in Africa?. Hydrological Sciences Journal, 2009, 54, 690-703.	1.2	115
13	Manganese concentrations in Scottish groundwater. Science of the Total Environment, 2010, 408, 2467-2473.	3.9	113
14	Impact of irrigated agriculture on groundwater-recharge salinity: a major sustainability concern in semi-arid regions. Hydrogeology Journal, 2018, 26, 2781-2791.	0.9	112
15	The practicalities of using CFCs and SF6 for groundwater dating and tracing. Applied Geochemistry, 2012, 27, 1688-1697.	1.4	96
16	Deep urban groundwater vulnerability in India revealed through the use of emerging organic contaminants and residence time tracers. Environmental Pollution, 2018, 240, 938-949.	3.7	94
17	Groundwater Management in Drought-prone Areas of Africa. International Journal of Water Resources Development, 1997, 13, 241-262.	1.2	92
18	Developing groundwater for secure rural water supplies in Africa. Desalination, 2009, 248, 546-556.	4.0	90

#	Article	IF	Citations
19	Chemical drinking water quality in Ghana: Water costs and scope for advanced treatment. Science of the Total Environment, 2010, 408, 2378-2386.	3.9	90
20	Aquifer properties of the Chalk of England. Quarterly Journal of Engineering Geology and Hydrogeology, 2001, 34, 371-384.	0.8	88
21	Residence times of shallow groundwater in West Africa: implications for hydrogeology and resilience to future changes in climate. Hydrogeology Journal, 2013, 21, 673-686.	0.9	83
22	Soil characteristics and landcover relationships on soil hydraulic conductivity at a hillslope scale: A view towards local flood management. Journal of Hydrology, 2013, 497, 208-222.	2.3	79
23	Groundwater recharge and ageâ€depth profiles of intensively exploited groundwater resources in northwest India. Geophysical Research Letters, 2015, 42, 7554-7562.	1.5	79
24	The â€˜water securityâ€™ dialogue: why it needs to be better informed about groundwater. Hydrogeology Journal, 2014, 22, 1489-1492.	0.9	57
25	Mapping groundwater recharge in Africa from ground observations and implications for water security. Environmental Research Letters, 2021, 16, 034012.	2.2	55
26	Real-time detection of faecally contaminated drinking water with tryptophan-like fluorescence: defining threshold values. Science of the Total Environment, 2018, 622-623, 1250-1257.	3.9	53
27	TheÂEl NiÃ±o event of 2015â€“2016: climate anomalies and their impact on groundwater resources in East and Southern Africa. Hydrology and Earth System Sciences, 2019, 23, 1751-1762.	1.9	52
28	Seasonal and Decadal Groundwater Changes in African Sedimentary Aquifers Estimated Using GRACE Products and LSMs. Remote Sensing, 2018, 10, 904.	1.8	50
29	Comparative performance of rural water supplies during drought. Nature Communications, 2020, 11, 1099.	5.8	47
30	Identifying trends in groundwater quality using residence time indicators: an example from the Permian aquifer of Dumfries, Scotland. Hydrogeology Journal, 2003, 11, 504-517.	0.9	46
31	Relating in situ hydraulic conductivity, particle size and relative density of superficial deposits in a heterogeneous catchment. Journal of Hydrology, 2012, 434-435, 130-141.	2.3	45
32	Groundwater and resilience to drought in the Ethiopian highlands. Environmental Research Letters, 2019, 14, 095003.	2.2	41
33	Household water use, poverty and seasonality: Wealth effects, labour constraints, and minimal consumption in Ethiopia. Water Resources and Rural Development, 2014, 3, 27-47.	1.1	40
34	Characteristics of high-intensity groundwater abstractions from weathered crystalline bedrock aquifers in East Africa. Hydrogeology Journal, 2019, 27, 459-474.	0.9	34
35	Depletion of groundwater resources under rapid urbanisation in Africa: recent and future trends in the Nairobi Aquifer System, Kenya. Hydrogeology Journal, 2020, 28, 2635-2656.	0.9	33
36	Groundwater in fractured bedrock environments: managing catchment and subsurface resources â€“ an introduction. Geological Society Special Publication, 2019, 479, 1-9.	0.8	29

#	Article	IF	Citations
37	Drinking water quality from rural handpump-boreholes in Africa. Environmental Research Letters, 2020, 15, 064020.	2.2	28
38	Linkages between GRACE water storage, hydrologic extremes, and climate teleconnections in major African aquifers. Environmental Research Letters, 2022, 17, 014046.	2.2	28
39	The need for a standard approach to assessing the functionality of rural community water supplies. Hydrogeology Journal, 2018, 26, 367-370.	0.9	27
40	Evidence for extreme variations in the permeability of laterite from a detailed analysis of well behaviour in Nigeria. Hydrological Processes, 2014, 28, 3563-3573.	1.1	26
41	An overview of groundwater in Scotland. Scottish Journal of Geology, 2005, 41, 3-11.	0.1	25
42	Security of Deep Groundwater in the Coastal Bengal Basin Revealed by Tracers. Geophysical Research Letters, 2018, 45, 8241-8252.	1.5	25
43	Natural flood management, lag time and catchment scale: Results from an empirical nested catchment study. Journal of Flood Risk Management, 2021, 14, e12717.	1.6	25
44	Determining groundwater degradation from irrigation in desert-marginal northern China. Hydrogeology Journal, 2010, 18, 1939-1952.	0.9	24
45	Evidence, ideology, and the policy of community management in Africa. Environmental Research Letters, 2019, 14, 085013.	2.2	23
46	In-situ fluorescence spectroscopy indicates total bacterial abundance and dissolved organic carbon. Science of the Total Environment, 2020, 738, 139419.	3.9	22
47	Estimating transmissivity from surface resistivity soundings: an example from the Thames Gravels. Quarterly Journal of Engineering Geology and Hydrogeology, 1999, 32, 199-205.	0.8	21
48	Mapping groundwater vulnerability in Scotland: a new approach for the Water Framework Directive. Scottish Journal of Geology, 2005, 41, 21-30.	0.1	21
49	Using transmissivity, specific capacity and borehole yield data to assess the productivity of Scottish aquifers. Quarterly Journal of Engineering Geology and Hydrogeology, 2009, 42, 227-235.	0.8	21
50	Groundwaterâ€“glacier meltwater interaction in proglacial aquifers. Hydrology and Earth System Sciences, 2019, 23, 4527-4539.	1.9	20
51	Investigating the Productivity and Sustainability of Weathered Basement Aquifers in Tropical Africa Using Numerical Simulation and Global Sensitivity Analysis. Water Resources Research, 2020, 56, e2020WR027746.	1.7	20
52	Groundwater connectivity of a sheared gneiss aquifer in the Cauvery River basin, India. Hydrogeology Journal, 2020, 28, 1371-1388.	0.9	20
53	Environmental tracers to evaluate groundwater residence times and water quality risk in shallow unconfined aquifers in sub Saharan Africa. Journal of Hydrology, 2021, 598, 125753.	2.3	20
54	A century of groundwater accumulation in Pakistan and northwest India. Nature Geoscience, 2022, 15, 390-396.	5.4	20

#	Article	IF	Citations
55	Evidence for rapid groundwater flow and karst-type behaviour in the Chalk of southern England. Geological Society Special Publication, 1998, 130, 95-106.	0.8	19
56	Geological structure as a control on floodplain groundwater dynamics. Hydrogeology Journal, 2019, 27, 703-716.	0.9	19
57	Domestic groundwater abstraction in Lagos, Nigeria: a disjuncture in the science-policy-practice interface?. Environmental Research Letters, 2020, 15, 045006.	2.2	18
58	Geophysical methods for locating groundwater in low permeability sedimentary rocks: examples from southeast Nigeria. Journal of African Earth Sciences, 2001, 32, 115-131.	0.9	17
59	Transmissivity variations in mudstones. Ground Water, 2005, 43, 259-269.	0.7	17
60	Groundwater, flooding and hydrological functioning in the Findhorn floodplain, Scotland. Hydrology Research, 2014, 45, 755-773.	1.1	17
61	Tryptophan-like fluorescence as a high-level screening tool for detecting microbial contamination in drinking water. Science of the Total Environment, 2021, 750, 141284.	3.9	16
62	The bailer test: a simple effective pumping test for assessing borehole success. Hydrogeology Journal, 2008, 16, 1065-1075.	0.9	15
63	Effects of CO2 injection on shallow groundwater resources: A hypothetical case study in the Sherwood Sandstone aquifer, UK. International Journal of Greenhouse Gas Control, 2012, 11, 337-348.	2.3	15
64	Proglacial groundwater storage dynamics under climate change and glacier retreat. Hydrological Processes, 2020, 34, 5456-5473.	1.1	15
65	Tryptophan-like and humic-like fluorophores are extracellular in groundwater: implications as real-time faecal indicators. Scientific Reports, 2020, 10, 15379.	1.6	15
66	Large-scale survey of seasonal drinking water quality in Malawi using in situ tryptophan-like fluorescence and conventional water quality indicators. Science of the Total Environment, 2020, 744, 140674.	3.9	13
67	In-situ fluorescence spectroscopy is a more rapid and resilient indicator of faecal contamination risk in drinking water than faecal indicator organisms. Water Research, 2021, 206, 117734.	5.3	13
68	Improving the characterization of Quaternary deposits for groundwater vulnerability assessments using maps of recharge and attenuation potential. Quarterly Journal of Engineering Geology and Hydrogeology, 2011, 44, 49-61.	0.8	12
69	Elevated uranium in drinking water sources in basement aquifers of southern India. Applied Geochemistry, 2021, 133, 105092.	1.4	12
70	Assessing groundwater salinity across Africa. Science of the Total Environment, 2022, 828, 154283.	3.9	12
71	Thermodynamic and Kinetic Controls on Cotransport of Pantoea agglomerans Cells and Zn through Clean and Iron Oxide Coated Sand Columns. Environmental Science & Technology, 2012, 46, 13193-13201.	4.6	11
72	A constant head well permeameter formula comparison: its significance in the estimation of field-saturated hydraulic conductivity in heterogeneous shallow soils. Hydrology Research, 2014, 45, 788-805.	1.1	11

#	Article	IF	Citations
73	The impact of across-slope forest strips on hillslope subsurface hydrological dynamics. Journal of Hydrology, 2020, 581, 124427.	2.3	11
74	The influence of groundwater abstraction on interpreting climate controls and extreme recharge events from well hydrographs in semi-arid South Africa. Hydrogeology Journal, 2021, 29, 2773-2787.	0.9	10
75	Focused groundwater recharge in a tropical dryland: Empirical evidence from central, semi-arid Tanzania. Journal of Hydrology: Regional Studies, 2021, 37, 100919.	1.0	10
76	Potential Impact of Climate Change on Improved and Unimproved Water Supplies in Africa. Issues in Environmental Science and Technology, 2010, , 25-49.	0.4	10
77	Kinetics of bacterial potentiometric titrations: The effect of equilibration time on buffering capacity of Pantoea agglomerans suspensions. Journal of Colloid and Interface Science, 2011, 359, 481-486.	5.0	9
78	Flow dependent water quality impacts of historic coal and oil shale mining in the Almond River catchment, Scotland. Applied Geochemistry, 2013, 39, 156-168.	1.4	9
79	Using stable isotopes and continuous meltwater river monitoring to investigate the hydrology of a rapidly retreating Icelandic outlet glacier. Annals of Glaciology, 2016, 57, 151-158.	2.8	9
80	Quantifying the dynamics of sub-daily to seasonal hydrological interactions of Ganges river with groundwater in a densely populated city: Implications to vulnerability of drinking water sources. Journal of Environmental Management, 2021, 288, 112384.	3.8	9
81	Mapping groundwater development costs for the transboundary Western Aquifer Basin, Palestine/Israel. Hydrogeology Journal, 2009, 17, 1579-1587.	0.9	8
82	Meltwater flow through a rapidly deglaciating glacier and foreland catchment system: VirkisjÃ¶kull, SE Iceland. Hydrology Research, 2017, 48, 1666-1681.	1.1	7
83	Understanding process controls on groundwater recharge variability across Africa through recharge landscapes. Journal of Hydrology, 2022, 612, 127967.	2.3	6
84	Agriculture and diffuse pollution: groundwater nitrate vulnerable zones in Scotland. Scottish Journal of Geology, 2005, 41, 61-68.	0.1	5
85	Focus on interactions between science-policy in groundwater systems. Environmental Research Letters, 2020, 15, 090201.	2.2	5
86	Stochastic modelling of hydraulic conductivity derived from geotechnical data; an example applied to central Glasgow. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 2017, 108, 141-154.	0.3	4
87	Tracers reveal limited influence of plantation forests on surface runoff in a UK natural flood management catchment. Journal of Hydrology: Regional Studies, 2021, 36, 100834.	1.0	4
88	Groundwater exploration in rural Scotland using geophysical techniques. Geological Society Special Publication, 2000, 182, 205-217.	0.8	3
89	Foreword: Groundwater in Scotland â€“ moving up a gear. Scottish Journal of Geology, 2005, 41, 1-2.	0.1	3
90	Fractures in shale: the significance of igneous intrusions for groundwater flow. Geological Society Special Publication, 2019, 479, 71-79.	0.8	3

#	Article	IF	Citations
91	Assessing the role of groundwater recharge from tanks in crystalline bedrock aquifers in Karnataka, India, using hydrochemical tracers. Journal of Hydrology X, 2022, 15, 100121.	0.8	3
92	Following the flowâ€"Microbial ecology in surfaceâ€•and groundwaters in the glacial forefield of a rapidly retreating glacier in Iceland. Environmental Microbiology, 2022, 24, 5840-5858.	1.8	3
93	Assessing the effectiveness of Scotland's groundwater nitrate monitoring network. Quarterly Journal of Engineering Geology and Hydrogeology, 2007, 40, 393-406.	0.8	2
94	Drought and community water supplies. Waterlines, 2007, 26, 14-16.	0.1	2
95	Clean Water and Sanitation. Sustainable Development Goals Series, 2021, , 127-158.	0.2	2
96	Aquifer susceptibility to side-effects of groundwater exploitation. Geological Society Special Publication, 1998, 130, 71-76.	0.8	1
97	Towards understanding the Dumfries Basin aquifer, SW Scotland. Geological Society Special Publication, 2006, 263, 187-198.	0.8	1
98	Geophysics - taking the magic out of black boxes. Waterlines, 2001, 20, 12-14.	0.1	1