D Scott Mackay

List of Publications by Year
in descending order

83 papers	4,601 citations	101543 36 h-index	102487 66 g-index
86 all docs	86 docs citations	86 times ranked	5824 citing authors

#	Article	IF	Citations
1	Mechanisms of woody-plant mortality under rising drought, CO2 and vapour pressure deficit. Nature Reviews Earth & Environment, 2022, 3, 294-308.	29.7	163
2	Thank You to Our 2021 Reviewers. Water Resources Research, 2022, 58, .	4.2	0
3	The influence of increasing atmospheric <scp>CO₂</scp>, temperature, and vapor pressure deficit on seawaterâ€induced tree mortality. New Phytologist, 2022, 235, 1767-1779.	7.3	12
4	Thank You to Our 2020 Reviewers. Water Resources Research, 2021, 57, e2021WR029938.	4.2	0
5	Lateral subsurface flow modulates forest mortality risk to future climate and elevated CO₂. Environmental Research Letters, 2021, 16, 084015.	5.2	10
6	Stability of tropical forest tree carbonâ€water relations in a rainfall exclusion treatment through shifts in effective water uptake depth. Global Change Biology, 2021, 27, 6454-6466.	9.5	17
7	Conifers depend on established roots during drought: results from a coupled model of carbon allocation and hydraulics. New Phytologist, 2020, 225, 679-692.	7.3	63
8	Forecasting semiâ€arid biome shifts in the Anthropocene. New Phytologist, 2020, 226, 351-361.	7.3	5
9	Assessing effects of model complexity and structure on predictions of hydrological responses using serial and parallel model design. Hydrological Processes, 2020, 34, 404-419.	2.6	3
10	Thank You to Our 2019 Reviewers. Water Resources Research, 2020, 56, e2020WR027684.	4.2	0
11	Use of hydraulic traits for modeling genotypeâ€specific acclimation in cotton under drought. New Phytologist, 2020, 228, 898-909.	7.3	10
12	Rapid Chlorophyll <i>a</i> Fluorescence Light Response Curves Mechanistically Inform Photosynthesis Modeling. Plant Physiology, 2020, 183, 602-619.	4.8	13
13	Use of transcriptomic data to inform biophysical models via Bayesian networks. Ecological Modelling, 2020, 429, 109086.	2.5	2
14	Plant Hydraulic Stress Explained Tree Mortality and Tree Size Explained Beetle Attack in a Mixed Conifer Forest. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 3555-3568.	3.0	16
15	A framework for genomics-informed ecophysiological modeling in plants. Journal of Experimental Botany, 2019, 70, 2561-2574.	4.8	18
16	Mechanisms of a coniferous woodland persistence under drought and heat. Environmental Research Letters, 2019, 14, 045014.	5.2	72
17	Hillslope Hydrology in Global Change Research and Earth System Modeling. Water Resources Research, 2019, 55, 1737-1772.	4.2	281
18	Dependence of Aspen Stands on a Subsurface Water Subsidy: Implications for Climate Change Impacts. Water Resources Research, 2019, 55, 1833-1848.	4.2	36

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19	Modelâ€"data fusion approach to quantify evapotranspiration and net ecosystem exchange across the sagebrush ecosystem at different temporal resolutions. Ecohydrology, 2018, 11, e1957.	2.4	2
20	Coâ€occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought. Plant, Cell and Environment, 2018, 41, 576-588.	5.7	118
21	Appreciation for <i>Water Resources Research</i> Reviewers. Water Resources Research, 2018, 54, 7114-7137.	4.2	0
22	Distributed Plant Hydraulic and Hydrological Modeling to Understand the Susceptibility of Riparian Woodland Trees to Droughtâ€Induced Mortality. Water Resources Research, 2018, 54, 4901-4915.	4.2	43
23	Phenotypic Trait Identification Using a Multimodel Bayesian Method: A Case Study Using Photosynthesis in Brassica rapa Genotypes. Frontiers in Plant Science, 2018, 9, 448.	3.6	7
24	A vision for Water Resources Research. Water Resources Research, 2017, 53, 4530-4532.	4.2	0
25	Appreciation of peer reviewers for 2016. Water Resources Research, 2017, 53, 4542-4561.	4.2	0
26	Predicting stomatal responses to the environment from the optimization of photosynthetic gain and hydraulic cost. Plant, Cell and Environment, 2017, 40, 816-830.	5.7	276
27	Plant hydraulics improves and topography mediates prediction of aspen mortality in southwestern <scp>USA</scp>. New Phytologist, 2017, 213, 113-127.	7.3	77
28	Improving ecosystemâ€scale modeling of evapotranspiration using ecological mechanisms that account for compensatory responses following disturbance. Water Resources Research, 2017, 53, 7853-7868.	4.2	12
29	Pragmatic hydraulic theory predicts stomatal responses to climatic water deficits. New Phytologist, 2016, 212, 577-589.	7.3	168
30	Response of sagebrush carbon metabolism to experimental precipitation pulses. Journal of Arid Environments, 2016, 135, 181-194.	2.4	3
31	Multi-scale predictions of massive conifer mortality due to chronic temperature rise. Nature Climate Change, 2016, 6, 295-300.	18.8	296
32	Appreciation of peer reviewers for 2015. Water Resources Research, 2016, 52, 2380-2398.	4.2	0
33	Appreciation of peer reviewers for 2014. Water Resources Research, 2015, 51, 5869-5887.	4.2	0
34	A reflection on the first 50 years of <i>Water Resources Research</i>. Water Resources Research, 2015, 51, 7829-7837.	4.2	40
35	Interdependence of chronic hydraulic dysfunction and canopy processes can improve integrated models of tree response to drought. Water Resources Research, 2015, 51, 6156-6176.	4.2	99
36	Improving the representation of hydrologic processes in Earth System Models. Water Resources Research, 2015, 51, 5929-5956.	4.2	366

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37	Fifty years of<i>Water Resources Research</i>: Legacy and perspectives for the science of hydrology. Water Resources Research, 2015, 51, 6797-6803.	4.2	28
38	Modeling the seasonal dynamics of leaf area index based on environmental constraints to canopy development. Agricultural and Forest Meteorology, 2015, 200, 46-56.	4.8	34
39	How much complexity is needed to simulate watershed streamflow and water quality? A test combining time series and hydrological models. Hydrological Processes, 2014, 28, 5624-5636.	2.6	8
40	Does vegetation structure regulate the spatial structure of soil respiration within a sagebrush steppe ecosystem?. Journal of Arid Environments, 2014, 103, 1-10.	2.4	12
41	Editorial: Toward 50 years of Water Resources Research. Water Resources Research, 2013, 49, 7841-7842.	4.2	11
42	Evaluating theories of droughtâ€induced vegetation mortality using a multimodelâ€"experiment framework. New Phytologist, 2013, 200, 304-321.	7.3	340
43	Bayesian analysis of canopy transpiration models: A test of posterior parameter means against measurements. Journal of Hydrology, 2012, 432-433, 75-83.	5.4	24
44	Consequences of Stand Age and Speciesâ€™ Functional Trait Changes on Ecosystem Water Use of Forests. Tree Physiology, 2011, , 481-505.	2.5	5
45	Tree transpiration varies spatially in response to atmospheric but not edaphic conditions. Functional Ecology, 2010, 24, 273-282.	3.6	23
46	On the representativeness of plot size and location for scaling transpiration from trees to a stand. Journal of Geophysical Research, 2010, 115, .	3.3	36
47	Contribution of competition for light to withinâ€species variability in stomatal conductance. Water Resources Research, 2010, 46, .	4.2	18
48	CO₂ fluxes at northern fens and bogs have opposite responses to interâ€annual fluctuations in water table. Geophysical Research Letters, 2010, 37, .	4.0	79
49	Competition for light between individual trees lowers reference canopy stomatal conductance: Results from a model. Journal of Geophysical Research, 2010, 115, .	3.3	18
50	Identification of Environmental Covariates of West Nile Virus Vector Mosquito Population Abundance. Vector-Borne and Zoonotic Diseases, 2010, 10, 515-526.	1.5	42
51	Contrasting carbon dioxide fluxes between a drying shrub wetland in Northern Wisconsin, USA, and nearby forests. Biogeosciences, 2009, 6, 1115-1126.	3.3	101
52	Integrated Ecohydrologic Research and Hydroâ€Informatics. Journal of Contemporary Water Research and Education, 2009, 142, 16-24.	0.7	0
53	Spatial autocorrelation of West Nile virus vector mosquito abundance in a seasonally wet suburban environment. Journal of Geographical Systems, 2009, 11, 67-87.	3.1	8
54	Environmental drivers of spatial variation in wholeâ€tree transpiration in an aspenâ€dominated uplandâ€toâ€wetland forest gradient. Water Resources Research, 2008, 44, .	4.2	58

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55	Quantitative comparison of canopy conductance models using a Bayesian approach. Water Resources Research, 2008, 44, .	4.2	24
56	Intercomparison of sugar maple (Acer saccharum Marsh.) stand transpiration responses to environmental conditions from the Western Great Lakes Region of the United States. Agricultural and Forest Meteorology, 2008, 148, 231-246.	4.8	48
57	Use of temporal patterns in vapor pressure deficit to explain spatial autocorrelation dynamics in tree transpiration. Tree Physiology, 2008, 28, 647-658.	3.1	41
58	Meteorologically Conditioned Time-Series Predictions of West Nile Virus Vector Mosquitoes. Vector-Borne and Zoonotic Diseases, 2008, 8, 505-522.	1.5	51
59	Interannual consistency in canopy stomatal conductance control of leaf water potential across seven tree species. Tree Physiology, 2007, 27, 11-24.	3.1	96
60	Bayesian analysis for uncertainty estimation of a canopy transpiration model. Water Resources Research, 2007, 43, .	4.2	30
61	Environmental drivers of evapotranspiration in a shrub wetland and an upland forest in northern Wisconsin. Water Resources Research, 2007, 43, .	4.2	54
62	The effects of aggregated land cover data on estimating NPP in northern Wisconsin. Remote Sensing of Environment, 2005, 97, 1-14.	11.0	44
63	Heterogeneity of light use efficiency in a northern Wisconsin forest: implications for modeling net primary production with remote sensing. Remote Sensing of Environment, 2004, 93, 168-178.	11.0	105
64	Effects of distribution-based parameter aggregation on a spatially distributed agricultural nonpoint source pollution model. Journal of Hydrology, 2004, 295, 211-224.	5.4	72
65	Patchiness of River?Groundwater Interactions within Two Floodplain Landscapes and Diversity of Aquatic Invertebrate Communities. Ecosystems, 2003, 6, 707-722.	3.4	51
66	Physiological tradeoffs in the parameterization of a model of canopy transpiration. Advances in Water Resources, 2003, 26, 179-194.	3.8	50
67	Automated Parameterization of Land Surface Process Models Using Fuzzy Logic. Transactions in GIS, 2003, 7, 139-153.	2.3	15
68	Flexible automated parameterization of hydrologic models using fuzzy logic. Water Resources Research, 2003, 39, SWC 1-1-SWC 1-13.	4.2	25
69	Multi-objective parameter estimation for simulating canopy transpiration in forested watersheds. Journal of Hydrology, 2003, 277, 230-247.	5.4	28
70	Spatial variability of aboveground net primary production for a forested landscape in northern Wisconsin. Canadian Journal of Forest Research, 2003, 33, 2007-2018.	1.7	30
71	Tree species effects on stand transpiration in northern Wisconsin. Water Resources Research, 2002, 38, 8-1-8-11.	4.2	132
72	Effects of aggregated classifications of forest composition on estimates of evapotranspiration in a northern Wisconsin forest. Global Change Biology, 2002, 8, 1253-1265.	9.5	75

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73	Effects of spatial detail of soil information on watershed modeling. Journal of Hydrology, 2001, 248, 54-77.	5.4	78
74	Evaluation of hydrologic equilibrium in a mountainous watershed: incorporating forest canopy spatial adjustment to soil biogeochemical processes. Advances in Water Resources, 2001, 24, 1211-1227.	3.8	21
75	A multiple criteria decision support system for testing integrated environmental models. Fuzzy Sets and Systems, 2000, 113, 53-67.	2.7	31
76	Impacts of input parameter spatial aggregation on an agricultural nonpoint source pollution model. Journal of Hydrology, 2000, 236, 35-53.	5.4	158
77	A general model of watershed extraction and representation using globally optimal flow paths and up-slope contributing areas. International Journal of Geographical Information Science, 2000, 14, 337-358.	4.8	50
78	Semantic integration of environmental models for application to global information systems and decision-making. SIGMOD Record, 1999, 28, 13-19.	1.2	22
79	Extraction and representation of nested catchment areas from digital elevation models in lake-dominated topography. Water Resources Research, 1998, 34, 897-901.	4.2	47
80	Forest ecosystem processes at the watershed scale: dynamic coupling of distributed hydrology and canopy growth. Hydrological Processes, 1997, 11, 1197-1217.	2.6	73
81	Ecosystem processes at the watershed scale: Sensitivity to potential climate change. Limnology and Oceanography, 1996, 41, 928-938.	3.1	53
82	Semantic modeling for the integration of geographic information and regional hydroecological simulation management. Computers, Environment and Urban Systems, 1995, 19, 321-339.	7.1	8
83	Classification of higher order topographic objects on digital terrain data. Computers, Environment and Urban Systems, 1992, 16, 473-496.	7.1	9