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List of Publications by Year
in descending order

Version: 2024-02-01

79 papers	3,412 citations	159585 30 h-index	155660 55 g-index
84 all docs	84 docs citations	84 times ranked	3628 citing authors

#	Article	IF	Citations
1	Multiscale parameter regionalization of a gridâ€based hydrologic model at the mesoscale. Water Resources Research, 2010, 46, .	4.2	452
2	Implications of distributed hydrologic model parameterization on water fluxes at multiple scales and locations. Water Resources Research, 2013, 49, 360-379.	4.2	226
3	Temporal behavior of a solute cloud in a heterogeneous porous medium: 1. Point-like injection. Water Resources Research, 2000, 36, 3591-3604.	4.2	155
4	Multiscale evaluation of the Standardized Precipitation Index as aÂgroundwater drought indicator. Hydrology and Earth System Sciences, 2016, 20, 1117-1131.	4.9	133
5	Multiscale and Multivariate Evaluation of Water Fluxes and States over European River Basins. Journal of Hydrometeorology, 2016, 17, 287-307.	1.9	120
6	Plant species diversity affects infiltration capacity in an experimental grassland through changes in soil properties. Plant and Soil, 2015, 397, 1-16.	3.7	105
7	Accelerating advances in continental domain hydrologic modeling. Water Resources Research, 2015, 51, 10078-10091.	4.2	102
8	Diversity Promotes Temporal Stability across Levels of Ecosystem Organization in Experimental Grasslands. PLoS ONE, 2010, 5, e13382.	2.5	95
9	The Bode hydrological observatory: a platform for integrated, interdisciplinary hydro-ecological research within the TERENO Harz/Central German Lowland Observatory. Environmental Earth Sciences, 2017, 76, 1.	2.7	93
10	How Do Earthworms, Soil Texture and Plant Composition Affect Infiltration along an Experimental Plant Diversity Gradient in Grassland?. PLoS ONE, 2014, 9, e98987.	2.5	91
11	Improving the realism of hydrologic model functioning through multivariate parameter estimation. Water Resources Research, 2016, 52, 7779-7792.	4.2	87
12	Toward seamless hydrologic predictions across spatial scales. Hydrology and Earth System Sciences, 2017, 21, 4323-4346.	4.9	81
13	Is unique scaling of aquifer macrodispersivity supported by field data?. Water Resources Research, 2015, 51, 7662-7679.	4.2	76
14	Transport of a decay chain in homogenous porous media: analytical solutions. Journal of Contaminant Hydrology, 2001, 49, 217-239.	3.3	72
15	Temporal behaviour of a solute cloud in a chemically heterogeneous porous medium. Journal of Fluid Mechanics, 1999, 386, 77-104.	3.4	69
16	Challenges in Applying Machine Learning Models for Hydrological Inference: A Case Study for Flooding Events Across Germany. Water Resources Research, 2020, 56, e2019WR025924.	4.2	67
17	Upscaling of the advectionâ€“diffusionâ€“reaction equation with Monod reaction. Advances in Water Resources, 2009, 32, 1336-1351.	3.8	61
18	Exact transverse macro dispersion coefficients for transport in heterogeneous porous media. Stochastic Environmental Research and Risk Assessment, 2004, 18, 9-15.	4.0	58

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19	Implementing small scale processes at the soil-plant interface â€“ the role of root architectures for calculating root water uptake profiles. Hydrology and Earth System Sciences, 2010, 14, 279-289.	4.9	58
20	The effects of spatial discretization and model parameterization on the prediction of extreme runoff characteristics. Journal of Hydrology, 2010, 392, 54-69.	5.4	57
21	Computationally inexpensive identification of noninformative model parameters by sequential screening. Water Resources Research, 2015, 51, 6417-6441.	4.2	54
22	Temporal behavior of a solute cloud in a heterogeneous porous medium: 2. Spatially extended injection. Water Resources Research, 2000, 36, 3605-3614.	4.2	53
23	Generalized Coarse Graining Procedures for Flow in Porous Media. Computational Geosciences, 2003, 7, 253-273.	2.4	50
24	Incorporating dynamic root growth enhances the performance of Noah-MP at two contrasting winter wheat field sites. Water Resources Research, 2014, 50, 1337-1356.	4.2	47
25	Generating random fields with a truncated power-law variogram: AÂcomparison of several numerical methods. Environmental Modelling and Software, 2014, 55, 32-48.	4.5	44
26	Trajectories of nitrate input and output in three nested catchments along a land use gradient. Hydrology and Earth System Sciences, 2019, 23, 3503-3524.	4.9	44
27	Accuracy of numerical simulations of contaminant transport in heterogeneous aquifers: A comparative study. Advances in Water Resources, 2011, 34, 47-61.	3.8	42
28	Multiresponse, multiobjective calibration as a diagnostic tool to compare accuracy and structural limitations of five coupled soil-plant models and CLM3.5. Water Resources Research, 2013, 49, 8200-8221.	4.2	40
29	Debatesâ€"Stochastic subsurface hydrology from theory to practice: The relevance of stochastic subsurface hydrology to practical problems of contaminant transport and remediation. What is characterization and stochastic theory good for?. Water Resources Research, 2016, 52, 9228-9234.	4.2	38
30	A Comprehensive Distributed Hydrological Modeling Intercomparison to Support Process Representation and Data Collection Strategies. Water Resources Research, 2019, 55, 990-1010.	4.2	34
31	Effects of uncertainty in soil properties on simulated hydrological states and fluxes at different spatio-temporal scales. Hydrology and Earth System Sciences, 2017, 21, 2301-2320.	4.9	33
32	Linear Exchange Model for the Description of Mass Transfer Limited Bioavailability at the Pore Scale. Environmental Science & Technology, 2010, 44, 2064-2071.	10.0	29
33	Large Scale Mixing for Immiscible Displacement in Heterogeneous Porous Media. Transport in Porous Media, 2003, 51, 287-314.	2.6	28
34	Coarse Graining for Upscaling of Flow in Heterogeneous Porous Media. Multiscale Modeling and Simulation, 2004, 2, 269-301.	1.6	28
35	A Critical Analysis of Transverse Dispersivity Field Data. Ground Water, 2019, 57, 632-639.	1.3	27
36	Extending Theis' solution: Using transient pumping tests to estimate parameters of aquifer heterogeneity. Water Resources Research, 2016, 52, 6156-6170.	4.2	25

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37	Uncertainty in parameterisation and model structure affect simulation results in coupled ecohydrological models. Hydrology and Earth System Sciences, 2009, 13, 1789-1807.	4.9	24
38	Influence of input and parameter uncertainty on the prediction of catchment-scale groundwater travel time distributions. Hydrology and Earth System Sciences, 2019, 23, 171-190.	4.9	24
39	Estimating transmissivity from singleâ€well pumping tests in heterogeneous aquifers. Water Resources Research, 2016, 52, 495-510.	4.2	22
40	Are Assumptions about the Model Type Necessary in Reaction-Diffusion Modeling? A FRAP Application. Biophysical Journal, 2011, 100, 1178-1188.	0.5	21
41	Effect of parameter choice in root water uptake models â€“ the arrangement of root hydraulic properties within the root architecture affects dynamics and efficiency of root water uptake. Hydrology and Earth System Sciences, 2014, 18, 4189-4206.	4.9	20
42	Estimating parameters of aquifer heterogeneity using pumping tests â€“ implications for field applications. Advances in Water Resources, 2015, 83, 137-147.	3.8	20
43	Impact of heterogeneous permeability distribution on the groundwater flow systems of a small sedimentary basin. Journal of Hydrology, 2016, 532, 90-101.	5.4	20
44	A Fokkerâ€“Planck approach for probability distributions of species concentrations transported in heterogeneous media. Journal of Computational and Applied Mathematics, 2015, 289, 241-252.	2.0	19
45	Macrodispersion in a radially diverging flow field with finite Peclet Numbers: 1. Perturbation theory approach. Water Resources Research, 2001, 37, 481-493.	4.2	18
46	Beyond Thiem: A new method for interpreting large scale pumping tests in heterogeneous aquifers. Water Resources Research, 2008, 44, .	4.2	18
47	Improved regional-scale groundwater representation by the coupling of the mesoscale Hydrologic Model (mHM v5.7) to the groundwater model OpenGeoSys (OGS). Geoscientific Model Development, 2018, 11, 1989-2007.	3.6	18
48	An extended stability criterion for density-driven flows in homogeneous porous media. Advances in Water Resources, 2009, 32, 796-808.	3.8	17
49	Spatially distributed characterization of soil-moisture dynamics using travel-time distributions. Hydrology and Earth System Sciences, 2017, 21, 549-570.	4.9	16
50	The Extended Thiem's solution: Including the impact of heterogeneity. Water Resources Research, 2012, 48, .	4.2	15
51	Modeling Soilâ€Coupled Water Uptake of Multiple Root Systems with Automatic Time Stepping. Vadose Zone Journal, 2011, 10, 727-735.	2.2	15
52	Filtering procedures for flow in heterogeneous porous media: numerical results. Computing and Visualization in Science, 2002, 5, 67-72.	1.2	14
53	Assessing the validity of a lower-dimensional representation of fractures for numerical and analytical investigations. Advances in Water Resources, 2013, 56, 35-48.	3.8	14
54	Neutrons on Rails: Transregional Monitoring of Soil Moisture and Snow Water Equivalent. Geophysical Research Letters, 2021, 48, .	4.0	14

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55	Towards a filtered density function approach for reactive transport in groundwater. Advances in Water Resources, 2016, 90, 83-98.	3.8	13
56	Assessing the response of groundwater quantity and travel time distribution to 1.5, 2, and 3â€‰Â°C global warming in a mesoscale central German basin. Hydrology and Earth System Sciences, 2020, 24, 1511-1526.	4.9	13
57	The effect of dispersion on the stability of density-driven flows in saturated homogeneous porous media. Advances in Water Resources, 2011, 34, 417-432.	3.8	12
58	Homogenization of the transport behavior of nonlinearly adsorbing pollutants in physically and chemically heterogeneous aquifers. Advances in Water Resources, 2009, 32, 767-777.	3.8	11
59	Parameter Importance in FRAP Acquisition and Analysis: A Simulation Approach. Biophysical Journal, 2013, 104, 2089-2097.	0.5	11
60	Assessment of the impact of pore-scale mass-transfer restrictions on microbially-induced stable-isotope fractionation. Advances in Water Resources, 2014, 74, 79-90.	3.8	11
61	Revisitation of the dipole tracer test for heterogeneous porous formations. Advances in Water Resources, 2018, 115, 198-206.	3.8	11
62	Macrodispersion in a radially diverging flow field with finite Peclet Numbers: 2. Homogenization theory approach. Water Resources Research, 2001, 37, 495-505.	4.2	10
63	Structural properties of continuous representations of Boolean functions for gene network modelling. Automatica, 2010, 46, 2047-2052.	5.0	10
64	Characterizing the impact of roughness and connectivity features of aquifer conductivity using Bayesian inversion. Journal of Hydrology, 2015, 531, 73-87.	5.4	10
65	Data driven high resolution modeling and spatial analyses of the COVID-19 pandemic in Germany. PLoS ONE, 2021, 16, e0254660.	2.5	10
66	Disparate Seasonal Nitrate Export From Nested Heterogeneous Subcatchments Revealed With StorAge Selection Functions. Water Resources Research, 2022, 58, .	4.2	8
67	Characterizing Catchmentâ€Scale Nitrogen Legacies and Constraining Their Uncertainties. Water Resources Research, 2022, 58, .	4.2	8
68	From Dynamic Groundwater Level Measurements to Regional Aquifer Parametersâ€” Assessing the Power of Spectral Analysis. Water Resources Research, 2022, 58, .	4.2	8
69	The stability of density-driven flows in saturated heterogeneous porous media. Advances in Water Resources, 2011, 34, 1464-1482.	3.8	7
70	A time dependent mixing model to close PDF equations for transport in heterogeneous aquifers. Advances in Water Resources, 2016, 96, 55-67.	3.8	7
71	Technical note: Analytical drawdown solution for steady-state pumping tests in two-dimensional isotropic heterogeneous aquifers. Hydrology and Earth System Sciences, 2016, 20, 1655-1667.	4.9	7
72	Multiscale Modeling of Nonlinearly Adsorbing Solute Transport. Multiscale Modeling and Simulation, 2003, 1, 408-431.	1.6	5

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73	Assessing the structural adequacy of alternative ecohydrological models using a pattern-oriented approach. Ecological Modelling, 2015, 316, 52-61.	2.5	5
74	A field evidence model: how to predict transport in heterogeneous aquifers at low investigation level. Hydrology and Earth System Sciences, 2021, 25, 1-15.	4.9	5
75	How to Find Aquifer Statistics Utilizing Pumping Tests? Two Field Studies Using welltestpy. Ground Water, 2022, 60, 137-144.	1.3	4
76	Presentation and discussion of the high-resolution atmosphereâ€“land-surfaceâ€“subsurface simulation dataset of the simulated Neckar catchment for the period 2007â€“2015. Earth System Science Data, 2021, 13, 4437-4464.	9.9	4
77	Predicting predominant thermal convection in thermohaline flows in saturated porous media. Advances in Water Resources, 2012, 49, 23-36.	3.8	3
78	A Comparison of Six Transport Models of the MADEâ€1 Experiment Implemented With Different Types of Hydraulic Data. Water Resources Research, 2021, 57, e2020WR028672.	4.2	3
79	The extended generalized radial flow model and effective conductivity for truncated power law variograms. Advances in Water Resources, 2021, 156, 104027.	3.8	1