Heye Bogena

List of Publications by Year
in descending order

116 papers	6,336 citations	71102 41 h-index	71685 76 g-index
171 all docs	171 docs citations	171 times ranked	6400 citing authors

#	Article	IF	Citations
1	Coupling the Community Land Model version 5.0 to the parallel data assimilation framework PDAF: description and applications. Geoscientific Model Development, 2022, 15, 395-411.	3.6	6
2	COSMOS-Europe: a European network of cosmic-ray neutron soil moisture sensors. Earth System Science Data, 2022, 14, 1125-1151.	9.9	33
3	Soil moisture observation in a forested headwater catchment: combining a dense cosmic-ray neutron sensor network with roving and hydrogravimetry at the TERENO site WÃ¼stebach. Earth System Science Data, 2022, 14, 2501-2519.	9.9	9
4	CLM5-FruitTree: a new sub-model for deciduous fruit trees in the Community Land Model (CLM5). Geoscientific Model Development, 2022, 15, 5167-5193.	3.6	4
5	Estimating the Number of Reference Sites Necessary for the Validation of Global Soil Moisture Products. IEEE Geoscience and Remote Sensing Letters, 2021, 18, 1530-1534.	3.1	8
6	Longâ€term stable water isotope and runoff data for the investigation of deforestation effects on the hydrological system of the WÃ¼stebach catchment, Germany. Hydrological Processes, 2021, 35, e14006.	2.6	5
7	Comment on Dong and Ochsner (2018): â€œSoil Texture Often Exerts Stronger Influence Than Precipitation on Mesoscale Soil Moisture Patternsâ€. Water Resources Research, 2021, 57, e2020WR027790.	4.2	1
8	Improving the representation of cropland sites in the Community Land Model (CLM) version 5.0. Geoscientific Model Development, 2021, 14, 573-601.	3.6	18
9	Performance of the ATMOS41 All-in-One Weather Station for Weather Monitoring. Sensors, 2021, 21, 741.	3.8	16
10	The SARSense Campaign: Air- and Space-Borne C- and L-Band SAR for the Analysis of Soil and Plant Parameters in Agriculture. Remote Sensing, 2021, 13, 825.	4.0	14
11	Editorial: Innovative Methods for Non-invasive Monitoring of Hydrological Processes From Field to Catchment Scale. Frontiers in Water, 2021, 3, .	2.3	0
12	The European Heat Wave 2018: The Dendroecological Response of Oak and Spruce in Western Germany. Forests, 2021, 12, 283.	2.1	8
13	Investigating the controls on greenhouse gas emission in the riparian zone of a small headwater catchment using an automated monitoring system. Vadose Zone Journal, 2021, 20, e20149.	2.2	4
14	The Footprint Characteristics of Cosmic Ray Thermal Neutrons. Geophysical Research Letters, 2021, 48, e2021GL094281.	4.0	14
15	Reanalysis in Earth System Science: Toward Terrestrial Ecosystem Reanalysis. Reviews of Geophysics, 2021, 59, e2020RG000715.	23.0	24
16	Reduction of vegetation-accessible water storage capacity after deforestation affects catchment travel time distributions and increases young water fractions in a headwater catchment. Hydrology and Earth System Sciences, 2021, 25, 4887-4915.	4.9	18
17	The International Soil Moisture Network: serving Earth system science for over a decade. Hydrology and Earth System Sciences, 2021, 25, 5749-5804.	4.9	116
18	CRNS-based monitoring technologies for a weather and climate-resilient agriculture: realization by the ADAPTER project. , 2021, , .		3

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19	Comparison of Soil Water Estimates From Cosmic-Ray Neutron and Capacity Sensors in a Semi-arid Pine Forest: Which Is Able to Better Assess the Role of Environmental Conditions and Thinning?. Frontiers in Water, 2020, 2, .	2.3	0
20	Cosmic Ray Neutron Soil Moisture Estimation Using Physically Based Siteâ€Specific Conversion Functions. Water Resources Research, 2020, 56, e2019WR026588.	4.2	18
21	Monitoring of Snowpack Dynamics With Cosmic-Ray Neutron Probes: A Comparison of Four Conversion Methods. Frontiers in Water, 2020, 2, .	2.3	19
22	Stable-Isotope-Aided Investigation of the Effect of Redox Potential on Nitrous Oxide Emissions as Affected by Water Status and N Fertilization. Water (Switzerland), 2020, 12, 2918.	2.7	2
23	Integrating Invasive and Non-invasive Monitoring Sensors to Detect Field-Scale Soil Hydrological Behavior. Frontiers in Water, 2020, 2, .	2.3	4
24	Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190524.	4.0	35
25	Retrieving Heterogeneous Surface Soil Moisture at 100 m Across the Globe via Fusion of Remote Sensing and Land Surface Parameters. Frontiers in Water, 2020, 2, .	2.3	11
26	Error Estimation for Soil Moisture Measurements With Cosmic Ray Neutron Sensing and Implications for Rover Surveys. Frontiers in Water, 2020, 2, .	2.3	33
27	Effects of Deforestation on Water Flow in the Vadose Zone. Water (Switzerland), 2020, 12, 35.	2.7	19
28	A dense network of cosmic-ray neutron sensors for soil moisture observation in a highly instrumented pre-Alpine headwater catchment in Germany. Earth System Science Data, 2020, 12, 2289-2309.	9.9	44
29	Estimation of subsurface soil moisture from surface soil moisture in cold mountainous areas. Hydrology and Earth System Sciences, 2020, 24, 4659-4674.	4.9	17
30	Sarsense: A C- and L-Band SAR Rehearsal Campaign in Germany in Preparation for ROSE-L. , 2020, , .		1
31	On the Accuracy of Factory-Calibrated Low-Cost Soil Water Content Sensors. Sensors, 2019, 19, 3101.	3.8	28
32	Can Drip Irrigation be Scheduled with Cosmicâ€Ray Neutron Sensing?. Vadose Zone Journal, 2019, 18, 190053.	2.2	22
33	CO2 fluxes before and after partial deforestation of a Central European spruce forest. Agricultural and Forest Meteorology, 2019, 274, 61-74.	4.8	27
34	Upscaling Issues in Ecohydrological Observations. Ecohydrology, 2019, , 435-454.	0.2	5
35	Dynamic response patterns of profile soil moisture wetting events under different land covers in the Mountainous area of the Heihe River Watershed, Northwest China. Agricultural and Forest Meteorology, 2019, 271, 225-239.	4.8	46
36	On the Information Content of Cosmicâ€Ray Neutron Data in the Inverse Estimation of Soil Hydraulic Properties. Vadose Zone Journal, 2019, 18, 1-24.	2.2	29

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37	Ground-Based Soil Moisture Determination. Ecohydrology, 2019, , 29-70.	0.2	2
38	Time variability and uncertainty in the fraction of young water in a small headwater catchment. Hydrology and Earth System Sciences, 2019, 23, 4333-4347.	4.9	22
39	Integrating ground-based and remote sensing-based monitoring of near-surface soil moisture in a Mediterranean environment. , 2019, , .		3
40	Measurements and Observations in the XXI century (MOXXI): innovation and multi-disciplinarity to sense the hydrological cycle. Hydrological Sciences Journal, 2018, 63, 169-196.	2.6	151
41	Hydrologic and Geochemical Research at Pinios Hydrologic Observatory: Initial Results. Vadose Zone Journal, 2018, 17, 1-16.	2.2	11
42	Using Sap Flow Data to Parameterize the Feddes Water Stress Model for Norway Spruce. Water (Switzerland), 2018, 10, 279.	2.7	17
43	Growth and wood isotopic signature of Norway spruce (Picea abies) along a small-scale gradient of soil moisture. Tree Physiology, 2018, 38, 1855-1870.	3.1	5
44	Monitoring Hydrological Processes for Land and Water Resources Management in a Mediterranean Ecosystem: The Alento River Catchment Observatory. Vadose Zone Journal, 2018, 17, 1-12.	2.2	33
45	Exploring the growth response of Norway spruce (Picea abies) along a small-scale gradient of soil water supply. Dendrochronologia, 2018, 52, 123-130.	2.2	14
46	Characterizing Redox Potential Effects on Greenhouse Gas Emissions Induced by Waterâ€Level Changes. Vadose Zone Journal, 2018, 17, 1-13.	2.2	17
47	A New Soil Moisture Downscaling Approach for SMAP, SMOS, and ASCAT by Predicting Sub-Grid Variability. Remote Sensing, 2018, 10, 427.	4.0	45
48	Cosmic Ray Neutron Sensing for Simultaneous Soil Water Content and Biomass Quantification in Drought Conditions. Water Resources Research, 2018, 54, 7383-7402.	4.2	54
49	Ground-Based Soil Moisture Determination. Ecohydrology, 2018, , 1-42.	0.2	3
50	Upscaling Issues in Ecohydrological Observations. Ecohydrology, 2018, , 1-21.	0.2	1
51	A Threeâ€Dimensional View on Soil Biogeochemistry: A Dataset for a Forested Headwater Catchment. Journal of Environmental Quality, 2017, 46, 210-218.	2.0	17
52	Potential of catchment-wide soil water content prediction using electromagnetic induction in a forest ecosystem. Environmental Earth Sciences, 2017, 76, 1.	2.7	30
53	Accounting for seasonal isotopic patterns of forest canopy intercepted precipitation in streamflow modeling. Journal of Hydrology, 2017, 555, 31-40.	5.4	22
54	Validation of Spaceborne and Modelled Surface Soil Moisture Products with Cosmic-Ray Neutron Probes. Remote Sensing, 2017, 9, 103.	4.0	87

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55	Effective Calibration of Low-Cost Soil Water Content Sensors. Sensors, 2017, 17, 208.	3.8	72
56	Spatiotemporal Analysis of Dissolved Organic Carbon and Nitrate in Waters of a Forested Catchment Using Wavelet Analysis. Vadose Zone Journal, 2017, 16, 1-14.	2.2	20
57	Status and Perspectives on the Cosmicâ€Ray Neutron Method for Soil Moisture Estimation and Other Environmental Science Applications. Vadose Zone Journal, 2017, 16, 1-11.	2.2	87
58	Cosmic-ray neutron transport at a forest field site: the sensitivity to various environmental conditions with focus on biomass and canopy interception. Hydrology and Earth System Sciences, 2017, 21, 1875-1894.	4.9	31
59	Evaluation of a cosmic-ray neutron sensor network for improved land surface model prediction. Hydrology and Earth System Sciences, 2017, 21, 2509-2530.	4.9	33
60	Improving calibration and validation of cosmic-ray neutron sensors in the light of spatial sensitivity. Hydrology and Earth System Sciences, 2017, 21, 5009-5030.	4.9	93
61	A Dataset for Threeâ€Dimensional Distribution of 39 Elements Including Plant Nutrients and Other Metals and Metalloids in the Soils of a Forested Headwater Catchment. Journal of Environmental Quality, 2017, 46, 1510-1518.	2.0	6
62	Using High-Resolution Data to Test Parameter Sensitivity of the Distributed Hydrological Model HydroGeoSphere. Water (Switzerland), 2016, 8, 202.	2.7	24
63	Comparing â^†Tmax Determination Approaches for Granier-Based Sapflow Estimations. Sensors, 2016, 16, 2042.	3.8	30
64	Modeling cosmic ray neutron field measurements. Water Resources Research, 2016, 52, 6451-6471.	4.2	36
65	Simultaneous soil moisture and properties estimation for a drip irrigated field by assimilating cosmic-ray neutron intensity. Journal of Hydrology, 2016, 539, 611-624.	5.4	21
66	Tracer sampling frequency influences estimates of young water fraction and streamwater transit time distribution. Journal of Hydrology, 2016, 541, 952-964.	5.4	54
67	Scale dependent parameterization of soil hydraulic conductivity in 3D simulation of hydrological processes in a forested headwater catchment. Journal of Hydrology, 2016, 536, 365-375.	5.4	20
68	Investigation of SMAP Fusion Algorithms With Airborne Active and Passive L-Band Microwave Remote Sensing. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 3878-3889.	6.3	58
69	Inter-comparison of three distributed hydrological models with respect to seasonal variability of soil moisture patterns at a small forested catchment. Journal of Hydrology, 2016, 533, 234-249.	5.4	73
70	The integrated water balance and soil data set of the Rollesbroich hydrological observatory. Earth System Science Data, 2016, 8, 517-529.	9.9	20
71	Predicting subgrid variability of soil water content from basic soil information. Geophysical Research Letters, 2015, 42, 789-796.	4.0	56
72	Interception effects on stable isotope driven streamwater transit time estimates. Geophysical Research Letters, 2015, 42, 5299-5308.	4.0	29

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73	Monitoring and Modeling the Terrestrial System from Pores to Catchments: The Transregional Collaborative Research Center on Patterns in the Soilâ€“Vegetationâ€“Atmosphere System. Bulletin of the American Meteorological Society, 2015, 96, 1765-1787.	3.3	80
74	An empirical vegetation correction for soil water content quantification using cosmic ray probes. Water Resources Research, 2015, 51, 2030-2046.	4.2	112
75	Emerging methods for noninvasive sensing of soil moisture dynamics from field to catchment scale: a review. Wiley Interdisciplinary Reviews: Water, 2015, 2, 635-647.	6.5	86
76	Investigating temporal field sampling strategies for site-specific calibration of three soil moistureâ€“neutron intensity parameterisation methods. Hydrology and Earth System Sciences, 2015, 19, 3203-3216.	4.9	30
77	Soil hydrology: Recent methodological advances, challenges, and perspectives. Water Resources Research, 2015, 51, 2616-2633.	4.2	149
78	Spatio-temporal validation of long-term 3D hydrological simulations of a forested catchment using empirical orthogonal functions and wavelet coherence analysis. Journal of Hydrology, 2015, 529, 1754-1767.	5.4	49
79	Old World megadroughts and pluvials during the Common Era. Science Advances, 2015, 1, e1500561.	10.3	403
80	A terrestrial observatory approach to the integrated investigation of the effects of deforestation on water, energy, and matter fluxes. Science China Earth Sciences, 2015, 58, 61-75.	5.2	50
81	Catchment scale validation of SMOS and ASCAT soil moisture products using hydrological modeling and temporal stability analysis. Journal of Hydrology, 2014, 519, 934-946.	5.4	59
82	Active and passive L-band microwave remote sensing for soil moisture — A test-bed for SMAP fusion algorithms. , 2014, , .		4
83	Significance of scale and lower boundary condition in the 3D simulation of hydrological processes and soil moisture variability in a forested headwater catchment. Journal of Hydrology, 2014, 516, 140-153.	5.4	33
84	Soil moisture retrieval from airborne L-band passive microwave using high resolution multispectral data. ISPRS Journal of Photogrammetry and Remote Sensing, 2014, 91, 59-71.	11.1	46
85	On the spatio-temporal dynamics of soil moisture at the field scale. Journal of Hydrology, 2014, 516, 76-96.	5.4	369
86	Effects of Soil Hydraulic Properties on the Spatial Variability of Soil Water Content: Evidence from Sensor Network Data and Inverse Modeling. Vadose Zone Journal, 2014, 13, vzj2014.07.0099.	2.2	33
87	Seasonal soil moisture patterns: Controlling transit time distributions in a forested headwater catchment. Water Resources Research, 2014, 50, 5270-5289.	4.2	45
88	Spatiotemporal relations between water budget components and soil water content in a forested tributary catchment. Water Resources Research, 2014, 50, 4837-4857.	4.2	88
89	Climatic responses of tree-ring width and Î´13C signatures of sessile oak (Quercus petraea Liebl.) on soils with contrasting water supply. Plant Ecology, 2013, 214, 1147-1156.	1.6	22
90	Using HydroGeoSphere in a Forested Catchment: How does Spatial Resolution Influence the Simulation of Spatio-temporal Soil Moisture Variability?. Procedia Environmental Sciences, 2013, 19, 198-207.	1.4	11

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91	Brightness Temperature and Soil Moisture Validation at Different Scales During the SMOS Validation Campaign in the Rur and Erft Catchments, Germany. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 1728-1743.	6.3	61
92	Accuracy of the cosmic-ray soil water content probe in humid forest ecosystems: The worst case scenario. Water Resources Research, 2013, 49, 5778-5791.	4.2	164
93	Vulnerability of Trees to Climate Events in Temperate Forests of West Germany. ISRN Forestry, 2013, 2013, 1-15.	1.0	7
94	Active and passive airborne microwave remote sensing for soil moisture retrieval in the Rur catchment, Germany. , 2012, , .		1
95	500 years of regional forest growth variability and links to climatic extreme events in Europe. Environmental Research Letters, 2012, 7, 045705.	5.2	61
96	Seasonal and event dynamics of spatial soil moisture patterns at the small catchment scale. Water Resources Research, 2012, 48, .	4.2	235
97	Correction of Temperature and Electrical Conductivity Effects on Dielectric Permittivity Measurements with ECH‹sub›2‹/sub›O Sensors. Vadose Zone Journal, 2011, 10, 582-593.	2.2	73
98	A Network of Terrestrial Environmental Observatories in Germany. Vadose Zone Journal, 2011, 10, 955-973.	2.2	401
99	Multiscale Analysis of Hydrologic Time Series Data using the Hilbertâ€“Huang Transform. Vadose Zone Journal, 2010, 9, 925-942.	2.2	18
100	Potential of Wireless Sensor Networks for Measuring Soil Water Content Variability. Vadose Zone Journal, 2010, 9, 1002-1013.	2.2	300
101	Species-specific climate sensitivity of tree growth in Central-West Germany. Trees - Structure and Function, 2009, 23, 729-739.	1.9	125
102	Hybrid Wireless Underground Sensor Networks: Quantification of Signal Attenuation in Soil. Vadose Zone Journal, 2009, 8, 755-761.	2.2	98
103	On the value of soil moisture measurements in vadose zone hydrology: A review. Water Resources Research, 2008, 44, .	4.2	530
104	Complex climate controls on 20th century oak growth in Central-West Germany. Tree Physiology, 2008, 29, 39-51.	3.1	134
105	Spatial patterns of central European pointer years from 1901 to 1971. Dendrochronologia, 2007, 24, 79-89.	2.2	106
106	Water fluxes and diffuse nitrate pollution at river basin scale: coupling of agro-economic models and hydrological approaches. Water Science and Technology, 2007, 55, 133-142.	2.5	16
107	Growth/climate response shift in a long subalpine spruce chronology. Trees - Structure and Function, 2006, 20, 99-110.	1.9	106
108	Distributed modeling of groundwater recharge at the macroscale. Ecological Modelling, 2005, 187, 15-26.	2.5	54

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109	Management of regional German river catchments (REGFLUD) impact of nitrogen reduction measures on the nitrogen load in the River Ems and the River Rhine. Water Science and Technology, 2005, 51, 291-299.	2.5	6
110	Impact of nitrogen reduction measures on the nitrogen loads of the river Ems and Rhine (Germany). Physics and Chemistry of the Earth, 2005, 30, 527-541.	2.9	20
111	Site ecological differences to the climatic forcing of spruce pointer years from the LÃ¶tschental, Switzerland. Dendrochronologia, 2004, 21, 69-78.	2.2	58
112	Analysing and modelling solute and sediment transport in the catchment of the Wahnbach River. Physics and Chemistry of the Earth, 2003, 28, 227-237.	2.9	9
113	Modelling solute and sediment transport at different spatial and temporal scales. Earth Surface Processes and Landforms, 2002, 27, 1475-1489.	2.5	6
114	TERENO: German network of terrestrial environmental observatories. Journal of Large-scale Research Facilities JLSRF, 0, 2, A52.	0.0	28
115	Uncertainties in the simulation of groundwater recharge at different scales. Advances in Geosciences, 0, 5, 25-30.	12.0	10
116	Towards a network of observatories in terrestrial environmental research. Advances in Geosciences, 0, 9, 109-114.	12.0	54