

Patrick Willems

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

135
papers

5,012
citations

40
h-index

66
g-index

138
ext. papers

5,649
ext. citations

4.5
avg, IF

6.33
L-index

#	Paper	IF	Citations
135	Spatial and temporal rainfall variability in mountainous areas: A case study from the south Ecuadorian Andes. <i>Journal of Hydrology</i> , 2006 , 329, 413-421	6	281
134	Climate change impact assessment on urban rainfall extremes and urban drainage: Methods and shortcomings. <i>Atmospheric Research</i> , 2012 , 103, 106-118	5.4	238
133	Statistical precipitation downscaling for small-scale hydrological impact investigations of climate change. <i>Journal of Hydrology</i> , 2011 , 402, 193-205	6	192
132	A time series tool to support the multi-criteria performance evaluation of rainfall-runoff models. <i>Environmental Modelling and Software</i> , 2009 , 24, 311-321	5.2	166
131	Assessment of climate change impact on hydrological extremes in two source regions of the Nile River Basin. <i>Hydrology and Earth System Sciences</i> , 2011 , 15, 209-222	5.5	144
130	Assessing the impact of land use change on hydrology by ensemble modeling (LUCHEM). I: Model intercomparison with current land use. <i>Advances in Water Resources</i> , 2009 , 32, 129-146	4.7	141
129	Trends and multidecadal oscillations in rainfall extremes, based on a more than 100-year time series of 10 min rainfall intensities at Uccle, Belgium. <i>Water Resources Research</i> , 2008 , 44,	5.4	126
128	Compound intensity/duration/frequency-relationships of extreme precipitation for two seasons and two storm types. <i>Journal of Hydrology</i> , 2000 , 233, 189-205	6	126
127	Revision of urban drainage design rules after assessment of climate change impacts on precipitation extremes at Uccle, Belgium. <i>Journal of Hydrology</i> , 2013 , 496, 166-177	6	116
126	Inter-comparison of statistical downscaling methods for projection of extreme precipitation in Europe. <i>Hydrology and Earth System Sciences</i> , 2015 , 19, 1827-1847	5.5	112
125	Assessing the impact of land use change on hydrology by ensemble modelling (LUCHEM) II: Ensemble combinations and predictions. <i>Advances in Water Resources</i> , 2009 , 32, 147-158	4.7	108
124	Global sensitivity analysis of yield output from the water productivity model. <i>Environmental Modelling and Software</i> , 2014 , 51, 323-332	5.2	107
123	Space-time rainfall variability in the Paute basin, Ecuadorian Andes. <i>Hydrological Processes</i> , 2007 , 21, 3316-3327	3.3	105
122	Multidecadal oscillatory behaviour of rainfall extremes in Europe. <i>Climatic Change</i> , 2013 , 120, 931-944	4.5	96
121	A framework for testing the ability of models to project climate change and its impacts. <i>Climatic Change</i> , 2014 , 122, 271-282	4.5	86
120	Probabilistic modelling of overflow, surcharge and flooding in urban drainage using the first-order reliability method and parameterization of local rain series. <i>Water Research</i> , 2008 , 42, 455-66	12.5	86
119	Heat stress increase under climate change twice as large in cities as in rural areas: A study for a densely populated midlatitude maritime region. <i>Geophysical Research Letters</i> , 2017 , 44, 8997-9007	4.9	80

118	Evaluation of TRMM 3B42 precipitation estimates and WRF retrospective precipitation simulation over the Pacific-Andean region of Ecuador and Peru. <i>Hydrology and Earth System Sciences</i> , 2014 , 18, 3179-3193	5.5	80
117	Temporal variability of hydroclimatic extremes in the Blue Nile basin. <i>Water Resources Research</i> , 2012 , 48,	5.4	79
116	Quantification and relative comparison of different types of uncertainties in sewer water quality modeling. <i>Water Research</i> , 2008 , 42, 3539-51	12.5	79
115	A spatial rainfall generator for small spatial scales. <i>Journal of Hydrology</i> , 2001 , 252, 126-144	6	76
114	Climate change scenarios for precipitation and potential evapotranspiration over central Belgium. <i>Theoretical and Applied Climatology</i> , 2010 , 99, 273-286	3	70
113	Assessing the impact of land use change on hydrology by ensemble modeling (LUCHEM) III: Scenario analysis. <i>Advances in Water Resources</i> , 2009 , 32, 159-170	4.7	68
112	Intercomparison of five lumped and distributed models for catchment runoff and extreme flow simulation. <i>Journal of Hydrology</i> , 2014 , 511, 335-349	6	64
111	Developing tailored climate change scenarios for hydrological impact assessments. <i>Journal of Hydrology</i> , 2014 , 508, 307-321	6	62
110	Implications of climate change on hydrological extremes in the Blue Nile basin: A review. <i>Journal of Hydrology: Regional Studies</i> , 2015 , 4, 280-293	3.6	55
109	Adjustment of extreme rainfall statistics accounting for multidecadal climate oscillations. <i>Journal of Hydrology</i> , 2013 , 490, 126-133	6	55
108	Spatio-temporal impact of climate change on the groundwater system. <i>Hydrology and Earth System Sciences</i> , 2012 , 16, 1517-1531	5.5	52
107	Climate change impact on water resource extremes in a headwater region of the Tarim basin in China. <i>Hydrology and Earth System Sciences</i> , 2011 , 15, 3511-3527	5.5	52
106	Considering sink strength to model crop production under elevated atmospheric CO2. <i>Agricultural and Forest Meteorology</i> , 2011 , 151, 1753-1762	5.8	51
105	Parsimonious rainfall-runoff model construction supported by time series processing and validation of hydrological extremes [Part 1: Step-wise model-structure identification and calibration approach. <i>Journal of Hydrology</i> , 2014 , 510, 578-590	6	48
104	The relative impact of climate change and urban expansion on peak flows: a case study in central Belgium. <i>Hydrological Processes</i> , 2011 , 25, 2846-2858	3.3	47
103	Flash-Flood Forecasting in an Andean Mountain Catchment-Development of a Step-Wise Methodology Based on the Random Forest Algorithm. <i>Water (Switzerland)</i> , 2018 , 10, 1519	3	47
102	Parameter estimation in semi-distributed hydrological catchment modelling using a multi-criteria objective function. <i>Hydrological Processes</i> , 2007 , 21, 2998-3008	3.3	46
101	A Review of Radar-Rain Gauge Data Merging Methods and Their Potential for Urban Hydrological Applications. <i>Water Resources Research</i> , 2019 , 55, 6356-6391	5.4	44

100	Climate change impact on river flows and catchment hydrology: a comparison of two spatially distributed models. <i>Hydrological Processes</i> , 2013 , 27, 3649-3662	3.3	44
99	Runoff and vegetation stress of green roofs under different climate change scenarios. <i>Landscape and Urban Planning</i> , 2014 , 122, 68-77	7.7	43
98	A non-parametric data-based approach for probabilistic flood forecasting in support of uncertainty communication. <i>Environmental Modelling and Software</i> , 2012 , 33, 92-105	5.2	41
97	A holistic model for coastal flooding using system diagrams and the Source-Pathway-Receptor (SPR) concept. <i>Natural Hazards and Earth System Sciences</i> , 2012 , 12, 1431-1439	3.9	41
96	Evaporation estimates from Nasser Lake, Egypt, based on three floating station data and Bowen ratio energy budget. <i>Theoretical and Applied Climatology</i> , 2010 , 100, 439-465	3	41
95	Local impact analysis of climate change on precipitation extremes: are high-resolution climate models needed for realistic simulations?. <i>Hydrology and Earth System Sciences</i> , 2016 , 20, 3843-3857	5.5	40
94	Bias correction in hydrologic GPD based extreme value analysis by means of a slowly varying function. <i>Journal of Hydrology</i> , 2007 , 338, 221-236	6	38
93	Decadal oscillations in rainfall and air temperature in the Paute River Basin Southern Andes of Ecuador. <i>Theoretical and Applied Climatology</i> , 2012 , 108, 267-282	3	37
92	Flood regulation using nonlinear model predictive control. <i>Control Engineering Practice</i> , 2010 , 18, 1147-1157	3.5	37
91	Quantifying field-scale effects of elevated carbon dioxide concentration on crops. <i>Climate Research</i> , 2012 , 54, 35-47	1.6	37
90	Spatial and temporal variability of rainfall in the Nile Basin. <i>Hydrology and Earth System Sciences</i> , 2015 , 19, 2227-2246	5.5	36
89	Climate changes of hydrometeorological and hydrological extremes in the Paute basin, Ecuadorean Andes. <i>Hydrology and Earth System Sciences</i> , 2014 , 18, 631-648	5.5	35
88	Stochastic description of the rainfall input errors in lumped hydrological models. <i>Stochastic Environmental Research and Risk Assessment</i> , 2001 , 15, 132-152	3.5	35
87	Lagged influence of Atlantic and Pacific climate patterns on European extreme precipitation. <i>Scientific Reports</i> , 2018 , 8, 5748	4.9	34
86	Assessment of the sensitivity and prediction uncertainty of evaporation models applied to Nasser Lake, Egypt. <i>Journal of Hydrology</i> , 2010 , 395, 10-22	6	32
85	Enhancement of radar rainfall estimates for urban hydrology through optical flow temporal interpolation and Bayesian gauge-based adjustment. <i>Journal of Hydrology</i> , 2015 , 531, 408-426	6	31
84	Development of discharge-stage curves affected by hysteresis using time varying models, model trees and neural networks. <i>Environmental Modelling and Software</i> , 2014 , 55, 107-119	5.2	30
83	More prolonged droughts by the end of the century in the Middle East. <i>Environmental Research Letters</i> , 2018 , 13, 104005	6.2	30

82	Precipitation intensity-duration-frequency curves for central Belgium with an ensemble of EURO-CORDEX simulations, and associated uncertainties. <i>Atmospheric Research</i> , 2018 , 200, 1-12	5.4	29
81	Integrated Modeling System for Water Resources Management of Tarim River Basin. <i>Environmental Engineering Science</i> , 2010 , 27, 255-269	2	29
80	Improving the predictions of a MIKE SHE catchment-scale application by using a multi-criteria approach. <i>Hydrological Processes</i> , 2008 , 22, 2159-2179	3.3	29
79	On the usefulness of remote sensing input data for spatially distributed hydrological modelling: case of the Tarim River basin in China. <i>Hydrological Processes</i> , 2012 , 26, 335-344	3.3	28
78	Looking beyond general metrics for model comparison: Lessons from an international model intercomparison study. <i>Hydrology and Earth System Sciences</i> , 2017 , 21, 423-440	5.5	26
77	Influence of climate variability on representative QDF predictions of the upper Blue Nile basin. <i>Journal of Hydrology</i> , 2011 , 411, 355-365	6	26
76	Regional and global climate projections increase mid-century yield variability and crop productivity in Belgium. <i>Regional Environmental Change</i> , 2016 , 16, 659-672	4.3	25
75	Method for testing the accuracy of rainfall-runoff models in predicting peak flow changes due to rainfall changes, in a climate changing context. <i>Journal of Hydrology</i> , 2012 , 414-415, 425-434	6	25
74	Random number generator or sewer water quality model?. <i>Water Science and Technology</i> , 2006 , 54, 387-394	2.4	25
73	Development and testing of a fast conceptual river water quality model. <i>Water Research</i> , 2017 , 113, 62-71	1.5	23
72	Seasonally varying footprint of climate change on precipitation in the Middle East. <i>Scientific Reports</i> , 2018 , 8, 4435	4.9	23
71	Model uncertainty analysis by variance decomposition. <i>Physics and Chemistry of the Earth</i> , 2012 , 42-44, 21-30	3	23
70	Soil moisture content retrieval based on apparent thermal inertia for Xinjiang province in China. <i>International Journal of Remote Sensing</i> , 2012 , 33, 3870-3885	3.1	23
69	Probabilistic flood risk assessment over large geographical regions. <i>Water Resources Research</i> , 2013 , 49, 3330-3344	5.4	22
68	Areal rainfall correction coefficients for small urban catchments. <i>Atmospheric Research</i> , 2005 , 77, 48-59	5.4	22
67	Regional frequency analysis of extreme rainfall in Belgium based on radar estimates. <i>Hydrology and Earth System Sciences</i> , 2017 , 21, 5385-5399	5.5	21
66	Multi-model approach to quantify groundwater-level prediction uncertainty using an ensemble of global climate models and multiple abstraction scenarios. <i>Hydrology and Earth System Sciences</i> , 2019 , 23, 2279-2303	5.5	20
65	Flood control of the Demer by using Model Predictive Control. <i>Control Engineering Practice</i> , 2013 , 21, 1776-1787	3.9	20

64	Green-blue water in the city: quantification of impact of source control versus end-of-pipe solutions on sewer and river floods. <i>Water Science and Technology</i> , 2014 , 70, 1825-37	2.2	20
63	Conceptual river water quality model with flexible model structure. <i>Environmental Modelling and Software</i> , 2018 , 104, 102-117	5.2	18
62	Parsimonious Model for Combined Sewer Overflow Pollution. <i>Journal of Environmental Engineering, ASCE</i> , 2010 , 136, 316-325	2	18
61	Temporal and spatial variations in hydro-climatic extremes in the Lake Victoria basin. <i>Physics and Chemistry of the Earth</i> , 2012 , 50-52, 24-33	3	17
60	Effect of watershed delineation and areal rainfall distribution on runoff prediction using the SWAT model 2009 , 40, 505-519		17
59	A Hybrid Model for Fast and Probabilistic Urban Pluvial Flood Prediction. <i>Water Resources Research</i> , 2020 , 56, e2019WR025128	5.4	17
58	Singularity-sensitive gauge-based radar rainfall adjustment methods for urban hydrological applications. <i>Hydrology and Earth System Sciences</i> , 2015 , 19, 4001-4021	5.5	16
57	Enhanced object-based tracking algorithm for convective rain storms and cells. <i>Atmospheric Research</i> , 2018 , 201, 144-158	5.4	16
56	On the relationship between historical land-use change and water availability: the case of the lower Tarim River region in northwestern China. <i>Hydrological Processes</i> , 2013 , 27, 251-261	3.3	15
55	An elusive search for regional flood frequency estimates in the River Nile basin. <i>Hydrology and Earth System Sciences</i> , 2012 , 16, 3149-3163	5.5	15
54	Evaluation and inter-comparison of Global Climate Models performance over Katonga and Ruizi catchments in Lake Victoria basin. <i>Physics and Chemistry of the Earth</i> , 2010 , 35, 618-633	3	15
53	Concept of technical support to science-policy interfacing with respect to the implementation of the European water framework directive. <i>Environmental Science and Policy</i> , 2007 , 10, 464-473	6.2	15
52	Spatially Distributed Conceptual Hydrological Model Building: A Generic Top-Down Approach Starting From Lumped Models. <i>Water Resources Research</i> , 2018 , 54, 8064-8085	5.4	15
51	Fractal analysis of urban catchments and their representation in semi-distributed models: imperviousness and sewer system. <i>Hydrology and Earth System Sciences</i> , 2017 , 21, 2361-2375	5.5	13
50	Computationally efficient modelling of tidal rivers using conceptual reservoir-type models. <i>Environmental Modelling and Software</i> , 2016 , 77, 19-31	5.2	13
49	Uncertainty Analysis of Climate Change Impact on River Flow Extremes Based on a Large Multi-Model Ensemble. <i>Water Resources Management</i> , 2019 , 33, 4319-4333	3.7	12
48	Evaluation of reservoir operation strategies for irrigation in the Macul Basin, Ecuador. <i>Journal of Hydrology: Regional Studies</i> , 2016 , 5, 213-225	3.6	11
47	Water displacement by sewer infrastructure in the Grote Nete catchment, Belgium, and its hydrological regime effects. <i>Hydrology and Earth System Sciences</i> , 2014 , 18, 1119-1136	5.5	11

46	Using Local Weather Radar Data for Sewer System Modeling: Case Study in Flanders, Belgium. <i>Journal of Hydrologic Engineering - ASCE</i> , 2013 , 18, 269-278	1.8	11
45	'The lived experience of climate change': creating open educational resources and virtual mobility for an innovative, integrative and competence-based track at Masters level. <i>International Journal of Technology Enhanced Learning</i> , 2011 , 3, 111	1.2	11
44	Assessment of the potential implications of a 1.5 °C versus higher global temperature rise for the Afobaka hydropower scheme in Suriname. <i>Regional Environmental Change</i> , 2018 , 18, 2283-2295	4.3	10
43	Energy optimization of the urban drainage system by integrated real-time control during wet and dry weather conditions. <i>Urban Water Journal</i> , 2018 , 15, 362-370	2.3	10
42	Parameterization of river incision models requires accounting for environmental heterogeneity: insights from the tropical Andes. <i>Earth Surface Dynamics</i> , 2020 , 8, 447-470	3.8	10
41	Comparison of statistical downscaling methods for climate change impact analysis on precipitation-driven drought. <i>Hydrology and Earth System Sciences</i> , 2021 , 25, 3493-3517	5.5	10
40	Modelling hydrological effects of wetland restoration: a differentiated view. <i>Water Science and Technology</i> , 2009 , 59, 433-441	2.2	9
39	At site flood frequency analysis for the Nile Equatorial basins. <i>Physics and Chemistry of the Earth</i> , 2006 , 31, 919-927	3	9
38	Rainfall extremes, weather and climate drivers in complex terrain: A data-driven approach based on signal enhancement methods and EV modeling. <i>Journal of Hydrology</i> , 2018 , 563, 283-302	6	9
37	Model uncertainty reduction for real-time flood control by means of a flexible data assimilation approach and reduced conceptual models. <i>Journal of Hydrology</i> , 2018 , 564, 490-500	6	8
36	Probabilistic modelling of sewer system overflow emissions. <i>Water Science and Technology</i> , 1999 , 39, 47	2.2	8
35	A flexible and efficient multi-model framework in support of water management. <i>Proceedings of the International Association of Hydrological Sciences</i> , 373 , 1-6		8
34	Relation between design floods based on daily maxima and daily means: use of the Peak Over Threshold approach in the Upper Nysa Kłodzka Basin (SW Poland). <i>Geomatics, Natural Hazards and Risk</i> , 2017 , 8, 585-606	3.6	7
33	Weather Typing-Based Flood Frequency Analysis Verified for Exceptional Historical Events of Past 500 Years Along the Meuse River. <i>Water Resources Research</i> , 2017 , 53, 8459-8474	5.4	7
32	Science-policy interfacing in support of the Water Framework Directive implementation. <i>Water Science and Technology</i> , 2009 , 60, 47-54	2.2	7
31	Amplified Drought and Flood Risk Under Future Socioeconomic and Climatic Change. <i>Earth's Future</i> , 2021 , 9, e2021EF002295	7.9	7
30	Behind the scenes of streamflow model performance. <i>Hydrology and Earth System Sciences</i> , 2021 , 25, 1069-1095	5.5	7
29	Does drought advance the onset of autumn leaf senescence in temperate deciduous forest trees?. <i>Biogeosciences</i> , 2021 , 18, 3309-3330	4.6	7

28	Climate or land cover variations: what is driving observed changes in river peak flows? A data-based attribution study. <i>Hydrology and Earth System Sciences</i> , 2019 , 23, 871-882	5.5	5
27	Author's response to the commentary by S.Fischer & A.Schumann on Multidecadal oscillatory behaviour of rainfall extremes in Europe (Climatic Change, 120(4), 931-944) <i>Climatic Change</i> , 2015 , 130, 83-85	4.5	5
26	Rainfall in the urban context: Forecasting, risk and climate change. <i>Atmospheric Research</i> , 2012 , 103, 1-3	5.4	5
25	Adopting the downward approach in hydrological model development: the Bradford catchment case study. <i>Hydrological Processes</i> , 2011 , 25, 1681-1693	3.3	5
24	Stochastic generation of spatial rainfall for urban drainage areas. <i>Water Science and Technology</i> , 1999 , 39, 23	2.2	5
23	Assessing the Effects of Climate Change on Compound Flooding in Coastal River Areas. <i>Water Resources Research</i> , 2021 , 57,	5.4	5
22	Probabilistic flood prediction for urban sub-catchments using sewer models combined with logistic regression models. <i>Urban Water Journal</i> , 2019 , 16, 687-697	2.3	5
21	Urban flood hazard analysis in present and future climate after statistical downscaling: a case study in Ha Tinh city, Vietnam. <i>Urban Water Journal</i> , 2021 , 18, 257-274	2.3	5
20	Examining trends of hydro-meteorological extremes in the Shire River Basin in Malawi. <i>Physics and Chemistry of the Earth</i> , 2019 , 112, 91-102	3	4
19	Uncovering the shortcomings of a weather typing method. <i>Hydrology and Earth System Sciences</i> , 2020 , 24, 2671-2686	5.5	4
18	Assessment of Rainfall Variability and Its Relationship to ENSO in a Sub-Andean Watershed in Central Bolivia. <i>Water (Switzerland)</i> , 2018 , 10, 701	3	4
17	Design of self-cleansing sanitary sewer systems with the use of flushing devices. <i>Water Science and Technology</i> , 2009 , 60, 901-8	2.2	4
16	The AMSL LST algorithm validated for the Xinjiang Autonomous Region in China. <i>International Journal of Remote Sensing</i> , 2012 , 33, 3886-3906	3.1	4
15	A site-specific land and water management model in MIKE SHE 2007 , 38, 333-350		4
14	Real-Time River Flood Control under Historical and Future Climatic Conditions: Flanders Case Study. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2020 , 146, 05019022	2.8	4
13	Evaluation of change factor-based statistical downscaling methods for impact analysis in urban hydrology. <i>Urban Water Journal</i> , 2020 , 17, 785-794	2.3	4
12	Statistical methodology for on-site wind resource and power potential assessment under current and future climate conditions: a case study of Suriname. <i>SN Applied Sciences</i> , 2019 , 1, 1	1.8	3
11	Integrated river flow modelling: A case study. <i>Urban Water Journal</i> , 2012 , 9, 259-276	2.3	3

10	Impact of dependence in river flow data on flood frequency analysis based on regression in quantile plots: Analysis and solutions. <i>Water Resources Research</i> , 2011 , 47,	5.4	3
9	The essential role of expertise on natural resources in climate change Master's education. <i>International Journal of Innovation and Sustainable Development</i> , 2012 , 6, 31	1.1	2
8	Impact of seasonal changes in vegetation on the river model prediction accuracy and real-time flood control performance. <i>Journal of Flood Risk Management</i> , 2020 , 13, e12651	3.1	2
7	Testing the Efficiency of Parameter Disaggregation for Distributed Rainfall-Runoff Modelling. <i>Water (Switzerland)</i> , 2021 , 13, 972	3	2
6	Joint editorial: Invigorating hydrological research through journal publications. <i>Hydrology and Earth System Sciences</i> , 2018 , 22, 5735-5739	5.5	2
5	On the correlation between precipitation and potential evapotranspiration climate change signals for hydrological impact analyses. <i>Hydrological Sciences Journal</i> , 2019 , 64, 420-433	3.5	1
4	Flood Regulation by Means of Model Predictive Control 2010 , 407-437		1
3	Multisource remote sensing supported large scale fully distributed hydrological modeling of the Tarim River Basin in Central Asia 2009 ,		1
2	On the Below- and Aboveground Phenology in Deciduous Trees: Observing the Fine-Root Lifespan, Turnover Rate, and Phenology of <i>Fagus sylvatica</i> L., <i>Quercus robur</i> L., and <i>Betula pendula</i> Roth for Two Growing Seasons. <i>Forests</i> , 2021 , 12, 1680	2.8	0
1	Joint editorial: Invigorating hydrological research through journal publications. <i>Proceedings of the International Association of Hydrological Sciences</i> , 380, 3-8		