

Patrick Willems

List of Publications by Year in descending order

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Version: 2024-02-01

136
papers

6,420
citations

57758

44
h-index

79698

73
g-index

138
all docs

138
docs citations

138
times ranked

6483
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	2.1	13
2	Behind the scenes of streamflow model performance. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 1069-1095.	4.9	26
3	Testing the Efficiency of Parameter Disaggregation for Distributed Rainfall-Runoff Modelling. <i>Water (Switzerland)</i> , 2021, 13, 972.	2.7	4
4	Does drought advance the onset of autumn leaf senescence in temperate deciduous forest trees?. <i>Biogeosciences</i> , 2021, 18, 3309-3330.	3.3	22
5	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.	4.9	38
6	Assessing the Effects of Climate Change on Compound Flooding in Coastal River Areas. <i>Water Resources Research</i> , 2021, 57, .	4.2	31
7	Amplified Drought and Flood Risk Under Future Socioeconomic and Climatic Change. <i>Earth's Future</i> , 2021, 9, e2021EF002295.	6.3	36
8	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.	2.1	5
9	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.	2.6	5
10	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.	3.3	3
11	Evaluation of change factor-based statistical downscaling methods for impact analysis in urban hydrology. <i>Urban Water Journal</i> , 2020, 17, 785-794.	2.1	6
12	Invigorating Hydrological Research Through Journal Publications. <i>Water Resources Research</i> , 2020, 56, .	4.2	5
13	Uncovering the shortcomings of a weather typing method. <i>Hydrology and Earth System Sciences</i> , 2020, 24, 2671-2686.	4.9	6
14	A Hybrid Model for Fast and Probabilistic Urban Pluvial Flood Prediction. <i>Water Resources Research</i> , 2020, 56, e2019WR025128.	4.2	35
15	Parameterization of river incision models requires accounting for environmental heterogeneity: insights from the tropical Andes. <i>Earth Surface Dynamics</i> , 2020, 8, 447-470.	2.4	27
16	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.	2.9	10
17	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.	4.2	92
18	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.	3.9	17

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19	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.	4.9	32
20	On the correlation between precipitation and potential evapotranspiration climate change signals for hydrological impact analyses. <i>Hydrological Sciences Journal</i> , 2019, 64, 420-433.	2.6	2
21	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.	2.9	9
22	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.	4.9	13
23	Probabilistic flood prediction for urban sub-catchments using sewer models combined with logistic regression models. <i>Urban Water Journal</i> , 2019, 16, 687-697.	2.1	12
24	Conceptual river water quality model with flexible model structure. <i>Environmental Modelling and Software</i> , 2018, 104, 102-117.	4.5	28
25	Seasonally varying footprint of climate change on precipitation in the Middle East. <i>Scientific Reports</i> , 2018, 8, 4435.	3.3	38
26	Precipitation intensityâ€‘durationâ€‘frequency curves for central Belgium with an ensemble of EURO-CORDEX simulations, and associated uncertainties. <i>Atmospheric Research</i> , 2018, 200, 1-12.	4.1	48
27	Enhanced object-based tracking algorithm for convective rain storms and cells. <i>Atmospheric Research</i> , 2018, 201, 144-158.	4.1	29
28	Flash-Flood Forecasting in an Andean Mountain Catchmentâ€‘Development of a Step-Wise Methodology Based on the Random Forest Algorithm. <i>Water (Switzerland)</i> , 2018, 10, 1519.	2.7	67
29	Joint editorial: Invigorating hydrological research through journal publications. <i>Hydrology and Earth System Sciences</i> , 2018, 22, 5735-5739.	4.9	3
30	Spatially Distributed Conceptual Hydrological Model Building: A Generic Topâ€‘Down Approach Starting From Lumped Models. <i>Water Resources Research</i> , 2018, 54, 8064-8085.	4.2	25
31	More prolonged droughts by the end of the century in the Middle East. <i>Environmental Research Letters</i> , 2018, 13, 104005.	5.2	50
32	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.	5.4	12
33	Assessment of Rainfall Variability and Its Relationship to ENSO in a Sub-Andean Watershed in Central Bolivia. <i>Water (Switzerland)</i> , 2018, 10, 701.	2.7	4
34	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.	5.4	12
35	Lagged influence of Atlantic and Pacific climate patterns on European extreme precipitation. <i>Scientific Reports</i> , 2018, 8, 5748.	3.3	58
36	Assessment of the potential implications of a 1.5â€‘C versus higher global temperature rise for the Afobaka hydropower scheme in Suriname. <i>Regional Environmental Change</i> , 2018, 18, 2283-2295.	2.9	14

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37	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.	2.1	13
38	Development and testing of a fast conceptual river water quality model. <i>Water Research</i> , 2017, 113, 62-71.	11.3	37
39	Relation between design floods based on daily maxima and daily means: use of the Peak Over Threshold approach in the Upper Nysa KÅ,odzka Basin (SW Poland). <i>Geomatics, Natural Hazards and Risk</i> , 2017, 8, 585-606.	4.3	11
40	Weather Typingâ€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.	4.2	8
41	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.	4.0	125
42	Regional frequency analysis of extreme rainfall in Belgium based on radar estimates. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 5385-5399.	4.9	31
43	Looking beyond general metrics for model comparison â€ lessons from an international model intercomparison study. <i>Hydrology and Earth System Sciences</i> , 2017, 21, 423-440.	4.9	34
44	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.	4.9	17
45	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.	4.9	53
46	Computationally efficient modelling of tidal rivers using conceptual reservoir-type models. <i>Environmental Modelling and Software</i> , 2016, 77, 19-31.	4.5	14
47	Evaluation of reservoir operation strategies for irrigation in the Macul Basin, Ecuador. <i>Journal of Hydrology: Regional Studies</i> , 2016, 5, 213-225.	2.4	13
48	Regional and global climate projections increase mid-century yield variability and crop productivity in Belgium. <i>Regional Environmental Change</i> , 2016, 16, 659-672.	2.9	31
49	Singularity-sensitive gauge-based radar rainfall adjustment methods for urban hydrological applications. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 4001-4021.	4.9	21
50	Spatial and temporal variability of rainfall in the Nile Basin. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 2227-2246.	4.9	48
51	Inter-comparison of statistical downscaling methods for projection of extreme precipitation in Europe. <i>Hydrology and Earth System Sciences</i> , 2015, 19, 1827-1847.	4.9	139
52	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.	2.4	80
53	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.	5.4	38
54	Authorâ€™s response to the commentary by S.Fischer & A.Schumann on â€œMultidecadal oscillatory behaviour of rainfall extremes in Europe (<i>Climatic Change</i> , 120(4), 931â€944)â€. <i>Climatic Change</i> , 2015, 130, 83-85.	3.6	5

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55	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.	4.9	16
56	Climate changes of hydrometeorological and hydrological extremes in the Paute basin, Ecuadorean Andes. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 631-648.	4.9	50
57	Evaluation of TRMM 3B42 precipitation estimates and WRF retrospective precipitation simulation over the Pacificâ€“Andean region of Ecuador and Peru. <i>Hydrology and Earth System Sciences</i> , 2014, 18, 3179-3193.	4.9	91
58	Greenâ€“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, 1825-1837.	2.5	24
59	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.	4.5	40
60	Intercomparison of five lumped and distributed models for catchment runoff and extreme flow simulation. <i>Journal of Hydrology</i> , 2014, 511, 335-349.	5.4	78
61	Global sensitivity analysis of yield output from the water productivity model. <i>Environmental Modelling and Software</i> , 2014, 51, 323-332.	4.5	139
62	A framework for testing the ability of models to project climate change and its impacts. <i>Climatic Change</i> , 2014, 122, 271-282.	3.6	104
63	Developing tailored climate change scenarios for hydrological impact assessments. <i>Journal of Hydrology</i> , 2014, 508, 307-321.	5.4	72
64	Runoff and vegetation stress of green roofs under different climate change scenarios. <i>Landscape and Urban Planning</i> , 2014, 122, 68-77.	7.5	61
65	Parsimonious rainfallâ€“runoff model construction supported by time series processing and validation of hydrological extremes â€“ Part 1: Step-wise model-structure identification and calibration approach. <i>Journal of Hydrology</i> , 2014, 510, 578-590.	5.4	54
66	On the relationship between historical landâ€“use change and water availability: the case of the lower Tarim River region in northwestern China. <i>Hydrological Processes</i> , 2013, 27, 251-261.	2.6	18
67	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.	5.4	137
68	Multidecadal oscillatory behaviour of rainfall extremes in Europe. <i>Climatic Change</i> , 2013, 120, 931-944.	3.6	110
69	Flood control of the Demer by using Model Predictive Control. <i>Control Engineering Practice</i> , 2013, 21, 1776-1787.	5.5	25
70	Adjustment of extreme rainfall statistics accounting for multidecadal climate oscillations. <i>Journal of Hydrology</i> , 2013, 490, 126-133.	5.4	60
71	Probabilistic flood risk assessment over large geographical regions. <i>Water Resources Research</i> , 2013, 49, 3330-3344.	4.2	27
72	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.	1.9	13

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73	Climate change impact on river flows and catchment hydrology: a comparison of two spatially distributed models. <i>Hydrological Processes</i> , 2013, 27, 3649-3662.	2.6	53
74	The AMSL LST algorithm validated for the Xinjiang Autonomous Region in China. <i>International Journal of Remote Sensing</i> , 2012, 33, 3886-3906.	2.9	4
75	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.	2.9	28
76	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.	0.4	2
77	Integrated river flow modelling: A case study. <i>Urban Water Journal</i> , 2012, 9, 259-276.	2.1	3
78	Model uncertainty analysis by variance decomposition. <i>Physics and Chemistry of the Earth</i> , 2012, 42-44, 21-30.	2.9	29
79	Climate change impact assessment on urban rainfall extremes and urban drainage: Methods and shortcomings. <i>Atmospheric Research</i> , 2012, 103, 106-118.	4.1	300
80	Rainfall in the urban context: Forecasting, risk and climate change. <i>Atmospheric Research</i> , 2012, 103, 1-3.	4.1	6
81	Temporal variability of hydroclimatic extremes in the Blue Nile basin. <i>Water Resources Research</i> , 2012, 48, .	4.2	97
82	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.	2.9	21
83	Spatio-temporal impact of climate change on the groundwater system. <i>Hydrology and Earth System Sciences</i> , 2012, 16, 1517-1531.	4.9	67
84	An elusive search for regional flood frequency estimates in the River Nile basin. <i>Hydrology and Earth System Sciences</i> , 2012, 16, 3149-3163.	4.9	17
85	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.	3.6	51
86	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.	2.8	42
87	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.	4.5	47
88	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.	5.4	28
89	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.	2.6	33
90	Quantifying field-scale effects of elevated carbon dioxide concentration on crops. <i>Climate Research</i> , 2012, 54, 35-47.	1.1	45

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91	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, .	4.2	3
92	Considering sink strength to model crop production under elevated atmospheric CO ₂ . <i>Agricultural and Forest Meteorology</i> , 2011, 151, 1753-1762.	4.8	60
93	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.	4.9	58
94	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.	4.9	168
95	'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.	0.7	12
96	Statistical precipitation downscaling for small-scale hydrological impact investigations of climate change. <i>Journal of Hydrology</i> , 2011, 402, 193-205.	5.4	234
97	Influence of climate variability on representative QDF predictions of the upper Blue Nile basin. <i>Journal of Hydrology</i> , 2011, 411, 355-365.	5.4	32
98	Adopting the downward approach in hydrological model development: the Bradford catchment case study. <i>Hydrological Processes</i> , 2011, 25, 1681-1693.	2.6	5
99	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.	2.6	51
100	Climate change scenarios for precipitation and potential evapotranspiration over central Belgium. <i>Theoretical and Applied Climatology</i> , 2010, 99, 273-286.	2.8	78
101	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.	2.8	45
102	Assessment of the sensitivity and prediction uncertainty of evaporation models applied to Nasser Lake, Egypt. <i>Journal of Hydrology</i> , 2010, 395, 10-22.	5.4	42
103	Flood regulation using nonlinear model predictive control. <i>Control Engineering Practice</i> , 2010, 18, 1147-1157.	5.5	44
104	Parsimonious Model for Combined Sewer Overflow Pollution. <i>Journal of Environmental Engineering, ASCE</i> , 2010, 136, 316-325.	1.4	20
105	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.	2.9	19
106	Integrated Modeling System for Water Resources Management of Tarim River Basin. <i>Environmental Engineering Science</i> , 2010, 27, 255-269.	1.6	32
107	Design of self-cleansing sanitary sewer systems with the use of flushing devices. <i>Water Science and Technology</i> , 2009, 60, 901-908.	2.5	4
108	Science-policy interfacing in support of the Water Framework Directive implementation. <i>Water Science and Technology</i> , 2009, 60, 47-54.	2.5	9

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109	Modelling hydrological effects of wetland restoration: a differentiated view. <i>Water Science and Technology</i> , 2009, 59, 433-441.	2.5	9
110	Effect of watershed delineation and areal rainfall distribution on runoff prediction using the SWAT model. <i>Hydrology Research</i> , 2009, 40, 505-519.	2.7	20
111	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.	3.8	177
112	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.	4.5	194
113	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.	3.8	128
114	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.	3.8	87
115	Multisource remote sensing supported large scale fully distributed hydrological modeling of the Tarim River Basin in Central Asia. , 2009, , .		1
116	Improving the predictions of a MIKE SHE catchmentâ€scale application by using a multiâ€criteria approach. <i>Hydrological Processes</i> , 2008, 22, 2159-2179.	2.6	36
117	Trends and multidecadal oscillations in rainfall extremes, based on a more than 100â€year time series of 10 min rainfall intensities at Uccle, Belgium. <i>Water Resources Research</i> , 2008, 44, .	4.2	136
118	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, 455-466.	11.3	100
119	Quantification and relative comparison of different types of uncertainties in sewer water quality modeling. <i>Water Research</i> , 2008, 42, 3539-3551.	11.3	85
120	Soil Moisture Content Retrieval in an Arid to Semi-Arid Region in the Xinjiang Province. , 2008, , .		0
121	A site-specific land and water management model in MIKE SHE. <i>Hydrology Research</i> , 2007, 38, 333-350.	2.7	6
122	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.	5.4	45
123	Parameter estimation in semi-distributed hydrological catchment modelling using a multi-criteria objective function. <i>Hydrological Processes</i> , 2007, 21, 2998-3008.	2.6	49
124	Spaceâ€time rainfall variability in the Paute basin, Ecuadorian Andes. <i>Hydrological Processes</i> , 2007, 21, 3316-3327.	2.6	132
125	Concept of technical support to scienceâ€policy interfacing with respect to the implementation of the European water framework directive. <i>Environmental Science and Policy</i> , 2007, 10, 464-473.	4.9	17
126	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.	5.4	346

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127	At site flood frequency analysis for the Nile Equatorial basins. <i>Physics and Chemistry of the Earth</i> , 2006, 31, 919-927.	2.9	14
128	Random number generator or sewer water quality model?. <i>Water Science and Technology</i> , 2006, 54, 387-394.	2.5	25
129	Areal rainfall correction coefficients for small urban catchments. <i>Atmospheric Research</i> , 2005, 77, 48-59.	4.1	24
130	A spatial rainfall generator for small spatial scales. <i>Journal of Hydrology</i> , 2001, 252, 126-144.	5.4	97
131	Stochastic description of the rainfall input errors in lumped hydrological models. <i>Stochastic Environmental Research and Risk Assessment</i> , 2001, 15, 132-152.	4.0	42
132	Compound intensity/duration/frequency-relationships of extreme precipitation for two seasons and two storm types. <i>Journal of Hydrology</i> , 2000, 233, 189-205.	5.4	153
133	Stochastic generation of spatial rainfall for urban drainage areas. <i>Water Science and Technology</i> , 1999, 39, 23.	2.5	8
134	Probabilistic modelling of sewer system overflow emissions. <i>Water Science and Technology</i> , 1999, 39, 47.	2.5	14
135	A flexible and efficient multi-model framework in support of water management. <i>Proceedings of the International Association of Hydrological Sciences</i> , 0, 373, 1-6.	1.0	8
136	Joint editorial: Invigorating hydrological research through journal publications. <i>Proceedings of the International Association of Hydrological Sciences</i> , 0, 380, 3-8.	1.0	0