Jens Christian Refsgaard

List of Publications by Year
in descending order

153 papers	9,532 citations	50276 46 h-index	43889 91 g-index
165 all docs	165 docs citations	165 times ranked	8691 citing authors

#	Article	IF	Citations
1	Uncertainty in the environmental modelling process â€“ A framework and guidance. Environmental Modelling and Software, 2007, 22, 1543-1556.	4.5	881
2	Parameterisation, calibration and validation of distributed hydrological models. Journal of Hydrology, 1997, 198, 69-97.	5.4	643
3	Operational Validation and Intercomparison of Different Types of Hydrological Models. Water Resources Research, 1996, 32, 2189-2202.	4.2	464
4	A framework for dealing with uncertainty due to model structure error. Advances in Water Resources, 2006, 29, 1586-1597.	3.8	389
5	The Baltic Sea as a time machine for the future coastal ocean. Science Advances, 2018, 4, eaar8195.	10.3	339
6	Methodology for construction, calibration and validation of a national hydrological model for Denmark. Journal of Hydrology, 2003, 280, 52-71.	5.4	301
7	Modelling guidelinesâ€“â€“terminology and guiding principles. Advances in Water Resources, 2004, 27, 71-82.	3.8	300
8	Assessing the effect of land use change on catchment runoff by combined use of statistical tests and hydrological modelling: Case studies from Zimbabwe. Journal of Hydrology, 1998, 205, 147-163.	5.4	249
9	Review of strategies for handling geological uncertainty in groundwater flow and transport modeling. Advances in Water Resources, 2012, 36, 36-50.	3.8	206
10	Distributed hydrological modelling of the Senegal River Basin â€” model construction and validation. Journal of Hydrology, 2001, 247, 200-214.	5.4	194
11	Validation and Intercomparison of Different Updating Procedures for Real-Time Forecasting. Hydrology Research, 1997, 28, 65-84.	2.7	156
12	Combined effects of climate models, hydrological model structures and land use scenarios on hydrological impacts of climate change. Journal of Hydrology, 2016, 535, 301-317.	5.4	156
13	Large scale modelling of groundwater contamination from nitrate leaching. Journal of Hydrology, 1999, 221, 117-140.	5.4	152
14	Incorporating remote sensing data in physically based distributed agro-hydrological modelling. Journal of Hydrology, 2004, 287, 279-299.	5.4	142
15	Review of classification systems and new multi-scale typology of groundwaterâ€“surface water interaction. Journal of Hydrology, 2007, 344, 1-16.	5.4	140
16	Quality assurance in model based water management â€“ review of existing practice and outline of new approaches. Environmental Modelling and Software, 2005, 20, 1201-1215.	4.5	138
17	Effect of grid size on effective parameters and model performance of the MIKE-SHE code. Hydrological Processes, 2002, 16, 355-372.	2.6	127
18	Assessment of exploitable groundwater resources of Denmark by use of ensemble resource indicators and a numerical groundwaterâ€“surface water model. Journal of Hydrology, 2008, 348, 224-240.	5.4	115

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19	The integrated hydrologic model intercomparison project, <scp>IHâ€MIP2</scp>: A second set of benchmark results to diagnose integrated hydrology and feedbacks. Water Resources Research, 2017, 53, 867-890.	4.2	113
20	A framework for testing the ability of models to project climate change and its impacts. Climatic Change, 2014, 122, 271-282.	3.6	104
21	Use of remotely sensed precipitation and leaf area index in a distributed hydrological model. Journal of Hydrology, 2002, 264, 34-50.	5.4	103
22	Model uncertainty â€“ parameter uncertainty versus conceptual models. Water Science and Technology, 2005, 52, 177-186.	2.5	101
23	SystÃ¨me Hydrologique EuropeÃ©n (SHE): review and perspectives after 30 years development in distributed physically-based hydrological modelling. Hydrology Research, 2010, 41, 355-377.	2.7	93
24	The role of uncertainty in climate change adaptation strategiesâ€"A Danish water management example. Mitigation and Adaptation Strategies for Global Change, 2013, 18, 337-359.	2.1	92
25	The importance of alternative conceptual models for simulation of concentrations in a multi-aquifer system. Hydrogeology Journal, 2007, 15, 843-860.	2.1	85
26	Transition probabilityâ€based stochastic geological modeling using airborne geophysical data and borehole data. Water Resources Research, 2014, 50, 3147-3169.	4.2	81
27	Modelling of macropore flow and transport processes at catchment scale. Journal of Hydrology, 2004, 299, 136-158.	5.4	80
28	Nitrate reduction in geologically heterogeneous catchments â€" A framework for assessing the scale of predictive capability of hydrological models. Science of the Total Environment, 2014, 468-469, 1278-1288.	8.0	79
29	Assessment of uncertainty in simulation of nitrate leaching to aquifers at catchment scale. Journal of Hydrology, 2001, 242, 210-227.	5.4	77
30	Model parameter analysis using remotely sensed pattern information in a multi-constraint framework. Journal of Hydrology, 2011, 409, 337-349.	5.4	76
31	Groundwater Modeling in Integrated Water Resources Managementâ€"Visions for 2020. Ground Water, 2010, 48, 633-648.	1.3	75
32	On the importance of appropriate precipitation gauge catch correction for hydrological modelling at mid to high latitudes. Hydrology and Earth System Sciences, 2012, 16, 4157-4176.	4.9	73
33	A methodology to support multidisciplinary model-based water management. Environmental Modelling and Software, 2007, 22, 743-759.	4.5	69
34	An intercomparison of regional climate model data for hydrological impact studies in Denmark. Journal of Hydrology, 2010, 380, 406-419.	5.4	69
35	Application of the SHE to catchments in India Part 1. General results. Journal of Hydrology, 1992, 140, 1-23.	5.4	68
36	Assessment of hydrological model predictive ability given multiple conceptual geological models. Water Resources Research, 2012, 48, .	4.2	65

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37	Data assimilation in integrated hydrological modeling using ensemble Kalman filtering: evaluating the effect of ensemble size and localization on filter performance. Hydrology and Earth System Sciences, 2015, 19, 2999-3013.	4.9	63
38	Application of the SHE to catchments in India Part 2. Field experiments and simulation studies with the SHE on the Kolar subcatchment of the Narmada River. Journal of Hydrology, 1992, 140, 25-47.	5.4	61
39	Hydrological modelling of a small watershed using MIKE SHE for irrigation planning. Agricultural Water Management, 1999, 41, 149-166.	5.6	61
40	Controlling geological and hydrogeological processes in an arsenic contaminated aquifer on the Red River flood plain, Vietnam. Applied Geochemistry, 2008, 23, 3099-3115.	3.0	60
41	Evaluation of Climate Input Biases and Water Balance Issues Using a Coupled Surfaceâ€"Subsurface Model. Vadose Zone Journal, 2011, 10, 37-53.	2.2	60
42	Identification of Major Sources of Uncertainty in Current IWRM Practice. Illustrated for the Rhine Basin. Water Resources Management, 2008, 22, 1677-1708.	3.9	58
43	Transient modeling of regional groundwater flow using parameter estimates from steady-state automatic calibration. Journal of Hydrology, 2003, 273, 188-204.	5.4	56
44	Assessment of robustness and significance of climate change signals for an ensemble of distribution-based scaled climate projections. Journal of Hydrology, 2013, 486, 479-493.	5.4	52
45	Projecting the future ecological state of lakes in Denmark in a 6 degree warming scenario. Climate Research, 2015, 64, 55-72.	1.1	52
46	Construction, Calibration And Validation of Hydrological Models. Water Science and Technology Library, 1990, , 41-54.	0.3	50
47	Simulating coupled surface and subsurface water flow in a tile-drained agricultural catchment. Journal of Hydrology, 2015, 521, 374-388.	5.4	49
48	Modeling Depth of the Redox Interface at High Resolution at National Scale Using Random Forest and Residual Gaussian Simulation. Water Resources Research, 2019, 55, 1451-1469.	4.2	48
49	Effects of changes in land use and climate on aquatic ecosystems: Coupling of models and decomposition of uncertainties. Science of the Total Environment, 2019, 657, 627-633.	8.0	48
50	Integrated hydrological modeling of the North China Plain and implications for sustainable water management. Hydrology and Earth System Sciences, 2013, 17, 3759-3778.	4.9	44
51	Uncertainty assessment of spatially distributed nitrate reduction potential in groundwater using multiple geological realizations. Journal of Hydrology, 2014, 519, 225-237.	5.4	43
52	Simulating seasonal variations of tile drainage discharge in an agricultural catchment. Water Resources Research, 2017, 53, 3896-3920.	4.2	43
53	Review and assessment of nitrate reduction in groundwater in the Baltic Sea Basin. Journal of Hydrology: Regional Studies, 2017, 12, 50-68.	2.4	43
54	Importance of including smallâ€scale tile drain discharge in the calibration of a coupled groundwaterâ€surface water catchment model. Water Resources Research, 2013, 49, 585-603.	4.2	42

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55	Local control on precipitation in a fully coupled climate-hydrology model. Scientific Reports, 2016, 6, 22927.	3.3	42
56	Moving beyond runâ€off calibrationâ€"Multivariable optimization of a surfaceâ€"subsurfaceâ€"atmosphere model. Hydrological Processes, 2018, 32, 2654-2668.	2.6	42
57	Shared socio-economic pathways extended for the Baltic Sea: exploring long-term environmental problems. Regional Environmental Change, 2019, 19, 1073-1086.	2.9	42
58	Assessing hydrological model predictive uncertainty using stochastically generated geological models. Hydrological Processes, 2015, 29, 4293-4311.	2.6	41
59	Uncertainty in geological and hydrogeological data. Hydrology and Earth System Sciences, 2007, 11, 1551-1561.	4.9	39
60	Use of Models to Support the Monitoring Requirements in the Water Framework Directive. Water Resources Management, 2007, 21, 1649-1672.	3.9	39
61	Using Environmental Tracers in Modeling Flow in a Complex Shallow Aquifer System. Journal of Hydrologic Engineering - ASCE, 2008, 13, 1037-1048.	1.9	39
62	Embedding complex hydrology in the regional climate system â€" Dynamic coupling across different modelling domains. Advances in Water Resources, 2014, 74, 166-184.	3.8	38
63	Challenges in conditioning a stochastic geological model of a heterogeneous glacial aquifer to a comprehensive soft data set. Hydrology and Earth System Sciences, 2014, 18, 2907-2923.	4.9	37
64	Coupling of a distributed hydrological model with an urban storm water model for impact analysis of forced infiltration. Journal of Hydrology, 2015, 525, 506-520.	5.4	37
65	Future socioeconomic conditions may have a larger impact than climate change on nutrient loads to the Baltic Sea. Ambio, 2019, 48, 1325-1336.	5.5	37
66	Results from a full coupling of the HIRHAM regional climate model and the MIKE SHE hydrological model for a Danish catchment. Hydrology and Earth System Sciences, 2014, 18, 4733-4749.	4.9	34
67	HOBE: The Danish Hydrological Observatory. Vadose Zone Journal, 2018, 17, 1-24.	2.2	34
68	Fluorescence Imaging Applied to Tracer Distributions in Variably Saturated Fractured Clayey Till. Journal of Environmental Quality, 2008, 37, 448-458.	2.0	33
69	Numerical analysis of water and solute transport in variably-saturated fractured clayey till. Journal of Contaminant Hydrology, 2009, 104, 137-152.	3.3	33
70	Multivariate hydrological data assimilation of soil moisture and groundwater head. Hydrology and Earth System Sciences, 2016, 20, 4341-4357.	4.9	32
71	Potential benefits of a spatially targeted regulation based on detailed N-reduction maps to decrease N-load from agriculture in a small groundwater dominated catchment. Science of the Total Environment, 2017, 595, 325-336.	8.0	32
72	Nitrate leaching losses from two Baltic Sea catchments under scenarios of changes in land use, land management and climate. Ambio, 2019, 48, 1252-1263.	5.5	32

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73	Terminology, Modelling Protocol And Classification of Hydrological Model Codes. Water Science and Technology Library, 1990, , 17-39.	0.3	31
74	Impact of uncertainty description on assimilating hydraulic head in the MIKE SHE distributed hydrological model. Advances in Water Resources, 2015, 86, 400-413.	3.8	31
75	Climate change impacts on groundwater hydrology â€“ where are the main uncertainties and can they be reduced?. Hydrological Sciences Journal, 2016, 61, 2312-2324.	2.6	31
76	Estimation of Catchment Rainfall Uncertainty and its Influence on Runoff Prediction. Hydrology Research, 1988, 19, 77-88.	2.7	30
77	An integrated and physically based nitrogen cycle catchment model. Hydrology Research, 2009, 40, 347-363.	2.7	30
78	A concept for estimating depth of the redox interface for catchment-scale nitrate modelling in a till area in Denmark. Hydrogeology Journal, 2014, 22, 1639-1655.	2.1	30
79	Calibration of a distributed hydrology and land surface model using energy flux measurements. Agricultural and Forest Meteorology, 2016, 217, 74-88.	4.8	30
80	Opportunities and Barriers for Water Co-Governanceâ€"A Critical Analysis of Seven Cases of Diffuse Water Pollution from Agriculture in Europe, Australia and North America. Sustainability, 2018, 10, 1634.	3.2	30
81	Harmonised techniques and representative river basin data for assessment and use of uncertainty information in integrated water management (HarmoniRiB). Environmental Science and Policy, 2005, 8, 267-277.	4.9	29
82	An integrated methodology for recording uncertainties about environmental data. Water Science and Technology, 2005, 52, 153-160.	2.5	29
83	Climate change impact on groundwater levels: ensemble modelling of extreme values. Hydrology and Earth System Sciences, 2013, 17, 1619-1634.	4.9	29
84	On the role of domain size and resolution in the simulations with the HIRHAM region climate model. Climate Dynamics, 2013, 40, 2903-2918.	3.8	28
85	Performance evaluation of groundwater model hydrostratigraphy from airborne electromagnetic data and lithological borehole logs. Hydrology and Earth System Sciences, 2015, 19, 3875-3890.	4.9	28
86	Problems with heterogeneity in physically based agricultural catchment models. Journal of Hydrology, 2007, 342, 1-16.	5.4	27
87	Spatial-Scale Characteristics of Precipitation Simulated by Regional Climate Models and the Implications for Hydrological Modeling. Journal of Hydrometeorology, 2012, 13, 1817-1835.	1.9	27
88	Evaluation of a typical hydrological model in relation to environmental flows. Journal of Hydrology, 2013, 507, 52-62.	5.4	27
89	Spatially differentiated regulation: Can it save the Baltic Sea from excessive N-loads?. Ambio, 2019, 48, 1278-1289.	5.5	27
90	An Integrated Model for the Danubian Lowland â€“ Methodology and Applications. Water Resources Management, 1998, 12, 433-465.	3.9	26

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91	Harmonised Principles for Public Participation in Quality Assurance of Integrated Water Resources Modelling. Water Resources Management, 2009, 23, 2539-2554.	3.9	26
92	Historical trends in precipitation and stream discharge at the Skjern River catchment, Denmark. Hydrology and Earth System Sciences, 2014, 18, 595-610.	4.9	26
93	The Role of Distributed Hydrological Modelling in Water Resources Management. Water Science and Technology Library, 1990, , 1-16.	0.3	25
94	Statistical analysis of the impact of radar rainfall uncertainties on water resources modeling. Water Resources Research, 2011, 47, .	4.2	24
95	Observational and predictive uncertainties for multiple variables in a spatially distributed hydrological model. Hydrological Processes, 2019, 33, 833-848.	2.6	24
96	A model for oxygen transport and consumption in the unsaturated zone. Journal of Hydrology, 1991, 129, 349-369.	5.4	23
97	Evaluation of a Stepwise Procedure for Comparative Validation of Pesticide Leaching Models. Journal of Environmental Quality, 1998, 27, 1183-1193.	2.0	23
98	Field scale heterogeneity of redox conditions in till-upscaling to a catchment nitrate model. Hydrogeology Journal, 2008, 16, 1251-1266.	2.1	23
99	Evaluation of the value of radar QPE data and rain gauge data for hydrological modeling. Water Resources Research, 2013, 49, 5989-6005.	4.2	23
100	Analysis of Water Management Scenarios Using Coupled Hydrological and System Dynamics Modeling. Water Resources Management, 2019, 33, 4849-4863.	3.9	23
101	Seasonal streamflow forecasts in the Ahlergaarde catchment, Denmark: the effect of preprocessing and post-processing on skill and statistical consistency. Hydrology and Earth System Sciences, 2018, 22, 3601-3617.	4.9	22
102	Groundwater dynamics and effect of tile drainage on water flow across the redox interface in a Danish Weichsel till area. Advances in Water Resources, 2019, 123, 23-39.	3.8	22
103	Groundwater management and protection in Denmark: a review of pre-conditions, advances and challenges. International Journal of Water Resources Development, 2017, 33, 868-889.	2.0	20
104	Effect of a high-end CO2-emission scenario on hydrology. Climate Research, 2015, 64, 39-54.	1.1	19
105	A good-looking catchment can turn into a modeller's nightmare. Hydrological Sciences Journal, 2010, 55, 899-912.	2.6	18
106	Data assimilation in integrated hydrological modelling in the presence of observation bias. Hydrology and Earth System Sciences, 2016, 20, 2103-2118.	4.9	18
107	Application of hydrological models for flood forecasting and flood control in India and Bangladesh. Advances in Water Resources, 1988, 11, 101-105.	3.8	17
108	Spatial Variability of Physical Parameters and Processes in Two Field Soils. Hydrology Research, 1991, 22, 303-326.	2.7	17

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109	Uncertainty in Simulation of Nitrate Leaching at Field and Catchment Scale within the Odense River Basin. Vadose Zone Journal, 2008, 7, 10-21.	2.2	17
110	Identifying Uncertainty Guidelines for Supporting Policy Making in Water Management Illustrated for Upper Guadiana and Rhine Basins. Water Resources Management, 2010, 24, 3901-3938.	3.9	17
111	Using expert elicitation to quantify catchment water balances and their uncertainties. Water Resources Research, 2016, 52, 5111-5131.	4.2	17
112	Real-time simulation of surface water and groundwater with data assimilation. Advances in Water Resources, 2019, 127, 13-25.	3.8	16
113	Simulation of nitrate reduction in groundwater â€“ An upscaling approach from small catchments to the Baltic Sea basin. Advances in Water Resources, 2018, 111, 58-69.	3.8	15
114	Impacts of land use, climate change and hydrological model structure on nitrate fluxes: Magnitudes and uncertainties. Science of the Total Environment, 2022, 830, 154671.	8.0	15
115	Hydrological process knowledge in catchment modelling â€“ Lessons and perspectives from 60 years development. Hydrological Processes, 2022, 36, .	2.6	14
116	Perspectives in using a remotely sensed dryness index in distributed hydrological models at the river-basin scale. Hydrological Processes, 2002, 16, 2973-2987.	2.6	13
117	Comparison and Evaluation of Model Structures for the Simulation of Pollution Fluxes in a Tile-Drained River Basin. Journal of Environmental Quality, 2014, 43, 86-99.	2.0	13
118	Spatial uncertainty in bias corrected climate change projections and hydrogeological impacts. Hydrological Processes, 2015, 29, 4514-4532.	2.6	13
119	Where are the limits of model predictive capabilities?. Hydrological Processes, 2016, 30, 4956-4965.	2.6	13
120	On the skill of raw and post-processed ensemble seasonal meteorological forecasts in Denmark. Hydrology and Earth System Sciences, 2018, 22, 6591-6609.	4.9	13
121	Nitrate Management Discourses in Poland and Denmarkâ€"Laggards or Leaders in Water Quality Protection?. Water (Switzerland), 2020, 12, 2371.	2.7	13
122	Hydraulic-hydrological simulations of canal-command for irrigation water management. Irrigation and Drainage Systems, 1997, 11, 185-213.	0.5	12
123	Climate model uncertainty versus conceptual geological uncertainty in hydrological modeling. Hydrology and Earth System Sciences, 2015, 19, 3891-3901.	4.9	12
124	Use of remote sensing data in distributed hydrological models: applications in the Senegal River basin. Geografisk Tidsskrift, 1999, 99, 47-57.	0.6	11
125	Bias-aware data assimilation in integrated hydrological modelling. Hydrology Research, 2018, 49, 989-1004.	2.7	11
126	Using a simple post-processor to predict residual uncertainty for multiple hydrological model outputs. Advances in Water Resources, 2019, 129, 16-30.	3.8	11

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127	Assessing the influence of groundwater and land surface scheme in the modelling of land surfaceâ€"atmosphere feedbacks over the FIFE area in Kansas, USA. Environmental Earth Sciences, 2016, 75, 1.	2.7	10
128	Importance of geological information for assessing drain flow in a Danish till landscape. Hydrological Processes, 2019, 33, 450-462.	2.6	10
129	Application of SHE for Irrigationâ€Commandâ€Area Studies in India. Journal of Irrigation and Drainage Engineering - ASCE, 1993, 119, 34-49.	1.0	9
130	Integration of earth observation data in distributed hydrological models: the Senegal River basin. Canadian Journal of Remote Sensing, 2003, 29, 701-710.	2.4	9
131	The inadequacy of monitoring without modelling support. Journal of Environmental Monitoring, 2007, 9, 931.	2.1	9
132	Climate change: Sources of uncertainty in precipitation and temperature projections for Denmark. Geological Survey of Denmark and Greenland Bulletin, 0, 43, .	2.0	9
133	Application of Irrigation Optimisation System (IOS) to a Major Irrigation Project in India. Irrigation and Drainage Systems, 1999, 13, 229-248.	0.5	8
134	Parameterisation and scaling of the land surface model for use in a coupled climate-hydrological model. Journal of Hydrology, 2012, 426-427, 63-78.	5.4	8
135	Spatial Variability of Physical Parameters and Processes in Two Field Soils. Hydrology Research, 1991, 22, 327-340.	2.7	8
136	Spatial Variability of Physical Parameters and Processes in Two Field Soils. Hydrology Research, 1991, 22, 275-302.	2.7	7
137	Quantificando a incerteza estratigrÃ¡fica na modelagem de Ã¡guas subterrÃ¢neas para projeto de infraestrutura. Hydrogeology Journal, 2021, 29, 1075-1089.	2.1	6
138	Are maps of nitrate reduction in groundwater altered by climate and land use changes?. Hydrology and Earth System Sciences, 2022, 26, 955-973.	4.9	6
139	Conceptual Modelling of Water Loss on Flood Plains and its Application to River Yamuna Upstream of Delhi. Hydrology Research, 1991, 22, 265-274.	2.7	5
140	Reactive nitrogen in a clay till hill slope field system. Ambio, 2019, 48, 1240-1251.	5.5	5
141	Downscaling a national hydrological model to subgrid scale. Journal of Hydrology, 2021, 603, 126796.	5.4	5
142	Comment on â€™A Discussion of Distributed Hydrological Modellingâ€™ by K. Beven. Water Science and Technology Library, 1990, , 279-287.	0.3	5
143	Operationalising uncertainty in data and models for integrated water resources management. Water Science and Technology, 2007, 56, 1-12.	2.5	4
144	Sustainable ecosystem governance under changing climate and land use: An introduction. Ambio, 2019, 48, 1235-1239.	5.5	4

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145	Physically-based modelling, good modelling practice including uncertainty â€“ reply to comment by Ewen et al. (2012). Hydrology Research, 2012, 43, 948-950.	2.7	3
146	The effect of weighting hydrological projections based on the robustness of hydrological models under a changing climate. Journal of Hydrology: Regional Studies, 2022, 41, 101113.	2.4	3
147	Joint treatment of point measurement, sampling and neighborhood uncertainty in space-time rainfall mapping. Journal of Hydrology, 2019, 574, 148-159.	5.4	2
148	Model and Data Requirements for Simulation of Runoff and Land Surface Processes. , 1997, , 423-452.		2
149	Towards a More Robust Evaluation of Climate Model and Hydrological Impact Uncertainties. Water Resources Management, 0, , .	3.9	2
150	Joint use of monitoring and modelling. Water Science and Technology, 2007, 56, 21-29.	2.5	1
151	Social factors influencing actor agency of nitrate management in local agricultural landscapes of Poland. Landscape Ecology, 2023, 38, 4157-4175.	4.2	1
152	Large-scale hydrological modeling in a multi-objective uncertainty framework â€“ Assessing the potential for managed aquifer recharge in the North China Plain. Journal of Hydrology: Regional Studies, 2022, 41, 101097.	2.4	1
153	Joint Modelling and Monitoring of Aquatic Ecosystems. Water Quality Measurements Series, 0, , 163-180.	0.1	0