Bart Nijssen

List of Publications by Year
in descending order

102 papers	9,488 citations	93792 39 h-index	45040 94 g-index
142 all docs	142 docs citations	142 times ranked	9537 citing authors

#	Article	IF	Citations
1	A Long-Term Hydrologically Based Dataset of Land Surface Fluxes and States for the Conterminous United States*. Journal of Climate, 2002, 15, 3237-3251.	1.2	1,186
2	Hydrologic Sensitivity of Global Rivers to Climate Change. Climatic Change, 2001, 50, 143-175.	1.7	529
3	A Long-Term Hydrologically Based Dataset of Land Surface Fluxes and States for the Conterminous United States: Update and Extensions. Journal of Climate, 2013, 26, 9384-9392.	1.2	499
4	Regional scale hydrology: I. Formulation of the VIC-2L model coupled to a routing model. Hydrological Sciences Journal, 1998, 43, 131-141.	1.2	440
5	Predicting the Discharge of Global Rivers. Journal of Climate, 2001, 14, 3307-3323.	1.2	439
6	Global Retrospective Estimation of Soil Moisture Using the Variable Infiltration Capacity Land Surface Model, 1980â€“93. Journal of Climate, 2001, 14, 1790-1808.	1.2	404
7	Streamflow simulation for continental-scale river basins. Water Resources Research, 1997, 33, 711-724.	1.7	400
8	A unified approach for processâ€based hydrologic modeling: 1. Modeling concept. Water Resources Research, 2015, 51, 2498-2514.	1.7	354
9	Hillslope Hydrology in Global Change Research and Earth System Modeling. Water Resources Research, 2019, 55, 1737-1772.	1.7	281
10	A spatially comprehensive, hydrometeorological data set for Mexico, the U.S., and Southern Canada 1950â€“2013. Scientific Data, 2015, 2, 150042.	2.4	277
11	Changes in observed climate extremes in global urban areas. Environmental Research Letters, 2015, 10, 024005.	2.2	213
12	Simulation of high-latitude hydrological processes in the Torneâ€“Kalix basin: PILPS Phase 2(e). Global and Planetary Change, 2003, 38, 1-30.	1.6	194
13	Effect of precipitation sampling error on simulated hydrological fluxes and states: Anticipating the Global Precipitation Measurement satellites. Journal of Geophysical Research, 2004, 109, .	3.3	179
14	A unified approach for processâ€based hydrologic modeling: 2. Model implementation and case studies. Water Resources Research, 2015, 51, 2515-2542.	1.7	173
15	Detection of Intensification in Global- and Continental-Scale Hydrological Cycles: Temporal Scale of Evaluation. Journal of Climate, 2003, 16, 535-547.	1.2	163
16	Global evaluation of MTCLIM and related algorithms for forcing of ecological and hydrological models. Agricultural and Forest Meteorology, 2013, 176, 38-49.	1.9	163
17	Effects of climate change on snowpack and fire potential in the western USA. Climatic Change, 2017, 141, 287-299.	1.7	161
18	Regional scale hydrology: II. Application of the VIC-2L model to the Weser River, Germany. Hydrological Sciences Journal, 1998, 43, 143-158.	1.2	159

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19	Value of longâ€term streamflow forecasts to reservoir operations for water supply in snowâ€dominated river catchments. Water Resources Research, 2016, 52, 4209-4225.	1.7	159
20	Monte Carlo sensitivity analysis of land surface parameters using the Variable Infiltration Capacity model. Journal of Geophysical Research, 2007, 112, .	3.3	153
21	HYDROLOGICAL MODELING OF CONTINENTAL-SCALE BASINS. Annual Review of Earth and Planetary Sciences, 1997, 25, 279-300.	4.6	137
22	Is climate change implicated in the 2013â€“2014 California drought? A hydrologic perspective. Geophysical Research Letters, 2015, 42, 2805-2813.	1.5	133
23	The Variable Infiltration Capacity model version 5 (VIC-5): infrastructure improvements for new applications and reproducibility. Geoscientific Model Development, 2018, 11, 3481-3496.	1.3	129
24	The Olympic Mountains Experiment (OLYMPEX). Bulletin of the American Meteorological Society, 2017, 98, 2167-2188.	1.7	128
25	Gridded Ensemble Precipitation and Temperature Estimates for the Contiguous United States. Journal of Hydrometeorology, 2015, 16, 2481-2500.	0.7	124
26	The contribution of glacier melt to streamflow. Environmental Research Letters, 2012, 7, 034029.	2.2	116
27	The Contribution of Reservoirs to Global Land Surface Water Storage Variations*. Journal of Hydrometeorology, 2016, 17, 309-325.	0.7	108
28	Towards seamless largeâ€domain parameter estimation for hydrologic models. Water Resources Research, 2017, 53, 8020-8040.	1.7	108
29	Simulation of high latitude hydrological processes in the Torneâ€“Kalix basin: PILPS Phase 2(e). Global and Planetary Change, 2003, 38, 31-53.	1.6	106
30	Seasonal hydrologic responses to climate change in the <scp>P</scp>acific <scp>N</scp>orthwest. Water Resources Research, 2015, 51, 1959-1976.	1.7	91
31	Benchmarking of a Physically Based Hydrologic Model. Journal of Hydrometeorology, 2017, 18, 2215-2225.	0.7	79
32	How Do Modeling Decisions Affect the Spread Among Hydrologic Climate Change Projections? Exploring a Large Ensemble of Simulations Across a Diversity of Hydroclimates. Earth's Future, 2019, 7, 623-637.	2.4	75
33	Implications of the Methodological Choices for Hydrologic Portrayals of Climate Change over the Contiguous United States: Statistically Downscaled Forcing Data and Hydrologic Models. Journal of Hydrometeorology, 2016, 17, 73-98.	0.7	59
34	A Prototype Global Drought Information System Based on Multiple Land Surface Models. Journal of Hydrometeorology, 2014, 15, 1661-1676.	0.7	56
35	Quantification of linkages between large-scale climatic patterns and precipitation in the Colorado River Basin. Journal of Hydrology, 2006, 321, 173-186.	2.3	52
36	Moisture flux convergence in regional and global climate models: Implications for droughts in the southwestern United States under climate change. Geophysical Research Letters, 2012, 39, .	1.5	51

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37	An intercomparison of approaches for improving operational seasonal streamflow forecasts. Hydrology and Earth System Sciences, 2017, 21, 3915-3935.	1.9	49
38	A simplified approach for predicting shortwave radiation transfer through boreal forest canopies. Journal of Geophysical Research, 1999, 104, 27859-27868.	3.3	44
39	A simple algorithm for generating streamflow networks for grid-based, macroscale hydrological models. , 1999, 13, 1269-1275.		42
40	Detection Time for Plausible Changes in Annual Precipitation, Evapotranspiration, and Streamflow in Three Mississippi River Sub-Basins. Climatic Change, 2005, 72, 17-36.	1.7	42
41	mizuRoute version 1: a river network routing tool for a continental domain water resources applications. Geoscientific Model Development, 2016, 9, 2223-2238.	1.3	42
42	Benchmarking and Process Diagnostics of Land Models. Journal of Hydrometeorology, 2018, 19, 1835-1852.	0.7	41
43	Potential benefits of a dedicated probabilistic rapid ramp event forecast tool. , 2009, , .		40
44	Point evaluation of a surface hydrology model for BOREAS. Journal of Geophysical Research, 1997, 102, 29367-29378.	3.3	37
45	Evaluation of model-derived and remotely sensed precipitation products for continental South America. Journal of Geophysical Research, 2006, 111, .	3.3	37
46	Continental Runoff into the Oceans (1950â€"2008). Journal of Hydrometeorology, 2015, 16, 1502-1520.	0.7	37
47	Climate and land cover effects on the temperature of Puget Sound streams. Hydrological Processes, 2016, 30, 2286-2304.	1.1	37
48	Development of the Regional Arctic System Model (RASM): Near-Surface Atmospheric Climate Sensitivity. Journal of Climate, 2017, 30, 5729-5753.	1.2	35
49	Simulating transient ice-ocean Ekman transport in the Regional Arctic System Model and Community Earth System Model. Annals of Glaciology, 2015, 56, 211-228.	2.8	34
50	A spatially distributed model for assessment of the effects of changing land use and climate on urban stream quality. Hydrological Processes, 2016, 30, 4779-4798.	1.1	34
51	Post-wildfire changes in suspended sediment rating curves: Sabino Canyon, Arizona. Hydrological Processes, 2007, 21, 1413-1423.	1.1	33
52	Climate change alters flood magnitudes and mechanisms in climatically-diverse headwaters across the northwestern United States. Environmental Research Letters, 2020, 15, 094048.	2.2	31
53	Passive microwave remote sensing of snow constrained by hydrological simulations. IEEE Transactions on Geoscience and Remote Sensing, 2001, 39, 1744-1756.	2.7	30
54	Correlation between Air Permeability and Saturated Hydraulic Conductivity: Unburned and Burned Soils. Soil Science Society of America Journal, 2008, 72, 1501-1509.	1.2	30

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55	Effects of Climate Change on Capacity Expansion Decisions of an Electricity Generation Fleet in the Southeast U.S.. Environmental Science & Technology, 2021, 55, 2522-2531.	4.6	30
56	BioEarth: Envisioning and developing a new regional earth system model to inform natural and agricultural resource management. Climatic Change, 2015, 129, 555-571.	1.7	29
57	Reservoirs Modify River Thermal Regime Sensitivity to Climate Change: A Case Study in the Southeastern United States. Water Resources Research, 2020, 56, e2019WR025784.	1.7	29
58	The coastal streamflow flux in the <scp>R</scp>egional <scp>A</scp>rctic <scp>S</scp>ystem <scp>M</scp>odel. Journal of Geophysical Research: Oceans, 2017, 122, 1683-1701.	1.0	28
59	A Thermally Stratified Reservoir Module for Largeâ€Scale Distributed Stream Temperature Models With Application in the Tennessee River Basin. Water Resources Research, 2018, 54, 8103-8119.	1.7	28
60	Evaluation of Real-Time Satellite Precipitation Data for Global Drought Monitoring. Journal of Hydrometeorology, 2014, 15, 1651-1660.	0.7	27
61	Deep Learned Process Parameterizations Provide Better Representations of Turbulent Heat Fluxes in Hydrologic Models. Water Resources Research, 2021, 57, e2020WR029328.	1.7	27
62	Quantifying Process Connectivity With Transfer Entropy in Hydrologic Models. Water Resources Research, 2019, 55, 4613-4629.	1.7	26
63	Land Surface Climate in the Regional Arctic System Model. Journal of Climate, 2016, 29, 6543-6562.	1.2	25
64	Toward open and reproducible environmental modeling by integrating online data repositories, computational environments, and model Application Programming Interfaces. Environmental Modelling and Software, 2021, 135, 104888.	1.9	24
65	Winter Atmospheric Buoyancy Forcing and Oceanic Response during Strong Wind Events around Southeastern Greenland in the Regional Arctic System Model (RASM) for 1990â€"2010*. Journal of Climate, 2016, 29, 975-994.	1.2	23
66	MetSim: A Python package for estimation and disaggregation of meteorological data. Journal of Open Source Software, 2020, 5, 2042.	2.0	23
67	DOs and DON'Ts for using climate change information for water resource planning and management: guidelines for study design. Climate Services, 2018, 12, 1-13.	1.0	21
68	Hydropower under climate uncertainty: Characterizing the usable capacity of Brazilian, Colombian and Peruvian power plants under climate scenarios. Energy for Sustainable Development, 2021, 61, 217-229.	2.0	21
69	Simulation of high-latitude hydrological processes in the Torneâ€"Kalix basin: PILPS Phase 2(e). Global and Planetary Change, 2003, 38, 55-71.	1.6	20
70	Assessing the impacts of hydrologic and land use alterations on water temperature in the Farmington River basin in Connecticut. Hydrology and Earth System Sciences, 2019, 23, 4491-4508.	1.9	18
71	A Framework for Diagnosing Factors Degrading the Streamflow Performance of a Soil Moisture Data Assimilation System. Journal of Hydrometeorology, 2019, 20, 79-97.	0.7	18
72	Hydropowerâ€™s hidden transformation of rivers in the Mekong. Environmental Research Letters, 2020, 15, 044017.	2.2	18

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73	Drought in the Pacific Northwest, 1920â€"2013. Journal of Hydrometeorology, 2016, 17, 2391-2404.	0.7	17
74	Atmospheric Riverâ€"Induced Precipitation and Snowpack during the Western United States Cold Season. Journal of Hydrometeorology, 2019, 20, 613-630.	0.7	16
75	Simulating human impacts on global water resources using VIC-5. Geoscientific Model Development, 2020, 13, 5029-5052.	1.3	16
76	Water balance dynamics of a boreal forest watershed: White Gull Creek basin, 1994-1996. Water Resources Research, 2002, 38, 37-1-37-12.	1.7	14
77	Field Testing of a Soil Corer Air Permeameter (SCAP) in Desert Soils. Vadose Zone Journal, 2006, 5, 1257-1263.	1.3	14
78	Testing model representations of snowpack liquid water percolation across multiple climates. Water Resources Research, 2019, 55, 4820.	1.7	13
79	Arctic climate and snow cover trends â€" Comparing Global Circulation Models with remote sensing observations. International Journal of Applied Earth Observation and Geoinformation, 2019, 80, 71-81.	1.4	12
80	Dual state/rainfall correction via soil moisture assimilation for improved streamflow simulation: evaluation of a large-scale implementation with Soil Moisture Active Passive (SMAP) satellite data. Hydrology and Earth System Sciences, 2020, 24, 615-631.	1.9	12
81	Evaluation of Turbulence Stability Schemes of Land Models for Stable Conditions. Journal of Geophysical Research D: Atmospheres, 2019, 124, 3072-3089.	1.2	11
82	Recent warming of Tonle Sap Lake, Cambodia: Implications for one of the worldâ€™s most productive inland fisheries. Lakes and Reservoirs: Research and Management, 2020, 25, 133-142.	0.6	11
83	A Unified Dataâ€Driven Method to Derive Hydrologic Dynamics From Global SMAP Surface Soil Moisture and GPM Precipitation Data. Water Resources Research, 2020, 56, e2019WR024949.	1.7	11
84	Potential hydropower contribution to mitigate climate risk and build resilience in Africa. Nature Climate Change, 2022, 12, 719-727.	8.1	11
85	Towards improved parameterization of a macroscale hydrologic model in a discontinuous permafrost boreal forest ecosystem. Hydrology and Earth System Sciences, 2017, 21, 4663-4680.	1.9	10
86	Modeling the freshwater ecological response to changes in flow and thermal regimes influenced by reservoir dynamics. Journal of Hydrology, 2022, 608, 127591.	2.3	10
87	Satellite precipitation in southeastern South America: how do sampling errors impact high flow simulations?. International Journal of River Basin Management, 2014, 12, 1-13.	1.5	9
88	Ubiquitous increases in flood magnitude in the Columbia River basin under climate change. Hydrology and Earth System Sciences, 2021, 25, 257-272.	1.9	8
89	Comment on â€œFive-minute, Â½Â°, and 1Â° data sets of continental watersheds and river networks for use in regional and global hydrologic and climate modeling studiesâ€•by Graham et al.. Water Resources Research, 2000, 36, 3117-3120.	1.7	7
90	An analytical test case for snow models. Water Resources Research, 2017, 53, 909-922.	1.7	7

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91	The numerical implementation of land models: Problem formulation and laugh tests. Journal of Hydrometeorology, 2021, , .	0.7	7
92	Changing River Network Synchrony Modulates Projected Increases in High Flows. Water Resources Research, 2021, 57, e2020WR028713.	1.7	7
93	Evaluation of the atmosphereâ€"landâ€"oceanâ€"sea ice interface processes in the Regional Arctic System Model version 1 (RASM1) using local and globally gridded observations. Geoscientific Model Development, 2018, 11, 4817-4841.	1.3	6
94	Fossil fuelâ€"fired power plant operations under a changing climate. Climatic Change, 2020, 163, 619-632.	1.7	6
95	How Well Can Land-Surface Models Represent the Diurnal Cycle of Turbulent Heat Fluxes?. Journal of Hydrometeorology, 2021, 22, 77-94.	0.7	6
96	Evaluating Multiple Canopyâ€Snow Unloading Parameterizations in SUMMA With Timeâ€Lapse Photography Characterized by Citizen Scientists. Water Resources Research, 2022, 58, .	1.7	6
97	Thermal extremes in regulated river systems under climate change: an application to the southeastern U.S. rivers. Environmental Research Letters, 2020, 15, 094012.	2.2	5
98	Climate-Induced Tradeoffs in Planning and Operating Costs of a Regional Electricity System. Environmental Science & Technology, 2021, 55, 11204-11215.	4.6	5
99	Hydrologic Model Sensitivity to Temporal Aggregation of Meteorological Forcing Data: A Case Study for the Contiguous United States. Journal of Hydrometeorology, 2022, 23, 167-183.	0.7	4
100	Design and Testing of a Lowâ€Cost Soilâ€Drying Oven. Vadose Zone Journal, 2006, 5, 856-859.	1.3	2
101	Neural network inversion of snow parameters by fusion of snow hydrology prediction and SSM/I microwave satellite measurements. , 0, , .		1
102	A Process-Conditioned and Spatially Consistent Method for Reducing Systematic Biases in Modeled Streamflow. Journal of Hydrometeorology, 2022, 23, 769-783.	0.7	1