Xuesong Zhang

List of Publications by Year
in descending order

133 papers	6,151 citations	66315 42 h-index	85498 71 g-index
143 all docs	143 docs citations	143 times ranked	7197 citing authors

#	Article	IF	Citations
1	Sustainable bioenergy production from marginal lands in the US Midwest. Nature, 2013, 493, 514-517.	13.7	612
2	SWAT Ungauged: Hydrological Budget and Crop Yield Predictions in the Upper Mississippi River Basin. Transactions of the ASABE, 2010, 53, 1533-1546.	1.1	279
3	A global map of urban extent from nightlights. Environmental Research Letters, 2015, 10, 054011.	2.2	228
4	Calibration and uncertainty analysis of the SWAT model using Genetic Algorithms and Bayesian Model Averaging. Journal of Hydrology, 2009, 374, 307-317.	2.3	187
5	Modeling urban building energy use: A review of modeling approaches and procedures. Energy, 2017, 141, 2445-2457.	4.5	185
6	Detecting change-point, trend, and seasonality in satellite time series data to track abrupt changes and nonlinear dynamics: A Bayesian ensemble algorithm. Remote Sensing of Environment, 2019, 232, 111181.	4.6	159
7	Runoff Simulation of the Headwaters of the Yellow River Using The SWAT Model With Three Snowmelt Algorithms¹. Journal of the American Water Resources Association, 2008, 44, 48-61.	1.0	135
8	Hyperspectral remote sensing of plant biochemistry using Bayesian model averaging with variable and band selection. Remote Sensing of Environment, 2013, 132, 102-119.	4.6	130
9	Evaluation of global optimization algorithms for parameter calibration of a computationally intensive hydrologic model. Hydrological Processes, 2009, 23, 430-441.	1.1	129
10	Multi-Site Calibration of the SWAT Model for Hydrologic Modeling. Transactions of the ASABE, 2008, 51, 2039-2049.	1.1	122
11	Approximating SWAT Model Using Artificial Neural Network and Support Vector Machine¹. Journal of the American Water Resources Association, 2009, 45, 460-474.	1.0	109
12	On the use of multiâ€algorithm, genetically adaptive multiâ€objective method for multiâ€site calibration of the SWAT model. Hydrological Processes, 2010, 24, 955-969.	1.1	106
13	An integrative modeling framework to evaluate the productivity and sustainability of biofuel crop production systems. GCB Bioenergy, 2010, 2, 258-277.	2.5	106
14	Evaluating the SWAT Model for Hydrological Modeling in the Xixian Watershed and a Comparison with the XAJ Model. Water Resources Management, 2011, 25, 2595-2612.	1.9	101
15	Predicting Hydrologic Response to Climate Change in the Luohe River Basin Using the SWAT Model. Transactions of the ASABE, 2007, 50, 901-910.	1.1	97
16	A multi-scale daily SPEI dataset for drought characterization at observation stations over mainland China from 1961 to 2018. Earth System Science Data, 2021, 13, 331-341.	3.7	94
17	GISâ€Based Spatial Precipitation Estimation: A Comparison of Geostatistical Approaches¹. Journal of the American Water Resources Association, 2009, 45, 894-906.	1.0	87
18	Bioenergy crop models: descriptions, data requirements, and future challenges. GCB Bioenergy, 2012, 4, 620-633.	2.5	79

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19	Efficient multi-objective calibration of a computationally intensive hydrologic model with parallel computing software in Python. Environmental Modelling and Software, 2013, 46, 208-218.	1.9	78
20	Parameter Uncertainty Analysis of the SWAT Model in a Mountain-Loess Transitional Watershed on the Chinese Loess Plateau. Water (Switzerland), 2018, 10, 690.	1.2	70
21	Terrestrial lidar remote sensing of forests: Maximum likelihood estimates of canopy profile, leaf area index, and leaf angle distribution. Agricultural and Forest Meteorology, 2015, 209-210, 100-113.	1.9	68
22	Estimating uncertainty of streamflow simulation using Bayesian neural networks. Water Resources Research, 2009, 45, .	1.7	66
23	Modifying the Soil and Water Assessment Tool to simulate cropland carbon flux: Model development and initial evaluation. Science of the Total Environment, 2013, 463-464, 810-822.	3.9	64
24	A calibration procedure to improve global rice yield simulations with EPIC. Ecological Modelling, 2014, 273, 128-139.	1.2	60
25	Using NEXRAD and Rain Gauge Precipitation Data for Hydrologic Calibration of SWAT in a Northeastern Watershed. Transactions of the ASABE, 2010, 53, 1501-1510.	1.1	58
26	Biogenic carbon fluxes from global agricultural production and consumption. Global Biogeochemical Cycles, 2015, 29, 1617-1639.	1.9	57
27	Spatiotemporal patterns of livestock manure nutrient production in the conterminous United States from 1930 to 2012. Science of the Total Environment, 2016, 541, 1592-1602.	3.9	57
28	Simultaneous calibration of surface flow and baseflow simulations: a revisit of the SWAT model calibration framework. Hydrological Processes, 2011, 25, 2313-2320.	1.1	56
29	Regional scale cropland carbon budgets: Evaluating a geospatial agricultural modeling system using inventory data. Environmental Modelling and Software, 2015, 63, 199-216.	1.9	55
30	Biomass supply from alternative cellulosic crops and crop residues: A spatially explicit bioeconomic modeling approach. Biomass and Bioenergy, 2011, 35, 4636-4647.	2.9	54
31	The role of climate change and vegetation greening on evapotranspiration variation in the Yellow River Basin, China. Agricultural and Forest Meteorology, 2022, 316, 108842.	1.9	54
32	The Role of Climate Covariability on Crop Yields in the Conterminous United States. Scientific Reports, 2016, 6, 33160.	1.6	53
33	Improving SWAT for simulating water and carbon fluxes of forest ecosystems. Science of the Total Environment, 2016, 569-570, 1478-1488.	3.9	52
34	Freeze-Thaw cycle representation alters response of watershed hydrology to future climate change. Catena, 2020, 195, 104767.	2.2	52
35	Impacts of land-use conversions on the water cycle in a typical watershed in the southern Chinese Loess Plateau. Journal of Hydrology, 2021, 593, 125741.	2.3	52
36	Explicitly integrating parameter, input, and structure uncertainties into Bayesian Neural Networks for probabilistic hydrologic forecasting. Journal of Hydrology, 2011, 409, 696-709.	2.3	50

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37	Climatic and hydrologic controls on net primary production in a semiarid loess watershed. Journal of Hydrology, 2019, 568, 803-815.	2.3	47
38	An integrated assessment of the potential of agricultural and forestry residues for energy production in <scp>C</scp>hina. GCB Bioenergy, 2016, 8, 880-893.	2.5	46
39	Spatially and temporally explicit life cycle global warming, eutrophication, and acidification impacts from corn production in the U.S. Midwest. Journal of Cleaner Production, 2020, 242, 118465.	4.6	46
40	A real-time probabilistic channel flood-forecasting model based on the Bayesian particle filter approach. Environmental Modelling and Software, 2017, 88, 151-167.	1.9	44
41	Emergence of new hydrologic regimes of surface water resources in the conterminous United States under future warming. Environmental Research Letters, 2016, 11, 114003.	2.2	43
42	Remote sensing and modeling fusion for investigating the ecosystem water-carbon coupling processes. Science of the Total Environment, 2019, 697, 134064.	3.9	43
43	Identifying representative crop rotation patterns and grassland loss in the US Western Corn Belt. Computers and Electronics in Agriculture, 2014, 108, 173-182.	3.7	42
44	Integration of historical map and aerial imagery to characterize long-term land-use change and landscape dynamics: An object-based analysis via Random Forests. Ecological Indicators, 2018, 95, 595-605.	2.6	42
45	Climate change-induced drought evolution over the past 50 years in the southern Chinese Loess Plateau. Environmental Modelling and Software, 2019, 122, 104519.	1.9	42
46	Exploring effective best management practices in the Miyun reservoir watershed, China. Ecological Engineering, 2018, 123, 30-42.	1.6	38
47	Predicting the climate change impacts on water-carbon coupling cycles for a loess hilly-gully watershed. Journal of Hydrology, 2020, 581, 124388.	2.3	38
48	Spatiotemporal response of the water cycle to land use conversions in a typical hillyâ€“gully basin on the Loess Plateau, China. Hydrology and Earth System Sciences, 2017, 21, 6485-6499.	1.9	37
49	Spatiotemporal features of the hydro-biogeochemical cycles in a typical loess gully watershed. Ecological Indicators, 2018, 91, 542-554.	2.6	36
50	Integrating terrestrial and aquatic processes toward watershed scale modeling of dissolved organic carbon fluxes. Environmental Pollution, 2019, 249, 125-135.	3.7	36
51	SWAT ungauged: Water quality modeling in the Upper Mississippi River Basin. Journal of Hydrology, 2020, 584, 124601.	2.3	36
52	Soil Carbon Change and Net Energy Associated with Biofuel Production on Marginal Lands: A Regional Modeling Perspective. Journal of Environmental Quality, 2013, 42, 1802-1814.	1.0	35
53	Climate change impacts on US agriculture and forestry: benefits of global climate stabilization. Environmental Research Letters, 2015, 10, 095004.	2.2	35
54	Nitrate loading projection is sensitive to freeze-thaw cycle representation. Water Research, 2020, 186, 116355.	5.3	35

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55	GIS-based spatial precipitation estimation using next generation radar and raingauge data. Environmental Modelling and Software, 2010, 25, 1781-1788.	1.9	34
56	SWAT-DayCent coupler: An integration tool for simultaneous hydro-biogeochemical modeling using SWAT and DayCent. Environmental Modelling and Software, 2016, 86, 81-90.	1.9	34
57	Simulating eroded soil organic carbon with the SWAT-C model. Environmental Modelling and Software, 2018, 102, 39-48.	1.9	34
58	Bayesian Learning with Gaussian Processes for Supervised Classification of Hyperspectral Data. Photogrammetric Engineering and Remote Sensing, 2008, 74, 1223-1234.	0.3	33
59	Assessing the performance of a physically-based soil moisture module integrated within the Soil and Water Assessment Tool. Environmental Modelling and Software, 2018, 109, 329-341.	1.9	33
60	Pronounced Increases in Future Soil Erosion and Sediment Deposition as Influenced by Freezeâ€“Thaw Cycles in the Upper Mississippi River Basin. Environmental Science & Technology, 2021, 55, 9905-9915.	4.6	33
61	Implications of water management representations for watershed hydrologic modeling in the Yakima River basin. Hydrology and Earth System Sciences, 2019, 23, 35-49.	1.9	32
62	Projecting life-cycle environmental impacts of corn production in the U.S. Midwest under future climate scenarios using a machine learning approach. Science of the Total Environment, 2020, 714, 136697.	3.9	32
63	HPC-EPIC for high resolution simulations of environmental and sustainability assessment. Computers and Electronics in Agriculture, 2011, 79, 112-115.	3.7	31
64	Integration of nitrogen dynamics into the Noah-MP land surface model v1.1 for climate and environmental predictions. Geoscientific Model Development, 2016, 9, 1-15.	1.3	31
65	Responses of soil organic carbon to climate change in the Qilian Mountains and its future projection. Journal of Hydrology, 2021, 596, 126110.	2.3	31
66	IPEAT+: A Built-In Optimization and Automatic Calibration Tool of SWAT+. Water (Switzerland), 2019, 11, 1681.	1.2	29
67	A review of carbon monitoring in wet carbon systems using remote sensing. Environmental Research Letters, 2022, 17, 025009.	2.2	29
68	Improving hydrological simulation in the Upper Mississippi River Basin through enhanced freeze-thaw cycle representation. Journal of Hydrology, 2019, 571, 605-618.	2.3	28
69	Enhancing the soil and water assessment tool model for simulating N ₂ O emissions of three agricultural systems. Ecosystem Health and Sustainability, 2017, 3, .	1.5	27
70	Simulating countyâ€level crop yields in the <scp>C</scp>onterminous <scp>U</scp>nited <scp>S</scp>tates using the <scp>C</scp>ommunity <scp>L</scp>and <scp>M</scp>odel: <scp>T</scp>he effects of optimizing irrigation and fertilization. Journal of Advances in Modeling Earth Systems, 2016, 8, 1912-1931.	1.3	26
71	Carbon-Negative Biofuel Production. Environmental Science & Technology, 2020, 54, 10797-10807.	4.6	26
72	Enhancing SWAT simulation of forest ecosystems for water resource assessment: A case study in the St. Croix River basin. Ecological Engineering, 2018, 120, 422-431.	1.6	25

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73	A coupled surface water storage and subsurface water dynamics model in SWAT for characterizing hydroperiod of geographically isolated wetlands. Advances in Water Resources, 2019, 131, 103380.	1.7	25
74	Modeling soil temperature in a temperate region: A comparison between empirical and physically based methods in SWAT. Ecological Engineering, 2019, 129, 134-143.	1.6	25
75	Spatially and Temporally Explicit Life Cycle Environmental Impacts of Soybean Production in the U.S. Midwest. Environmental Science & Technology, 2020, 54, 4758-4768.	4.6	25
76	Grassland-to-cropland conversion increased soil, nutrient, and carbon losses in the US Midwest between 2008 and 2016. Environmental Research Letters, 2021, 16, 054018.	2.2	25
77	Cellulosic feedstock production on Conservation Reserve Program land: potential yields and environmental effects. GCB Bioenergy, 2017, 9, 460-468.	2.5	23
78	Potential impacts of climate change on carbon dynamics in a rain-fed agro-ecosystem on the Loess Plateau of China. Science of the Total Environment, 2017, 577, 267-278.	3.9	23
79	Simulating microbial denitrification with EPIC: Model description and evaluation. Ecological Modelling, 2017, 359, 349-362.	1.2	22
80	AÂhydrological emulator for global applications â€“ HE v1.0.0. Geoscientific Model Development, 2018, 11, 1077-1092.	1.3	22
81	Integration in a depotâ€based decentralized biorefinery system: Corn stoverâ€based cellulosic biofuel. GCB Bioenergy, 2019, 11, 871-882.	2.5	22
82	Integrating field observations and process-based modeling to predict watershed water quality under environmental perturbations. Journal of Hydrology, 2021, 602, 125762.	2.3	22
83	Uncertainty assessment of multi-parameter, multi-GCM, and multi-RCP simulations for streamflow and non-floodplain wetland (NFW) water storage. Journal of Hydrology, 2021, 600, 126564.	2.3	22
84	Bayesian Neural Networks for Uncertainty Analysis of Hydrologic Modeling: A Comparison of Two Schemes. Water Resources Management, 2012, 26, 2365-2382.	1.9	21
85	Multi-scale geospatial agroecosystem modeling: A case study on the influence of soil data resolution on carbon budget estimates. Science of the Total Environment, 2014, 479-480, 138-150.	3.9	21
86	Life Cycle Assessment of Switchgrass Cellulosic Ethanol Production in the Wisconsin and Michigan Agricultural Contexts. Bioenergy Research, 2015, 8, 897-909.	2.2	21
87	Effects of surface runoff and infiltration partition methods on hydrological modeling: A comparison of four schemes in two watersheds in the Northeastern US. Journal of Hydrology, 2020, 581, 124415.	2.3	21
88	Stochastic modeling of phosphorus transport in the Three Gorges Reservoir by incorporating variability associated with the phosphorus partition coefficient. Science of the Total Environment, 2017, 592, 649-661.	3.9	20
89	Multi-environmental impacts of biofuel production in the U.S. Corn Belt: A coupled hydro-biogeochemical modeling approach. Journal of Cleaner Production, 2020, 251, 119561.	4.6	20
90	An Analysis of Terrestrial and Aquatic Environmental Controls of Riverine Dissolved Organic Carbon in the Conterminous United States. Water (Switzerland), 2017, 9, 383.	1.2	19

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91	Spatial patterns and environmental controls of particulate organic carbon in surface waters in the conterminous United States. Science of the Total Environment, 2016, 554-555, 266-275.	3.9	18
92	Climate change will pose challenges to water quality management in the st. Croix River basin. Environmental Pollution, 2019, 251, 302-311.	3.7	18
93	Application and Evaluation of the China Meteorological Assimilation Driving Datasets for the SWAT Model (CMADS) in Poorly Gauged Regions in Western China. Water (Switzerland), 2019, 11, 2171.	1.2	18
94	Comment on â€œModeling Miscanthus in the Soil and Water Assessment Tool (SWAT) to Simulate Its Water Quality Effects As a Bioenergy Cropâ€. Environmental Science & Technology, 2011, 45, 6211-6212.	4.6	17
95	The contribution of future agricultural trends in the US Midwest to global climate change mitigation. Global Environmental Change, 2014, 24, 143-154.	3.6	17
96	A Global Data Analysis for Representing Sediment and Particulate Organic Carbon Yield in Earth System Models. Water Resources Research, 2017, 53, 10674-10700.	1.7	17
97	Simulation of the irrigation requirements for improving carbon sequestration in a rainfed cropping system under long-term fertilization on the Loess Plateau of China. Agriculture, Ecosystems and Environment, 2018, 265, 198-208.	2.5	17
98	Modeling riverine dissolved and particulate organic carbon fluxes from two small watersheds in the northeastern United States. Environmental Modelling and Software, 2020, 124, 104601.	1.9	17
99	Comparing Machine Learning Approaches for Predicting Spatially Explicit Life Cycle Global Warming and Eutrophication Impacts from Corn Production. Sustainability, 2020, 12, 1481.	1.6	17
100	Maintaining environmental quality while expanding biomass production: Sub-regional U.S. policy simulations. Energy Policy, 2013, 57, 518-531.	4.2	16
101	Quantifying the Responses of Evapotranspiration and Its Components to Vegetation Restoration and Climate Change on the Loess Plateau of China. Remote Sensing, 2021, 13, 2358.	1.8	16
102	Performance evaluation of interpolation methods for incorporating rain gauge measurements into NEXRAD precipitation data: a case study in the Upper Guadalupe River Basin. Hydrological Processes, 2011, 25, 3711-3720.	1.1	15
103	Effects of Irrigation on Water, Carbon, and Nitrogen Budgets in a Semiarid Watershed in the Pacific Northwest: A Modeling Study. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001953.	1.3	15
104	Parameter Optimization for Uncertainty Reduction and Simulation Improvement of Hydrological Modeling. Remote Sensing, 2020, 12, 4069.	1.8	15
105	Toward Sustainable Revegetation in the Loess Plateau Using Coupled Water and Carbon Management. Engineering, 2022, 15, 143-153.	3.2	15
106	Sustainable feedstock for bioethanol production: Impact of spatial resolution on the design of a sustainable biomass supply-chain. Bioresource Technology, 2020, 302, 122896.	4.8	14
107	A multirate mass transfer model to represent the interaction of multicomponent biogeochemical processes between surface water and hyporheic zones (SWAT-MRMT-R 1.0). Geoscientific Model Development, 2020, 13, 3553-3569.	1.3	14
108	Potential and limitations of satellite laser altimetry for monitoring water surface dynamics: ICESat for US lakes. International Journal of Agricultural and Biological Engineering, 2017, 10, 154-165.	0.3	14

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109	CO2 emissions from crop residue-derived biofuels. Nature Climate Change, 2014, 4, 933-934.	8.1	13
110	The greenhouse gas intensity and potential biofuel production capacity of maize stover harvest in the <scp>US</scp> Midwest. GCB Bioenergy, 2017, 9, 1543-1554.	2.5	13
111	Spatially Explicit Life Cycle Analysis of Cellulosic Ethanol Production Scenarios in Southwestern Michigan. Bioenergy Research, 2017, 10, 13-25.	2.2	13
112	Modeling sediment diagenesis processes on riverbed to better quantify aquatic carbon fluxes and stocks in a small watershed of the Mid-Atlantic region. Carbon Balance and Management, 2020, 15, 13.	1.4	12
113	Future climate impacts on global agricultural yields over the 21st century. Environmental Research Letters, 2020, 15, 114010.	2.2	12
114	Corn stover cannot simultaneously meet both the volume and GHG reduction requirements of the renewable fuel standard. Biofuels, Bioproducts and Biorefining, 2018, 12, 203-212.	1.9	11
115	On the Use of NLDAS2 Weather Data for Hydrologic Modeling in the Upper Mississippi River Basin. Water (Switzerland), 2019, 11, 960.	1.2	11
116	Improving the SWAT forest module for enhancing water resource projections: A case study in the <scp>St. Croix River</scp> basin. Hydrological Processes, 2019, 33, 864-875.	1.1	11
117	Evaluating the Efficiency of a Multi-core Aware Multi-objective Optimization Tool for Calibrating the SWAT Model. Transactions of the ASABE, 2012, 55, 1723-1731.	1.1	10
118	The Water Availability on the Chinese Loess Plateau since the Implementation of the Grain for Green Project as Indicated by the Evaporative Stress Index. Remote Sensing, 2021, 13, 3302.	1.8	10
119	Assessing the Impacts of Recent Crop Expansion on Water Quality in the Missouri River Basin Using the Soil and Water Assessment Tool. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002284.	1.3	8
120	Coupling terrestrial and aquatic thermal processes for improving stream temperature modeling at the watershed scale. Journal of Hydrology, 2021, 603, 126983.	2.3	8
121	Evaluating land cover influences on model uncertaintiesâ€"A case study of cropland carbon dynamics in the Mid-Continent Intensive Campaign region. Ecological Modelling, 2016, 337, 176-187.	1.2	7
122	Effects of temporal resolution of river routing on hydrologic modeling and aquatic ecosystem health assessment with the SWAT model. Environmental Modelling and Software, 2021, 146, 105232.	1.9	7
123	Inductive predictions of hydrologic events using a Long Short-Term Memory network and the Soil and Water Assessment Tool. Environmental Modelling and Software, 2022, 152, 105400.	1.9	7
124	EISA (Energy Independence and Security Act) compliant ethanol fuel from corn stover in a depotâ€based decentralized system. Biofuels, Bioproducts and Biorefining, 2018, 12, 873-881.	1.9	6
125	The Renewable Fuel Standard May Limit Overall Greenhouse Gas Savings by Corn Stover-Based Cellulosic Biofuels in the U.S. Midwest: Effects of the Regulatory Approach on Projected Emissions. Environmental Science & Technology, 2019, 53, 2288-2294.	4.6	6
126	Utility of Remotely Sensed Evapotranspiration Products to Assess an Improved Model Structure. Sustainability, 2021, 13, 2375.	1.6	6

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127	Assessing and predicting soil carbon density in China using CMIP5 earth system models. Science of the Total Environment, 2021, 799, 149247.	3.9	5
128	Assessment of the importance of spatial scale in long-term land use modeling of the Midwestern United States. Environmental Modelling and Software, 2015, 72, 261-271.	1.9	4
129	Case study of visualizing global user download patterns using Google Earth and NASA World Wind. Journal of Applied Remote Sensing, 2012, 6, 061703.	0.6	3
130	Improving the real-time probabilistic channel flood forecasting by incorporating the uncertainty of inflow using the particle filter. Journal of Hydrodynamics, 2018, 30, 828-840.	1.3	2
131	Assessment and projection of ground freezingâ€"thawing responses to climate change in the Upper Heihe River Basin, Northwest China. Journal of Hydrology: Regional Studies, 2022, 42, 101137.	1.0	2
132	Precipitation Estimate Using NEXRAD Ground-Based Radar Images Validation, Calibration, and Spatial Analysis. , 2012, , 271-302.		0
133	Irrigation plays significantly different roles in influencing hydrological processes in two breadbasket regions. Science of the Total Environment, 2022, 844, 157253.	3.9	0