

Christopher J Kucharik

List of Publications by Year in descending order

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Version: 2024-02-01

119
papers

20,106
citations

38660

50
h-index

19136

118
g-index

121
all docs

121
docs citations

121
times ranked

24420
citing authors

#	ARTICLE	IF	CITATIONS
1	Global Consequences of Land Use. <i>Science</i> , 2005, 309, 570-574.	6.0	9,451
2	Global response of terrestrial ecosystem structure and function to CO ₂ and climate change: results from six dynamic global vegetation models. <i>Global Change Biology</i> , 2001, 7, 357-373.	4.2	1,718
3	Direct and Indirect Estimation of Leaf Area Index, fAPAR, and Net Primary Production of Terrestrial Ecosystems. <i>Remote Sensing of Environment</i> , 1999, 70, 29-51.	4.6	1,033
4	Testing the performance of a dynamic global ecosystem model: Water balance, carbon balance, and vegetation structure. <i>Global Biogeochemical Cycles</i> , 2000, 14, 795-825.	1.9	608
5	Mind the gap: how do climate and agricultural management explain the "yield gap" of croplands around the world?. <i>Global Ecology and Biogeography</i> , 2010, 19, 769-782.	2.7	408
6	Scale-dependent interactions between tree canopy cover and impervious surfaces reduce daytime urban heat during summer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 7575-7580.	3.3	348
7	Corn-based ethanol production compromises goal of reducing nitrogen export by the Mississippi River. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 4513-4518.	3.3	333
8	Crop management and phenology trends in the U.S. Corn Belt: Impacts on yields, evapotranspiration and energy balance. <i>Agricultural and Forest Meteorology</i> , 2011, 151, 882-894.	1.9	286
9	Drought effects on US maize and soybean production: spatiotemporal patterns and historical changes. <i>Environmental Research Letters</i> , 2016, 11, 094021.	2.2	212
10	Impacts of recent climate change on Wisconsin corn and soybean yield trends. <i>Environmental Research Letters</i> , 2008, 3, 034003.	2.2	189
11	Measurements of branch area and adjusting leaf area index indirect measurements. <i>Agricultural and Forest Meteorology</i> , 1998, 91, 69-88.	1.9	184
12	Characterization of radiation regimes in nonrandom forest canopies: theory, measurements, and a simplified modeling approach. <i>Tree Physiology</i> , 1999, 19, 695-706.	1.4	182
13	Abrupt Change in Ecological Systems: Inference and Diagnosis. <i>Trends in Ecology and Evolution</i> , 2018, 33, 513-526.	4.2	178
14	A Multidecadal Trend of Earlier Corn Planting in the Central USA. <i>Agronomy Journal</i> , 2006, 98, 1544-1550.	0.9	163
15	A multiyear evaluation of a Dynamic Global Vegetation Model at three AmeriFlux forest sites: Vegetation structure, phenology, soil temperature, and CO ₂ and H ₂ O vapor exchange. <i>Ecological Modelling</i> , 2006, 196, 1-31.	1.2	161
16	Effects of Land Cover Change on the Energy and Water Balance of the Mississippi River Basin. <i>Journal of Hydrometeorology</i> , 2004, 5, 640-655.	0.7	155
17	Urban heat island impacts on plant phenology: intra-urban variability and response to land cover. <i>Environmental Research Letters</i> , 2016, 11, 054023.	2.2	148
18	Interactive Crop Management in the Community Earth System Model (CESM1): Seasonal Influences on Land "Atmosphere Fluxes. <i>Journal of Climate</i> , 2012, 25, 4839-4859.	1.2	140

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19	Evaluation of a Process-Based Agro-Ecosystem Model (Agro-IBIS) across the U.S. Corn Belt: Simulations of the Interannual Variability in Maize Yield. <i>Earth Interactions</i> , 2003, 7, 1-33.	0.7	137
20	Contribution of Planting Date Trends to Increased Maize Yields in the Central United States. <i>Agronomy Journal</i> , 2008, 100, 328-336.	0.9	134
21	Integrated Biosphere Simulator (IBIS) Yield and Nitrate Loss Predictions for Wisconsin Maize Receiving Varied Amounts of Nitrogen Fertilizer. <i>Journal of Environmental Quality</i> , 2003, 32, 247-268.	1.0	131
22	Effects of logging on carbon dynamics of a jack pine forest in Saskatchewan, Canada. <i>Global Change Biology</i> , 2004, 10, 1267-1284.	4.2	128
23	Direct human influence on atmospheric CO2 seasonality from increased cropland productivity. <i>Nature</i> , 2014, 515, 398-401.	13.7	118
24	Impact of changing land use practices on nitrate export by the Mississippi River. <i>Global Biogeochemical Cycles</i> , 2004, 18, n/a-n/a.	1.9	117
25	Trends and Variability in U.S. Corn Yields Over the Twentieth Century. <i>Earth Interactions</i> , 2005, 9, 1-29.	0.7	107
26	Measurements and Modeling of Carbon and Nitrogen Cycling in Agroecosystems of Southern Wisconsin: Potential for SOC Sequestration during the Next 50 Years. <i>Ecosystems</i> , 2001, 4, 237-258.	1.6	103
27	Urban climate effects on extreme temperatures in Madison, Wisconsin, USA. <i>Environmental Research Letters</i> , 2015, 10, 094024.	2.2	102
28	Seasonality of the Urban Heat Island Effect in Madison, Wisconsin. <i>Journal of Applied Meteorology and Climatology</i> , 2014, 53, 2371-2386.	0.6	101
29	Residue, respiration, and residuals: Evaluation of a dynamic agroecosystem model using eddy flux measurements and biometric data. <i>Agricultural and Forest Meteorology</i> , 2007, 146, 134-158.	1.9	86
30	Environmental outcomes of the US Renewable Fuel Standard. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	86
31	Soil carbon lost from Mollisols of the North Central U.S.A. with 20 years of agricultural best management practices. <i>Agriculture, Ecosystems and Environment</i> , 2012, 162, 68-76.	2.5	85
32	Extreme precipitation and phosphorus loads from two agricultural watersheds. <i>Limnology and Oceanography</i> , 2018, 63, 1221-1233.	1.6	84
33	Evaluating the impacts of land management and climate variability on crop production and nitrate export across the Upper Mississippi Basin. <i>Global Biogeochemical Cycles</i> , 2003, 17, n/a-n/a.	1.9	81
34	Patterns of Climate Change Across Wisconsin From 1950 to 2006. <i>Physical Geography</i> , 2010, 31, 1-28.	0.6	80
35	Contribution of Anaerobic Digesters to Emissions Mitigation and Electricity Generation Under U.S. Climate Policy. <i>Environmental Science & Technology</i> , 2011, 45, 6735-6742.	4.6	77
36	Understanding relationships among ecosystem services across spatial scales and over time. <i>Environmental Research Letters</i> , 2018, 13, 054020.	2.2	76

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37	Characterizing the performance of ecosystem models across time scales: A spectral analysis of the North American Carbon Program site-level synthesis. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	72
38	Influence of groundwater on plant water use and productivity: Development of an integrated ecosystem " Variably saturated soil water flow model. <i>Agricultural and Forest Meteorology</i> , 2014, 189-190, 198-210.	1.9	72
39	Plausible futures of a social-ecological system: Yahara watershed, Wisconsin, USA. <i>Ecology and Society</i> , 2015, 20, .	1.0	70
40	A paired study of prairie carbon stocks, fluxes, and phenology: comparing the world's oldest prairie restoration with an adjacent remnant. <i>Global Change Biology</i> , 2006, 12, 122-139.	4.2	68
41	Climate impacts on net primary productivity trends in natural and managed ecosystems of the central and eastern United States. <i>Agricultural and Forest Meteorology</i> , 2009, 149, 2143-2161.	1.9	68
42	An alternative approach for quantifying climate regulation by ecosystems. <i>Frontiers in Ecology and the Environment</i> , 2011, 9, 126-133.	1.9	67
43	Urban heat island-induced increases in evapotranspirative demand. <i>Geophysical Research Letters</i> , 2017, 44, 873-881.	1.5	65
44	Extreme daily loads: role in annual phosphorus input to a north temperate lake. <i>Aquatic Sciences</i> , 2015, 77, 71-79.	0.6	63
45	Impact of Prairie Age and Soil Order on Carbon and Nitrogen Sequestration. <i>Soil Science Society of America Journal</i> , 2007, 71, 430-441.	1.2	62
46	The Influence of Legacy P on Lake Water Quality in a Midwestern Agricultural Watershed. <i>Ecosystems</i> , 2017, 20, 1468-1482.	1.6	60
47	Measurements of leaf orientation, light distribution and sunlit leaf area in a boreal aspen forest. <i>Agricultural and Forest Meteorology</i> , 1998, 91, 127-148.	1.9	55
48	Observation of irrigation-induced climate change in the Midwest United States. <i>Global Change Biology</i> , 2019, 25, 3472-3484.	4.2	54
49	Land-use Effects on Soil Carbon and Nitrogen on a U.S. Midwestern Floodplain. <i>Soil Science Society of America Journal</i> , 2009, 73, 217-225.	1.2	53
50	Spatiotemporal Mapping of Temperature and Precipitation for the Development of a Multidecadal Climatic Dataset for Wisconsin. <i>Journal of Applied Meteorology and Climatology</i> , 2009, 48, 742-757.	0.6	53
51	Data and monitoring needs for a more ecological agriculture. <i>Environmental Research Letters</i> , 2011, 6, 014017.	2.2	51
52	Evaluation of the importance of Lagrangian canopy turbulence formulations in a soil-plant-atmosphere model. <i>Agricultural and Forest Meteorology</i> , 2003, 115, 51-69.	1.9	50
53	Effects of El Niño-Southern Oscillation on the Climate, Water Balance, and Streamflow of the Mississippi River Basin. <i>Journal of Climate</i> , 2005, 18, 4840-4861.	1.2	48
54	Measurements and Modeling of Carbon and Nitrogen Cycling in Agroecosystems of Southern Wisconsin: Potential for SOC Sequestration during the Next 50 Years. <i>Ecosystems</i> , 2001, 4, 237-258.	1.6	48

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55	Climatic impacts on winter wheat yields in Picardy, France and Rostov, Russia: 1973–2010. <i>Agricultural and Forest Meteorology</i> , 2013, 176, 25-37.	1.9	47
56	Impacts of Urbanization on Ecosystem Goods and Services in the U.S. Corn Belt. <i>Ecosystems</i> , 2012, 15, 519-541.	1.6	46
57	From qualitative to quantitative environmental scenarios: Translating storylines into biophysical modeling inputs at the watershed scale. <i>Environmental Modelling and Software</i> , 2016, 85, 80-97.	1.9	44
58	Contribution of Planting Date Trends to Increased Maize Yields in the Central United States. <i>Agronomy Journal</i> , 2008, 100, 328.	0.9	43
59	The influence of climate on in-stream removal of nitrogen. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	42
60	Nonlinear groundwater influence on biophysical indicators of ecosystem services. <i>Nature Sustainability</i> , 2019, 2, 475-483.	11.5	42
61	Recent History of Large-Scale Ecosystem Disturbances in North America Derived from the AVHRR Satellite Record. <i>Ecosystems</i> , 2005, 8, 808-824.	1.6	40
62	A biophysical model of Sugarcane growth. <i>GCB Bioenergy</i> , 2012, 4, 36-48.	2.5	40
63	Nitrogen Fertilization Effects on Productivity and Nitrogen Loss in Three Grass-Based Perennial Bioenergy Cropping Systems. <i>PLoS ONE</i> , 2016, 11, e0151919.	1.1	39
64	Miscanthus Establishment and Overwintering in the Midwest USA: A Regional Modeling Study of Crop Residue Management on Critical Minimum Soil Temperatures. <i>PLoS ONE</i> , 2013, 8, e68847.	1.1	35
65	Quantifying indirect groundwater-mediated effects of urbanization on agroecosystem productivity using MODFLOW-AgroIBIS (MAGI), a complete critical zone model. <i>Ecological Modelling</i> , 2017, 359, 201-219.	1.2	34
66	Scenarios reveal pathways to sustain future ecosystem services in an agricultural landscape. <i>Ecological Applications</i> , 2018, 28, 119-134.	1.8	34
67	Impacts of a nuclear war in South Asia on soybean and maize production in the Midwest United States. <i>Climatic Change</i> , 2013, 116, 373-387.	1.7	33
68	Integrated Biosphere Simulator (IBIS) Yield and Nitrate Loss Predictions for Wisconsin Maize Receiving Varied Amounts of Nitrogen Fertilizer. <i>Journal of Environmental Quality</i> , 2003, 32, 247.	1.0	33
69	The synergistic effect of manure supply and extreme precipitation on surface water quality. <i>Environmental Research Letters</i> , 2018, 13, 044016.	2.2	32
70	Assessing the potential to decrease the Gulf of Mexico hypoxic zone with Midwest US perennial cellulosic feedstock production. <i>GCB Bioenergy</i> , 2017, 9, 858-875.	2.5	31
71	Continuous separation of land use and climate effects on the past and future water balance. <i>Journal of Hydrology</i> , 2018, 565, 106-122.	2.3	30
72	Soil-dependent responses of US crop yields to climate variability and depth to groundwater. <i>Agricultural Systems</i> , 2021, 190, 103085.	3.2	29

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73	21st century Wisconsin snow projections based on an operational snow model driven by statistically downscaled climate data. <i>International Journal of Climatology</i> , 2011, 31, 1615-1633.	1.5	28
74	Evaluating a terrestrial ecosystem model with satellite information of greenness. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	26
75	Climate-induced changes in biome distribution, NPP, and hydrology in the Upper Midwest U.S.: A case study for potential vegetation. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2013, 118, 248-264.	1.3	26
76	Land use, land cover, and climate change across the Mississippi Basin: Impacts on selected land and water resources. <i>Geophysical Monograph Series</i> , 2004, , 249-261.	0.1	25
77	Simulated Effects of Soil Texture on Nitrous Oxide Emission Factors from Corn and Soybean Agroecosystems in Wisconsin. <i>Journal of Environmental Quality</i> , 2016, 45, 1540-1548.	1.0	25
78	Is groundwater recharge always serving us well? Water supply provisioning, crop production, and flood attenuation in conflict in Wisconsin, USA. <i>Ecosystem Services</i> , 2016, 21, 153-165.	2.3	25
79	Evaluating the seasonal and interannual variations in water balance in northern Wisconsin using a land surface model. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	24
80	Carbon and energy fluxes in cropland ecosystems: a model-data comparison. <i>Biogeochemistry</i> , 2016, 129, 53-76.	1.7	24
81	Prairie restoration and carbon sequestration: difficulties quantifying C sources and sinks using a biometric approach. <i>Ecological Applications</i> , 2009, 19, 2185-2201.	1.8	23
82	Litter quantity, litter chemistry, and soil texture control changes in soil organic carbon fractions under bioenergy cropping systems of the North Central U.S.. <i>Biogeochemistry</i> , 2019, 143, 313-326.	1.7	23
83	Role of Turbulent Heat Fluxes over Land in the Monsoon over East Asia. <i>International Journal of Geosciences</i> , 2011, 02, 420-431.	0.2	22
84	A Test of Diversity-Productivity Models in Natural, Degraded, and Restored Wet Prairies. <i>Restoration Ecology</i> , 2011, 19, 186-193.	1.4	21
85	Explicit modeling of abiotic and landscape factors reveals precipitation and forests associated with aphid abundance. <i>Ecological Applications</i> , 2016, 26, 2600-2610.	1.8	21
86	Comparing the effects of climate and land use on surface water quality using future watershed scenarios. <i>Science of the Total Environment</i> , 2019, 693, 133484.	3.9	20
87	Using a Simple Apparatus to Measure Direct and Diffuse Photosynthetically Active Radiation at Remote Locations. <i>PLoS ONE</i> , 2015, 10, e0115633.	1.1	18
88	Urban heat island effects on growing seasons and heating and cooling degree days in Madison, Wisconsin USA. <i>International Journal of Climatology</i> , 2016, 36, 4873-4884.	1.5	17
89	Energy and water balance response of a vegetated wetland to herbicide treatment of invasive <i>Phragmites australis</i> . <i>Journal of Hydrology</i> , 2016, 539, 290-303.	2.3	17
90	Spatial and temporal variability of future ecosystem services in an agricultural landscape. <i>Landscape Ecology</i> , 2020, 35, 2569-2586.	1.9	17

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91	Comparison of Two Chamber Methods for Measuring Soil Trace-Gas Fluxes in Bioenergy Cropping Systems. <i>Soil Science Society of America Journal</i> , 2013, 77, 1601-1612.	1.2	16
92	Seasonal Nitrous Oxide and Methane Fluxes from Grain- and Forage-Based Production Systems in Wisconsin, USA. <i>Journal of Environmental Quality</i> , 2014, 43, 1833-1843.	1.0	16
93	Soil microclimates influence annual carbon loss via heterotrophic soil respiration in maize and switchgrass bioenergy cropping systems. <i>Agricultural and Forest Meteorology</i> , 2019, 279, 107731.	1.9	16
94	Evidence for Compensatory Photosynthetic and Yield Response of Soybeans to Aphid Herbivory. <i>Journal of Economic Entomology</i> , 2016, 109, 1177-1187.	0.8	13
95	Environmental sustainability of advanced biofuels. <i>Biofuels, Bioproducts and Biorefining</i> , 2013, 7, 638-646.	1.9	12
96	From pest data to abundance-based risk maps combining eco-physiological knowledge, weather, and habitat variability. <i>Ecological Applications</i> , 2017, 27, 575-588.	1.8	12
97	Effects of Root Distribution and Root Water Compensation on Simulated Water Use in Maize Influenced by Shallow Groundwater. <i>Vadose Zone Journal</i> , 2017, 16, 1-15.	1.3	12
98	Modeling Global and Regional Net Primary Production under Elevated Atmospheric CO ₂ : On a Potential Source of Uncertainty. <i>Earth Interactions</i> , 2006, 10, 1-20.	0.7	11
99	Drivers of Potential Recharge from Irrigated Agroecosystems in the Wisconsin Central Sands. <i>Vadose Zone Journal</i> , 2018, 17, 1-22.	1.3	11
100	Controls of climatic variability and land cover on land surface hydrology of northern Wisconsin, USA. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	10
101	Spatiotemporal trends in crop yields, yield variability, and yield gaps across the USA. <i>Crop Science</i> , 2020, 60, 2085-2101.	0.8	10
102	Use of insect exclusion cages in soybean creates an altered microclimate and differential crop response. <i>Agricultural and Forest Meteorology</i> , 2015, 208, 50-61.	1.9	7
103	Fine-Scale Analysis of the Energy-Land-Water Nexus: Nitrate Leaching Implications of Biomass Cofiring in the Midwestern United States. <i>Environmental Science & Technology</i> , 2020, 54, 2122-2132.	4.6	7
104	Effect of methodological consideration on soil carbon parameter estimates obtained via the acid hydrolysis-incubation method. <i>Soil Biology and Biochemistry</i> , 2013, 67, 295-305.	4.2	6
105	Deficiencies of Phenology Models in Simulating Spatial and Temporal Variations in Temperate Spring Leaf Phenology. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2022, 127, .	1.3	6
106	The Dynamic Relationship between Air and Land Surface Temperature within the Madison, Wisconsin Urban Heat Island. <i>Remote Sensing</i> , 2022, 14, 165.	1.8	6
107	Testing the stability of carbon pools stored in tussock sedge meadows. <i>Applied Soil Ecology</i> , 2013, 71, 48-57.	2.1	5
108	Agricultural Landscape Transformation Needed to Meet Water Quality Goals in the Yahara River Watershed of Southern Wisconsin. <i>Ecosystems</i> , 2022, 25, 507-525.	1.6	5

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109	Land use-land cover gradient demonstrates the importance of perennial grasslands with intact soils for building soil carbon in the fertile Mollisols of the North Central US. <i>Geoderma</i> , 2022, 418, 115854.	2.3	5
110	Soil Moisture Regime and Land Use History Drive Regional Differences in Soil Carbon and Nitrogen Storage Across Southern Wisconsin. <i>Soil Science</i> , 2013, 178, 486-495.	0.9	4
111	Management of minimum lake levels and impacts on flood mitigation: A case study of the Yahara Watershed, Wisconsin, USA. <i>Journal of Hydrology</i> , 2019, 577, 123920.	2.3	4
112	Knowledge Co-Production with Agricultural Trade Associations. <i>Water (Switzerland)</i> , 2020, 12, 3236.	1.2	4
113	Decadal-Scale Changes in the Seasonal Surface Water Balance of the Central United States from 1984 to 2007. <i>Journal of Hydrometeorology</i> , 2020, 21, 1905-1927.	0.7	4
114	Data inaccessibility at sub-county scale limits implementation of manure sheds. <i>Journal of Environmental Quality</i> , 2022, 51, 614-621.	1.0	4
115	Rapid changes in agricultural land use and hydrology in the Driftless Region. , 2021, 4, e20214.		4
116	Effect of Weed Management Strategy and Row Width on Nitrous Oxide Emissions in Soybean. <i>Weed Science</i> , 2015, 63, 962-971.	0.8	3
117	Characterizing Dominant Field-Scale Cropping Sequences for a Potato and Vegetable Growing Region in Central Wisconsin. <i>Land</i> , 2022, 11, 273.	1.2	3
118	Reply to Drescher: Interdisciplinary collaboration is essential to understand and implement climate-resilient strategies in cities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 26155-26156.	3.3	2
119	Did agriculture beget agriculture during the past several millennia?. <i>Holocene</i> , 0, , 095968362210882.	0.9	1