Christopher J Kucharik

List of Publications by Year
in descending order

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119 papers	20,106 citations	38742 50 h-index	19190 118 g-index
121 all docs	121 docs citations	121 times ranked	24420 citing authors

#	Article	IF	Citations
1	Global Consequences of Land Use. Science, 2005, 309, 570-574.	12.6	9,451
2	Global response of terrestrial ecosystem structure and function to CO2 and climate change: results from six dynamic global vegetation models. Global Change Biology, 2001, 7, 357-373.	9.5	1,718
3	Direct and Indirect Estimation of Leaf Area Index, fAPAR, and Net Primary Production of Terrestrial Ecosystems. Remote Sensing of Environment, 1999, 70, 29-51.	11.0	1,033
4	Testing the performance of a dynamic global ecosystem model: Water balance, carbon balance, and vegetation structure. Global Biogeochemical Cycles, 2000, 14, 795-825.	4.9	608
5	Mind the gap: how do climate and agricultural management explain the â€˜yield gapâ€™ of croplands around the world?. Global Ecology and Biogeography, 2010, 19, 769-782.	5.8	408
6	Scale-dependent interactions between tree canopy cover and impervious surfaces reduce daytime urban heat during summer. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7575-7580.	7.1	348
7	Corn-based ethanol production compromises goal of reducing nitrogen export by the Mississippi River. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 4513-4518.	7.1	333
8	Crop management and phenology trends in the U.S. Corn Belt: Impacts on yields, evapotranspiration and energy balance. Agricultural and Forest Meteorology, 2011, 151, 882-894.	4.8	286
9	Drought effects on US maize and soybean production: spatiotemporal patterns and historical changes. Environmental Research Letters, 2016, 11, 094021.	5.2	212
10	Impacts of recent climate change on Wisconsin corn and soybean yield trends. Environmental Research Letters, 2008, 3, 034003.	5.2	189
11	Measurements of branch area and adjusting leaf area index indirect measurements. Agricultural and Forest Meteorology, 1998, 91, 69-88.	4.8	184
12	Characterization of radiation regimes in nonrandom forest canopies: theory, measurements, and a simplified modeling approach. Tree Physiology, 1999, 19, 695-706.	3.1	182
13	Abrupt Change in Ecological Systems: Inference and Diagnosis. Trends in Ecology and Evolution, 2018, 33, 513-526.	8.7	178
14	A Multidecadal Trend of Earlier Corn Planting in the Central USA. Agronomy Journal, 2006, 98, 1544-1550.	1.8	163
15	A multiyear evaluation of a Dynamic Global Vegetation Model at three AmeriFlux forest sites: Vegetation structure, phenology, soil temperature, and CO2 and H2O vapor exchange. Ecological Modelling, 2006, 196, 1-31.	2.5	161
16	Effects of Land Cover Change on the Energy and Water Balance of the Mississippi River Basin. Journal of Hydrometeorology, 2004, 5, 640-655.	1.9	155
17	Urban heat island impacts on plant phenology: intra-urban variability and response to land cover. Environmental Research Letters, 2016, 11, 054023.	5.2	148
18	Interactive Crop Management in the Community Earth System Model (CESM1): Seasonal Influences on Landâ€“Atmosphere Fluxes. Journal of Climate, 2012, 25, 4839-4859.	3.2	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. Earth Interactions, 2003, 7, 1-33.	1.5	137
20	Contribution of Planting Date Trends to Increased Maize Yields in the Central United States. Agronomy Journal, 2008, 100, 328-336.	1.8	134
21	Integrated BIosphere Simulator (IBIS) Yield and Nitrate Loss Predictions for Wisconsin Maize Receiving Varied Amounts of Nitrogen Fertilizer. Journal of Environmental Quality, 2003, 32, 247-268.	2.0	131
22	Effects of logging on carbon dynamics of a jack pine forest in Saskatchewan, Canada. Global Change Biology, 2004, 10, 1267-1284.	9.5	128
23	Direct human influence on atmospheric CO2 seasonality from increased cropland productivity. Nature, 2014, 515, 398-401.	27.8	118
24	Impact of changing land use practices on nitrate export by the Mississippi River. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	117
25	Trends and Variability in U.S. Corn Yields Over the Twentieth Century. Earth Interactions, 2005, 9, 1-29.	1.5	107
26	Measurements and Modeling of Carbon and Nitrogen Cycling in Agroecosystems of Southern Wisconsin: Potential for SOC Sequestration during the Next 50 Years. Ecosystems, 2001, 4, 237-258.	3.4	103
27	Urban climate effects on extreme temperatures in Madison, Wisconsin, USA. Environmental Research Letters, 2015, 10, 094024.	5.2	102
28	Seasonality of the Urban Heat Island Effect in Madison, Wisconsin. Journal of Applied Meteorology and Climatology, 2014, 53, 2371-2386.	1.5	101
29	Residue, respiration, and residuals: Evaluation of a dynamic agroecosystem model using eddy flux measurements and biometric data. Agricultural and Forest Meteorology, 2007, 146, 134-158.	4.8	86
30	Environmental outcomes of the US Renewable Fuel Standard. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	86
31	Soil carbon lost from Mollisols of the North Central U.S.A. with 20 years of agricultural best management practices. Agriculture, Ecosystems and Environment, 2012, 162, 68-76.	5.3	85
32	Extreme precipitation and phosphorus loads from two agricultural watersheds. Limnology and Oceanography, 2018, 63, 1221-1233.	3.1	84
33	Evaluating the impacts of land management and climate variability on crop production and nitrate export across the Upper Mississippi Basin. Global Biogeochemical Cycles, 2003, 17, n/a-n/a.	4.9	81
34	Patterns of Climate Change Across Wisconsin From 1950 to 2006. Physical Geography, 2010, 31, 1-28.	1.4	80
35	Contribution of Anaerobic Digesters to Emissions Mitigation and Electricity Generation Under U.S. Climate Policy. Environmental Science & Technology, 2011, 45, 6735-6742.	10.0	77
36	Understanding relationships among ecosystem services across spatial scales and over time. Environmental Research Letters, 2018, 13, 054020.	5.2	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. Journal of Geophysical Research, 2011, 116, .	3.3	72
38	Influence of groundwater on plant water use and productivity: Development of an integrated ecosystem â€“ Variably saturated soil water flow model. Agricultural and Forest Meteorology, 2014, 189-190, 198-210.	4.8	72
39	Plausible futures of a social-ecological system: Yahara watershed, Wisconsin, USA. Ecology and Society, 2015, 20, .	2.3	70
40	A paired study of prairie carbon stocks, fluxes, and phenology: comparing the world's oldest prairie restoration with an adjacent remnant. Global Change Biology, 2006, 12, 122-139.	9.5	68
41	Climate impacts on net primary productivity trends in natural and managed ecosystems of the central and eastern United States. Agricultural and Forest Meteorology, 2009, 149, 2143-2161.	4.8	68
42	An alternative approach for quantifying climate regulation by ecosystems. Frontiers in Ecology and the Environment, 2011, 9, 126-133.	4.0	67
43	Urban heat islandâ€induced increases in evapotranspirative demand. Geophysical Research Letters, 2017, 44, 873-881.	4.0	65
44	Extreme daily loads: role in annual phosphorus input to a north temperate lake. Aquatic Sciences, 2015, 77, 71-79.	1.5	63
45	Impact of Prairie Age and Soil Order on Carbon and Nitrogen Sequestration. Soil Science Society of America Journal, 2007, 71, 430-441.	2.2	62
46	The Influence of Legacy P on Lake Water Quality in a Midwestern Agricultural Watershed. Ecosystems, 2017, 20, 1468-1482.	3.4	60
47	Measurements of leaf orientation, light distribution and sunlit leaf area in a boreal aspen forest. Agricultural and Forest Meteorology, 1998, 91, 127-148.	4.8	55
48	Observation of irrigationâ€induced climate change in the Midwest United States. Global Change Biology, 2019, 25, 3472-3484.	9.5	54
49	Landâ€use Effects on Soil Carbon and Nitrogen on a U.S. Midwestern Floodplain. Soil Science Society of America Journal, 2009, 73, 217-225.	2.2	53
50	Spatiotemporal Mapping of Temperature and Precipitation for the Development of a Multidecadal Climatic Dataset for Wisconsin. Journal of Applied Meteorology and Climatology, 2009, 48, 742-757.	1.5	53
51	Data and monitoring needs for a more ecological agriculture. Environmental Research Letters, 2011, 6, 014017.	5.2	51
52	Evaluation of the importance of Lagrangian canopy turbulence formulations in a soilâ€“plantâ€“atmosphere model. Agricultural and Forest Meteorology, 2003, 115, 51-69.	4.8	50
53	Effects of El NiÃ±oâ€“Southern Oscillation on the Climate, Water Balance, and Streamflow of the Mississippi River Basin. Journal of Climate, 2005, 18, 4840-4861.	3.2	48
54	Measurements and Modeling of Carbon and Nitrogen Cycling in Agroecosystems of Southern Wisconsin: Potential for SOC Sequestration during the Next 50 Years. Ecosystems, 2001, 4, 237-258.	3.4	48

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55	Climatic impacts on winter wheat yields in Picardy, France and Rostov, Russia: 1973â€“2010. Agricultural and Forest Meteorology, 2013, 176, 25-37.	4.8	47
56	Impacts of Urbanization on Ecosystem Goods and Services in the U.S. Corn Belt. Ecosystems, 2012, 15, 519-541.	3.4	46
57	From qualitative to quantitative environmental scenarios: Translating storylines into biophysical modeling inputs at the watershed scale. Environmental Modelling and Software, 2016, 85, 80-97.	4.5	44
58	Contribution of Planting Date Trends to Increased Maize Yields in the Central United States. Agronomy Journal, 2008, 100, 328.	1.8	43
59	The influence of climate on in-stream removal of nitrogen. Geophysical Research Letters, 2004, 31, .	4.0	42
60	Nonlinear groundwater influence on biophysical indicators of ecosystem services. Nature Sustainability, 2019, 2, 475-483.	23.7	42
61	Recent History of Large-Scale Ecosystem Disturbances in North America Derived from the AVHRR Satellite Record. Ecosystems, 2005, 8, 808-824.	3.4	40
62	A biophysical model of Sugarcane growth. GCB Bioenergy, 2012, 4, 36-48.	5.6	40
63	Nitrogen Fertilization Effects on Productivity and Nitrogen Loss in Three Grass-Based Perennial Bioenergy Cropping Systems. PLoS ONE, 2016, 11, e0151919.	2.5	39
64	Miscanthus Establishment and Overwintering in the Midwest USA: A Regional Modeling Study of Crop Residue Management on Critical Minimum Soil Temperatures. PLoS ONE, 2013, 8, e68847.	2.5	35
65	Quantifying indirect groundwater-mediated effects of urbanization on agroecosystem productivity using MODFLOW-AgroIBIS (MAGI), a complete critical zone model. Ecological Modelling, 2017, 359, 201-219.	2.5	34
66	Scenarios reveal pathways to sustain future ecosystem services in an agricultural landscape. Ecological Applications, 2018, 28, 119-134.	3.8	34
67	Impacts of a nuclear war in South Asia on soybean and maize production in the Midwest United States. Climatic Change, 2013, 116, 373-387.	3.6	33
68	Integrated BIosphere Simulator (IBIS) Yield and Nitrate Loss Predictions for Wisconsin Maize Receiving Varied Amounts of Nitrogen Fertilizer. Journal of Environmental Quality, 2003, 32, 247.	2.0	33
69	The synergistic effect of manure supply and extreme precipitation on surface water quality. Environmental Research Letters, 2018, 13, 044016.	5.2	32
70	Assessing the potential to decrease the Gulf of Mexico hypoxic zone with Midwest US perennial cellulosic feedstock production. GCB Bioenergy, 2017, 9, 858-875.	5.6	31
71	Continuous separation of land use and climate effects on the past and future water balance. Journal of Hydrology, 2018, 565, 106-122.	5.4	30
72	Soil-dependent responses of US crop yields to climate variability and depth to groundwater. Agricultural Systems, 2021, 190, 103085.	6.1	29

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73	21st century Wisconsin snow projections based on an operational snow model driven by statistically downscaled climate data. International Journal of Climatology, 2011, 31, 1615-1633.	3.5	28
74	Evaluating a terrestrial ecosystem model with satellite information of greenness. Journal of Geophysical Research, 2008, 113, .	3.3	26
75	Climateâ€induced changes in biome distribution, NPP, and hydrology in the Upper Midwest U.S.: A case study for potential vegetation. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 248-264.	3.0	26
76	Land use, land cover, and climate change across the Mississippi Basin: Impacts on selected land and water resources. Geophysical Monograph Series, 2004, , 249-261.	0.1	25
77	Simulated Effects of Soil Texture on Nitrous Oxide Emission Factors from Corn and Soybean Agroecosystems in Wisconsin. Journal of Environmental Quality, 2016, 45, 1540-1548.	2.0	25
78	Is groundwater recharge always serving us well? Water supply provisioning, crop production, and flood attenuation in conflict in Wisconsin, USA. Ecosystem Services, 2016, 21, 153-165.	5.4	25
79	Evaluating the seasonal and interannual variations in water balance in northern Wisconsin using a land surface model. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	24
80	Carbon and energy fluxes in cropland ecosystems: a model-data comparison. Biogeochemistry, 2016, 129, 53-76.	3.5	24
81	Prairie restoration and carbon sequestration: difficulties quantifying C sources and sinks using a biometric approach. Ecological Applications, 2009, 19, 2185-2201.	3.8	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.. Biogeochemistry, 2019, 143, 313-326.	3.5	23
83	Role of Turbulent Heat Fluxes over Land in the Monsoon over East Asia. International Journal of Geosciences, 2011, 02, 420-431.	0.6	22
84	A Test of Diversityâ€"Productivity Models in Natural, Degraded, and Restored Wet Prairies. Restoration Ecology, 2011, 19, 186-193.	2.9	21
85	Explicit modeling of abiotic and landscape factors reveals precipitation and forests associated with aphid abundance. Ecological Applications, 2016, 26, 2600-2610.	3.8	21
86	Comparing the effects of climate and land use on surface water quality using future watershed scenarios. Science of the Total Environment, 2019, 693, 133484.	8.0	20
87	Using a Simple Apparatus to Measure Direct and Diffuse Photosynthetically Active Radiation at Remote Locations. PLoS ONE, 2015, 10, e0115633.	2.5	18
88	Urban heat island effects on growing seasons and heating and cooling degree days in Madison, Wisconsin USA. International Journal of Climatology, 2016, 36, 4873-4884.	3.5	17
89	Energy and water balance response of a vegetated wetland to herbicide treatment of invasive Phragmites australis. Journal of Hydrology, 2016, 539, 290-303.	5.4	17
90	Spatial and temporal variability of future ecosystem services in an agricultural landscape. Landscape Ecology, 2020, 35, 2569-2586.	4.2	17

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91	Comparison of Two Chamber Methods for Measuring Soil Trace-Gas Fluxes in Bioenergy Cropping Systems. Soil Science Society of America Journal, 2013, 77, 1601-1612.	2.2	16
92	Seasonal Nitrous Oxide and Methane Fluxes from Grain- and Forage-Based Production Systems in Wisconsin, USA. Journal of Environmental Quality, 2014, 43, 1833-1843.	2.0	16
93	Soil microclimates influence annual carbon loss via heterotrophic soil respiration in maize and switchgrass bioenergy cropping systems. Agricultural and Forest Meteorology, 2019, 279, 107731.	4.8	16
94	Evidence for Compensatory Photosynthetic and Yield Response of Soybeans to Aphid Herbivory. Journal of Economic Entomology, 2016, 109, 1177-1187.	1.8	13
95	Environmental sustainability of advanced biofuels. Biofuels, Bioproducts and Biorefining, 2013, 7, 638-646.	3.7	12
96	From pest data to abundanceâ€based risk maps combining ecoâ€physiological knowledge, weather, and habitat variability. Ecological Applications, 2017, 27, 575-588.	3.8	12
97	Effects of Root Distribution and Root Water Compensation on Simulated Water Use in Maize Influenced by Shallow Groundwater. Vadose Zone Journal, 2017, 16, 1-15.	2.2	12
98	Modeling Global and Regional Net Primary Production under Elevated Atmospheric CO2: On a Potential Source of Uncertainty. Earth Interactions, 2006, 10, 1-20.	1.5	11
99	Drivers of Potential Recharge from Irrigated Agroecosystems in the Wisconsin Central Sands. Vadose Zone Journal, 2018, 17, 1-22.	2.2	11
100	Controls of climatic variability and land cover on land surface hydrology of northern Wisconsin, USA. Journal of Geophysical Research, 2008, 113, .	3.3	10
101	Spatiotemporal trends in crop yields, yield variability, and yield gaps across the USA. Crop Science, 2020, 60, 2085-2101.	1.8	10
102	Use of insect exclusion cages in soybean creates an altered microclimate and differential crop response. Agricultural and Forest Meteorology, 2015, 208, 50-61.	4.8	7
103	Fine-Scale Analysis of the Energyâ€"Landâ€"Water Nexus: Nitrate Leaching Implications of Biomass Cofiring in the Midwestern United States. Environmental Science & Technology, 2020, 54, 2122-2132.	10.0	7
104	Effect of methodological consideration on soil carbon parameter estimates obtained via the acid hydrolysis-incubation method. Soil Biology and Biochemistry, 2013, 67, 295-305.	8.8	6
105	Deficiencies of Phenology Models in Simulating Spatial and Temporal Variations in Temperate Spring Leaf Phenology. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	3.0	6
106	The Dynamic Relationship between Air and Land Surface Temperature within the Madison, Wisconsin Urban Heat Island. Remote Sensing, 2022, 14, 165.	4.0	6
107	Testing the stability of carbon pools stored in tussock sedge meadows. Applied Soil Ecology, 2013, 71, 48-57.	4.3	5
108	Agricultural Landscape Transformation Needed to Meet Water Quality Goals in the Yahara River Watershed of Southern Wisconsin. Ecosystems, 2022, 25, 507-525.	3.4	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. Geoderma, 2022, 418, 115854.	5.1	5
110	Soil Moisture Regime and Land Use History Drive Regional Differences in Soil Carbon and Nitrogen Storage Across Southern Wisconsin. Soil Science, 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. Journal of Hydrology, 2019, 577, 123920.	5.4	4
112	Knowledge Co-Production with Agricultural Trade Associations. Water (Switzerland), 2020, 12, 3236.	2.7	4
113	Decadal-Scale Changes in the Seasonal Surface Water Balance of the Central United States from 1984 to 2007. Journal of Hydrometeorology, 2020, 21, 1905-1927.	1.9	4
114	Data inaccessibility at subâ€county scale limits implementation of manuresheds. Journal of Environmental Quality, 2022, 51, 614-621.	2.0	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. Weed Science, 2015, 63, 962-971.	1.5	3
117	Characterizing Dominant Field-Scale Cropping Sequences for a Potato and Vegetable Growing Region in Central Wisconsin. Land, 2022, 11, 273.	2.9	3
118	Reply to Drescher: Interdisciplinary collaboration is essential to understand and implement climate-resilient strategies in cities. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26155-26156.	7.1	2
119	Did agriculture beget agriculture during the past several millennia?. Holocene, 0, , 095968362210882.	1.7	1