Stefan Siebert

List of Publications by Year
in descending order

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91 papers	18,982 citations	41344 49 h-index	46799 89 g-index
108 all docs	108 docs citations	108 times ranked	21274 citing authors

#	Article	IF	Citations
1	Solutions for a cultivated planet. Nature, 2011, 478, 337-342.	27.8	5,821
2	Groundwater use for irrigation â€“ a global inventory. Hydrology and Earth System Sciences, 2010, 14, 1863-1880.	4.9	1,267
3	MIRCA2000â€"Global monthly irrigated and rainfed crop areas around the year 2000: A new highâ€resolution data set for agricultural and hydrological modeling. Global Biogeochemical Cycles, 2010, 24, .	4.9	1,032
4	Lost food, wasted resources: Global food supply chain losses and their impacts on freshwater, cropland, and fertiliser use. Science of the Total Environment, 2012, 438, 477-489.	8.0	896
5	Development and testing of the WaterGAP 2 global model of water use and availability. Hydrological Sciences Journal, 2003, 48, 317-337.	2.6	663
6	Anthropogenic transformation of the biomes, 1700 to 2000. Global Ecology and Biogeography, 2010, 19, 589-606.	5.8	641
7	Leverage points for improving global food security and the environment. Science, 2014, 345, 325-328.	12.6	584
8	Quantifying blue and green virtual water contents in global crop production as well as potential production losses without irrigation. Journal of Hydrology, 2010, 384, 198-217.	5.4	570
9	Global modeling of irrigation water requirements. Water Resources Research, 2002, 38, 8-1-8-10.	4.2	564
10	The worldâ€™s road to water scarcity: shortage and stress in the 20th century and pathways towards sustainability. Scientific Reports, 2016, 6, 38495.	3.3	542
11	Impact of water withdrawals from groundwater and surface water on continental water storage variations. Journal of Geodynamics, 2012, 59-60, 143-156.	1.6	477
12	Development and validation of the global map of irrigation areas. Hydrology and Earth System Sciences, 2005, 9, 535-547.	4.9	462
13	Global estimates of water withdrawals and availability under current and future â€œbusiness-as-usualâ€• conditions. Hydrological Sciences Journal, 2003, 48, 339-348.	2.6	353
14	A global data set of the extent of irrigated land from 1900 to 2005. Hydrology and Earth System Sciences, 2015, 19, 1521-1545.	4.9	301
15	Diverging importance of drought stress for maize and winter wheat in Europe. Nature Communications, 2018, 9, 4249.	12.8	230
16	From Food Insufficiency towards Trade Dependency: A Historical Analysis of Global Food Availability. PLoS ONE, 2013, 8, e82714.	2.5	188
17	Improvements in crop water productivity increase water sustainability and food securityâ€"a global analysis. Environmental Research Letters, 2013, 8, 024030.	5.2	187
18	Agricultural risks from changing snowmelt. Nature Climate Change, 2020, 10, 459-465.	18.8	187

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19	The foodâ€energyâ€water nexus: Transforming science for society. Water Resources Research, 2017, 53, 3550-3556.	4.2	180
20	Impact of heat stress on crop yieldâ€"on the importance of considering canopy temperature. Environmental Research Letters, 2014, 9, 044012.	5.2	151
21	Diet changeâ€"a solution to reduce water use?. Environmental Research Letters, 2014, 9, 074016.	5.2	149
22	Global-scale drought risk assessment for agricultural systems. Natural Hazards and Earth System Sciences, 2020, 20, 695-712.	3.6	136
23	Spatio-temporal patterns of phenological development in Germany in relation to temperature and day length. Agricultural and Forest Meteorology, 2012, 152, 44-57.	4.8	135
24	Changes in time of sowing, flowering and maturity of cereals in Europe under climate change. Food Additives and Contaminants - Part A Chemistry, Analysis, Control, Exposure and Risk Assessment, 2012, 29, 1527-1542.	2.3	135
25	Drought vulnerability and risk assessments: state of the art, persistent gaps, and research agenda. Environmental Research Letters, 2019, 14, 083002.	5.2	133
26	Use of a tri-axial accelerometer for automated recording and classification of goatsâ€™ grazing behaviour. Applied Animal Behaviour Science, 2009, 119, 158-170.	1.9	128
27	Global Patterns of Cropland Use Intensity. Remote Sensing, 2010, 2, 1625-1643.	4.0	117
28	Multiple cropping systems of the world and the potential for increasing cropping intensity. Global Environmental Change, 2020, 64, 102131.	7.8	112
29	Flexibility and intensity of global water use. Nature Sustainability, 2019, 2, 515-523.	23.7	106
30	Local food crop production can fulfil demand for less than one-third of the population. Nature Food, 2020, 1, 229-237.	14.0	102
31	Intensity of heat stress in winter wheatâ€"phenology compensates for the adverse effect of global warming. Environmental Research Letters, 2015, 10, 024012.	5.2	95
32	Causes and trends of water scarcity in food production. Environmental Research Letters, 2016, 11, 015001.	5.2	93
33	Heat stress is overestimated in climate impact studies for irrigated agriculture. Environmental Research Letters, 2017, 12, 054023.	5.2	88
34	Climate change effect on wheat phenology depends on cultivar change. Scientific Reports, 2018, 8, 4891.	3.3	88
35	Independent and combined effects of high temperature and drought stress around anthesis on wheat. Journal of Agronomy and Crop Science, 2017, 203, 453-463.	3.5	84
36	Impact of Spatial Soil and Climate Input Data Aggregation on Regional Yield Simulations. PLoS ONE, 2016, 11, e0151782.	2.5	78

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37	Demand for multi-scale weather data for regional crop modeling. Agricultural and Forest Meteorology, 2015, 200, 156-171.	4.8	74
38	The use of food imports to overcome local limits to growth. Earth's Future, 2017, 5, 393-407.	6.3	70
39	Water footprints of cities â€“ indicators for sustainable consumption and production. Hydrology and Earth System Sciences, 2014, 18, 213-226.	4.9	69
40	Diet change and food loss reduction: What is their combined impact on global water use and scarcity?. Earth's Future, 2016, 4, 62-78.	6.3	69
41	Simulating canopy temperature for modelling heat stress in cereals. Environmental Modelling and Software, 2016, 77, 143-155.	4.5	68
42	The implication of irrigation in climate change impact assessment: a Europeanâ€wide study. Global Change Biology, 2015, 21, 4031-4048.	9.5	66
43	Two-thirds of global cropland area impacted by climate oscillations. Nature Communications, 2018, 9, 1257.	12.8	66
44	Shifts in comparative advantages for maize, oat and wheat cropping under climate change in Europe. Food Additives and Contaminants - Part A Chemistry, Analysis, Control, Exposure and Risk Assessment, 2012, 29, 1514-1526.	2.3	63
45	Climate and management interaction cause diverse crop phenology trends. Agricultural and Forest Meteorology, 2017, 233, 55-70.	4.8	59
46	Exploring global irrigation patterns: A multilevel modelling approach. Agricultural Systems, 2011, 104, 703-713.	6.1	58
47	Filling the voids in the SRTM elevation model â€” A TIN-based delta surface approach. ISPRS Journal of Photogrammetry and Remote Sensing, 2007, 62, 283-294.	11.1	55
48	Simulation of the phenological development of wheat and maize at the global scale. Global Ecology and Biogeography, 2015, 24, 1018-1029.	5.8	54
49	Future crop production threatened by extreme heat. Environmental Research Letters, 2014, 9, 041001.	5.2	53
50	Drought risk for agricultural systems in South Africa: Drivers, spatial patterns, and implications for drought risk management. Science of the Total Environment, 2021, 799, 149505.	8.0	49
51	Bringing it all together: linking measures to secure nationsâ€™ food supply. Current Opinion in Environmental Sustainability, 2017, 29, 98-117.	6.3	47
52	Impact of data resolution on heat and drought stress simulated for winter wheat in Germany. European Journal of Agronomy, 2015, 65, 69-82.	4.1	44
53	Quantifying the response of wheat yields to heat stress: The role of the experimental setup. Field Crops Research, 2018, 217, 93-103.	5.1	44
54	Global Relationships between Cropland Intensification and Summer Temperature Extremes over the Last 50 Years. Journal of Climate, 2017, 30, 7505-7528.	3.2	43

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55	Weather impacts on crop yields - searching for simple answers to a complex problem. Environmental Research Letters, 2017, 12, 081001.	5.2	43
56	Effect of weather data aggregation on regional crop simulation for different crops, production conditions, and response variables. Climate Research, 2015, 65, 141-157.	1.1	43
57	Global priorities of environmental issues to combat food insecurity and biodiversity loss. Science of the Total Environment, 2020, 730, 139096.	8.0	39
58	Variability of effects of spatial climate data aggregation on regional yield simulation by crop models. Climate Research, 2015, 65, 53-69.	1.1	39
59	Human Water Use Impacts on the Strength of the Continental Sink for Atmospheric Water. Geophysical Research Letters, 2018, 45, 4068-4076.	4.0	36
60	Climate and irrigation water use of a mountain oasis in northern Oman. Agricultural Water Management, 2007, 89, 1-14.	5.6	35
61	Nutrient cycling and field-based partial nutrient balances in two mountain oases of Oman. Field Crops Research, 2005, 94, 149-164.	5.1	33
62	The Role of Virtual Water Flows in Physical Water Scarcity: The Case of Central Asia. International Journal of Water Resources Development, 2012, 28, 453-474.	2.0	33
63	Voluntary sustainability standards could significantly reduce detrimental impacts of global agriculture. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2130-2137.	7.1	31
64	A comparison of global spatial distributions of nitrogen inputs for nonpoint sources and effects on river nitrogen export. Global Biogeochemical Cycles, 2005, 19, n/a-n/a.	4.9	28
65	The implication of input data aggregation on up-scaling soil organic carbon changes. Environmental Modelling and Software, 2017, 96, 361-377.	4.5	28
66	The limits of increasing food production with irrigation in India. Food Security, 2015, 7, 835-856.	5.3	26
67	Evaluating the precision of eight spatial sampling schemes in estimating regional means of simulated yield for two crops. Environmental Modelling and Software, 2016, 80, 100-112.	4.5	26
68	Agricultural, architectural and archaeological evidence for the role and ecological adaptation of a scattered mountain oasis in Oman. Journal of Arid Environments, 2005, 62, 177-197.	2.4	24
69	Genetic yield gains of winter wheat in Germany over more than 100 years (1895â€“2007) under contrasting fertilizer applications. Environmental Research Letters, 2018, 13, 104003.	5.2	24
70	Adaptation of crop production to climate change by crop substitution. Mitigation and Adaptation Strategies for Global Change, 2015, 20, 1155-1174.	2.1	23
71	Effects of soil- and climate data aggregation on simulated potato yield and irrigation water requirement. Science of the Total Environment, 2020, 710, 135589.	8.0	23
72	Combined impacts of climate and nutrient fertilization on yields of pearl millet in Niger. European Journal of Agronomy, 2014, 55, 77-88.	4.1	22

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73	Impact of crop management and environment on the spatio-temporal variance of potato yield at regional scale. Field Crops Research, 2021, 270, 108213.	5.1	21
74	Crop harvested area, not yield, drives variability in crop production in Iran. Environmental Research Letters, 2021, 16, 064058.	5.2	19
75	Optimizing harmonics from Landsat time series data: the case of mapping rainfed and irrigated agriculture in Zimbabwe. Remote Sensing Letters, 2019, 10, 1038-1046.	1.4	16
76	Nutrient supply affects the yield stability of major European cropsâ€”a 50 year study. Environmental Research Letters, 2021, 16, 014003.	5.2	15
77	Estimating Actual Evapotranspiration over Croplands Using Vegetation Index Methods and Dynamic Harvested Area. Remote Sensing, 2021, 13, 5167.	4.0	14
78	Early vigour in wheat: Could it lead to more severe terminal drought stress under elevated atmospheric [CO₂] and semiâ€arid conditions?. Global Change Biology, 2020, 26, 4079-4093.	9.5	13
79	Impact of nutrient supply on the expression of genetic improvements of cereals and row crops â€“ A case study using data from a long-term fertilization experiment in Germany. European Journal of Agronomy, 2018, 96, 34-46.	4.1	12
80	Analysis of Drought Impact on Croplands from Global to Regional Scale: A Remote Sensing Approach. Remote Sensing, 2020, 12, 4030.	4.0	12
81	Implications of data aggregation method on crop model outputs â€“ The case of irrigated potato systems in Tasmania, Australia. European Journal of Agronomy, 2021, 126, 126276.	4.1	11
82	Non-destructive dry matter estimation of Alhagi sparsifolia vegetation in a desert oasis of Northwest China. Journal of Vegetation Science, 2004, 15, 365.	2.2	11
83	Crop Yield Estimation Using Multi-Source Satellite Image Series and Deep Learning. , 2020, , .		11
84	Nonâ€destructive dry matter estimation of Alhagi sparsifolia vegetation in a desert oasis of Northwest China. Journal of Vegetation Science, 2004, 15, 365-372.	2.2	10
85	Improved estimation of nitrogen uptake in grasslands using the nitrogen dilution curve. Agronomy for Sustainable Development, 2015, 35, 1561-1570.	5.3	9
86	A Spatially Transferable Drought Hazard and Drought Risk Modeling Approach Based on Remote Sensing Data. Remote Sensing, 2020, 12, 237.	4.0	9
87	Uncertainty in climate change impact studies for irrigated maize cropping systems in southern Spain. Scientific Reports, 2022, 12, 4049.	3.3	9
88	Crop response to P fertilizer omission under a changing climate - Experimental and modeling results over 115 years of a long-term fertilizer experiment. Field Crops Research, 2021, 268, 108174.	5.1	8
89	The use of remote sensing to derive maize sowing dates for large-scale crop yield simulations. International Journal of Biometeorology, 2021, 65, 565-576.	3.0	7
90	WATER USE IN HUMAN CIVILIZATIONS: AN INTERDISCIPLINARY ANALYSIS OF A PERPETUAL SOCIAL-ECOLOGICAL CHALLENGE. Frontiers of Agricultural Science and Engineering, 2021, 8, 512.	1.4	2

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91	Improved estimation of nitrogen uptake in grasslands using the nitrogen dilution curve â€“ reply to the letter to the editor by Lemaire and Gastal, 2016. Agronomy for Sustainable Development, 2016, 36, 1.	5.3	0