Noah S Diffenbaugh

List of Publications by Year
in descending order

134 papers	15,082 citations	20759 60 h-index	18606 119 g-index
138 all docs	138 docs citations	138 times ranked	17563 citing authors

#	Article	IF	Citations
1	Anthropogenic warming has increased drought risk in California. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3931-3936.	3.3	1,023
2	Regional Climate Modeling for the Developing World: The ICTP RegCM3 and RegCNET. Bulletin of the American Meteorological Society, 2007, 88, 1395-1410.	1.7	847
3	Changes in Ecologically Critical Terrestrial Climate Conditions. Science, 2013, 341, 486-492.	6.0	473
4	Quantifying the influence of global warming on unprecedented extreme climate events. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4881-4886.	3.3	451
5	Climate change hotspots in the CMIP5 global climate model ensemble. Climatic Change, 2012, 114, 813-822.	1.7	449
6	Contribution of changes in atmospheric circulation patterns to extreme temperature trends. Nature, 2015, 522, 465-469.	13.7	445
7	Global warming has increased global economic inequality. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 9808-9813.	3.3	413
8	Fine-scale processes regulate the response of extreme events to global climate change. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 15774-15778.	3.3	403
9	Monitoring and Understanding Changes in Heat Waves, Cold Waves, Floods, and Droughts in the United States: State of Knowledge. Bulletin of the American Meteorological Society, 2013, 94, 821-834.	1.7	365
10	Heat stress intensification in the Mediterranean climate change hotspot. Geophysical Research Letters, 2007, 34, .	1.5	361
11	Observed changes in extreme wet and dry spells during the South Asian summer monsoon season. Nature Climate Change, 2014, 4, 456-461.	8.1	357
12	Climate change is increasing the likelihood of extreme autumn wildfire conditions across California. Environmental Research Letters, 2020, 15, 094016.	2.2	322
13	Protecting climate with forests. Environmental Research Letters, 2008, 3, 044006.	2.2	313
14	Biophysical considerations in forestry for climate protection. Frontiers in Ecology and the Environment, 2011, 9, 174-182.	1.9	301
15	Extreme heat reduces and shifts United States premium wine production in the 21st century. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 11217-11222.	3.3	297
16	A multi-model and multi-index evaluation of drought characteristics in the 21st century. Journal of Hydrology, 2015, 526, 196-207.	2.3	296
17	Higher Hydroclimatic Intensity with Global Warming. Journal of Climate, 2011, 24, 5309-5324.	1.2	294
18	Robust increases in severe thunderstorm environments in response to greenhouse forcing. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 16361-16366.	3.3	278

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19	Changes in severe thunderstorm environment frequency during the 21st century caused by anthropogenically enhanced global radiative forcing. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19719-19723.	3.3	277
20	Occurrence and persistence of future atmospheric stagnation events. Nature Climate Change, 2014, 4, 698-703.	8.1	247
21	Observational and model evidence of global emergence of permanent, unprecedented heat in the 20th and 21st centuries. Climatic Change, 2011, 107, 615-624.	1.7	231
22	Explaining Extreme Events of 2012 from a Climate Perspective. Bulletin of the American Meteorological Society, 2013, 94, S1-S74.	1.7	229
23	Suppression of south Asian summer monsoon precipitation in the 21st century. Geophysical Research Letters, 2009, 36, .	1.5	216
24	Large potential reduction in economic damages under UN mitigation targets. Nature, 2018, 557, 549-553.	13.7	214
25	Future climate change and upwelling in the California Current. Geophysical Research Letters, 2003, 30, .	1.5	209
26	Climate change hotspots in the United States. Geophysical Research Letters, 2008, 35, .	1.5	196
27	Land surface coupling in regional climate simulations of the West African monsoon. Climate Dynamics, 2009, 33, 869-892.	1.7	195
28	Climate volatility deepens poverty vulnerability in developing countries. Environmental Research Letters, 2009, 4, 034004.	2.2	188
29	The potential for snow to supply human water demand in the present and future. Environmental Research Letters, 2015, 10, 114016.	2.2	178
30	Intensification of hot extremes in the United States. Geophysical Research Letters, 2010, 37, .	1.5	157
31	The COVID-19 lockdowns: a window into the Earth System. Nature Reviews Earth & Environment, 2020, 1, 470-481.	12.2	153
32	Trends in atmospheric patterns conducive to seasonal precipitation and temperature extremes in California. Science Advances, 2016, 2, e1501344.	4.7	150
33	Out of the Tropics: The Pacific, Great Basin Lakes, and Late Pleistocene Water Cycle in the Western United States. Science, 2012, 337, 1629-1633.	6.0	139
34	Future changes in snowmeltâ€driven runoff timing over the western US. Geophysical Research Letters, 2008, 35, .	1.5	137
35	Multidimensional risk in a nonstationary climate: Joint probability of increasingly severe warm and dry conditions. Science Advances, 2018, 4, eaau3487.	4.7	134
36	Response of snow-dependent hydrologic extremes to continued global warming. Nature Climate Change, 2013, 3, 379-384.	8.1	128

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37	Extension and Intensification of the Meso-American mid-summer drought in the twenty-first century. Climate Dynamics, 2008, 31, 551-571.	1.7	125
38	Precipitation extremes over the continental United States in a transient, highâ€resolution, ensemble climate model experiment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 7063-7086.	1.2	116
39	Drought and immunity determine the intensity of West Nile virus epidemics and climate change impacts. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20162078.	1.2	114
40	Transient response of severe thunderstorm forcing to elevated greenhouse gas concentrations. Geophysical Research Letters, 2009, 36, .	1.5	111
41	Climate volatility and poverty vulnerability in Tanzania. Global Environmental Change, 2011, 21, 46-55.	3.6	111
42	Could CO2-induced land-cover feedbacks alter near-shore upwelling regimes?. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 27-32.	3.3	107
43	Contribution of historical precipitation change to US flood damages. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	103
44	The effects of late Quaternary climate and pCO2 change on C4 plant abundance in the south-central United States. Palaeogeography, Palaeoclimatology, Palaeoecology, 2004, 207, 331-357.	1.0	95
45	Global warming presents new challenges for maize pest management. Environmental Research Letters, 2008, 3, 044007.	2.2	92
46	Rapid, time-transgressive, and variable responses to early Holocene midcontinental drying in North America. Geology, 2010, 38, 135-138.	2.0	89
47	Influence of climate model biases and dailyâ€scale temperature and precipitation events on hydrological impacts assessment: A case study of the United States. Journal of Geophysical Research, 2010, 115, .	3.3	86
48	Nearâ€term acceleration of hydroclimatic change in the western U.S.. Journal of Geophysical Research D: Atmospheres, 2013, 118, 10,676.	1.2	86
49	Influence of modern land cover on the climate of the United States. Climate Dynamics, 2009, 33, 945-958.	1.7	85
50	Summer aridity in the United States: Response to mid-Holocene changes in insolation and sea surface temperature. Geophysical Research Letters, 2006, 33, .	1.5	84
51	Attributing Extreme Events to Climate Change: A New Frontier in a Warming World. One Earth, 2020, 2, 522-527.	3.6	83
52	Projecting changes in annual hydropower generation using regional runoff data: An assessment of the United States federal hydropower plants. Energy, 2015, 80, 239-250.	4.5	82
53	Influence of temperature and precipitation variability on near-term snow trends. Climate Dynamics, 2015, 45, 1099-1116.	1.7	80
54	Response of air stagnation frequency to anthropogenically enhanced radiative forcing. Environmental Research Letters, 2012, 7, 044034.	2.2	76

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55	Joint bias correction of temperature and precipitation in climate model simulations. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,153.	1.2	76
56	Response of corn markets to climate volatility under alternative energy futures. Nature Climate Change, 2012, 2, 514-518.	8.1	74
57	Verification of extreme event attribution: Using out-of-sample observations to assess changes in probabilities of unprecedented events. Science Advances, 2020, 6, eaay2368.	4.7	72
58	Regional climate of hazardous convective weather through high-resolution dynamical downscaling. Climate Dynamics, 2011, 37, 677-688.	1.7	71
59	Influence of SST biases on future climate change projections. Climate Dynamics, 2011, 36, 1303-1319.	1.7	70
60	Recent amplification of the North American winter temperature dipole. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9911-9928.	1.2	67
61	Indicators of 21st century socioclimatic exposure. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20195-20198.	3.3	64
62	Uncertainties in the timing of unprecedented climates. Nature, 2014, 511, E3-E5.	13.7	63
63	Unprecedented climate events: Historical changes, aspirational targets, and national commitments. Science Advances, 2018, 4, eaao3354.	4.7	60
64	Using Machine Learning to Analyze Physical Causes of Climate Change: A Case Study of U.S. Midwest Extreme Precipitation. Geophysical Research Letters, 2021, 48, e2021GL093787.	1.5	59
65	Historical Analysis of Hydraulic Bridge Collapses in the Continental United States. Journal of Infrastructure Systems, 2017, 23, .	1.0	55
66	The Regional Climate Change Hyperâ€Matrix Framework. Eos, 2008, 89, 445-446.	0.1	53
67	Flood Size Increases Nonlinearly Across the Western United States in Response to Lower Snowâ€Precipitation Ratios. Water Resources Research, 2020, 56, e2019WR025571.	1.7	53
68	Temperature and equivalent temperature over the United States (1979â€“2005). International Journal of Climatology, 2010, 30, 2045-2054.	1.5	50
69	Does Global Warming Influence Tornado Activity?. Eos, 2008, 89, 553-554.	0.1	48
70	Global climate sensitivity to land surface change: The Mid Holocene revisited. Geophysical Research Letters, 2002, 29, 114-1-114-4.	1.5	46
71	The Role of Plant CO₂ Physiological Forcing in Shaping Future Daily-Scale Precipitation. Journal of Climate, 2017, 30, 2319-2340.	1.2	46
72	Doubling of U.S. Population Exposure to Climate Extremes by 2050. Earth's Future, 2020, 8, e2019EF001421.	2.4	46

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73	Regional atmospheric CO₂ inversion reveals seasonal and geographic differences in Amazon net biome exchange. Global Change Biology, 2016, 22, 3427-3443.	4.2	45
74	Debunking the climate hiatus. Climatic Change, 2015, 133, 129-140.	1.7	44
75	Characterizing the Spatial Scales of Extreme Daily Precipitation in the United States. Journal of Climate, 2018, 31, 8023-8037.	1.2	44
76	Climate adaptation wedges: a case study of premium wine in the western United States. Environmental Research Letters, 2011, 6, 024024.	2.2	43
77	Transient regional climate change: Analysis of the summer climate response in a high-resolution, century-scale ensemble experiment over the continental United States. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	39
78	Transient twenty-first century changes in daily-scale temperature extremes in the United States. Climate Dynamics, 2014, 42, 1383-1404.	1.7	39
79	Telescoping, multimodel approaches to evaluate extreme convective weather under future climates. Journal of Geophysical Research, 2007, 112, .	3.3	38
80	Evaluation of high-resolution simulations of daily-scale temperature and precipitation over the United States. Climate Dynamics, 2009, 33, 1131-1147.	1.7	38
81	Amplification of wet and dry month occurrence over tropical land regions in response to global warming. Journal of Geophysical Research, 2012, 117, .	3.3	38
82	Mid-Holocene Orbital Forcing of Regional-Scale Climate: A Case Study of Western North America Using a High-Resolution RCM. Journal of Climate, 2004, 17, 2927-2937.	1.2	37
83	Variations in the Intensity and Spatial Extent of Tropical Cyclone Precipitation. Geophysical Research Letters, 2019, 46, 13992-14002.	1.5	37
84	Projected changes in African easterly wave intensity and track in response to greenhouse forcing. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6882-6887.	3.3	36
85	Recent Warming of Landfalling Atmospheric Rivers Along the West Coast of the United States. Journal of Geophysical Research D: Atmospheres, 2019, 124, 6810-6826.	1.2	35
86	The contribution of African easterly waves to monsoon precipitation in the CMIP3 ensemble. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3590-3609.	1.2	34
87	Strengthened scientific support for the Endangerment Finding for atmospheric greenhouse gases. Science, 2019, 363, .	6.0	34
88	Remote Linkages to Anomalous Winter Atmospheric Ridging Over the Northeastern Pacific. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,194.	1.2	33
89	Pleistocene water cycle and eastern boundary current processes along the California continental margin. Paleoceanography, 2010, 25, n/a-n/a.	3.0	32
90	Influence of Twenty-First-Century Atmospheric and Sea Surface Temperature Forcing on West African Climate. Journal of Climate, 2012, 25, 527-542.	1.2	31

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91	Future property damage from flooding: sensitivities to economy and climate change. Climatic Change, 2015, 132, 741-749.	1.7	27
92	Historical warming has increased U.S. crop insurance losses. Environmental Research Letters, 2021, 16, 084025.	2.2	27
93	Atmosphere-land cover feedbacks alter the response of surface temperature to CO2 forcing in the western United States. Climate Dynamics, 2005, 24, 237-251.	1.7	26
94	Disentangling the influence of local and remote anthropogenic aerosols on South Asian monsoon daily rainfall characteristics. Climate Dynamics, 2019, 52, 6301-6320.	1.7	26
95	Landfalling Droughts: Global Tracking of Moisture Deficits From the Oceans Onto Land. Water Resources Research, 2020, 56, e2019WR026877.	1.7	24
96	Orbital suppression of wind-driven upwelling in the California Current at 6 ka. Paleoceanography, 2003, 18, n/a-n/a.	3.0	23
97	Vegetation sensitivity to global anthropogenic carbon dioxide emissions in a topographically complex region. Global Biogeochemical Cycles, 2003, 17, n/a-n/a.	1.9	22
98	Influence of internal variability on population exposure to hydroclimatic changes. Environmental Research Letters, 2017, 12, 044007.	2.2	22
99	Response of California Current forcing to midâ€Holocene insolation and sea surface temperatures. Paleoceanography, 2007, 22, .	3.0	21
100	Using climate impacts indicators to evaluate climate model ensembles: temperature suitability of premium winegrape cultivation in the United States. Climate Dynamics, 2013, 40, 709-729.	1.7	21
101	Plant-water sensitivity regulates wildfire vulnerability. Nature Ecology and Evolution, 2022, 6, 332-339.	3.4	21
102	Response of electricity sector air pollution emissions to drought conditions in the western United States. Environmental Research Letters, 2018, 13, 124032.	2.2	20
103	Rate and velocity of climate change caused by cumulative carbon emissions. Environmental Research Letters, 2015, 10, 095001.	2.2	19
104	Widespread persistent changes to temperature extremes occurred earlier than predicted. Scientific Reports, 2018, 8, 1007.	1.6	19
105	Implications of the permanent El NiÃ±o teleconnection "blueprint" for past global and North American hydroclimatology. Climate of the Past, 2011, 7, 723-743.	1.3	18
106	Agriculture and Trade Opportunities for Tanzania: Past Volatility and Future Climate Change. Review of Development Economics, 2012, 16, 429-447.	1.0	17
107	Observed and projected climate trends and hotspots across the National Ecological Observatory Network regions. Frontiers in Ecology and the Environment, 2015, 13, 547-552.	1.9	17
108	Quantifying the Effect of Precipitation on Landslide Hazard in Urbanized and Nonâ€Urbanized Areas. Geophysical Research Letters, 2021, 48, e2021GL094038.	1.5	17

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109	Developing regional climate change scenarios for use in assessment of effects on human health and disease. Climate Research, 2008, 36, 141-151.	0.4	17
110	Sensitivity of extreme climate events to CO2-induced biophysical atmosphere-vegetation feedbacks in the western United States. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	16
111	Probability of emergence of novel temperature regimes at different levels ofÂcumulative carbon emissions. Frontiers in Ecology and the Environment, 2016, 14, 418-423.	1.9	15
112	Moistureâ€•Versus Windâ€Dominated Flavors of Atmospheric Rivers. Geophysical Research Letters, 2020, 47, e2020GL090042.	1.5	13
113	Human well-being, the global emissions debt, and climate change commitment. Sustainability Science, 2013, 8, 135-141.	2.5	12
114	Evaluation of Nonhydrostatic Simulations of Northeast Pacific Atmospheric Rivers and Comparison to in Situ Observations. Monthly Weather Review, 2015, 143, 3556-3569.	0.5	12
115	Atmospheric variability contributes to increasing wildfire weather but not as much as global warming. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	12
116	Nonhydrostatic nested climate modeling: A case study of the 2010 summer season over the western United States. Journal of Geophysical Research D: Atmospheres, 2013, 118, 10,944.	1.2	11
117	Dislocated interests and climate change. Environmental Research Letters, 2016, 11, 061001.	2.2	10
118	Response of large-scale eastern boundary current forcing in the 21st century. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	8
119	Simulated changes in extreme temperature and precipitation events at 6Âka. Palaeogeography, Palaeoclimatology, Palaeoecology, 2006, 236, 151-168.	1.0	7
120	Market-oriented ethanol and corn-trade policies can reduce climate-induced US corn price volatility. Environmental Research Letters, 2014, 9, 064028.	2.2	6
121	On the impossibility of extreme event thresholds in the absence of global warming. Environmental Research Letters, 2021, 16, 115014.	2.2	5
122	Reply to Rosen: Temperatureâ€“growth relationship is robust. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16171-16172.	3.3	4
123	The Atlantic Jet Response to Stratospheric Events: A Regime Perspective. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033358.	1.2	4
124	Can ENSO-Like Convection Force an ENSO-Like Extratropical Response on Subseasonal Time Scales?. Journal of Climate, 2018, 31, 8339-8349.	1.2	2
125	Diffenbaugh receives 2006 James R. Holton Junior Scientist Award. Eos, 2007, 88, 111-111.	0.1	0
126	A multi-member, high-resolution, transient simulation of 20th and 21st century climate in the United States. IOP Conference Series: Earth and Environmental Science, 2009, 6, 022008.	0.2	0

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127	Quantifying the costs of no-action: High-resolution impacts analysis for the United States. IOP Conference Series: Earth and Environmental Science, 2009, 6, 522005.	0.2	0
128	Geophysical Research Letters: New Policies Improve Top-Cited Geosciences Journal. Eos, 2010, 91, 337-337.	0.1	0
129	Appreciation of peer reviewers for 2015. Geophysical Research Letters, 2016, 43, 3593-3619.	1.5	0
130	Appreciation of 2017 GRL Peer Reviewers. Geophysical Research Letters, 2018, 45, 4494-4528.	1.5	0
131	Thank You to Our 2018 Peer Reviewers. Geophysical Research Letters, 2019, 46, 12608-12636.	1.5	0
132	Asia.. , 2010, , 65-77.		0
133	Thank You to Our 2021 Reviewers. Earth's Future, 2022, 10, .	2.4	0
134	Introducing â€˜Environmental Research: Climateâ€™â€”a new journal devoted to understanding the causes, consequences and solutions of climate variability and change. , 2022, 1, 010201.		0