

Steve Smith

List of Publications by Year in descending order

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Version: 2024-02-01

145
papers

36,177
citations

28190

55
h-index

9311

143
g-index

198
all docs

198
docs citations

198
times ranked

32619
citing authors

#	ARTICLE	IF	CITATIONS
1	The representative concentration pathways: an overview. <i>Climatic Change</i> , 2011, 109, 5-31.	1.7	5,871
2	The next generation of scenarios for climate change research and assessment. <i>Nature</i> , 2010, 463, 747-756.	13.7	5,299
3	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. <i>Global Environmental Change</i> , 2017, 42, 153-168.	3.6	2,966
4	The RCP greenhouse gas concentrations and their extensions from 1765 to 2300. <i>Climatic Change</i> , 2011, 109, 213-241.	1.7	2,948
5	Historical (1850–2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 7017-7039.	1.9	2,020
6	RCP4.5: a pathway for stabilization of radiative forcing by 2100. <i>Climatic Change</i> , 2011, 109, 77-94.	1.7	1,238
7	The Global Methane Budget 2000–2017. <i>Earth System Science Data</i> , 2020, 12, 1561-1623.	3.7	1,199
8	Harmonization of land-use scenarios for the period 1500–2100: 600 years of global gridded annual land-use transitions, wood harvest, and resulting secondary lands. <i>Climatic Change</i> , 2011, 109, 117-161.	1.7	1,080
9	Historical (1750–2014) anthropogenic emissions of reactive gases and aerosols from the Community Emissions Data System (CEDS). <i>Geoscientific Model Development</i> , 2018, 11, 369-408.	1.3	1,058
10	Anthropogenic sulfur dioxide emissions: 1850–2005. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 1101-1116.	1.9	801
11	Implications of Limiting CO ₂ Concentrations for Land Use and Energy. <i>Science</i> , 2009, 324, 1183-1186.	6.0	778
12	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980–2010 period. <i>Climatic Change</i> , 2011, 109, 163-190.	1.7	740
13	The shared socio-economic pathway (SSP) greenhouse gas concentrations and their extensions to 2500. <i>Geoscientific Model Development</i> , 2020, 13, 3571-3605.	1.3	539
14	Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health. <i>Nature Climate Change</i> , 2013, 3, 885-889.	8.1	505
15	Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century. <i>Geoscientific Model Development</i> , 2019, 12, 1443-1475.	1.3	496
16	The last decade of global anthropogenic sulfur dioxide: 2000–2011 emissions. <i>Environmental Research Letters</i> , 2013, 8, 014003.	2.2	461
17	Health co-benefits from air pollution and mitigation costs of the Paris Agreement: a modelling study. <i>Lancet Planetary Health</i> , The, 2018, 2, e126-e133.	5.1	443
18	Global and regional evolution of short-lived radiatively-active gases and aerosols in the Representative Concentration Pathways. <i>Climatic Change</i> , 2011, 109, 191-212.	1.7	393

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19	A cluster-based method to map urban area from DMSP/OLS nightlights. <i>Remote Sensing of Environment</i> , 2014, 147, 173-185.	4.6	303
20	Global and regional anthropogenic sulfur dioxide emissions. <i>Global and Planetary Change</i> , 2001, 29, 99-119.	1.6	280
21	Future air pollution in the Shared Socio-economic Pathways. <i>Global Environmental Change</i> , 2017, 42, 346-358.	3.6	277
22	The SSP4: A world of deepening inequality. <i>Global Environmental Change</i> , 2017, 42, 284-296.	3.6	265
23	A global map of urban extent from nightlights. <i>Environmental Research Letters</i> , 2015, 10, 054011.	2.2	228
24	Large historical growth in global terrestrial gross primary production. <i>Nature</i> , 2017, 544, 84-87.	13.7	219
25	GCAM v5.1: representing the linkages between energy, water, land, climate, and economic systems. <i>Geoscientific Model Development</i> , 2019, 12, 677-698.	1.3	211
26	A global anthropogenic emission inventory of atmospheric pollutants from sector- and fuel-specific sources (1970–2017): an application of the Community Emissions Data System (CEDS). <i>Earth System Science Data</i> , 2020, 12, 3413-3442.	3.7	209
27	AerChemMIP: quantifying the effects of chemistry and aerosols in CMIP6. <i>Geoscientific Model Development</i> , 2017, 10, 585-607.	1.3	202
28	Source sector and fuel contributions to ambient PM2.5 and attributable mortality across multiple spatial scales. <i>Nature Communications</i> , 2021, 12, 3594.	5.8	199
29	A global record of annual urban dynamics (1992–2013) from nighttime lights. <i>Remote Sensing of Environment</i> , 2018, 219, 206-220.	4.6	193
30	Near-term acceleration in the rate of temperature change. <i>Nature Climate Change</i> , 2015, 5, 333-336.	8.1	151
31	Temperature increase of 21st century mitigation scenarios. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 15258-15262.	3.3	139
32	Total-cross-section measurements for positron and electron scattering by O ₂ , CH ₄ , and SF ₆ . <i>Physical Review A</i> , 1988, 38, 1207-1216.	1.0	133
33	MACv2-SP: a parameterization of anthropogenic aerosol optical properties and an associated Twomey effect for use in CMIP6. <i>Geoscientific Model Development</i> , 2017, 10, 433-452.	1.3	130
34	A comprehensive view of global potential for hydro-generated electricity. <i>Energy and Environmental Science</i> , 2015, 8, 2622-2633.	15.6	129
35	Total Ozone Mapping Spectrometer (TOMS) observations of increases in Asian aerosol in winter from 1979 to 2000. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	114
36	2.6: Limiting climate change to 450 ppm CO ₂ equivalent in the 21st century. <i>Energy Economics</i> , 2009, 31, S107-S120.	5.6	106

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37	Global Warming Potentials: 1. Climatic Implications of Emissions Reductions. <i>Climatic Change</i> , 2000, 44, 445-457.	1.7	101
38	The ObjECTS Framework for Integrated Assessment: Hybrid Modeling of Transportation. <i>Energy Journal</i> , 2006, 27, 63-91.	0.9	98
39	Stabilization of CO2 in a B2 world: insights on the roles of carbon capture and disposal, hydrogen, and transportation technologies. <i>Energy Economics</i> , 2004, 26, 517-537.	5.6	88
40	The generation of gridded emissions data for CMIP6. <i>Geoscientific Model Development</i> , 2020, 13, 461-482.	1.3	88
41	Multi-Gas Forcing Stabilization with Minicam. <i>Energy Journal</i> , 2006, 27, 373-392.	0.9	87
42	Atmospheric carbonyl sulfide sources from anthropogenic activity: Implications for carbon cycle constraints. <i>Geophysical Research Letters</i> , 2015, 42, 3004-3010.	1.5	83
43	Evaluation of Global Onshore Wind Energy Potential and Generation Costs. <i>Environmental Science & Technology</i> , 2012, 46, 7857-7864.	4.6	81
44	Deep mitigation of CO2 and non-CO2 greenhouse gases toward 1.5°C and 2°C futures. <i>Nature Communications</i> , 2021, 12, 6245.	5.8	78
45	Near-term climate mitigation by short-lived forcers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 14202-14206.	3.3	76
46	Source attribution of black carbon and its direct radiative forcing in China. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 4319-4336.	1.9	76
47	Influence of climate change mitigation technology on global demands of water for electricity generation. <i>International Journal of Greenhouse Gas Control</i> , 2013, 13, 112-123.	2.3	75
48	Global and regional potential for bioenergy from agricultural and forestry residue biomass. <i>Mitigation and Adaptation Strategies for Global Change</i> , 2010, 15, 241-262.	1.0	74
49	Reduced Complexity Model Intercomparison Project Phase 1: introduction and evaluation of global-mean temperature response. <i>Geoscientific Model Development</i> , 2020, 13, 5175-5190.	1.3	70
50	A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970–2018 with an extension to 2019. <i>Earth System Science Data</i> , 2021, 13, 5213-5252.	3.7	68
51	Two hundred fifty years of aerosols and climate: the end of the age of aerosols. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 537-549.	1.9	67
52	Misrepresentation of the IPCC CO2 emission scenarios. <i>Nature Geoscience</i> , 2010, 3, 376-377.	5.4	66
53	Total-Scattering Measurements and Comparisons for Collisions of Electrons and Positrons with N2O. <i>Physical Review Letters</i> , 1984, 52, 1417-1420.	2.9	63
54	Global projections for anthropogenic reactive nitrogen emissions to the atmosphere: an assessment of scenarios in the scientific literature. <i>Current Opinion in Environmental Sustainability</i> , 2011, 3, 359-369.	3.1	63

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55	Future Sulfur Dioxide Emissions. <i>Climatic Change</i> , 2005, 73, 267-318.	1.7	59
56	Global source attribution of sulfate concentration and direct and indirect radiative forcing. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 8903-8922.	1.9	58
57	Uncertainties in climate stabilization. <i>Climatic Change</i> , 2009, 97, 85-121.	1.7	57
58	Air pollution control strategies directly limiting national health damages in the US. <i>Nature Communications</i> , 2020, 11, 957.	5.8	56
59	Global Warming Potentials: 2. Accuracy. <i>Climatic Change</i> , 2000, 44, 459-469.	1.7	55
60	Integrated estimates of global terrestrial carbon sequestration. <i>Global Environmental Change</i> , 2008, 18, 192-203.	3.6	55
61	Modeling the potential for thermal concentrating solar power technologies. <i>Energy Policy</i> , 2010, 38, 7884-7897.	4.2	55
62	A simple model of global aerosol indirect effects. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 6688-6707.	1.2	53
63	Radiative Forcing Due to Reactive Gas Emissions. <i>Journal of Climate</i> , 2002, 15, 2690-2696.	1.2	51
64	Estimating environmental co-benefits of U.S. low-carbon pathways using an integrated assessment model with state-level resolution. <i>Applied Energy</i> , 2018, 216, 482-493.	5.1	49
65	Black Carbon Amplifies Haze Over the North China Plain by Weakening the East Asian Winter Monsoon. <i>Geophysical Research Letters</i> , 2019, 46, 452-460.	1.5	49
66	Recent intensification of winter haze in China linked to foreign emissions and meteorology. <i>Scientific Reports</i> , 2018, 8, 2107.	1.6	48
67	120 Years of U.S. Residential Housing Stock and Floor Space. <i>PLoS ONE</i> , 2015, 10, e0134135.	1.1	47
68	Role of the Freight Sector in Future Climate Change Mitigation Scenarios. <i>Environmental Science & Technology</i> , 2017, 51, 3526-3533.	4.6	46
69	Health co-benefits and mitigation costs as per the Paris Agreement under different technological pathways for energy supply. <i>Environment International</i> , 2020, 136, 105513.	4.8	46
70	Towards a comprehensive climate impacts assessment of solar geoengineering. <i>Earth's Future</i> , 2017, 5, 93-106.	2.4	45
71	Health and climate impacts of future United States land freight modelled with global-to-urban models. <i>Nature Sustainability</i> , 2019, 2, 105-112.	11.5	44
72	Co-benefits of global, domestic, and sectoral greenhouse gas mitigation for US air quality and human health in 2050. <i>Environmental Research Letters</i> , 2017, 12, 114033.	2.2	43

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73	Source Apportionments of Aerosols and Their Direct Radiative Forcing and Long-Term Trends Over Continental United States. <i>Earth's Future</i> , 2018, 6, 793-808.	2.4	42
74	Global gridded anthropogenic emissions inventory of carbonyl sulfide. <i>Atmospheric Environment</i> , 2018, 183, 11-19.	1.9	40
75	The role of methane in future climate strategies: mitigation potentials and climate impacts. <i>Climatic Change</i> , 2020, 163, 1409-1425.	1.7	39
76	Impact of bioenergy crops in a carbon dioxide constrained world: an application of the MiniCAM energy-agriculture and land use model. <i>Mitigation and Adaptation Strategies for Global Change</i> , 2008, 13, 675-701.	1.0	38
77	Sulfate Aerosol in the Arctic: Source Attribution and Radiative Forcing. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 1899-1918.	1.2	38
78	Interannual variability and trends of combustion aerosol and dust in major continental outflows revealed by MODIS retrievals and CAM5 simulations during 2003-2017. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 139-161.	1.9	38
79	Black carbon emissions in Russia: A critical review. <i>Atmospheric Environment</i> , 2017, 163, 9-21.	1.9	37
80	Projecting state-level air pollutant emissions using an integrated assessment model: GCAM-USA. <i>Applied Energy</i> , 2017, 208, 511-521.	5.1	36
81	Climate Policy and the Long-Term Evolution of the U.S. Buildings Sector. <i>Energy Journal</i> , 2010, 31, 145-172.	0.9	36
82	Excitation cross sections for the $2S \rightarrow 2P$ resonance transitions in $Mg^{+}(n=3)$ and $Zn^{+}(n=4)$ using electron-energy-loss and merged-beams methods. <i>Physical Review A</i> , 1993, 48, 292-309.	1.0	35
83	Variability, timescales, and nonlinearity in climate responses to black carbon emissions. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 2405-2420.	1.9	34
84	A methodology and implementation of automated emissions harmonization for use in Integrated Assessment Models. <i>Environmental Modelling and Software</i> , 2018, 105, 187-200.	1.9	32
85	Absolute, cascade-free cross sections for the $2S \rightarrow 2P$ transition in Zn^{+} using electron-energy-loss and merged-beams methods. <i>Physical Review Letters</i> , 1991, 67, 30-33.	2.9	28
86	Reduced Complexity Model Intercomparison Project Phase 2: Synthesizing Earth System Knowledge for Probabilistic Climate Projections. <i>Earth's Future</i> , 2021, 9, e2020EF001900.	2.4	28
87	First forcing estimates from the future CMIP6 scenarios of anthropogenic aerosol optical properties and an associated Twomey effect. <i>Geoscientific Model Development</i> , 2019, 12, 989-1007.	1.3	27
88	The training, careers, and work of Ph.D. physical scientists: Not simply academic. <i>American Journal of Physics</i> , 2002, 70, 1081-1092.	0.3	26
89	Climate Change Impacts for the Conterminous USA: An Integrated Assessment. <i>Climatic Change</i> , 2005, 69, 7-25.	1.7	26
90	Emission Projections for Long-Haul Freight Trucks and Rail in the United States through 2050. <i>Environmental Science & Technology</i> , 2015, 49, 11569-11576.	4.6	26

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91	Co-benefits of global and regional greenhouse gas mitigation for US air quality in 2050. Atmospheric Chemistry and Physics, 2016, 16, 9533-9548.	1.9	25
92	Model evaluation and hindcasting: An experiment with an integrated assessment model. Energy, 2013, 61, 479-490.	4.5	24
93	Sensitivity of multi-gas climate policy to emission metrics. Climatic Change, 2013, 117, 663-675.	1.7	24
94	Modeling greenhouse gas energy technology responses to climate change. Energy, 2004, 29, 1529-1536.	4.5	23
95	Carbon density and anthropogenic land-use influences on net land-use change emissions. Biogeosciences, 2013, 10, 6323-6337.	1.3	23
96	The long-term policy context for solar radiation management. Climatic Change, 2013, 121, 487-497.	1.7	22
97	Sulphate trends in Europe: are we able to model the recent observed decrease. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, 773-786.	0.8	21
98	Emissions and Atmospheric CO2 Stabilization: Long-Term Limits and Paths. Mitigation and Adaptation Strategies for Global Change, 2005, 10, 213-220.	1.0	20
99	What do near-term observations tell us about long-term developments in greenhouse gas emissions?. Climatic Change, 2010, 103, 635-642.	1.7	20
100	Spatial and temporal patterns of global onshore wind speed distribution. Environmental Research Letters, 2013, 8, 034029.	2.2	20
101	The economic implications of carbon cycle uncertainty. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 586-590.	0.8	19
102	The Evaluation of Greenhouse Gas Indices. Climatic Change, 2003, 58, 261-265.	1.7	17
103	Economically consistent long-term scenarios for air pollutant emissions. Climatic Change, 2011, 108, 619-627.	1.7	17
104	Urban NO _x emissions around the world declined faster than anticipated between 2005 and 2019. Environmental Research Letters, 2021, 16, 115004.	2.2	17
105	<i>gcamdata</i>: An R Package for Preparation, Synthesis, and Tracking of Input Data for the GCAM Integrated Human-Earth Systems Model. Journal of Open Research Software, 2019, 7, 6.	2.7	17
106	Non-Kyoto radiative forcing in long-run greenhouse gas emissions and climate change scenarios. Climatic Change, 2014, 123, 511-525.	1.7	16
107	Taking some heat off the NDCs? The limited potential of additional short-lived climate forcers™ mitigation. Climatic Change, 2020, 163, 1443-1461.	1.7	16
108	Electron Excitation Cross Sections for the Si Transitions 3s ² 3p ³ 4s, 3s ² 3p ³ 2D, 2P, and 3s ³ 4P. Astrophysical Journal, 1997, 484, 979-984.	1.6	15

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109	Impact of methane and black carbon mitigation on forcing and temperature: a multi-model scenario analysis. <i>Climatic Change</i> , 2020, 163, 1427-1442.	1.7	15
110	Gridded anthropogenic emissions inventory and atmospheric transport of carbonyl sulfide in the U.S.. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 2169-2178.	1.2	14
111	Climate Implications of Greenhouse Gas Emissions Scenarios. <i>Technological Forecasting and Social Change</i> , 2000, 65, 195-204.	6.2	13
112	CLIMATE: A New Route Toward Limiting Climate Change?. <i>Science</i> , 2000, 290, 1109-1110.	6.0	13
113	Long history of IAM comparisons. <i>Nature Climate Change</i> , 2015, 5, 391-391.	8.1	13
114	Cobenefits of global and domestic greenhouse gas emissions for air quality and human health. <i>Lancet, The</i> , 2017, 389, S23.	6.3	13
115	Impact of Anthropogenic Emission Injection Height Uncertainty on Global Sulfur Dioxide and Aerosol Distribution. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 4812-4826.	1.2	13
116	Evaluating climate emulation: fundamental impulse testing of simple climate models. <i>Earth System Dynamics</i> , 2019, 10, 729-739.	2.7	13
117	Evaluating long-term emission impacts of large-scale electric vehicle deployment in the US using a human-Earth systems model. <i>Applied Energy</i> , 2021, 300, 117364.	5.1	13
118	Nuclear winds and the narrow-line emission from active galaxies. <i>Astrophysical Journal</i> , 1993, 411, 570.	1.6	13
119	Income and Pollutant Emissions in the ObjECTS MiniCAM Model. <i>Journal of Environment and Development</i> , 2005, 14, 175-196.	1.6	12
120	A sustainable biomass industry for the North American Great Plains. <i>Current Opinion in Environmental Sustainability</i> , 2009, 1, 121-132.	3.1	12
121	Future Arctic temperature change resulting from a range of aerosol emissions scenarios. <i>Earth's Future</i> , 2016, 4, 270-281.	2.4	12
122	A new method for inferring city emissions and lifetimes of nitrogen oxides from high-resolution nitrogen dioxide observations: a model study. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 1333-1349.	1.9	12
123	Black Carbon Increases Frequency of Extreme ENSO Events. <i>Journal of Climate</i> , 2019, 32, 8323-8333.	1.2	11
124	Informing energy consumption uncertainty: an analysis of energy data revisions. <i>Environmental Research Letters</i> , 2018, 13, 124023.	2.2	10
125	Mass-loaded Winds. <i>Astrophysical Journal</i> , 1996, 473, 773-780.	1.6	9
126	Future aerosol emissions: a multi-model comparison. <i>Climatic Change</i> , 2016, 138, 13-24.	1.7	6

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127	The Value of Advanced End-Use Energy Technologies in Meeting U.S. Climate Policy Goals. Energy Journal, 2011, 32, 61-88.	0.9	6
128	New Directions: Toward a community emissions approach. Atmospheric Environment, 2012, 51, 333-334.	1.9	5
129	Quantifying the reductions in mortality from air-pollution by cancelling new coal power plants. Energy and Climate Change, 2021, 2, 100023.	2.2	5
130	Excitation of positive ions by low-energy electrons: Relevance to the Io torus. Journal of Geophysical Research, 1993, 98, 5499-5504.	3.3	4
131	Questions of bias in climate models. Nature Climate Change, 2014, 4, 741-742.	8.1	4
132	State-level drivers of future fine particulate matter mortality in the United States. Environmental Research Letters, 2019, 14, 124071.	2.2	4
133	The Energy Modeling Forum (EMF)-30 study on short-lived climate forcers: introduction and overview. Climatic Change, 2020, 163, 1399-1408.	1.7	4
134	Pollution inequality 50 years after the Clean Air Act: the need for hyperlocal data and action. Environmental Research Letters, 2021, 16, 071001.	2.2	4
135	Status of the multiply-charged ion research facility at JPL. Physica Scripta, 1997, T73, 382-383.	1.2	3
136	Implications for the USA of stabilization of radiative forcing at 3.4 W/m^2 . Climate Policy, 2008, 8, S76-S92.	2.6	3
137	The impact of climate mitigation measures on near term climate forcers. Environmental Research Letters, 2019, 14, 104013.	2.2	3
138	HIRM v1.0: a hybrid impulse response model for climate modeling and uncertainty analyses. Geoscientific Model Development, 2021, 14, 365-375.	1.3	3
139	Nuclear winds in active elliptical galaxies. II - Observational signatures. Astrophysical Journal, 1993, 412, 82.	1.6	3
140	Climate and air pollution implications of potential energy infrastructure and policy measures in India. Energy and Climate Change, 2022, 3, 100067.	2.2	3
141	Cleaning cars, grid and air. Nature Energy, 2021, 6, 19-20.	19.8	2
142	Nuclear winds in active elliptical galaxies. I - Interaction. Astrophysical Journal, 1993, 411, 581.	1.6	2
143	rfsast: An R tool to estimate air pollution impacts on health and agriculture. Journal of Open Source Software, 2022, 7, 3820.	2.0	2
144	Temperature increase of 21st century mitigation scenarios. IOP Conference Series: Earth and Environmental Science, 2009, 6, 492012.	0.2	0

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145	The Effect of Emissions Trading and Carbon Sequestration on the Cost of CO2 Emissions Mitigation. , 2003, , 1177-1182.		0