Steve Smith

List of Publications by Year
in descending order

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Version: 2024-02-01

145	36,177	32410 55	10679 143
papers	citations	h-index	g-index

198	198	198	36859
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Climate and air pollution implications of potential energy infrastructure and policy measures in India. Energy and Climate Change, 2022, 3, 100067.	2.2	3
2	rfasst: An R tool to estimate air pollution impacts on health and agriculture. Journal of Open Source Software, 2022, 7, 3820.	2.0	2
3	A new method for inferring city emissions and lifetimes of nitrogen oxides from high-resolution nitrogen dioxide observations: a model study. Atmospheric Chemistry and Physics, 2022, 22, 1333-1349.	1.9	12
4	Cleaning cars, grid and air. Nature Energy, 2021, 6, 19-20.	19.8	2
5	HIRM v1.0: a hybrid impulse response model for climate modeling and uncertainty analyses. Geoscientific Model Development, 2021, 14, 365-375.	1.3	3
6	Source sector and fuel contributions to ambient PM2.5 and attributable mortality across multiple spatial scales. Nature Communications, 2021, 12, 3594.	5.8	199
7	Reduced Complexity Model Intercomparison Project Phase 2: Synthesizing Earth System Knowledge for Probabilistic Climate Projections. Earth's Future, 2021, 9, e2020EF001900.	2.4	28
8	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
9	Urban NO _x emissions around the world declined faster than anticipated between 2005 and 2019. Environmental Research Letters, 2021, 16, 115004.	2.2	17
10	Evaluating long-term emission impacts of large-scale electric vehicle deployment in the US using a human-Earth systems model. Applied Energy, 2021, 300, 117364.	5.1	13
11	Quantifying the reductions in mortality from air-pollution by cancelling new coal power plants. Energy and Climate Change, 2021, 2, 100023.	2.2	5
12	Deep mitigation of CO2 and non-CO2 greenhouse gases toward 1.5â€‰Â°C and 2â€‰Â°C futures. Nature Communications, 2021, 12, 6245.	5.8	78
13	A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970â€“2018 with an extension to 2019. Earth System Science Data, 2021, 13, 5213-5252.	3.7	68
14	Taking some heat off the NDCs? The limited potential of additional short-lived climate forcersâ€™ mitigation. Climatic Change, 2020, 163, 1443-1461.	1.7	16
15	The role of methane in future climate strategies: mitigation potentials and climate impacts. Climatic Change, 2020, 163, 1409-1425.	1.7	39
16	Impact of methane and black carbon mitigation on forcing and temperature: a multi-model scenario analysis. Climatic Change, 2020, 163, 1427-1442.	1.7	15
17	The Energy Modeling Forum (EMF)-30 study on short-lived climate forcers: introduction and overview. Climatic Change, 2020, 163, 1399-1408.	1.7	4
18	Health co-benefits and mitigation costs as per the Paris Agreement under different technological pathways for energy supply. Environment International, 2020, 136, 105513.	4.8	46

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19	The generation of gridded emissions data for CMIP6. Geoscientific Model Development, 2020, 13, 461-482.	1.3	88
20	Interannual variability and trends of combustion aerosol and dust in major continental outflows revealed by MODIS retrievals and CAM5 simulations during 2003â€“2017. Atmospheric Chemistry and Physics, 2020, 20, 139-161.	1.9	38
21	Air pollution control strategies directly limiting national health damages in the US. Nature Communications, 2020, 11, 957.	5.8	56
22	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	3.7	1,199
23	A global anthropogenic emission inventory of atmospheric pollutants from sector- and fuel-specific sources (1970â€“2017): an application of the Community Emissions Data System (CEDS). Earth System Science Data, 2020, 12, 3413-3442.	3.7	209
24	The shared socio-economic pathway (SSP) greenhouse gas concentrations and their extensions to 2500. Geoscientific Model Development, 2020, 13, 3571-3605.	1.3	539
25	Reduced Complexity Model Intercomparison Project Phase 1: introduction and evaluation of global-mean temperature response. Geoscientific Model Development, 2020, 13, 5175-5190.	1.3	70
26	The impact of climate mitigation measures on near term climate forcers. Environmental Research Letters, 2019, 14, 104013.	2.2	3
27	Black Carbon Increases Frequency of Extreme ENSO Events. Journal of Climate, 2019, 32, 8323-8333.	1.2	11
28	Variability, timescales, and nonlinearity in climate responses to black carbon emissions. Atmospheric Chemistry and Physics, 2019, 19, 2405-2420.	1.9	34
29	First forcing estimates from the future CMIP6 scenarios of anthropogenic aerosol optical properties and an associated Twomey effect. Geoscientific Model Development, 2019, 12, 989-1007.	1.3	27
30	Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century. Geoscientific Model Development, 2019, 12, 1443-1475.	1.3	496
31	GCAM v5.1: representing the linkages between energy, water, land, climate, and economic systems. Geoscientific Model Development, 2019, 12, 677-698.	1.3	211
32	Impact of Anthropogenic Emission Injection Height Uncertainty on Global Sulfur Dioxide and Aerosol Distribution. Journal of Geophysical Research D: Atmospheres, 2019, 124, 4812-4826.	1.2	13
33	Health and climate impacts of future United States land freight modelled with global-to-urban models. Nature Sustainability, 2019, 2, 105-112.	11.5	44
34	Evaluating climate emulation: fundamental impulse testing of simple climate models. Earth System Dynamics, 2019, 10, 729-739.	2.7	13
35	State-level drivers of future fine particulate matter mortality in the United States. Environmental Research Letters, 2019, 14, 124071.	2.2	4
36	Black Carbon Amplifies Haze Over the North China Plain by Weakening the East Asian Winter Monsoon. Geophysical Research Letters, 2019, 46, 452-460.	1.5	49

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37	<i>gcamdata</i>: An R Package for Preparation, Synthesis, andÂTracking of Input Data for the GCAM Integrated Human-Earth Systems Model. Journal of Open Research Software, 2019, 7, 6.	2.7	17
38	Health co-benefits from air pollution and mitigation costs of the Paris Agreement: a modelling study. Lancet Planetary Health, The, 2018, 2, e126-e133.	5.1	443
39	Estimating environmental co-benefits of U.S. low-carbon pathways using an integrated assessment model with state-level resolution. Applied Energy, 2018, 216, 482-493.	5.1	49
40	Recent intensification of winter haze in China linked to foreign emissions and meteorology. Scientific Reports, 2018, 8, 2107.	1.6	48
41	Sulfate Aerosol in the Arctic: Source Attribution and Radiative Forcing. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1899-1918.	1.2	38
42	Global gridded anthropogenic emissions inventory of carbonyl sulfide. Atmospheric Environment, 2018, 183, 11-19.	1.9	40
43	Informing energy consumption uncertainty: an analysis of energy data revisions. Environmental Research Letters, 2018, 13, 124023.	2.2	10
44	A global record of annual urban dynamics (1992â€“2013) from nighttime lights. Remote Sensing of Environment, 2018, 219, 206-220.	4.6	193
45	A methodology and implementation of automated emissions harmonization for use in Integrated Assessment Models. Environmental Modelling and Software, 2018, 105, 187-200.	1.9	32
46	Historical (1750â€“2014) anthropogenic emissions of reactive gases and aerosols from the Community Emissions Data System (CEDS). Geoscientific Model Development, 2018, 11, 369-408.	1.3	1,058
47	Source Apportionments of Aerosols and Their Direct Radiative Forcing and Longâ€Term Trends Over Continental United States. Earth's Future, 2018, 6, 793-808.	2.4	42
48	The SSP4: A world of deepening inequality. Global Environmental Change, 2017, 42, 284-296.	3.6	265
49	Cobenefits of global and domestic greenhouse gas emissions for air quality and human health. Lancet, The, 2017, 389, S23.	6.3	13
50	Black carbon emissions in Russia: A critical review. Atmospheric Environment, 2017, 163, 9-21.	1.9	37
51	Gridded anthropogenic emissions inventory and atmospheric transport of carbonyl sulfide in the U.S.. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2169-2178.	1.2	14
52	Role of the Freight Sector in Future Climate Change Mitigation Scenarios. Environmental Science & Technology, 2017, 51, 3526-3533.	4.6	46
53	Large historical growth in global terrestrial gross primary production. Nature, 2017, 544, 84-87.	13.7	219
54	Projecting state-level air pollutant emissions using an integrated assessment model: GCAM-USA. Applied Energy, 2017, 208, 511-521.	5.1	36

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55	Future air pollution in the Shared Socio-economic Pathways. Global Environmental Change, 2017, 42, 346-358.	3.6	277
56	Towards a comprehensive climate impacts assessment of solar geoengineering. Earth's Future, 2017, 5, 93-106.	2.4	45
57	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. Global Environmental Change, 2017, 42, 153-168.	3.6	2,966
58	Co-benefits of global, domestic, and sectoral greenhouse gas mitigation for US air quality and human health in 2050. Environmental Research Letters, 2017, 12, 114033.	2.2	43
59	Source attribution of black carbon and its direct radiative forcing in China. Atmospheric Chemistry and Physics, 2017, 17, 4319-4336.	1.9	76
60	Global source attribution of sulfate concentration and direct and indirect radiative forcing. Atmospheric Chemistry and Physics, 2017, 17, 8903-8922.	1.9	58
61	MACv2-SP: a parameterization of anthropogenic aerosol optical properties and an associated Twomey effect for use in CMIP6. Geoscientific Model Development, 2017, 10, 433-452.	1.3	130
62	AerChemMIP: quantifying the effects of chemistry and aerosols in CMIP6. Geoscientific Model Development, 2017, 10, 585-607.	1.3	202
63	Future aerosol emissions: a multi-model comparison. Climatic Change, 2016, 138, 13-24.	1.7	6
64	Future Arctic temperature change resulting from a range of aerosol emissions scenarios. Earth's Future, 2016, 4, 270-281.	2.4	12
65	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
66	Atmospheric carbonyl sulfide sources from anthropogenic activity: Implications for carbon cycle constraints. Geophysical Research Letters, 2015, 42, 3004-3010.	1.5	83
67	120 Years of U.S. Residential Housing Stock and Floor Space. PLoS ONE, 2015, 10, e0134135.	1.1	47
68	A global map of urban extent from nightlights. Environmental Research Letters, 2015, 10, 054011.	2.2	228
69	A comprehensive view of global potential for hydro-generated electricity. Energy and Environmental Science, 2015, 8, 2622-2633.	15.6	129
70	Long history of IAM comparisons. Nature Climate Change, 2015, 5, 391-391.	8.1	13
71	Near-term acceleration in the rate of temperature change. Nature Climate Change, 2015, 5, 333-336.	8.1	151
72	Emission Projections for Long-Haul Freight Trucks and Rail in the United States through 2050. Environmental Science & Technology, 2015, 49, 11569-11576.	4.6	26

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73	A cluster-based method to map urban area from DMSP/OLS nightlights. Remote Sensing of Environment, 2014, 147, 173-185.	4.6	303
74	Non-Kyoto radiative forcing in long-run greenhouse gas emissions and climate change scenarios. Climatic Change, 2014, 123, 511-525.	1.7	16
75	Questions of bias in climate models. Nature Climate Change, 2014, 4, 741-742.	8.1	4
76	Two hundred fifty years of aerosols and climate: the end of the age of aerosols. Atmospheric Chemistry and Physics, 2014, 14, 537-549.	1.9	67
77	Influence of climate change mitigation technology on global demands of water for electricity generation. International Journal of Greenhouse Gas Control, 2013, 13, 112-123.	2.3	75
78	The long-term policy context for solar radiation management. Climatic Change, 2013, 121, 487-497.	1.7	22
79	Model evaluation and hindcasting: An experiment with an integrated assessment model. Energy, 2013, 61, 479-490.	4.5	24
80	A simple model of global aerosol indirect effects. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6688-6707.	1.2	53
81	Sensitivity of multi-gas climate policy to emission metrics. Climatic Change, 2013, 117, 663-675.	1.7	24
82	Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health. Nature Climate Change, 2013, 3, 885-889.	8.1	505
83	The last decade of global anthropogenic sulfur dioxide: 2000â€“2011 emissions. Environmental Research Letters, 2013, 8, 014003.	2.2	461
84	Spatial and temporal patterns of global onshore wind speed distribution. Environmental Research Letters, 2013, 8, 034029.	2.2	20
85	Near-term climate mitigation by short-lived forcers. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14202-14206.	3.3	76
86	Carbon density and anthropogenic land-use influences on net land-use change emissions. Biogeosciences, 2013, 10, 6323-6337.	1.3	23
87	Evaluation of Global Onshore Wind Energy Potential and Generation Costs. Environmental Science & Technology, 2012, 46, 7857-7864.	4.6	81
88	New Directions: Toward a community emissions approach. Atmospheric Environment, 2012, 51, 333-334.	1.9	5
89	Global projections for anthropogenic reactive nitrogen emissions to the atmosphere: an assessment of scenarios in the scientific literature. Current Opinion in Environmental Sustainability, 2011, 3, 359-369.	3.1	63
90	The representative concentration pathways: an overview. Climatic Change, 2011, 109, 5-31.	1.7	5,871

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91	RCP4.5: a pathway for stabilization of radiative forcing by 2100. Climatic Change, 2011, 109, 77-94.	1.7	1,238
92	Harmonization of land-use scenarios for the period 1500â€“2100: 600Âyears of global gridded annual land-use transitions, wood harvest, and resulting secondary lands. Climatic Change, 2011, 109, 117-161.	1.7	1,080
93	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980â€“2010 period. Climatic Change, 2011, 109, 163-190.	1.7	740
94	Global and regional evolution of short-lived radiatively-active gases and aerosols in the Representative Concentration Pathways. Climatic Change, 2011, 109, 191-212.	1.7	393
95	The RCP greenhouse gas concentrations and their extensions from 1765 to 2300. Climatic Change, 2011, 109, 213-241.	1.7	2,948
96	Economically consistent long-term scenarios for air pollutant emissions. Climatic Change, 2011, 108, 619-627.	1.7	17
97	Anthropogenic sulfur dioxide emissions: 1850â€“2005. Atmospheric Chemistry and Physics, 2011, 11, 1101-1116.	1.9	801
98	The Value of Advanced End-Use Energy Technologies in Meeting U.S. Climate Policy Goals. Energy Journal, 2011, 32, 61-88.	0.9	6
99	Historical (1850â€“2000) gridded anthropogenic and biomass burning emissions of reactive gases and aerosols: methodology and application. Atmospheric Chemistry and Physics, 2010, 10, 7017-7039.	1.9	2,020
100	Global and regional potential for bioenergy from agricultural and forestry residue biomass. Mitigation and Adaptation Strategies for Global Change, 2010, 15, 241-262.	1.0	74
101	Modeling the potential for thermal concentrating solar power technologies. Energy Policy, 2010, 38, 7884-7897.	4.2	55
102	The next generation of scenarios for climate change research and assessment. Nature, 2010, 463, 747-756.	13.7	5,299
103	Misrepresentation of the IPCC CO2 emission scenarios. Nature Geoscience, 2010, 3, 376-377.	5.4	66
104	What do near-term observations tell us about long-term developments in greenhouse gas emissions?. Climatic Change, 2010, 103, 635-642.	1.7	20
105	Climate Policy and the Long-Term Evolution of the U.S. Buildings Sector. Energy Journal, 2010, 31, 145-172.	0.9	36
106	2.6: Limiting climate change to 450Âppm CO2 equivalent in the 21st century. Energy Economics, 2009, 31, S107-S120.	5.6	106
107	Uncertainties in climate stabilization. Climatic Change, 2009, 97, 85-121.	1.7	57
108	A sustainable biomass industry for the North American Great Plains. Current Opinion in Environmental Sustainability, 2009, 1, 121-132.	3.1	12

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109	Implications of Limiting CO ₂ Concentrations for Land Use and Energy. Science, 2009, 324, 1183-1186.	6.0	778
110	Temperature increase of 21st century mitigation scenarios. IOP Conference Series: Earth and Environmental Science, 2009, 6, 492012.	0.2	0
111	Impact of bioenergy crops in a carbon dioxide constrained world: an application of the MiniCAM energy-agriculture and land use model. Mitigation and Adaptation Strategies for Global Change, 2008, 13, 675-701.	1.0	38
112	Integrated estimates of global terrestrial carbon sequestration. Global Environmental Change, 2008, 18, 192-203.	3.6	55
113	Implications for the USA of stabilization of radiative forcing at 3.4 W/m². Climate Policy, 2008, 8, S76-S92.	2.6	3
114	Temperature increase of 21st century mitigation scenarios. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15258-15262.	3.3	139
115	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
116	The economic implications of carbon cycle uncertainty. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 586-590.	0.8	19
117	The ObjECTS Framework for Integrated Assessment: Hybrid Modeling of Transportation. Energy Journal, 2006, 27, 63-91.	0.9	98
118	Multi-Gas Forcing Stabilization with Minicam. Energy Journal, 2006, 27, 373-392.	0.9	87
119	Emissions and Atmospheric CO2 Stabilization: Long-Term Limits and Paths. Mitigation and Adaptation Strategies for Global Change, 2005, 10, 213-220.	1.0	20
120	Climate Change Impacts for the Conterminous USA: An Integrated Assessment. Climatic Change, 2005, 69, 7-25.	1.7	26
121	Future Sulfur Dioxide Emissions. Climatic Change, 2005, 73, 267-318.	1.7	59
122	Income and Pollutant Emissions in the ObjECTS MiniCAM Model. Journal of Environment and Development, 2005, 14, 175-196.	1.6	12
123	Modeling greenhouse gas energy technology responses to climate change. Energy, 2004, 29, 1529-1536.	4.5	23
124	Stabilization of CO2 in a B2 world: insights on the roles of carbon capture and disposal, hydrogen, and transportation technologies. Energy Economics, 2004, 26, 517-537.	5.6	88
125	Total Ozone Mapping Spectrometer (TOMS) observations of increases in Asian aerosol in winter from 1979 to 2000. Journal of Geophysical Research, 2004, 109, .	3.3	114
126	The Evaluation of Greenhouse Gas Indices. Climatic Change, 2003, 58, 261-265.	1.7	17

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127	The Effect of Emissions Trading and Carbon Sequestration on the Cost of CO2 Emissions Mitigation. , 2003, , 1177-1182.		0
128	The training, careers, and work of Ph.D. physical scientists: Not simply academic. American Journal of Physics, 2002, 70, 1081-1092.	0.3	26
129	Radiative Forcing Due to Reactive Gas Emissions. Journal of Climate, 2002, 15, 2690-2696.	1.2	51
130	Global and regional anthropogenic sulfur dioxide emissions. Global and Planetary Change, 2001, 29, 99-119.	1.6	280
131	Climate Implications of Greenhouse Gas Emissions Scenarios. Technological Forecasting and Social Change, 2000, 65, 195-204.	6.2	13
132	Global Warming Potentials: 2. Accuracy. Climatic Change, 2000, 44, 459-469.	1.7	55
133	Global Warming Potentials: 1. Climatic Implications of Emissions Reductions. Climatic Change, 2000, 44, 445-457.	1.7	101
134	CLIMATE: A New Route Toward Limiting Climate Change?. Science, 2000, 290, 1109-1110.	6.0	13
135	Status of the multiply-charged ion research facility at JPL. Physica Scripta, 1997, T73, 382-383.	1.2	3
136	Electron Excitation Cross Sections for the SiiTransitions 3s23p34Soâ†' 3s23p32Do,2Po, and 3s3p44P. Astrophysical Journal, 1997, 484, 979-984.	1.6	15
137	Massâ€loaded Winds. Astrophysical Journal, 1996, 473, 773-780.	1.6	9
138	Excitation of positive ions by lowâ€energy electrons: Relevance to the Io torus. Journal of Geophysical Research, 1993, 98, 5499-5504.	3.3	4
139	Excitation cross sections for thens2Sâ†'np2Presonance transitions inMg+(n=3) andZn+(n=4) using electron-energy-loss and merged-beams methods. Physical Review A, 1993, 48, 292-309.	1.0	35
140	Nuclear winds and the narrow-line emission from active galaxies. Astrophysical Journal, 1993, 411, 570.	1.6	13
141	Nuclear winds in active elliptical galaxies. II - Observational signatures. Astrophysical Journal, 1993, 412, 82.	1.6	3
142	Nuclear winds in active elliptical galaxies. I - Interaction. Astrophysical Journal, 1993, 411, 581.	1.6	2
143	Absolute, cascade-free cross sections for the2Sâ†'2Ptransition inZn+using electron-energy-loss and merged-beams methods. Physical Review Letters, 1991, 67, 30-33.	2.9	28
144	Total-cross-section measurements for positron and electron scattering byO2,CH4, andSF6. Physical Review A, 1988, 38, 1207-1216.	1.0	133

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145	Total-Scattering Measurements and Comparisons for Collisions of Electrons and Positrons withN2O. Physical Review Letters, 1984, 52, 1417-1420.	2.9	63