Ben Kravitz

List of Publications by Citations

130 papers	3,965 citations	36 h-index	59 g-index
184 ext. papers	4,803 ext. citations	6.5 avg, IF	5.61 L-index

#	Paper	IF	Citations
130	The Geoengineering Model Intercomparison Project (GeoMIP). *Atmospheric Science Letters*, **2011**, 12, 162-167	2.4	259
129	Benefits, risks, and costs of stratospheric geoengineering. *Geophysical Research Letters*, **2009**, 36,	4.9	196
128	Climate model response from the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 8320-8332	4.4	195
127	The hydrological impact of geoengineering in the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 11,036-11,058	4.4	161
126	Stratospheric ozone response to sulfate geoengineering: Results from the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 2629-2653	4.4	128
125	Increasing water cycle extremes in California and in relation to ENSO cycle under global warming. *Nature Communications*, **2015**, 6, 8657	17.4	116
124	The impact of abrupt suspension of solar radiation management (termination effect) in experiment G2 of the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 9743-9752	4.4	113
123	Atmospheric science. A test for geoengineering?. *Science*, **2010**, 327, 530-1	33.3	92
122	Radiative and Chemical Response to Interactive Stratospheric Sulfate Aerosols in Fully Coupled CESM1(WACCM). *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 13,061	4.4	86
121	The Geoengineering Model Intercomparison Project Phase 6 (GeoMIP6): simulation design and preliminary results. *Geoscientific Model Development*, **2015**, 8, 3379-3392	6.3	85
120	Management of trade-offs in geoengineering through optimal choice of non-uniform radiative forcing. *Nature Climate Change*, **2013**, 3, 365-368	21.4	83
119	Geophysical limits to global wind power. *Nature Climate Change*, **2013**, 3, 118-121	21.4	78
118	A multi-model assessment of regional climate disparities caused by solar geoengineering. *Environmental Research Letters*, **2014**, 9, 074013	6.2	77
117	First Simulations of Designing Stratospheric Sulfate Aerosol Geoengineering to Meet Multiple Simultaneous Climate Objectives. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 12,616	4.4	75
116	An overview of the Earth system science of solar geoengineering. *Wiley Interdisciplinary Reviews: Climate Change*, **2016**, 7, 815-833	8.4	75
115	Geoengineering by stratospheric SO₂ injection: results from the Met Office HadGEM2 climate model and comparison with the Goddard Institute for Space Studies ModelE. *Atmospheric Chemistry and Physics*, **2010**, 10, 5999-6006	6.8	74
114	CESM1(WACCM) Stratospheric Aerosol Geoengineering Large Ensemble Project. *Bulletin of the American Meteorological Society*, **2018**, 99, 2361-2371	6.1	74

113	Climate effects of high-latitude volcanic eruptions: Role of the time of year. *Journal of Geophysical Research*, **2011**, 116,		70
112	Geoengineering as a design problem. *Earth System Dynamics*, **2016**, 7, 469-497	4.8	70
111	Land radiative management as contributor to regional-scale climate adaptation and mitigation. *Nature Geoscience*, **2018**, 11, 88-96	18.3	67
110	The Climate Response to Stratospheric Aerosol Geoengineering Can Be Tailored Using Multiple Injection Locations. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 12,574	4.4	62
109	A multimodel examination of climate extremes in an idealized geoengineering experiment. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 3900-3923	4.4	60
108	Sulfuric acid deposition from stratospheric geoengineering with sulfate aerosols. *Journal of Geophysical Research*, **2009**, 114,		59
107	Sensitivity of Aerosol Distribution and Climate Response to Stratospheric SO2 Injection Locations. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 12,591	4.4	57
106	Dynamics of the coupled human–climate system resulting from closed-loop control of solar geoengineering. *Climate Dynamics*, **2014**, 43, 243-258	4.2	56
105	An energetic perspective on hydrological cycle changes in the Geoengineering Model Intercomparison Project. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 13,087-13,102	4.4	53
104	Stratospheric Dynamical Response and Ozone Feedbacks in the Presence of SO2 Injections. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 12,557	4.4	49
103	The Carbon Dioxide Removal Model Intercomparison Project (CDRMIP): rationale and experimental protocol for CMIP6. *Geoscientific Model Development*, **2018**, 11, 1133-1160	6.3	48
102	Solar radiation management impacts on agriculture in China: A case study in the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 8695-8711	4.4	42
101	An overview of the Geoengineering Model Intercomparison Project (GeoMIP). *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 13,103-13,107	4.4	40
100	Simulation and observations of stratospheric aerosols from the 2009 Sarychev volcanic eruption. *Journal of Geophysical Research*, **2011**, 116,		40
99	The impact of equilibrating hemispheric albedos on tropical performance in the HadGEM2-ES coupled climate model. *Geophysical Research Letters*, **2016**, 43, 395-403	4.9	40
98	Arctic sea ice and atmospheric circulation under the GeoMIP G1 scenario. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 567-583	4.4	39
97	The Regional Hydroclimate Response to Stratospheric Sulfate Geoengineering and the Role of Stratospheric Heating. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 12587-12616	4.4	38
96	A new Geoengineering Model Intercomparison Project (GeoMIP) experiment designed for climate and chemistry models. *Geoscientific Model Development*, **2015**, 8, 43-49	6.3	37

95	Effects of Different Stratospheric SO2 Injection Altitudes on Stratospheric Chemistry and Dynamics. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 4654-4673	4.4	37
94	Towards a comprehensive climate impacts assessment of solar geoengineering. *Earth's Future*, **2017**, 5, 93-106	7.9	33
93	Negligible climatic effects from the 2008 Okmok and Kasatochi volcanic eruptions. *Journal of Geophysical Research*, **2010**, 115,		33
92	Arctic cryosphere response in the Geoengineering Model Intercomparison Project G3 and G4 scenarios. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 1308-1321	4.4	31
91	Comparing Surface and Stratospheric Impacts of Geoengineering With Different SO2 Injection Strategies. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 7900-7918	4.4	30
90	Explicit feedback and the management of uncertainty in meeting climate objectives with solar geoengineering. *Environmental Research Letters*, **2014**, 9, 044006	6.2	30
89	Geoengineering with stratospheric aerosols: What do we not know after a decade of research?. *Earth's Future*, **2016**, 4, 543-548	7.9	29
88	Sea spray geoengineering experiments in the geoengineering model intercomparison project (GeoMIP): Experimental design and preliminary results. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 11,175-11,186	4.4	29
87	The hydrological sensitivity to global warming and solar geoengineering derived from thermodynamic constraints. *Geophysical Research Letters*, **2015**, 42, 138-144	4.9	28
86	Mission-driven research for stratospheric aerosol geoengineering. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 1089-1094	11.5	28
85	Impacts, effectiveness and regional inequalities of the GeoMIP G1 to G4 solar radiation management scenarios. *Global and Planetary Change*, **2015**, 129, 10-22	4.2	27
84	Atlantic hurricane surge response to geoengineering. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 13794-9	11.5	26
83	Soil Moisture and Other Hydrological Changes in a Stratospheric Aerosol Geoengineering Large Ensemble. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 12773-12793	4.4	25
82	Marine cloud brightening as effective without clouds. *Atmospheric Chemistry and Physics*, **2017**, 17, 13071-13087	6.8	25
81	Sensitivity of stratospheric geoengineering with black carbon to aerosol size and altitude of injection. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		25
80	Inorganic carbon turnover caused by digestion of carbonate sands and metabolic activity of holothurians. *Estuarine, Coastal and Shelf Science*, **2013**, 133, 217-223	2.9	24
79	Timescale for Detecting the Climate Response to Stratospheric Aerosol Geoengineering. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 1233-1247	4.4	22
78	Response to marine cloud brightening in a multi-model ensemble. *Atmospheric Chemistry and Physics*, **2018**, 18, 621-634	6.8	22

77	The Engineering of Climate Engineering. *Annual Review of Control, Robotics, and Autonomous Systems*, **2019**, 2, 445-467	11.8	22
76	Stratospheric Sulfate Aerosol Geoengineering Could Alter the High-Latitude Seasonal Cycle. *Geophysical Research Letters*, **2019**, 46, 14153-14163	4.9	19
75	Dynamic climate emulators for solar geoengineering. *Atmospheric Chemistry and Physics*, **2016**, 16, 15789-15799	6.8	18
74	Geoengineering: Whiter skies?. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	18
73	Reaching 1.5 and 2.0 °C global surface temperature targets using stratospheric aerosol geoengineering. *Earth System Dynamics*, **2020**, 11, 579-601	4.8	18
72	Forcings and feedbacks in the GeoMIP ensemble for a reduction in solar irradiance and increase in CO2. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 5226-5239	4.4	18
71	Persistent polar ocean warming in a strategically geoengineered climate. *Nature Geoscience*, **2018**, 11, 910-914	18.3	17
70	Seasonal Injection Strategies for Stratospheric Aerosol Geoengineering. *Geophysical Research Letters*, **2019**, 46, 7790-7799	4.9	16
69	Evaluating the efficacy and equity of environmental stopgap measures. *Nature Sustainability*, **2020**, 3, 499-504	22.1	15
68	Process-model simulations of cloud albedo enhancement by aerosols in the Arctic. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2014**, 372,	3	15
67	On solar geoengineering and climate uncertainty. *Geophysical Research Letters*, **2015**, 42, 7156-7161	4.9	14
66	A New Method of Comparing Forcing Agents in Climate Models*. *Journal of Climate*, **2015**, 28, 8203-8218	4.4	14
65	Stratospheric Response in the First Geoengineering Simulation Meeting Multiple Surface Climate Objectives. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 5762-5782	4.4	14
64	Shortwave radiative forcing, rapid adjustment, and feedback to the surface by sulfate geoengineering: analysis of the Geoengineering Model Intercomparison Project G4 scenario. *Atmospheric Chemistry and Physics*, **2017**, 17, 3339-3356	6.8	13
63	Is Turning Down the Sun a Good Proxy for Stratospheric Sulfate Geoengineering?. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD033952	4.4	13
62	A new paradigm of quantifying ecosystem stress through chemical signatures. *Ecosphere*, **2016**, 7, e01559	3.1	13
61	Uncertainty and the basis for confidence in solar geoengineering research. *Nature Reviews Earth & Environment*, **2020**, 1, 64-75	30.2	12
60	An open-access CMIP5 pattern library for temperature and precipitation: description and methodology. *Earth System Science Data*, **2017**, 9, 281-292	10.5	12

59	Seasonally Modulated Stratospheric Aerosol Geoengineering Alters the Climate Outcomes. *Geophysical Research Letters*, **2020**, 47, e2020GL088337	4.9	11
58	The G4Foam Experiment: global climate impacts of regional ocean albedo modification. *Atmospheric Chemistry and Physics*, **2017**, 17, 595-613	6.8	11
57	Response of Surface Ultraviolet and Visible Radiation to Stratospheric SO2 Injections. *Atmosphere*, **2018**, 9, 432	2.7	11
56	The climate effects of increasing ocean albedo: an idealized representation of solar geoengineering. *Atmospheric Chemistry and Physics*, **2018**, 18, 13097-13113	6.8	11
55	Land Surface Cooling Induced by Sulfate Geoengineering Constrained by Major Volcanic Eruptions. *Geophysical Research Letters*, **2018**, 45, 5663-5671	4.9	10
54	Extreme temperature and precipitation response to solar dimming and stratospheric aerosol geoengineering. *Atmospheric Chemistry and Physics*, **2018**, 18, 10133-10156	6.8	10
53	Technical characteristics of a solar geoengineering deployment and implications for governance. *Climate Policy*, **2019**, 19, 1325-1339	5.3	9
52	Fldgen v1.0: an emulator with internal variability and space□ime correlation for Earth system models. *Geoscientific Model Development*, **2019**, 12, 1477-1489	6.3	9
51	Remote Drying in the North Atlantic as a Common Response to Precessional Changes and CO2 Increase Over Land. *Geophysical Research Letters*, **2018**, 45, 3615-3624	4.9	9
50	Key factors governing uncertainty in the response to sunshade geoengineering from a comparison of the GeoMIP ensemble and a perturbed parameter ensemble. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 7946-7962	4.4	9
49	Reduced Poleward Transport Due to Stratospheric Heating Under Stratospheric Aerosols Geoengineering. *Geophysical Research Letters*, **2020**, 47, e2020GL089470	4.9	9
48	Exploring precipitation pattern scaling methodologies and robustness among CMIP5 models. *Geoscientific Model Development*, **2017**, 10, 1889-1902	6.3	8
47	Technical note: Deep learning for creating surrogate models of precipitation in Earth system models. *Atmospheric Chemistry and Physics*, **2020**, 20, 2303-2317	6.8	7
46	The Carbon Dioxide Removal Model Intercomparison Project (CDR-MIP): Rationale and experimental design **2017**,		7
45	Robust Results From Climate Model Simulations of Geoengineering. *Eos*, **2013**, 94, 292-292	1.5	7
44	Extreme Fire Season in California: A Glimpse Into the Future?. *Bulletin of the American Meteorological Society*, **2015**, 96, S5-S9	6.1	7
43	The Geoengineering Model Intercomparison Project Phase 6 (GeoMIP6): simulation design and preliminary results		7
42	Using Deep Learning to Fill Spatio-Temporal Data Gaps in Hydrological Monitoring Networks		7

41	Comparing different generations of idealized solar geoengineering simulations in the Geoengineering Model Intercomparison Project (GeoMIP). *Atmospheric Chemistry and Physics*, **2021**, 21, 4231-4247	6.8	7
40	High-Latitude Stratospheric Aerosol Geoengineering Can Be More Effective if Injection Is Limited to Spring. *Geophysical Research Letters*, **2021**, 48, e2021GL092696	4.9	7
39	North Atlantic Oscillation response in GeoMIP experiments G6solar and G6sulfur: why detailed modelling is needed for understanding regional implications of solar radiation management. *Atmospheric Chemistry and Physics*, **2021**, 21, 1287-1304	6.8	7
38	Standardizing experiments in geoengineering. *Eos*, **2011**, 92, 197-197	1.5	6
37	Expanding the design space of stratospheric aerosol geoengineering to include precipitation-based objectives and explore trade-offs. *Earth System Dynamics*, **2020**, 11, 1051-1072	4.8	6
36	E3SMv0-HiLAT: A Modified Climate System Model Targeted for the Study of High-Latitude Processes. *Journal of Advances in Modeling Earth Systems*, **2019**, 11, 2814-2843	7.1	5
35	Progress in climate model simulations of geoengineering. *Eos*, **2012**, 93, 340-340	1.5	5
34	Identifying the sources of uncertainty in climate model simulations of solar radiation modification with the G6sulfur and G6solar Geoengineering Model Intercomparison Project (GeoMIP) simulations. *Atmospheric Chemistry and Physics*, **2021**, 21, 10039-10063	6.8	5
33	Weakening of the Extratropical Storm Tracks in Solar Geoengineering Scenarios. *Geophysical Research Letters*, **2020**, 47, e2020GL087348	4.9	4
32	Future Directions in Simulating Solar Geoengineering. *Eos*, **2014**, 95, 280-280	1.5	4
31	Geoengineering: The world's largest control problem **2014**,		4
30	Quantifying uncertainty from aerosol and atmospheric parameters and their impact on climate sensitivity. *Atmospheric Chemistry and Physics*, **2018**, 18, 17529-17543	6.8	4
29	Calibrating Simple Climate Models to Individual Earth System Models: Lessons Learned From Calibrating Hector. *Earth and Space Science*, **2020**, 7, e2019EA000980	3.1	3
28	Technical note: Simultaneous fully dynamic characterization of multiple input□output relationships in climate models. *Atmospheric Chemistry and Physics*, **2017**, 17, 2525-2541	6.8	3
27	Correction to □ulfuric acid deposition from stratospheric geoengineering with sulfate aerosols□ *Journal of Geophysical Research*, **2010**, 115,		3
26	Assessing terrestrial biogeochemical feedbacks in a strategically geoengineered climate. *Environmental Research Letters*, **2020**, 15, 104043	6.2	3
25	Joint emulation of Earth System Model temperature-precipitation realizations with internal variability and space-time and cross-variable correlation: fldgen v2.0 software description. *PLoS ONE*, **2019**, 14, e0223542	3.7	3
24	The impact of stratospheric aerosol intervention on the North Atlantic and Quasi-Biennial Oscillations in the Geoengineering Model Intercomparison Project (GeoMIP) G6sulfur experiment. *Atmospheric Chemistry and Physics*, **2022**, 22, 2999-3016	6.8	3

23	Two counterexamples in normalization. *Proceedings of the American Mathematical Society*, **2007**, 135, 3521-3524	0.8	2
22	Response to marine cloud brightening in a multi-model ensemble		2
21	North Atlantic Oscillation response in GeoMIP experiments G6solar and G6sulfur: why detailed modelling is needed for understanding regional implications of solar radiation management		2
20	Geoengineering as a design problem		2
19	A new Geoengineering Model Intercomparison Project (GeoMIP) experiment designed for climate and chemistry models		2
18	Supplementary material to "Using Deep Learning to Fill Spatio-Temporal Data Gaps in Hydrological Monitoring Networks"		2
17	Exploring precipitation pattern scaling methodologies and robustness among CMIP5 models **2016**,		2
16	Holistic Assessment of SO2 Injections Using CESM1(WACCM): Introduction to the Special Issue. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 444-450	4.4	2
15	Detecting Climate Teleconnections With Granger Causality. *Geophysical Research Letters*, **2021**, 48, e2021GL094707	4.9	2
14	Sensitivity of Total Column Ozone to Stratospheric Sulfur Injection Strategies. *Geophysical Research Letters*, **2021**, 48, e2021GL094058	4.9	2
13	Stratospheric Aerosols for Solar Radiation Management **2013**, 21-38		2
12	Technical note: Using long short-term memory models to fill data gaps in hydrological monitoring networks. *Hydrology and Earth System Sciences*, **2022**, 26, 1727-1743	5.5	2
11	Shortwave radiative forcing and feedback to the surface by sulphate geoengineering: Analysis of the Geoengineering Model Intercomparison Project G4 scenario **2016**,		1
10	New Frontiers in Geoengineering Research. *Bulletin of the American Meteorological Society*, **2020**, 101, E87-E89	6.1	1
9	Response of the Indian summer monsoon to global warming, solar geoengineering and its termination. *Scientific Reports*, **2021**, 11, 9791	4.9	1
8	Harnessing stratospheric diffusion barriers for enhanced climate geoengineering. *Atmospheric Chemistry and Physics*, **2021**, 21, 8845-8861	6.8	1
7	Extreme temperature and precipitation response to solar dimming and stratospheric aerosol geoengineering **2018**,		1
6	Changes in Hadley circulation and intertropical convergence zone under strategic stratospheric aerosol geoengineering. *Npj Climate and Atmospheric Science*, **2022**, 5,	8	1

5	How large is the design space for stratospheric aerosol geoengineering?. *Earth System Dynamics*, **2022**, 13, 201-217	4.8	0
4	Limitations of assuming internal mixing between different aerosol species: a case study with sulfate geoengineering simulations. *Atmospheric Chemistry and Physics*, **2022**, 22, 1739-1756	6.8	0
3	Characteristics of a Solar Geoengineering Deployment: Considerations for Governance. *AESS Interdisciplinary Environmental Studies and Sciences Series*, **2021**, 15-32	0.3	0
2	An approach to sulfate geoengineering with surface emissions of carbonyl sulfide. *Atmospheric Chemistry and Physics*, **2022**, 22, 5757-5773	6.8	0
1	A permafrost implementation in the simple carbon–climate model Hector v.2.3pf. *Geoscientific Model Development*, **2021**, 14, 4751-4767	6.3	