

Charles S Zender

List of Publications by Year in descending order

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95
papers

16,737
citations

44069

48
h-index

40979

93
g-index

128
all docs

128
docs citations

128
times ranked

14742
citing authors

#	ARTICLE	IF	CITATIONS
1	Bounding the role of black carbon in the climate system: A scientific assessment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 5380-5552.	3.3	4,319
2	Present-day climate forcing and response from black carbon in snow. Journal of Geophysical Research, 2007, 112, .	3.3	1,059
3	Mineral Dust Entrainment and Deposition (DEAD) model: Description and 1990s dust climatology. Journal of Geophysical Research, 2003, 108, .	3.3	963
4	Global dust model intercomparison in AeroCom phase I. Atmospheric Chemistry and Physics, 2011, 11, 7781-7816.	4.9	839
5	The Impact of Boreal Forest Fire on Climate Warming. Science, 2006, 314, 1130-1132.	12.6	765
6	20th-Century Industrial Black Carbon Emissions Altered Arctic Climate Forcing. Science, 2007, 317, 1381-1384.	12.6	562
7	Springtime warming and reduced snow cover from carbonaceous particles. Atmospheric Chemistry and Physics, 2009, 9, 2481-2497.	4.9	492
8	Change in atmospheric mineral aerosols in response to climate: Last glacial period, preindustrial, modern, and doubled carbon dioxide climates. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	427
9	The DOE E3SM Coupled Model Version 1: Overview and Evaluation at Standard Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2089-2129.	3.8	404
10	Observed 20th century desert dust variability: impact on climate and biogeochemistry. Atmospheric Chemistry and Physics, 2010, 10, 10875-10893.	4.9	355
11	Linking snowpack microphysics and albedo evolution. Journal of Geophysical Research, 2006, 111, .	3.3	331
12	Simulating aerosols using a chemical transport model with assimilation of satellite aerosol retrievals: Methodology for INDOEX. Journal of Geophysical Research, 2001, 106, 7313-7336.	3.3	298
13	A monthly and latitudinally varying volcanic forcing dataset in simulations of 20th century climate. Geophysical Research Letters, 2003, 30, .	4.0	296
14	Quantifying mineral dust mass budgets: Terminology, constraints, and current estimates. Eos, 2004, 85, 509-512.	0.1	293
15	Impact of Desert Dust Radiative Forcing on Sahel Precipitation: Relative Importance of Dust Compared to Sea Surface Temperature Variations, Vegetation Changes, and Greenhouse Gas Warming. Journal of Climate, 2007, 20, 1445-1467.	3.2	290
16	Improved dust representation in the Community Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2014, 6, 541-570.	3.8	253
17	Recent Northern Hemisphere tropical expansion primarily driven by black carbon and tropospheric ozone. Nature, 2012, 485, 350-354.	27.8	216
18	Spatial heterogeneity in aeolian erodibility: Uniform, topographic, geomorphic, and hydrologic hypotheses. Journal of Geophysical Research, 2003, 108, .	3.3	196

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19	Measurement of the specific surface area of snow using infrared reflectance in an integrating sphere at 1310 and 1550 nm. <i>Cryosphere</i> , 2009, 3, 167-182.	3.9	191
20	Links between topography, wind, deflation, lakes and dust: The case of the BodÄ© Depression, Chad. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	176
21	Interannual variability in atmospheric mineral aerosols from a 22-year model simulation and observational data. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	171
22	Constraining the magnitude of the global dust cycle by minimizing the difference between a model and observations. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	171
23	An Overview of the Atmospheric Component of the Energy Exascale Earth System Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 2377-2411.	3.8	168
24	Impacts of atmospheric nutrient inputs on marine biogeochemistry. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	138
25	Global impact of smoke aerosols from landscape fires on climate and the Hadley circulation. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 5227-5241.	4.9	137
26	Modeling dust as component minerals in the Community Atmosphere Model: development of framework and impact on radiative forcing. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 537-561.	4.9	130
27	Snowpack radiative heating: Influence on Tibetan Plateau climate. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	128
28	Model simulations of dust sources and transport in the global atmosphere: Effects of soil erodibility and wind speed variability. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	126
29	Mineral dust and global tropospheric chemistry: Relative roles of photolysis and heterogeneous uptake. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	123
30	Impacts of increasing anthropogenic soluble iron and nitrogen deposition on ocean biogeochemistry. <i>Global Biogeochemical Cycles</i> , 2009, 23, .	4.9	123
31	Analysis of self-describing gridded geoscience data with netCDF Operators (NCO). <i>Environmental Modelling and Software</i> , 2008, 23, 1338-1342.	4.5	121
32	Gravity Recovery and Climate Experiment (GRACE) detection of water storage changes in the Three Gorges Reservoir of China and comparison with in situ measurements. <i>Water Resources Research</i> , 2011, 47, .	4.2	114
33	Effects of atmospheric inorganic nitrogen deposition on ocean biogeochemistry. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	100
34	Dynamics of fire plumes and smoke clouds associated with peat and deforestation fires in Indonesia. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	100
35	Understanding the 30-year Barbados desert dust record. <i>Journal of Geophysical Research</i> , 2002, 107, AAC 7-1-AAC 7-16.	3.3	97
36	Simulation of aerosol distributions and radiative forcing for INDOEX: Regional climate impacts. <i>Journal of Geophysical Research</i> , 2002, 107, INX2 27-1.	3.3	88

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37	Do biomass burning aerosols intensify drought in equatorial Asia during El Niño? Atmospheric Chemistry and Physics, 2010, 10, 3515-3528.	4.9	87
38	Expansion of Coccidioidomycosis Endemic Regions in the United States in Response to Climate Change. GeoHealth, 2019, 3, 308-327.	4.0	86
39	Constraining oceanic dust deposition using surface ocean dissolved Al. Global Biogeochemical Cycles, 2008, 22, .	4.9	83
40	Regional contrasts in dust emission responses to climate. Journal of Geophysical Research, 2005, 110, .	3.3	80
41	Roles of saltation, sandblasting, and wind speed variability on mineral dust aerosol size distribution during the Puerto Rican Dust Experiment (PRIDE). Journal of Geophysical Research, 2004, 109, .	3.3	78
42	Atmospheric absorption during the Atmospheric Radiation Measurement (ARM) Enhanced Shortwave Experiment (ARESE). Journal of Geophysical Research, 1997, 102, 29901-29915.	3.3	77
43	Climate effect of black carbon aerosol in a Tibetan Plateau glacier. Atmospheric Environment, 2015, 111, 71-78.	4.1	77
44	Coccidioidomycosis Dynamics in Relation to Climate in the Southwestern United States. GeoHealth, 2018, 2, 6-24.	4.0	69
45	Forcing of the Arctic Oscillation by Eurasian Snow Cover. Journal of Climate, 2011, 24, 6528-6539.	3.2	68
46	Intense Winter Surface Melt on an Antarctic Ice Shelf. Geophysical Research Letters, 2018, 45, 7615-7623.	4.0	65
47	Estimated global ocean wind power potential from QuikSCAT observations, accounting for turbine characteristics and siting. Journal of Geophysical Research, 2010, 115, .	3.3	59
48	Climate controls on valley fever incidence in Kern County, California. International Journal of Biometeorology, 2006, 50, 174-182.	3.0	54
49	MODIS snow albedo bias at high solar zenith angles relative to theory and to in situ observations in Greenland. Remote Sensing of Environment, 2010, 114, 563-575.	11.0	53
50	Regionally refined test bed in E3SM atmosphere model version 1 (EAMv1) and applications for high-resolution modeling. Geoscientific Model Development, 2019, 12, 2679-2706.	3.6	49
51	Saltation Sandblasting behavior during mineral dust aerosol production. Geophysical Research Letters, 2002, 29, 15-1-15-4.	4.0	47
52	Connecting geomorphology to dust emission through high-resolution mapping of global land cover and sediment supply. Aeolian Research, 2017, 27, 47-65.	2.7	42
53	Effects of continental-scale snow albedo anomalies on the wintertime Arctic oscillation. Journal of Geophysical Research, 2010, 115, .	3.3	41
54	Arctic and Antarctic diurnal and seasonal variations of snow albedo from multiyear Baseline Surface Radiation Network measurements. Journal of Geophysical Research, 2011, 116, .	3.3	36

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55	SNICAR-ADv3: a community tool for modeling spectral snow albedo. <i>Geoscientific Model Development</i> , 2021, 14, 7673-7704.	3.6	36
56	Fluctuations in Climate and Incidence of Coccidioidomycosis in Kern County, California. <i>Annals of the New York Academy of Sciences</i> , 2007, 1111, 73-82.	3.8	35
57	Climatic Responses to Future Trans-Atlantic Arctic Shipping. <i>Geophysical Research Letters</i> , 2018, 45, 9898-9908.	4.0	34
58	Absorption of solar radiation by the cloudy atmosphere: Further interpretations of collocated aircraft measurements. <i>Journal of Geophysical Research</i> , 1999, 104, 2059-2066.	3.3	32
59	Direct radiative forcing and atmospheric absorption by boundary layer aerosols in the southeastern US: model estimates on the basis of new observations. <i>Atmospheric Environment</i> , 2001, 35, 3967-3977.	4.1	32
60	The equilibrium response to idealized thermal forcings in a comprehensive GCM: implications for recent tropical expansion. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 4795-4816.	4.9	32
61	Role of ammonia chemistry and coarse mode aerosols in global climatological inorganic aerosol distributions. <i>Atmospheric Environment</i> , 2007, 41, 2510-2533.	4.1	31
62	Bit Grooming: statistically accurate precision-preserving quantization with compression, evaluated in the netCDF Operators (NCO, v4.4.8+). <i>Geoscientific Model Development</i> , 2016, 9, 3199-3211.	3.6	31
63	Spatial Distribution of Melt Season Cloud Radiative Effects Over Greenland: Evaluating Satellite Observations, Reanalyses, and Model Simulations Against In Situ Measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 57-71.	3.3	29
64	Observed and CAM3 GCM Sea Surface Wind Speed Distributions: Characterization, Comparison, and Bias Reduction. <i>Journal of Climate</i> , 2008, 21, 6569-6585.	3.2	28
65	Projected changes in dust emissions and regional air quality due to the shrinking Salton Sea. <i>Aeolian Research</i> , 2018, 33, 82-92.	2.7	28
66	Global climatology of abundance and solar absorption of oxygen collision complexes. <i>Journal of Geophysical Research</i> , 1999, 104, 24471-24484.	3.3	26
67	Global ocean wind power sensitivity to surface layer stability. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	26
68	Radiative sensitivities of tropical anvils to small ice crystals. <i>Journal of Geophysical Research</i> , 1994, 99, 25869.	3.3	25
69	Intercomparison and improvement of two-stream shortwave radiative transfer schemes in Earth system models for a unified treatment of cryospheric surfaces. <i>Cryosphere</i> , 2019, 13, 2325-2343.	3.9	25
70	Convection-Permitting Simulations With the E3SM Global Atmosphere Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2021, 13, e2021MS002544.	3.8	23
71	Statistical modeling of valley fever data in Kern County, California. <i>International Journal of Biometeorology</i> , 2007, 51, 307-313.	3.0	21
72	Temporal Characteristics of Cloud Radiative Effects on the Greenland Ice Sheet: Discoveries From Multiyear Automatic Weather Station Measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 11,348.	3.3	20

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73	Sensitivity of climate simulations to radiative effects of tropical anvil structure. <i>Journal of Geophysical Research</i> , 1997, 102, 23793-23803.	3.3	17
74	Solar absorption by Mie resonances in cloud droplets. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2006, 98, 122-129.	2.3	17
75	A Retrospective, Iterative, Geometry-Based (RIGB) tilt-correction method for radiation observed by automatic weather stations on snow-covered surfaces: application to Greenland. <i>Cryosphere</i> , 2016, 10, 727-741.	3.9	17
76	Data-Driven Artificial Intelligence for Calibration of Hyperspectral Big Data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-20.	6.3	16
77	Climatology and Evolution of the Antarctic Peninsula Föhn Wind-Induced Melt Regime From 1979 to 2018. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033682.	3.3	16
78	The role of eastern Siberian snow and soil moisture anomalies in quasi-biennial persistence of the Arctic and North Atlantic Oscillations. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	15
79	Clustered Workflow Execution of Retargeted Data Analysis Scripts. , 2008, , .		14
80	Desert dust aerosol age characterized by mass-age tracking of tracers. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	14
81	Tropical biomass burning smoke plume size, shape, reflectance, and age based on 2001 to 2009 MISR imagery of Borneo. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 3437-3454.	4.9	12
82	Global estimates of mineral dust aerosol iron and aluminum solubility that account for particle size using diffusion-controlled and surface-area-controlled approximations. <i>Global Biogeochemical Cycles</i> , 2012, 26, .	4.9	12
83	Constraining MODIS snow albedo at large solar zenith angles: Implications for the surface energy budget in Greenland. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	10
84	Greenland Surface Melt Dominated by Solar and Sensible Heating. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090653.	4.0	10
85	The role of Föhn winds in eastern Antarctic Peninsula rapid ice shelf collapse. <i>Cryosphere</i> , 2022, 16, 1369-1381.	3.9	10
86	Efficient clustered server-side data analysis workflows using SWAMP. <i>Earth Science Informatics</i> , 2009, 2, 141-155.	3.2	9
87	The compression-error trade-off for large gridded data sets. <i>Geoscientific Model Development</i> , 2017, 10, 413-423.	3.6	9
88	Scaling Properties of Common Statistical Operators for Gridded Datasets. <i>International Journal of High Performance Computing Applications</i> , 2007, 21, 485-498.	3.7	7
89	SNICAR-ADv4: a physically based radiative transfer model to represent the spectral albedo of glacier ice. <i>Cryosphere</i> , 2022, 16, 1197-1220.	3.9	7
90	Snowfall brightens Antarctic future. <i>Nature Climate Change</i> , 2012, 2, 770-771.	18.8	6

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91	Coccidioidomycosis (Valley Fever) Case Data for the Southwestern United States. Open Health Data, 2020, 7, 1.	3.7	5
92	LIVVkit 2.1: automated and extensible ice sheet model validation. Geoscientific Model Development, 2019, 12, 1067-1086.	3.6	4
93	Server-Side Parallel Data Reduction and Analysis. , 2007, , 744-750.		4
94	More Realistic Intermediate Depth Dry Firn Densification in the Energy Exascale Earth System Model (E3SM). Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	3
95	MEETING SUMMARIES. Bulletin of the American Meteorological Society, 2008, 89, 1905-1920.	3.3	1