Jeffrey P Severinghaus

List of Publications by Citations

109 papers	5,523 citations	40 h-index	73 g-index
145 ext. papers	6,392 ext. citations	12 avg, IF	5.43 L-index

#	Paper	IF	Citations
109	Timing of abrupt climate change at the end of the Younger Dryas interval from thermally fractionated gases in polar ice. *Nature*, **1998**, 391, 141-146	50.4	562
108	Abrupt climate change at the end of the last glacial period inferred from trapped air in polar Ice. *Science*, **1999**, 286, 930-4	33.3	438
107	Northern Hemisphere forcing of climatic cycles in Antarctica over the past 360,000 years. *Nature*, **2007**, 448, 912-6	50.4	370
106	A record of atmospheric halocarbons during the twentieth century from polar firn air. *Nature*, **1999**, 399, 749-755	50.4	203
105	Consistently dated records from the Greenland GRIP, GISP2 and NGRIP ice cores for the past 104□ka reveal regional millennial-scale □18O gradients with possible Heinrich event imprint. *Quaternary Science Reviews*, **2014**, 106, 29-46	3.9	197
104	Precise timing and characterization of abrupt climate change 8200 years ago from air trapped in polar ice. *Quaternary Science Reviews*, **2007**, 26, 1212-1222	3.9	183
103	Timing of atmospheric CO2 and Antarctic temperature changes across termination III. *Science*, **2003**, 299, 1728-31	33.3	178
102	Greenland temperature response to climate forcing during the last deglaciation. *Science*, **2014**, 345, 1177-80	33.3	171
101	The WAIS Divide deep ice core WD2014 chronology â□Part 1: Methane synchronization (68â□31 ka BP) and the gas ageâ□□ice age difference. *Climate of the Past*, **2015**, 11, 153-173	3.9	127
100	Oxygen-18 of O2 records the impact of abrupt climate change on the terrestrial biosphere. *Science*, **2009**, 324, 1431-4	33.3	127
99	Gas transport in firn: multiple-tracer characterisation and model intercomparison for NEEM, Northern Greenland. *Atmospheric Chemistry and Physics*, **2012**, 12, 4259-4277	6.8	108
98	A method for precise measurement of argon 40/36 and krypton/argon ratios in trapped air in polar ice with applications to past firn thickness and abrupt climate change in Greenland and at Siple Dome, Antarctica. *Geochimica Et Cosmochimica Acta*, **2003**, 67, 325-343	5.5	104
97	A first chronology for the North Greenland Eemian Ice Drilling (NEEM) ice core. *Climate of the Past*, **2013**, 9, 2713-2730	3.9	102
96	Thermal fractionation of air in polar firn by seasonal temperature gradients. *Geochemistry, Geophysics, Geosystems*, **2001**, 2, n/a-n/a	3.6	101
95	Fractionation of gases in polar ice during bubble close-off: New constraints from firn air Ne, Kr and Xe observations. *Earth and Planetary Science Letters*, **2006**, 244, 474-500	5.3	100
94	Preindustrial CH indicates greater anthropogenic fossil CH emissions. *Nature*, **2020**, 578, 409-412	50.4	95
93	High variability of Greenland surface temperature over the past 4000 years estimated from trapped air in an ice core. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	95

92	Where to find 1.5 million yr old ice for the IPICS "Oldest-Ice" ice core. *Climate of the Past* , **2013**, 9, 2489-2505	3.9	89
91	Paleoclimate. Enhanced tropical methane production in response to iceberg discharge in the North Atlantic. *Science*, **2015**, 348, 1016-9	33.3	85
90	Carbon isotopes characterize rapid changes in atmospheric carbon dioxide during the last deglaciation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 3465-70	11.5	76
89	Deglacial temperature history of West Antarctica. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 14249-14254	11.5	76
88	14CH4 measurements in Greenland ice: investigating last glacial termination CH4 sources. *Science*, **2009**, 324, 506-8	33.3	74
87	Fractionation of soil gases by diffusion of water vapor, gravitational settling, and thermal diffusion. *Geochimica Et Cosmochimica Acta*, **1996**, 60, 1005-1018	5.5	72
86	Ice record of delta13C for atmospheric CH4 across the Younger Dryas-Preboreal transition. *Science*, **2006**, 313, 1109-12	33.3	71
85	Deep air convection in the firn at a zero-accumulation site, central Antarctica. *Earth and Planetary Science Letters*, **2010**, 293, 359-367	5.3	68
84	Little Ice Age cold interval in West Antarctica: Evidence from borehole temperature at the West Antarctic Ice Sheet (WAIS) Divide. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	65
83	Minimal geological methane emissions during the Younger Dryas-Preboreal abrupt warming event. *Nature*, **2017**, 548, 443-446	50.4	59
82	A revised +10±4°C magnitude of the abrupt change in Greenland temperature at the Younger Dryas termination using published GISP2 gas isotope data and air thermal diffusion constants. *Quaternary Science Reviews*, **2005**, 24, 513-519	3.9	59
81	Laboratory determination of thermal diffusion constants for 29N2/28N2 in air at temperatures from â50 to 0°C for reconstruction of magnitudes of abrupt climate changes using the ice core fossilâair paleothermometer. *Geochimica Et Cosmochimica Acta*, **2003**, 67, 345-360	5.5	56
80	Convective mixing of air in firn at four polar sites. *Earth and Planetary Science Letters*, **2006**, 244, 672-682	5.3	53
79	4±1.5°C abrupt warming 11,270 yr ago identified from trapped air in Greenland ice. *Earth and Planetary Science Letters*, **2008**, 268, 397-407	5.3	52
78	Trace gas disequilibria during deep-water formation. *Deep-Sea Research Part I: Oceanographic Research Papers*, **2007**, 54, 939-950	2.5	52
77	Gas records from the West Greenland ice margin covering the Last Glacial Termination: a horizontal ice core. *Quaternary Science Reviews*, **2006**, 25, 865-875	3.9	51
76	Radiometric 81Kr dating identifies 120,000-year-old ice at Taylor Glacier, Antarctica. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 6876-81	11.5	47
75	Persistent multi-decadal Greenland temperature fluctuation through the last millennium. *Climatic Change*, **2010**, 100, 733-756	4.5	44

74	Synchronous volcanic eruptions and abrupt climate change ~17.7 ka plausibly linked by stratospheric ozone depletion. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 10035-10040	11.5	43
73	Two-million-year-old snapshots of atmospheric gases from Antarctic ice. *Nature*, **2019**, 574, 663-666	50.4	43
72	A method to measure Kr/N2 ratios in air bubbles trapped in ice cores and its application in reconstructing past mean ocean temperature. *Journal of Geophysical Research*, **2007**, 112,		42
71	Determining the Thermal Diffusion Factor for 40Ar/36Ar in Air To Aid Paleoreconstruction of Abrupt Climate Change. *Journal of Physical Chemistry A*, **2003**, 107, 4636-4642	2.8	42
70	An ice core record of near-synchronous global climate changes at the B□lling transition. *Nature Geoscience*, **2014**, 7, 459-463	18.3	41
69	Noble gases as proxies of mean ocean temperature: sensitivity studies using a climate model of reduced complexity. *Quaternary Science Reviews*, **2011**, 30, 3728-3741	3.9	37
68	Timing and structure of the Younger Dryas event and its underlying climate dynamics. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 23408-23417	11.5	37
67	Argon and nitrogen isotopes of trapped air in the GISP2 ice core during the Holocene epoch (0â□1,500 B.P.): Methodology and implications for gas loss processes. *Geochimica Et Cosmochimica Acta*, **2008**, 72, 4675-4686	5.5	36
66	Isotopic constraints on marine and terrestrial N2O emissions during the last deglaciation. *Nature*, **2014**, 516, 234-7	50.4	33
65	Observations of O2:CO2 exchange ratios during ecosystem gas exchange. *Global Biogeochemical Cycles*, **2004**, 18, n/a-n/a	5.9	33
64	A novel method to study the phase relationship between Antarctic and Greenland climate. *Geophysical Research Letters*, **2003**, 30, n/a-n/a	4.9	33
63	Controls on the movement and composition of firn air at the West Antarctic Ice Sheet Divide. *Atmospheric Chemistry and Physics*, **2011**, 11, 11007-11021	6.8	31
62	Observing and modeling the influence of layering on bubble trapping in polar firn. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 2558-2574	4.4	30
61	The Ross Sea Dipole â□temperature, snow accumulation and sea ice variability in the Ross Sea region, Antarctica, over the past 2700□years. *Climate of the Past*, **2018**, 14, 193-214	3.9	30
60	The recent warming trend in North Greenland. *Geophysical Research Letters*, **2017**, 44, 6235-6243	4.9	29
59	Old carbon reservoirs were not important in the deglacial methane budget. *Science*, **2020**, 367, 907-910	33.3	28
58	Abrupt changes in atmospheric methane at the MIS 5bâ□a transition. *Geophysical Research Letters*, **2007**, 34,	4.9	25
57	A 60 yr record of atmospheric carbon monoxide reconstructed from Greenland firn air. *Atmospheric Chemistry and Physics*, **2013**, 13, 7567-7585	6.8	24

56	Controls on Millennial-Scale Atmospheric CO2 Variability During the Last Glacial Period. *Geophysical Research Letters*, **2018**, 45, 7731-7740	4.9	22
55	Widespread six degrees Celsius cooling on land during the Last Glacial Maximum. *Nature*, **2021**, 593, 228-232	5.4	21
54	Global ocean heat content in the Last Interglacial. *Nature Geoscience*, **2020**, 13, 77-81	18.3	19
53	Rapid Access Ice Drill: a new tool for exploration of the deep Antarctic ice sheets and subglacial geology. *Journal of Glaciology*, **2016**, 62, 1049-1064	3.4	19
52	The SP19 chronology for the South Pole Ice Core â Part 1: volcanic matching and annual layer counting. *Climate of the Past*, **2019**, 15, 1793-1808	3.9	19
51	Kinetic fractionation of gases by deep air convection in polar firn. *Atmospheric Chemistry and Physics*, **2013**, 13, 11141-11155	6.8	18
50	Does ¹⁸O of O₂ record meridional shifts in tropical rainfall?. *Climate of the Past*, **2017**, 13, 1323-1338	3.9	17
49	Earth's radiative imbalance from the Last Glacial Maximum to the present. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 14881-14886	11.5	17
48	A novel method for obtaining very large ancient air samples from ablating glacial ice for analyses of methane radiocarbon. *Journal of Glaciology*, **2008**, 54, 233-244	3.4	16
47	Relative timing and variability of atmospheric methane and GISP2 oxygen isotopes between 68 and 86 ka. *Global Biogeochemical Cycles*, **2009**, 23, n/a-n/a	5.9	15
46	A New Method for Analyzing 14C of Methane in Ancient Air Extracted from Glacial Ice. *Radiocarbon*, **2008**, 50, 53-73	4.6	15
45	Dispersion in deep polar firn driven by synoptic-scale surface pressure variability. *Cryosphere*, **2016**, 10, 2099-2111	5.5	15
44	New methods for measuring atmospheric heavy noble gas isotope and elemental ratios in ice core samples. *Rapid Communications in Mass Spectrometry*, **2018**, 32, 801-814	2.2	14
43	Measurements of 14C in ancient ice from Taylor Glacier, Antarctica constrain in situ cosmogenic 14CH4 and 14CO production rates. *Geochimica Et Cosmochimica Acta*, **2016**, 177, 62-77	5.5	14
42	Magnitude and temporal evolution of Dansgaard–Oeschger event 8 abrupt temperature change inferred from nitrogen and argon isotopes in GISP2 ice using a new least-squares inversion. *Earth and Planetary Science Letters*, **2014**, 395, 81-90	5.3	14
41	Differentiating bubble-free layers from melt layers in ice cores using noble gases. *Journal of Glaciology*, **2015**, 61, 585-594	3.4	13
40	Atmospheric gas records from Taylor Glacier, Antarctica, reveal ancient ice with ages spanning the entire last glacial cycle. *Climate of the Past*, **2017**, 13, 943-958	3.9	13
39	Perfluorocyclobutane (PFC-318, <i>c</i>-C₄F₈) in the global atmosphere. *Atmospheric Chemistry and Physics*, **2019**, 19, 10335-10359	6.8	12

38	A Horizontal Ice Core From Taylor Glacier, Its Implications for Antarctic Climate History, and an Improved Taylor Dome Ice Core Time Scale. *Paleoceanography and Paleoclimatology*, **2018**, 33, 778-794	3.3	12
37	Using Noble Gas Measurements to Derive Air-Sea Process Information and Predict Physical Gas Saturations. *Geophysical Research Letters*, **2017**, 44, 9901-9909	4.9	11
36	Deglacial water-table decline in Southern California recorded by noble gas isotopes. *Nature Communications*, **2019**, 10, 5739	17.4	11
35	Steady state fractionation of heavy noble gas isotopes in a deep unsaturated zone. *Water Resources Research*, **2017**, 53, 2716-2732	5.4	10
34	Precise determination of Ar, Kr and Xe isotopic fractionation due to diffusion and dissolution in fresh water. *Earth and Planetary Science Letters*, **2019**, 514, 156-165	5.3	10
33	Ice stratigraphy at the P□itsoq ice margin, West Greenland, derived from gas records. *Journal of Glaciology*, **2009**, 55, 411-421	3.4	10
32	Antarctic surface temperature and elevation during the Last Glacial Maximum. *Science*, **2021**, 372, 1097-1101	33.3	10
31	Spatial pattern of accumulation at Taylor Dome during Marine Isotope Stage 4: stratigraphic constraints from Taylor Glacier. *Climate of the Past*, **2019**, 15, 1537-1556	3.9	9
30	A first chronology for the NEEM ice core		9
29	Abrupt Heinrich Stadial 1 cooling missing in Greenland oxygen isotopes. *Science Advances*, **2021**, 7,	14.3	9
28	Is the Noble Gas-Based Rate of Ocean Warming During the Younger Dryas Overestimated?. *Geophysical Research Letters*, **2019**, 46, 5928-5936	4.9	8
27	High-precision 14C measurements demonstrate production of in situ cosmogenic 14CH4 and rapid loss of in situ cosmogenic 14CO in shallow Greenland firn. *Earth and Planetary Science Letters*, **2013**, 365, 190-197	5.3	7
26	Atmospheric science. Monsoons and meltdowns. *Science*, **2009**, 326, 240-1	33.3	7
25	Gravitational separation of Arâ□N₂ and age of air in the lowermost stratosphere in airborne observations and a chemical transport model. *Atmospheric Chemistry and Physics*, **2020**, 20, 12391-12408	6.8	7
24	The SP19 chronology for the South Pole Ice Core â□Part 2: gas chronology, □ge, and smoothing of atmospheric records. *Climate of the Past*, **2020**, 16, 2431-2444	3.9	7
23	Where to find 1.5 million yr old ice for the IPICS "Oldest Ice" ice core		7
22	Methane and megafauna. *Nature Geoscience*, **2011**, 4, 271-272	18.3	6
21	New technique for high-precision, simultaneous measurements of CH₄, N₂O and CO₂ concentrations; isotopic and elemental ratios of N₂, O₂ and Ar; and total air content in ice cores by wet extraction. *Atmospheric Measurement Techniques*, **2020**, 13, 6703-6731	4	6

20	Atmospheric History of H2 Over the Past Century Reconstructed From South Pole Firn Air. *Geophysical Research Letters*, **2020**, 47, e2020GL087787	4.9	5
19	In situ cosmogenic radiocarbon production and 2-D ice flow line modeling for an Antarctic blue ice area. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		5
18	The influence of layering and barometric pumping on firn air transport in a 2-D model. *Cryosphere*, **2018**, 12, 2021-2037	5.5	5
17	An 83 000-year-old ice core from Roosevelt Island, Ross Sea, Antarctica. *Climate of the Past*, **2020**, 16, 1691-1713	3.9	4
16	Heavy Noble Gas Isotopes as New Constraints on the Ventilation of the Deep Ocean. *Geophysical Research Letters*, **2019**, 46, 8926-8932	4.9	3
15	The WAIS-Divide deep ice core WD2014 chronology â Part 2: Methane synchronization (68â 31 ka BP) and the gas age-ice age difference		3
14	The triple argon isotope composition of groundwater on ten-thousand-year timescales. *Chemical Geology*, **2021**, 583, 120458	4.2	3
13	Corrigendum to Gas transport in firn: multiple-tracer characterisation and model intercomparison for NEEM, Northern Greenland published in Atmos. Chem. Phys., 12, 4259â4277, 2012. *Atmospheric Chemistry and Physics*, **2014**, 14, 3571-3572	6.8	2
12	Controls on the movement and composition of firn air at the West Antarctic Ice Sheet Divide		2
11	The Ross Sea Dipole â Temperature, Snow Accumulation and Sea Ice Variability in the Ross Sea Region, Antarctica, over the Past 2,700 Years		2
10	An 83 000 year old ice core from Roosevelt Island, Ross Sea, Antarctica		2
9	Facility for testing ice drills. *Scientific Drilling*,22, 29-33		2
8	Evolution of mean ocean temperature in Marine Isotope Stage 4. *Climate of the Past*, **2021**, 17, 2273-2289	3.9	2
7	Deep ice drilling, bedrock coring and dust logging with the Rapid Access Ice Drill (RAID) at Minna Bluff, Antarctica. *Annals of Glaciology*,1-16	2.5	2
6	Kinetic fractionation of gases by deep air convection in polar firn		1
5	A method for resolving changes in atmospheric He â N₂ as an indicator of fossil fuel extraction and stratospheric circulation. *Atmospheric Measurement Techniques*, **2021**, 14, 2515–2527	4	1
4	Fractionation of O₂â N₂ and Arâ N₂ in the Antarctic ice sheet during bubble formation and bubbleâclathrate hydrate transition from precise gas measurements of the Dome Fuji ice core.	5.5	1
3	Ice core evidence for atmospheric oxygen decline since the Mid-Pleistocene transition.. *Science Advances*, **2021**, 7, eabj9341	14.3	0

2	Increasing atmospheric helium due to fossil fuel exploitation. *Nature Geoscience*, **2022**, 15, 346-348	18.3	0
1	Millennial-Scale Changes in Terrestrial and Marine Nitrous Oxide Emissions at the Onset and Termination of Marine Isotope Stage 4. *Geophysical Research Letters*, **2020**, 47, e2020GL089110	4.9	