Martin Heimann

List of Publications by Year
in descending order

272 papers	32,845 citations	6254 80 h-index	5539 163 g-index
337 all docs	337 docs citations	337 times ranked	23300 citing authors

#	Article	IF	Citations
1	Three decades of global methane sources and sinks. Nature Geoscience, 2013, 6, 813-823.	12.9	1,649
2	Terrestrial ecosystem carbon dynamics and climate feedbacks. Nature, 2008, 451, 289-292.	27.8	1,245
3	Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. Nature, 2001, 414, 169-172.	27.8	1,162
4	Towards robust regional estimates of CO2 sources and sinks using atmospheric transport models. Nature, 2002, 415, 626-630.	27.8	1,157
5	Comparing global models of terrestrial net primary productivity (NPP): overview and key results. Global Change Biology, 1999, 5, 1-15.	9.5	917
6	Reconciling Carbon-cycle Concepts, Terminology, and Methods. Ecosystems, 2006, 9, 1041-1050.	3.4	904
7	Sensitivity of the carbon cycle in the Arctic to climate change. Ecological Monographs, 2009, 79, 523-555.	5.4	814
8	Saturation of the Southern Ocean CO2 Sink Due to Recent Climate Change. Science, 2007, 316, 1735-1738.	12.6	779
9	Weak Northern and Strong Tropical Land Carbon Uptake from Vertical Profiles of Atmospheric CO2. Science, 2007, 316, 1732-1735.	12.6	775
10	Comprehensive comparison of gap-filling techniques for eddy covariance net carbon fluxes. Agricultural and Forest Meteorology, 2007, 147, 209-232.	4.8	744
11	Carbon balance of the terrestrial biosphere in the Twentieth Century: Analyses of CO2, climate and land use effects with four process-based ecosystem models. Global Biogeochemical Cycles, 2001, 15, 183-206.	4.9	680
12	Global and hemispheric CO2 sinks deduced from changes in atmospheric O2 concentration. Nature, 1996, 381, 218-221.	27.8	571
13	An inverse modeling approach to investigate the global atmospheric methane cycle. Global Biogeochemical Cycles, 1997, 11, 43-76.	4.9	531
14	CO₂ flux history 1982â€“2001 inferred from atmospheric data using a global inversion of atmospheric transport. Atmospheric Chemistry and Physics, 2003, 3, 1919-1964.	4.9	528
15	Reduction of ecosystem productivity and respiration during the European summer 2003 climate anomaly: a joint flux tower, remote sensing and modelling analysis. Global Change Biology, 2007, 13, 634-651.	9.5	486
16	Impact of vegetation and preferential source areas on global dust aerosol: Results from a model study. Journal of Geophysical Research, 2002, 107, AAC 14-1-AAC 14-27.	3.3	453
17	Carbon and Other Biogeochemical Cycles. , 2014, , 465-570.		435
18	TransCom 3 inversion intercomparison: Impact of transport model errors on the interannual variability of regional CO2fluxes, 1988-2003. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	417

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19	CLIMATE CHANGE: Managing Forests After Kyoto. Science, 2000, 289, 2058-2059.	12.6	392
20	A process-based, climate-sensitive model to derive methane emissions from natural wetlands: Application to five wetland sites, sensitivity to model parameters, and climate. Global Biogeochemical Cycles, 2000, 14, 745-765.	4.9	379
21	CLIMATE: The Terrestrial Carbon Cycle: Implications for the Kyoto Protocol. Science, 1998, 280, 1393-1394.	12.6	378
22	Water isotope module of the ECHAM atmospheric general circulation model: A study on timescales from days to several years. Journal of Geophysical Research, 1998, 103, 16871-16896.	3.3	324
23	Enhanced seasonal CO ₂ exchange caused by amplified plant productivity in northern ecosystems. Science, 2016, 351, 696-699.	12.6	319
24	Transcom 3 inversion intercomparison: Model mean results for the estimation of seasonal carbon sources and sinks. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	312
25	Importance of methane and nitrous oxide for Europe's terrestrial greenhouse-gas balance. Nature Geoscience, 2009, 2, 842-850.	12.9	310
26	BELOWGROUND CONSEQUENCES OF VEGETATION CHANGE AND THEIR TREATMENT IN MODELS. , 2000, 10, 470-483.		295
27	Inverse modeling of methane sources and sinks using the adjoint of a global transport model. Journal of Geophysical Research, 1999, 104, 26137-26160.	3.3	286
28	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂. New Phytologist, 2021, 229, 2413-2445.	7.3	286
29	A two-fold increase of carbon cycle sensitivity to tropical temperature variations. Nature, 2014, 506, 212-215.	27.8	284
30	Model-data synthesis in terrestrial carbon observation: methods, data requirements and data uncertainty specifications. Global Change Biology, 2005, 11, 378-397.	9.5	283
31	Satellite chartography of atmospheric methane from SCIAMACHY on board ENVISAT: 2. Evaluation based on inverse model simulations. Journal of Geophysical Research, 2007, 112, .	3.3	263
32	Climate-induced oceanic oxygen fluxes: Implications for the contemporary carbon budget. Global Biogeochemical Cycles, 2002, 16, 6-1-6-13.	4.9	247
33	Atmospheric methane and carbon dioxide from SCIAMACHY satellite data: initial comparison with chemistry and transport models. Atmospheric Chemistry and Physics, 2005, 5, 941-962.	4.9	238
34	On aggregation errors in atmospheric transport inversions. Journal of Geophysical Research, 2001, 106, 4703-4715.	3.3	235
35	TransCom 3 CO2 inversion intercomparison: 1. Annual mean control results and sensitivity to transport and prior flux information. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 555-579.	1.6	235
36	Seven years of recent European net terrestrial carbon dioxide exchange constrained by atmospheric observations. Global Change Biology, 2010, 16, 1317-1337.	9.5	223

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37	Inverse modeling of CO₂ sources and sinks using satellite data: a synthetic inter-comparison of measurement techniques and their performance as a function of space and time. Atmospheric Chemistry and Physics, 2004, 4, 523-538.	4.9	222
38	Modeling modern methane emissions from natural wetlands: 1. Model description and results. Journal of Geophysical Research, 2001, 106, 34189-34206.	3.3	221
39	A three-dimensional model of atmospheric CO₂transport based on observed winds: 1. Analysis of observational data. Geophysical Monograph Series, 0, , 165-236.	0.1	220
40	The Amazon Tall Tower Observatory (ATTO): overview of pilot measurements on ecosystem ecology, meteorology, trace gases, and aerosols. Atmospheric Chemistry and Physics, 2015, 15, 10723-10776.	4.9	218
41	A three-dimensional synthesis study of Î´18O in atmospheric CO2: 1. Surface fluxes. Journal of Geophysical Research, 1997, 102, 5857-5872.	3.3	200
42	Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. Biogeosciences, 2014, 11, 3547-3602.	3.3	189
43	Title is missing!. Climatic Change, 2000, 44, 471-493.	3.6	182
44	Satellite chartography of atmospheric methane from SCIAMACHY on board ENVISAT: Analysis of the years 2003 and 2004. Journal of Geophysical Research, 2006, 111, .	3.3	182
45	Inverse modeling of the global CO cycle: 1. Inversion of CO mixing ratios. Journal of Geophysical Research, 2000, 105, 1909-1927.	3.3	180
46	Atmospheric CO2 and 13CO2 Exchange with the Terrestrial Biosphere and Oceans from 1978 to 2000: Observations and Carbon Cycle Implications. , 2005, , 83-113.		180
47	Borehole versus isotope temperatures on Greenland: Seasonality does matter. Geophysical Research Letters, 2000, 27, 723-726.	4.0	179
48	The carbon budget of terrestrial ecosystems at country-scale â€“ a European case study. Biogeosciences, 2005, 2, 15-26.	3.3	178
49	¹⁴C Variations Caused by Changes in the Global Carbon Cycle. Radiocarbon, 1980, 22, 177-191.	1.8	177
50	Uncertainties in global terrestrial biosphere modeling: 1. A comprehensive sensitivity analysis with a new photosynthesis and energy balance scheme. Global Biogeochemical Cycles, 2001, 15, 207-225.	4.9	169
51	Uncertainties of modeling gross primary productivity over Europe: A systematic study on the effects of using different drivers and terrestrial biosphere models. Global Biogeochemical Cycles, 2007, 21, .	4.9	163
52	Carbon monoxide, methane and carbon dioxide columns retrieved from SCIAMACHY by WFM-DOAS: year 2003 initial data set. Atmospheric Chemistry and Physics, 2005, 5, 3313-3329.	4.9	162
53	Variations in modeled atmospheric transport of carbon dioxide and the consequences for CO2inversions. Global Biogeochemical Cycles, 1996, 10, 783-796.	4.9	155
54	Threeâ€dimensional simulation of ⁷Be in a global climate model. Journal of Geophysical Research, 1991, 96, 22423-22445.	3.3	150

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55	Testing global ocean carbon cycle models using measurements of atmospheric O2and CO2concentration. Global Biogeochemical Cycles, 1998, 12, 213-230.	4.9	145
56	Continuous low-maintenance CO₂/CH₄/H<sub>2</sub& measurements at the Zotino Tall Tower Observatory (ZOTTO) in Central Siberia. Atmospheric Measurement Techniques, 2010, 3, 1113-1128.	3.1	144
57	Atmospheric carbon gases retrieved from SCIAMACHY by WFM-DOAS: version 0.5 CO and CH₄ and impact of calibration improvements on CO₂ retrieval. Atmospheric Chemistry and Physics, 2006, 6, 2727-2751.	4.9	143
58	Global surface-ocean <i>p</i>^{CO₂} and seaâ€“air CO₂ flux variability from an observation-driven ocean mixed-layer scheme. Ocean Science, 2013, 9, 193-216.	3.4	141
59	CH4sources estimated from atmospheric observations of CH4and its13C/12C isotopic ratios: 1. Inverse modeling of source processes. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	139
60	A method of determining rooting depth from a terrestrial biosphere model and its impacts on the global water and carbon cycle. Global Change Biology, 1998, 4, 275-286.	9.5	138
61	Analyzing the causes and spatial pattern of the European 2003 carbon flux anomaly using seven models. Biogeosciences, 2008, 5, 561-583.	3.3	136
62	Evaluation of terrestrial carbon cycle models through simulations of the seasonal cycle of atmospheric CO2: First results of a model intercomparison study. Global Biogeochemical Cycles, 1998, 12, 1-24.	4.9	132
63	Comparing global models of terrestrial net primary productivity (NPP): the importance of water availability. Global Change Biology, 1999, 5, 46-55.	9.5	127
64	THE CARBON BALANCE OF THE TERRESTRIAL BIOSPHERE: ECOSYSTEM MODELS AND ATMOSPHERIC OBSERVATIONS. , 2000, 10, 1553-1573.		126
65	Radiocarbon evidence for a smaller oceanic carbon dioxide sink than previously believed. Nature, 1994, 370, 201-203.	27.8	123
66	A process-based model to derive methane emissions from natural wetlands. Geophysical Research Letters, 1996, 23, 3731-3734.	4.0	123
67	Urbanization Impacts on the Climate in Europe: Numerical Experiments by the PSUâ€“NCAR Mesoscale Model (MM5). Journal of Applied Meteorology and Climatology, 2008, 47, 1442-1455.	1.5	119
68	A coarse grid three-dimensional global inverse model of the atmospheric transport: 2. Inversion of the transport of CO2in the 1980s. Journal of Geophysical Research, 1999, 104, 18555-18581.	3.3	118
69	Seasonal variations in the atmospheric O2/N2ratio in relation to the kinetics of air-sea gas exchange. Global Biogeochemical Cycles, 1998, 12, 141-163.	4.9	116
70	Water isotope modeling in the Asian monsoon region. Quaternary International, 1997, 37, 115-128.	1.5	115
71	Assessing the role of deep rooted vegetation in the climate system with model simulations: mechanism, comparison to observations and implications for Amazonian deforestation. Climate Dynamics, 2000, 16, 183-199.	3.8	111
72	Assimilating atmospheric data into a terrestrial biosphere model: A case study of the seasonal cycle. Global Biogeochemical Cycles, 2002, 16, 14-1-14-16.	4.9	111

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73	Interannual seaâ€“air CO₂ flux variability from an observation-driven ocean mixed-layer scheme. Biogeosciences, 2014, 11, 4599-4613.	3.3	111
74	A prognostic phenology scheme for global terrestrial carbon cycle models. Climate Research, 1996, 6, 1-19.	1.1	111
75	Isotopic composition and origin of polar precipitation in present and glacial climate simulations. Tellus, Series B: Chemical and Physical Meteorology, 2001, 53, 53-71.	1.6	110
76	Modeling modern methane emissions from natural wetlands: 2. Interannual variations 1982-1993. Journal of Geophysical Research, 2001, 106, 34207-34219.	3.3	109
77	On the relations between the oceanic uptake of CO2and its carbon isotopes. Global Biogeochemical Cycles, 1996, 10, 89-110.	4.9	108
78	Reconciling apparent inconsistencies in estimates of terrestrial CO2 sources and sinks. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 345-363.	1.6	105
79	TransCom 3 CO₂ inversion intercomparison: 1. Annual mean control results and sensitivity to transport and prior flux information. Tellus, Series B: Chemical and Physical Meteorology, 2022, 55, 555.	1.6	105
80	Three-dimensional transport and concentration of SF6. A model intercomparison study (TransCom 2). Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 266-297.	1.6	101
81	CH4sources estimated from atmospheric observations of CH4and its13C/12C isotopic ratios: 2. Inverse modeling of CH4fluxes from geographical regions. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	99
82	Impact of 1998-2002 midlatitude drought and warming on terrestrial ecosystem and the global carbon cycle. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	99
83	Seasonal characteristics of tropical marine boundary layer air measured at the Cape Verde Atmospheric Observatory. Journal of Atmospheric Chemistry, 2010, 67, 87-140.	3.2	97
84	A coarse grid three-dimensional global inverse model of the atmospheric transport: 1. Adjoint model and Jacobian matrix. Journal of Geophysical Research, 1999, 104, 18535-18553.	3.3	96
85	Two decades of ocean CO2 sink and variability. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 649-656.	1.6	92
86	Threeâ€dimensional modeling of the concentration and deposition of ²¹⁰Pb aerosols. Journal of Geophysical Research, 1991, 96, 22447-22460.	3.3	90
87	Three dimensional atmospheric transport simulation of the radioactive tracers210Pb,7Be,10Be, and90Sr. Journal of Geophysical Research, 1995, 100, 26141.	3.3	90
88	Isotopic composition and origin of polar precipitation in present and glacial climate simulations. Tellus, Series B: Chemical and Physical Meteorology, 2022, 53, 53.	1.6	90
89	Impact of drought stress and other factors on seasonal land biosphere CO2 exchange studied through an atmospheric tracer transport model. Tellus, Series B: Chemical and Physical Meteorology, 1995, 47, 471-489.	1.6	89
90	MERLIN: A French-German Space Lidar Mission Dedicated to Atmospheric Methane. Remote Sensing, 2017, 9, 1052.	4.0	88

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91	Three-dimensional transport and concentration of SF₆ A model intercomparison study (TransCom 2). Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 266.	1.6	88
92	Vulnerability of permafrost carbon to global warming. Part I: model description and role of heat generated by organic matter decomposition. Tellus, Series B: Chemical and Physical Meteorology, 2022, 60, 250.	1.6	87
93	Importance of fossil fuel emission uncertainties over Europe for CO₂ modeling: model intercomparison. Atmospheric Chemistry and Physics, 2011, 11, 6607-6622.	4.9	87
94	The BETHY/JSBACH Carbon Cycle Data Assimilation System: experiences and challenges. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 1414-1426.	3.0	86
95	A simple three-dimensional canopy - planetary boundary layer simulation model for scalar concentrations and fluxes. Tellus, Series B: Chemical and Physical Meteorology, 2002, 54, 784-819.	1.6	85
96	Early snowmelt significantly enhances boreal springtime carbon uptake. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11081-11086.	7.1	84
97	Old-Growth Forest Definitions: a Pragmatic View. Ecological Studies, 2009, , 11-33.	1.2	83
98	Evaluation of terrestrial carbon cycle models with atmospheric CO2measurements: Results from transient simulations considering increasing CO2, climate, and land-use effects. Global Biogeochemical Cycles, 2002, 16, 39-1-39-15.	4.9	79
99	A model of the Earth's Dole effect. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	79
100	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. Earth System Science Data, 2021, 13, 3607-3689.	9.9	79
101	A three-dimensional model of atmospheric CO₂transport based on observed winds: 4. Mean annual gradients and interannual variations. Geophysical Monograph Series, 0, , 305-363.	0.1	78
102	Climate and interannual variability of the atmosphere-biosphere13CO2flux. Geophysical Research Letters, 2003, 30, .	4.0	76
103	A three-dimensional synthesis study of Î´18O in atmospheric CO2: 2. Simulations with the TM2 transport model. Journal of Geophysical Research, 1997, 102, 5873-5883.	3.3	75
104	Modeling interannual variability of water isotopes in Greenland and Antarctica. Journal of Geophysical Research, 2002, 107, ACL 1-1.	3.3	75
105	Characterization of ecosystem responses to climatic controls using artificial neural networks. Global Change Biology, 2010, 16, 2737-2749.	9.5	75
106	A novel bias correction methodology for climate impact simulations. Earth System Dynamics, 2016, 7, 71-88.	7.1	75
107	Global inverse modeling of CH₄ sources and sinks: an overview of methods. Atmospheric Chemistry and Physics, 2017, 17, 235-256.	4.9	75
108	TransCom 3 CO2 inversion intercomparison: 2. Sensitivity of annual mean results to data choices. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 580-595.	1.6	74

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109	A three-dimensional model of atmospheric CO₂transport based on observed winds: 2. Model description and simulated tracer experiments. Geophysical Monograph Series, 0, , 237-275.	0.1	73
110	In-situ measurements of oxygen, carbon monoxide and greenhouse gases from Ochsenkopf tall tower in Germany. Atmospheric Measurement Techniques, 2009, 2, 573-591.	3.1	72
111	Time-dependent atmospheric CO2 inversions based on interannually varying tracer transport. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 488-497.	1.6	71
112	How does the terrestrial carbon exchange respond to inter-annual climatic variations? A quantification based on atmospheric CO₂ data. Biogeosciences, 2018, 15, 2481-2498.	3.3	68
113	El NiÃ±o-Southern Oscillation related fluctuations of the marine carbon cycle. Global Biogeochemical Cycles, 1994, 8, 39-63.	4.9	67
114	A two-step scheme for high-resolution regional atmospheric trace gas inversions based on independent models. Atmospheric Chemistry and Physics, 2009, 9, 5331-5342.	4.9	67
115	Impact of drought stress and other factors on seasonal land biosphere CO₂ exchange studied through an atmospheric tracer transport model. Tellus, Series B: Chemical and Physical Meteorology, 2022, 47, 471.	1.6	65
116	Enigma of the recent methane budget. Nature, 2011, 476, 157-158.	27.8	64
117	Quantifying changes in climate variability and extremes: Pitfalls and their overcoming. Geophysical Research Letters, 2015, 42, 9990-9998.	4.0	64
118	Toward an Operational Anthropogenic CO2 Emissions Monitoring and Verification Support Capacity. Bulletin of the American Meteorological Society, 2020, 101, E1439-E1451.	3.3	63
119	Optimised rooting depth and its impacts on the simulated climate of an atmospheric general circulation model. Geophysical Research Letters, 1998, 25, 345-348.	4.0	62
120	The carbon budget of the northern cryosphere region. Current Opinion in Environmental Sustainability, 2010, 2, 231-236.	6.3	61
121	A first-order analysis of the potential role of CO2 fertilization to affect the global carbon budget: a comparison of four terrestrial biosphere models. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 343-366.	1.6	60
122	Measurements of greenhouse gases and related tracers at Bialystok tall tower station in Poland. Atmospheric Measurement Techniques, 2010, 3, 407-427.	3.1	60
123	Title is missing!. Biogeochemistry, 2000, 48, 91-114.	3.5	59
124	Pan-Eurasian Experiment (PEEX): towards a holistic understanding of the feedbacks and interactions in the landâ€“atmosphereâ€“oceanâ€“society continuum in the northern Eurasian region. Atmospheric Chemistry and Physics, 2016, 16, 14421-14461.	4.9	57
125	Meridional eddy diffusion model of the transport of atmospheric carbon dioxide: 2. Mean annual carbon cycle. Journal of Geophysical Research, 1986, 91, 7782-7796.	3.3	56
126	On observational and modelling strategies targeted at regional carbon exchange over continents. Biogeosciences, 2009, 6, 1949-1959.	3.3	55

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127	Long-term measurements of aerosol and carbon monoxide at the ZOTTO tall tower to characterize polluted and pristine air in the Siberian taiga. Atmospheric Chemistry and Physics, 2013, 13, 12271-12298.	4.9	54
128	Plants, microorganisms, and soil temperatures contribute to a decrease in methane fluxes on a drained Arctic floodplain. Global Change Biology, 2017, 23, 2396-2412.	9.5	54
129	Interactions between nitrogen deposition, land cover conversion, and climate change determine the contemporary carbon balance of Europe. Biogeosciences, 2010, 7, 2749-2764.	3.3	53
130	Uncertainties of predictions of future atmospheric CO₂ concentrations. Journal of Geophysical Research, 1983, 88, 1258-1262.	3.3	52
131	Direct effect of aerosols on solar radiation and gross primary production in boreal and hemiboreal forests. Atmospheric Chemistry and Physics, 2018, 18, 17863-17881.	4.9	50
132	A first-order analysis of the potential rôle of CO₂ fertilization to affect the global carbon budget: a comparison of four terrestrial biosphere models. Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 343.	1.6	49
133	Three years of trace gas observations over the EuroSiberian domain derived from aircraft sampling - a concerted action. Tellus, Series B: Chemical and Physical Meteorology, 2002, 54, 696-712.	1.6	46
134	Comparisons between SCIAMACHY atmospheric CO₂ retrieved using (FSI) WFM-DOAS to ground based FTIR data and the TM3 chemistry transport model. Atmospheric Chemistry and Physics, 2006, 6, 4483-4498.	4.9	43
135	Seasonal, synoptic, and diurnalâ€scale variability of biogeochemical trace gases and O₂ from a 300â€m tall tower in central Siberia. Global Biogeochemical Cycles, 2008, 22, .	4.9	43
136	Ocean primary production derived from satellite data: An evaluation with atmospheric oxygen measurements. Global Biogeochemical Cycles, 1999, 13, 257-271.	4.9	42
137	Observations of O2:CO2exchange ratios during ecosystem gas exchange. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	42
138	Interannual variability in oceanic biogeochemical processes inferred by inversion of atmospheric O2/N2 and CO2 data. Tellus, Series B: Chemical and Physical Meteorology, 2008, 60, 685-705.	1.6	42
139	Modeling the large-scale effects of surface moisture heterogeneity on wetland carbon fluxes in the West Siberian Lowland. Biogeosciences, 2013, 10, 6559-6576.	3.3	42
140	History of El NiÃ±o impacts on the global carbon cycle 1957â€“2017: a quantification from atmospheric CO ₂ data. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170303.	4.0	42
141	Inverse Modeling of Atmospheric Carbon Dioxide Fluxes. Science, 2001, 294, 259a-259.	12.6	41
142	Modelling terrestrial vegetation dynamics and carbon cycling for an abrupt climatic change event. Holocene, 2003, 13, 327-333.	1.7	40
143	Sensitivity of inverse estimation of annual mean CO2sources and sinks to ocean-only sites versus all-sites observational networks. Geophysical Research Letters, 2006, 33, .	4.0	40
144	Comparing Lagrangian and Eulerian models for CO₂ transport â€“ a step towards Bayesian inverse modeling using WRF/STILT-VPRM. Atmospheric Chemistry and Physics, 2012, 12, 8979-8991.	4.9	40

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145	Sensitivity of the seasonal cycle of CO2 at remote monitoring stations with respect to seasonal surface exchange fluxes determined with the adjoint of an atmospheric transport model. Physics and Chemistry of the Earth, 1996, 21, 457-462.	0.3	39
146	Uncertainties in global terrestrial biosphere modeling, Part II: Global constraints for a process-based vegetation model. Global Biogeochemical Cycles, 2001, 15, 227-246.	4.9	39
147	Comparing CO2retrieved from Atmospheric Infrared Sounder with model predictions: Implications for constraining surface fluxes and lower-to-upper troposphere transport. Journal of Geophysical Research, 2006, 111, .	3.3	39
148	Strong radiative effect induced by clouds and smoke on forest net ecosystem productivity in central Siberia. Agricultural and Forest Meteorology, 2018, 250-251, 376-387.	4.8	39
149	Simulation of atmospheric CO2 over Europe and western Siberia using the regional scale model REMO. Tellus, Series B: Chemical and Physical Meteorology, 2002, 54, 872-894.	1.6	38
150	Meridional eddy diffusion model of the transport of atmospheric carbon dioxide: 1. Seasonal carbon cycle over the tropical Pacific Ocean. Journal of Geophysical Research, 1986, 91, 7765-7781.	3.3	36
151	Transport of 222Rn using the regional model REMO: a detailed comparison with measurements over Europe. Tellus, Series B: Chemical and Physical Meteorology, 2002, 54, 850-871.	1.6	36
152	Longâ€Term Drainage Reduces CO₂ Uptake and CH₄ Emissions in a Siberian Permafrost Ecosystem. Global Biogeochemical Cycles, 2017, 31, 1704-1717.	4.9	36
153	Measurement equation for trace chemicals in fluids and solution of its inverse. Geophysical Monograph Series, 2000, , 3-18.	0.1	35
154	Observation and integrated Earth-system science: A roadmap for 2016â€“2025. Advances in Space Research, 2016, 57, 2037-2103.	2.6	35
155	Modelling the long-range transport of ²²²Rn to subantarctic and antarctic areas. Tellus, Series B: Chemical and Physical Meteorology, 2022, 42, 83.	1.6	34
156	How Stable Is the Methane Cycle?. Science, 2010, 327, 1211-1212.	12.6	34
157	Shifted energy fluxes, increased Bowen ratios, and reduced thaw depths linked with drainage-induced changes in permafrost ecosystem structure. Cryosphere, 2017, 11, 2975-2996.	3.9	34
158	Quantifying, Understanding and Managing the Carbon Cycle in the Next Decades. Climatic Change, 2004, 67, 147-160.	3.6	33
159	Pacific dominance to global air-sea CO2 flux variability: A novel atmospheric inversion agrees with ocean models. Geophysical Research Letters, 2004, 31, .	4.0	33
160	Technical Note: A new coupled system for global-to-regional downscaling of CO₂ concentration estimation. Atmospheric Chemistry and Physics, 2010, 10, 3205-3213.	4.9	33
161	WRF-Chem simulations in the Amazon region during wet and dry season transitions: evaluation of methane models and wetland inundation maps. Atmospheric Chemistry and Physics, 2013, 13, 7961-7982.	4.9	33
162	Long-term measurements (2010â€“2014) of carbonaceous aerosol and carbon monoxide at the Zotino Tall Tower Observatory (ZOTTO) in central Siberia. Atmospheric Chemistry and Physics, 2017, 17, 14365-14392.	4.9	33

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163	Gap-filling eddy covariance methane fluxes: Comparison of machine learning model predictions and uncertainties at FLUXNET-CH4 wetlands. Agricultural and Forest Meteorology, 2021, 308-309, 108528.	4.8	33
164	Contrasting and interacting changes in simulated spring and summer carbon cycle extremes in European ecosystems. Environmental Research Letters, 2017, 12, 075006.	5.2	32
165	Comparing global models of terrestrial net primary productivity (NPP): analysis of the seasonal atmospheric CO 2 signal. Global Change Biology, 1999, 5, 65-76.	9.5	31
166	European CO2 fluxes from atmospheric inversions using regional and global transport models. Climatic Change, 2010, 103, 93-115.	3.6	31
167	Assessment of recent advances in measurement techniques for atmospheric carbon dioxide and methane observations. Atmospheric Measurement Techniques, 2016, 9, 4737-4757.	3.1	31
168	Simulating the Atmospheric Carbon Dioxide Distribution with a Three-Dimensional Tracer Model. , 1986, , 16-49.		31
169	Modelling the long-range transport of 222Rn to subantarctic and antarctic areas. Tellus, Series B: Chemical and Physical Meteorology, 1990, 42, 83-99.	1.6	30
170	Modeling terrestrial ¹³C cycling: Climate, land use and fire. Global Biogeochemical Cycles, 2008, 22, .	4.9	30
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