Philippe Bousquet

List of Publications by Year
in descending order

114 papers	18,355 citations	34076 52 h-index	22808 112 g-index
127 all docs	127 docs citations	127 times ranked	13536 citing authors

#	Article	IF	Citations
1	Three decades of global methane sources and sinks. Nature Geoscience, 2013, 6, 813-823.	5.4	1,649
2	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	3.7	1,199
3	Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. Nature, 2001, 414, 169-172.	13.7	1,162
4	Towards robust regional estimates of CO2 sources and sinks using atmospheric transport models. Nature, 2002, 415, 626-630.	13.7	1,157
5	Contribution of anthropogenic and natural sources to atmospheric methane variability. Nature, 2006, 443, 439-443.	13.7	935
6	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	3.7	824
7	Weak Northern and Strong Tropical Land Carbon Uptake from Vertical Profiles of Atmospheric CO2. Science, 2007, 316, 1732-1735.	6.0	775
8	Regional Changes in Carbon Dioxide Fluxes of Land and Oceans Since 1980. Science, 2000, 290, 1342-1346.	6.0	680
9	Climatic Control of the High-Latitude Vegetation Greening Trend and Pinatubo Effect. Science, 2002, 296, 1687-1689.	6.0	672
10	Methane on the Riseâ€"Again. Science, 2014, 343, 493-495.	6.0	457
11	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.	1.9	417
12	The terrestrial biosphere as a net source of greenhouse gases to the atmosphere. Nature, 2016, 531, 225-228.	13.7	402
13	Very Strong Atmospheric Methane Growth in the 4ÂYears 2014â€“2017: Implications for the Paris Agreement. Global Biogeochemical Cycles, 2019, 33, 318-342.	1.9	353
14	TransCom model simulations of CH₄ and related species: linking transport, surface flux and chemical loss with CH₄ variability in the troposphere and lower stratosphere. Atmospheric Chemistry and Physics, 2011, 11, 12813-12837.	1.9	331
15	Rising atmospheric methane: 2007â€“2014 growth and isotopic shift. Global Biogeochemical Cycles, 2016, 30, 1356-1370.	1.9	317
16	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.	1.9	312
17	Importance of methane and nitrous oxide for Europe's terrestrial greenhouse-gas balance. Nature Geoscience, 2009, 2, 842-850.	5.4	310
18	CO₂ surface fluxes at grid point scale estimated from a global 21 year reanalysis of atmospheric measurements. Journal of Geophysical Research, 2010, 115, .	3.3	276

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19	The growing role of methane in anthropogenic climate change. Environmental Research Letters, 2016, 11, 120207.	2.2	274
20	Inferring CO2sources and sinks from satellite observations: Method and application to TOVS data. Journal of Geophysical Research, 2005, 110, .	3.3	269
21	Source attribution of the changes in atmospheric methane for 2006â€“2008. Atmospheric Chemistry and Physics, 2011, 11, 3689-3700.	1.9	252
22	Atmospheric composition change: Climateâ€“Chemistry interactions. Atmospheric Environment, 2009, 43, 5138-5192.	1.9	243
23	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.	0.8	235
24	Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. Environmental Research Letters, 2020, 15, 071002.	2.2	232
25	Constraining global methane emissions and uptake by ecosystems. Biogeosciences, 2011, 8, 1643-1665.	1.3	202
26	An attempt to quantify the impact of changes in wetland extent on methane emissions on the seasonal and interannual time scales. Global Biogeochemical Cycles, 2010, 24, .	1.9	177
27	Multiple constraints on regional CO2flux variations over land and oceans. Global Biogeochemical Cycles, 2005, 19, .	1.9	154
28	Comparing atmospheric transport models for future regional inversions over Europe â€“ Part 1: mapping the atmospheric CO₂ signals. Atmospheric Chemistry and Physics, 2007, 7, 3461-3479.	1.9	148
29	TransCom model simulations of hourly atmospheric CO₂: Experimental overview and diurnal cycle results for 2002. Global Biogeochemical Cycles, 2008, 22, .	1.9	142
30	Global wetland contribution to 2000â€“2012 atmospheric methane growth rate dynamics. Environmental Research Letters, 2017, 12, 094013.	2.2	129
31	Toward robust and consistent regional CO₂ flux estimates from in situ and spaceborne measurements of atmospheric CO₂. Geophysical Research Letters, 2014, 41, 1065-1070.	1.5	126
32	TransCom model simulations of hourly atmospheric CO₂: Analysis of synopticâ€scale variations for the period 2002â€“2003. Global Biogeochemical Cycles, 2008, 22, .	1.9	119
33	Atmospheric inversions for estimating CO2 fluxes: methods and perspectives. Climatic Change, 2010, 103, 69-92.	1.7	113
34	Effects of climate change on methane emissions from seafloor sediments in the Arctic Ocean: A review. Limnology and Oceanography, 2016, 61, S283.	1.6	109
35	Inventory of anthropogenic methane emissions in mainland China from 1980 to 2010. Atmospheric Chemistry and Physics, 2016, 16, 14545-14562.	1.9	107
36	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.	0.8	105

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37	The carbon budget of South Asia. Biogeosciences, 2013, 10, 513-527.	1.3	94
38	The formaldehyde budget as seen by a global-scale multi-constraint and multi-species inversion system. Atmospheric Chemistry and Physics, 2012, 12, 6699-6721.	1.9	93
39	Two decades of ocean CO2 sink and variability. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 649-656.	0.8	92
40	Top-down estimates of European CH₄ and N₂O emissions based on four different inverse models. Atmospheric Chemistry and Physics, 2015, 15, 715-736.	1.9	92
41	On the consistency between global and regional methane emissions inferred from SCIAMACHY, TANSO-FTS, IASI and surface measurements. Atmospheric Chemistry and Physics, 2014, 14, 577-592.	1.9	91
42	Influence of transport uncertainty on annual mean and seasonal inversions of atmospheric CO2data. Journal of Geophysical Research, 2002, 107, ACH 5-1.	3.3	90
43	MERLIN: A French-German Space Lidar Mission Dedicated to Atmospheric Methane. Remote Sensing, 2017, 9, 1052.	1.8	88
44	Ten years of CO emissions as seen from Measurements of Pollution in the Troposphere (MOPITT). Journal of Geophysical Research, 2011, 116, .	3.3	87
45	Variability and quasi-decadal changes in the methane budget over the period 2000â€“2012. Atmospheric Chemistry and Physics, 2017, 17, 11135-11161.	1.9	85
46	Cabbage and fermented vegetables: From death rate heterogeneity in countries to candidates for mitigation strategies of severe COVIDâ€19. Allergy: European Journal of Allergy and Clinical Immunology, 2021, 76, 735-750.	2.7	83
47	On the accuracy of the CO₂ surface fluxes to be estimated from the GOSAT observations. Geophysical Research Letters, 2009, 36, .	1.5	80
48	Revisiting enteric methane emissions from domestic ruminants and their Î´13CCH4 source signature. Nature Communications, 2019, 10, 3420.	5.8	75
49	Atmospheric constraints on the methane emissions from the East Siberian Shelf. Atmospheric Chemistry and Physics, 2016, 16, 4147-4157.	1.9	69
50	Impact of transport model errors on the global and regional methane emissions estimated by inverse modelling. Atmospheric Chemistry and Physics, 2013, 13, 9917-9937.	1.9	68
51	CO, NO_x and ¹³CO₂ as tracers for fossil fuel CO₂: results from a pilot study in Paris during winter 2010. Atmospheric Chemistry and Physics, 2013, 13, 7343-7358.	1.9	65
52	Horizontal displacement of carbon associated with agriculture and its impacts on atmospheric CO2. Global Biogeochemical Cycles, 2007, 21, n/a-n/a.	1.9	61
53	Satelliteâ€Derived Global Surface Water Extent and Dynamics Over the Last 25Â Years (GIEMSâ€2). Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD030711.	1.2	57
54	Radon-222 measurements during the Tropoz II campaign and comparison with a global atmospheric transport model. Journal of Atmospheric Chemistry, 1996, 23, 107-136.	1.4	55

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55	Stable atmospheric methane in the 2000s: key-role of emissions from natural wetlands. Atmospheric Chemistry and Physics, 2013, 13, 11609-11623.	1.9	55
56	Renewed methane increase for five years (2007â€“2011) observed by solar FTIR spectrometry. Atmospheric Chemistry and Physics, 2012, 12, 4885-4891.	1.9	53
57	The European land and inland water CO₂, CO, CH₄ and N₂O balance between 2001 and 2005. Biogeosciences, 2012, 9, 3357-3380.	1.3	53
58	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000â€“2016 period. Atmospheric Chemistry and Physics, 2019, 19, 13701-13723.	1.9	52
59	Estimation of the molecular hydrogen soil uptake and traffic emissions at a suburban site near Paris through hydrogen, carbon monoxide, and radonâ€222 semicontinuous measurements. Journal of Geophysical Research, 2009, 114, .	3.3	49
60	TransCom N₂O model inter-comparison â€“ Part 2: Atmospheric inversion estimates of N₂O emissions. Atmospheric Chemistry and Physics, 2014, 14, 6177-6194.	1.9	49
61	U.S. CH₄ emissions from oil and gas production: Have recent large increases been detected?. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4070-4083.	1.2	47
62	Sensitivity of the recent methane budget to LMDz sub-grid-scale physical parameterizations. Atmospheric Chemistry and Physics, 2015, 15, 9765-9780.	1.9	45
63	Atmospheric transport and chemistry of trace gases in LMDz5B: evaluation and implications for inverse modelling. Geoscientific Model Development, 2015, 8, 129-150.	1.3	44
64	Atmospheric CO₂inversion validation using vertical profile measurements: Analysis of four independent inversion models. Journal of Geophysical Research, 2011, 116, .	3.3	41
65	Enhanced methane emissions from tropical wetlands during the 2011 La NiÃ±a. Scientific Reports, 2017, 7, 45759.	1.6	41
66	Sensitivity of inverse estimation of annual mean CO2sources and sinks to ocean-only sites versus all-sites observational networks. Geophysical Research Letters, 2006, 33, .	1.5	40
67	Towards better error statistics for atmospheric inversions of methane surface fluxes. Atmospheric Chemistry and Physics, 2013, 13, 7115-7132.	1.9	37
68	Evaluation of SF6, C2Cl4, and CO to approximate fossil fuel CO2in the Northern Hemisphere using a chemistry transport model. Journal of Geophysical Research, 2006, 111, .	3.3	34
69	TransCom N₂O model inter-comparison â€“ Part 1: Assessing the influence of transport and surface fluxes on tropospheric N₂O variability. Atmospheric Chemistry and Physics, 2014, 14, 4349-4368.	1.9	34
70	Mapping Urban Methane Sources in Paris, France. Environmental Science & Technology, 2021, 55, 8583-8591.	4.6	32
71	Lidar and satellite retrieval of dust aerosols over the Azores during SOFIA/ASTEX. Atmospheric Environment, 2001, 35, 4297-4304.	1.9	31
72	Natural and anthropogenic methane fluxes in Eurasia: a mesoscale quantification by generalized atmospheric inversion. Biogeosciences, 2015, 12, 5393-5414.	1.3	31

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73	On the impact of recent developments of the LMDz atmospheric general circulation model on the simulation of CO₂ transport. Geoscientific Model Development, 2018, 11, 4489-4513.	1.3	31
74	A new estimation of the recent tropospheric molecular hydrogen budget using atmospheric observations and variational inversion. Atmospheric Chemistry and Physics, 2011, 11, 3375-3392.	1.9	29
75	Interannual variation in methane emissions from tropical wetlands triggered by repeated El NiÃ±o Southern Oscillation. Global Change Biology, 2017, 23, 4706-4716.	4.2	28
76	Off-line algorithm for calculation of vertical tracer transport in the troposphere due to deep convection. Atmospheric Chemistry and Physics, 2013, 13, 1093-1114.	1.9	27
77	Porous Tantalum vs. Titanium Implants: Enhanced Mineralized Matrix Formation after Stem Cells Proliferation and Differentiation. Journal of Clinical Medicine, 2020, 9, 3657.	1.0	27
78	Seasonal variation of N₂O emissions in France inferred from atmospheric N₂O and ²²²Rn measurements. Journal of Geophysical Research, 2012, 117, .	3.3	26
79	Evaluation of column-averaged methane in models and TCCON with a focus on the stratosphere. Atmospheric Measurement Techniques, 2016, 9, 4843-4859.	1.2	23
80	Error Budget of the MEthane Remote LIdar missioN and Its Impact on the Uncertainties of the Global Methane Budget. Journal of Geophysical Research D: Atmospheres, 2018, 123, 11,766.	1.2	23
81	Using ship-borne observations of methane isotopic ratio in the Arctic Ocean to understand methane sources in the Arctic. Atmospheric Chemistry and Physics, 2020, 20, 3987-3998.	1.9	23
82	Accelerating methane growth rate from 2010 to 2017: leading contributions from the tropics and East Asia. Atmospheric Chemistry and Physics, 2021, 21, 12631-12647.	1.9	23
83	Delineating northern peatlands using Sentinel-1 time series and terrain indices from local and regional digital elevation models. Remote Sensing of Environment, 2019, 231, 111252.	4.6	22
84	Objectified quantification of uncertainties in Bayesian atmospheric inversions. Geoscientific Model Development, 2015, 8, 1525-1546.	1.3	21
85	Detectability of Arctic methane sources at six sites performing continuous atmospheric measurements. Atmospheric Chemistry and Physics, 2017, 17, 8371-8394.	1.9	20
86	Statistical atmospheric inversion of local gas emissions by coupling the tracer release technique and local-scale transport modelling: a test case with controlled methane emissions. Atmospheric Measurement Techniques, 2017, 10, 5017-5037.	1.2	20
87	Anthropogenic emission is the main contributor to the rise of atmospheric methane during 1993â€"2017. National Science Review, 2022, 9, nwab200.	4.6	20
88	A three-dimensional synthesis inversion of the molecular hydrogen cycle: Sources and sinks budget and implications for the soil uptake. Journal of Geophysical Research, 2011, 116, .	3.3	19
89	Influences of hydroxyl radicals (OH) on top-down estimates of the global and regional methane budgets. Atmospheric Chemistry and Physics, 2020, 20, 9525-9546.	1.9	19
90	Simulating CH₄ and CO₂ over South and East Asia using the zoomed chemistry transport model LMDz-INCA. Atmospheric Chemistry and Physics, 2018, 18, 9475-9497.	1.9	18

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91	On the role of trend and variability in the hydroxyl radical (OH) in the global methane budget. Atmospheric Chemistry and Physics, 2020, 20, 13011-13022.	1.9	18
92	Characterisation of methane sources in Lutjewad, The Netherlands, using quasi-continuous isotopic composition measurements. Tellus, Series B: Chemical and Physical Meteorology, 2020, 72, 1-20.	0.8	17
93	MERLIN (Methane Remote Sensing Lidar Mission): an Overview. EPJ Web of Conferences, 2016, 119, 26001.	0.1	16
94	Iconic CO ₂ Time Series at Risk. Science, 2012, 337, 1038-1040.	6.0	15
95	HCFCâ€22 emissions at global and regional scales between 1995 andâ€‰2010: Trends and variability. Journal of Geophysical Research D: Atmospheres, 2013, 118, 7379-7388.	1.2	15
96	Increase in HFCâ€134a emissions in response to the success of the Montreal Protocol. Journal of Geophysical Research D: Atmospheres, 2015, 120, 11,728.	1.2	15
97	A new Himalayan ice core CH₄ record: possible hints at the preindustrial latitudinal gradient. Climate of the Past, 2013, 9, 2549-2554.	1.3	13
98	How a European network may help with estimating methane emissions on the French national scale. Atmospheric Chemistry and Physics, 2018, 18, 3779-3798.	1.9	13
99	Methane (CH₄) sources in Krakow, Poland: insights from isotope analysis. Atmospheric Chemistry and Physics, 2021, 21, 13167-13185.	1.9	13
100	Impact of the atmospheric sink and vertical mixing on nitrous oxide fluxes estimated using inversion methods. Journal of Geophysical Research, 2011, 116, .	3.3	12
101	A global model for the uptake of atmospheric hydrogen by soils. Global Biogeochemical Cycles, 2012, 26, .	1.9	11
102	Measurements of molecular hydrogen and carbon monoxide on the Trainou tall tower. Tellus, Series B: Chemical and Physical Meteorology, 2011, 63, 52-63.	0.8	10
103	Variability and budget of CO₂ in Europe: analysis of the CAATER airborne campaigns â€“ Part 2: Comparison of CO₂ vertical variability and fluxes between observations and a modeling framework. Atmospheric Chemistry and Physics, 2011, 11, 5673-5684.	1.9	8
104	Benefits of mineralized bone cortical allograft for immediate implant placement in extraction sites: an<i>in vivo</i>study in dogs. Journal of Periodontal and Implant Science, 2016, 46, 291.	0.9	8
105	Ethane measurement by Picarro CRDS G2201-i in laboratory and field conditions: potential and limitations. Atmospheric Measurement Techniques, 2021, 14, 5049-5069.	1.2	8
106	Can we detect regional methane anomalies? A comparison between three observing systems. Atmospheric Chemistry and Physics, 2016, 16, 9089-9108.	1.9	7
107	Variational inverse modeling within the Community Inversion Framework v1.1 to assimilate <i>Î´</i>¹³C(CH₄) and CH₄: a case study with model LMDz-SACS. Geoscientific Model Development, 2022, 15, 4831-4851.	1.3	6
108	Assessment of the theoretical limit in instrumental detectability of northern high-latitude methane sources using <i>Î´</i>¹³C_{CH4} atmospheric signals. Atmospheric Chemistry and Physics, 2019, 19, 12141-12161.	1.9	4

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109	Estimating Sources and Sinks of Methane: An Atmospheric View. Ecological Studies, 2008, , 113-133.	0.4	3
110	Atmospheric Composition Change. , 2012, , 309-365.		2
111	Technical note: A simple approach for efficient collection of field reference data for calibrating remote sensing mapping of northern wetlands. Biogeosciences, 2018, 15, 1549-1557.	1.3	2
112	A pragmatic protocol for characterising errors in atmospheric inversions of methane emissions over Europe. Tellus, Series B: Chemical and Physical Meteorology, 2022, 73, 1914989.	0.8	2
113	Development and Validation of an End-to-End Simulator and Gas Concentration Retrieval Processor Applied to the MERLIN Lidar Mission. Remote Sensing, 2021, 13, 2679.	1.8	1
114	Corrigendum to "Source attribution of the changes in atmospheric methane for 2006â€“2008" published in Atmos. Chem. Phys., 11, 3689â€“3700, 2011. Atmospheric Chemistry and Physics, 2012, 12, 9381-9382.	1.9	0