Arlyn E Andrews

List of Publications by Year
in descending order

112 papers	8,575 citations	50170 46 h-index	53109 85 g-index
115 all docs	115 docs citations	115 times ranked	6405 citing authors

#	Article	IF	Citations
1	An atmospheric perspective on North American carbon dioxide exchange: CarbonTracker. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18925-18930.	3.3	895
2	Anthropogenic emissions of methane in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20018-20022.	3.3	437
3	A near-field tool for simulating the upstream influence of atmospheric observations: The Stochastic Time-Inverted Lagrangian Transport (STILT) model. Journal of Geophysical Research, 2003, 108, ACH 2-1-ACH 2-17.	3.3	419
4	Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study. Journal of Geophysical Research, 2012, 117, .	3.3	359
5	Age of stratospheric air unchanged within uncertainties over the pastÂ30â€‰years. Nature Geoscience, 2009, 2, 28-31.	5.4	260
6	A new look at methane and nonmethane hydrocarbon emissions from oil and natural gas operations in the Colorado Denverâ€Julesburg Basin. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6836-6852.	1.2	257
7	Global CO₂ fluxes estimated from GOSAT retrievals of total column CO₂. Atmospheric Chemistry and Physics, 2013, 13, 8695-8717.	1.9	251
8	Estimating global and North American methane emissions with high spatial resolution using GOSAT satellite data. Atmospheric Chemistry and Physics, 2015, 15, 7049-7069.	1.9	225
9	The 2010 California Research at the Nexus of Air Quality and Climate Change (CalNex) field study. Journal of Geophysical Research D: Atmospheres, 2013, 118, 5830-5866.	1.2	199
10	CO₂, CO, and CH₄ measurements from tall towers in the NOAA Earth System Research Laboratory's Global Greenhouse Gas Reference Network: instrumentation, uncertainty analysis, and recommendations for future high-accuracy greenhouse gas monitoring efforts. Atmospheric Measurement Techniques, 2014, 7, 647-687.	1.2	199
11	CarbonTracker-CH₄: an assimilation system for estimating emissions of atmospheric methane. Atmospheric Chemistry and Physics, 2014, 14, 8269-8293.	1.9	187
12	Toward constraining regional-scale fluxes of CO2with atmospheric observations over a continent: 2. Analysis of COBRA data using a receptor-oriented framework. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	186
13	Mean ages of stratospheric air derived from in situ observations of CO2, CH4, and N2O. Journal of Geophysical Research, 2001, 106, 32295-32314.	3.3	181
14	Quantifying sources of methane using light alkanes in the Los Angeles basin, California. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4974-4990.	1.2	167
15	Toward constraining regional-scale fluxes of CO2with atmospheric observations over a continent: 1. Observed spatial variability from airborne platforms. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	162
16	Seasonal climatology of CO₂ across North America from aircraft measurements in the NOAA/ESRL Global Greenhouse Gas Reference Network. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5155-5190.	1.2	153
17	High accuracy measurements of dry mole fractions of carbon dioxide and methane in humid air. Atmospheric Measurement Techniques, 2013, 6, 837-860.	1.2	151
18	Constraining the CO₂ budget of the corn belt: exploring uncertainties from the assumptions in a mesoscale inverse system. Atmospheric Chemistry and Physics, 2012, 12, 337-354.	1.9	145

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19	A regional high-resolution carbon flux inversion of North America for 2004. Biogeosciences, 2010, 7, 1625-1644.	1.3	106
20	Validation of XCO₂ derived from SWIR spectra of GOSAT TANSO-FTS with aircraft measurement data. Atmospheric Chemistry and Physics, 2013, 13, 9771-9788.	1.9	106
21	North American CO₂ exchange: inter-comparison of modeled estimates with results from a fine-scale atmospheric inversion. Biogeosciences, 2012, 9, 457-475.	1.3	102
22	Empirical age spectra for the lower tropical stratosphere from in situ observations of CO2: Implications for stratospheric transport. Journal of Geophysical Research, 1999, 104, 26581-26595.	3.3	101
23	Sensitivity of atmospheric CO2inversions to seasonal and interannual variations in fossil fuel emissions. Journal of Geophysical Research, 2005, 110, .	3.3	100
24	Diurnal tracking of anthropogenic CO₂ emissions in the Los Angeles basin megacity during spring 2010. Atmospheric Chemistry and Physics, 2013, 13, 4359-4372.	1.9	100
25	Atmospheric inverse estimates of methane emissions from Central California. Journal of Geophysical Research, 2009, 114, .	3.3	97
26	Airborne and groundâ€based observations of a weekend effect in ozone, precursors, and oxidation products in the California South Coast Air Basin. Journal of Geophysical Research, 2012, 117, .	3.3	97
27	Long-term greenhouse gas measurements from aircraft. Atmospheric Measurement Techniques, 2013, 6, 511-526.	1.2	87
28	Evaluating atmospheric CO₂ inversions at multiple scales over a highly inventoried agricultural landscape. Global Change Biology, 2013, 19, 1424-1439.	4.2	76
29	Evaluation of the airborne quantum cascade laser spectrometer (QCLS) measurements of the carbon and greenhouse gas suite â€“ CO₂, CH₄, N₂O, and CO â€“ during the CalNex and HIPPO campaigns. Atmospheric Measurement Techniques, 2014, 7, 1509-1526.	1.2	75
30	Measuring fluxes of trace gases at regional scales by Lagrangian observations: Application to the CO2Budget and Rectification Airborne (COBRA) study. Journal of Geophysical Research, 2004, 109, .	3.3	73
31	Large amplitude spatial and temporal gradients in atmospheric boundary layer CO₂mole fractions detected with a towerâ€based network in the U.S. upper Midwest. Journal of Geophysical Research, 2012, 117, .	3.3	73
32	Sources of carbon monoxide and formaldehyde in North America determined from high-resolution atmospheric data. Atmospheric Chemistry and Physics, 2008, 8, 7673-7696.	1.9	72
33	A multitower measurement network estimate of California's methane emissions. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,339.	1.2	72
34	Quantification of the SF₆ lifetime based on mesospheric loss measured in the stratospheric polar vortex. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4626-4638.	1.2	71
35	Estimating regional carbon exchange in New England and Quebec by combining atmospheric, ground-based and satellite data. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 344-358.	0.8	70
36	Evaluation of Lagrangian Particle Dispersion Models with Measurements from Controlled Tracer Releases. Journal of Applied Meteorology and Climatology, 2013, 52, 2623-2637.	0.6	70

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37	A High-Precision Fast-Response Airborne CO2Analyzer for In Situ Sampling from the Surface to the Middle Stratosphere. Journal of Atmospheric and Oceanic Technology, 2002, 19, 1532-1543.	0.5	70
38	Chlorine budget and partitioning during the Stratospheric Aerosol and Gas Experiment (SAGE) III Ozone Loss and Validation Experiment (SOLVE). Journal of Geophysical Research, 2003, 108, .	3.3	69
39	Estimating US fossil fuel CO ₂ emissions from measurements of ¹⁴ C in atmospheric CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13300-13307.	3.3	65
40	Landscape-level terrestrial methane flux observed from a very tall tower. Agricultural and Forest Meteorology, 2015, 201, 61-75.	1.9	61
41	Empirical age spectra for the midlatitude lower stratosphere from in situ observations of CO2: Quantitative evidence for a subtropical â€œbarrierâ€• to horizontal transport. Journal of Geophysical Research, 2001, 106, 10257-10274.	3.3	60
42	Seasonal variation of CH₄ emissions from central California. Journal of Geophysical Research, 2012, 117, .	3.3	60
43	Evaluation of MOPITT retrievals of lowerâ€tropospheric carbon monoxide over the United States. Journal of Geophysical Research, 2012, 117, .	3.3	60
44	Regional-scale geostatistical inverse modeling of North American CO₂ fluxes: a synthetic data study. Atmospheric Chemistry and Physics, 2010, 10, 6151-6167.	1.9	58
45	Input Data Requirements for Lagrangian Trajectory Models. Bulletin of the American Meteorological Society, 2013, 94, 1051-1058.	1.7	56
46	Global methane budget and trend, 2010â€“2017: complementarity of inverse analyses using in situ (GLOBALVIEWplus CH₄ ObsPack) and satellite (GOSAT) observations. Atmospheric Chemistry and Physics, 2021, 21, 4637-4657.	1.9	55
47	Field Testing of Cavity Ring-Down Spectroscopy Analyzers Measuring Carbon Dioxide and Water Vapor. Journal of Atmospheric and Oceanic Technology, 2012, 29, 397-406.	0.5	54
48	Severe chemical ozone loss inside the Arctic Polar Vortex during winter 1999-2000 Inferred fromin situairborne measurements. Geophysical Research Letters, 2001, 28, 2197-2200.	1.5	53
49	Regional sources of nitrous oxide over the United States: Seasonal variation and spatial distribution. Journal of Geophysical Research, 2012, 117, .	3.3	52
50	Airborne observations of methane emissions from rice cultivation in the Sacramento Valley of California. Journal of Geophysical Research, 2012, 117, .	3.3	50
51	Causes of interannual variability in ecosystemâ€“atmosphere CO2 exchange in a northern Wisconsin forest using a Bayesian model calibration. Agricultural and Forest Meteorology, 2008, 148, 309-327.	1.9	46
52	Regional atmospheric CO₂ inversion reveals seasonal and geographic differences in Amazon net biome exchange. Global Change Biology, 2016, 22, 3427-3443.	4.2	45
53	Enhanced North American carbon uptake associated with El NiÃ±o. Science Advances, 2019, 5, eaaw0076.	4.7	45
54	Bias corrections of GOSAT SWIR XCO₂ and XCH₄ with TCCON data and their evaluation using aircraft measurement data. Atmospheric Measurement Techniques, 2016, 9, 3491-3512.	1.2	40

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55	Estimating methane emissions in California's urban and rural regions using multitower observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 13,031.	1.2	40
56	High-resolution inversion of methane emissions in the Southeast US using SEAC⁴RS aircraft observations of atmospheric methane: anthropogenic and wetland sources. Atmospheric Chemistry and Physics, 2018, 18, 6483-6491.	1.9	38
57	Observational constraints on the distribution, seasonality, and environmental predictors of North American boreal methane emissions. Global Biogeochemical Cycles, 2014, 28, 146-160.	1.9	37
58	Allocation of Terrestrial Carbon Sources Using ¹⁴CO₂: Methods, Measurement, and Modeling. Radiocarbon, 2013, 55, 1484-1495.	0.8	35
59	Longâ€Term Measurements Show Little Evidence for Large Increases in Total U.S. Methane Emissions Over the Past Decade. Geophysical Research Letters, 2019, 46, 4991-4999.	1.5	35
60	Global tracer modeling during SOLVE: High-latitude descent and mixing. Journal of Geophysical Research, 2002, 107, SOL 52-1-SOL 52-14.	3.3	34
61	Impact of CO₂measurement bias on CarbonTracker surface flux estimates. Journal of Geophysical Research, 2011, 116, .	3.3	33
62	An integrated flask sample collection system for greenhouse gas measurements. Atmospheric Measurement Techniques, 2012, 5, 2321-2327.	1.2	33
63	An observational and modeling strategy to investigate the impact of remote sources on local air quality: A Houston, Texas, case study from the Second Texas Air Quality Study (TexAQS II). Journal of Geophysical Research, 2010, 115, .	3.3	32
64	Continued emissions of carbon tetrachloride from the United States nearly two decades after its phaseout for dispersive uses. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2880-2885.	3.3	32
65	What have we learned from intensive atmospheric sampling field programmes of CO2?. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 331-343.	0.8	31
66	Seasonal variations in N₂O emissions from central California. Geophysical Research Letters, 2012, 39, .	1.5	30
67	U.S. emissions of HFCâ€134a derived for 2008â€"2012 from an extensive flaskâ€air sampling network. Journal of Geophysical Research D: Atmospheres, 2015, 120, 801-825.	1.2	30
68	Considerable contribution of the Montreal Protocol to declining greenhouse gas emissions from the United States. Geophysical Research Letters, 2017, 44, 8075-8083.	1.5	30
69	An empirical analysis of the spatial variability of atmospheric CO2: Implications for inverse analyses and space-borne sensors. Geophysical Research Letters, 2004, 31, .	1.5	27
70	Climatic controls of interannual variability in regional carbon fluxes from topâ€down and bottomâ€up perspectives. Journal of Geophysical Research, 2010, 115, .	3.3	27
71	Carbon dioxide variability during cold front passages and fair weather days at a forested mountaintop site. Atmospheric Environment, 2012, 46, 405-416.	1.9	27
72	Constraints on emissions of carbon monoxide, methane, and a suite of hydrocarbons in the Colorado Front Range using observations of ¹⁴CO₂. Atmospheric Chemistry and Physics, 2013, 13, 11101-11120.	1.9	27

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73	Pollutant transport among California regions. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6750-6763.	1.2	26
74	Investigating Alaskan methane and carbon dioxide fluxes using measurements from the CARVE tower. Atmospheric Chemistry and Physics, 2016, 16, 5383-5398.	1.9	26
75	Estimating methane emissions from biological and fossilâ€fuel sources in the San Francisco Bay Area. Geophysical Research Letters, 2017, 44, 486-495.	1.5	25
76	Methane emissions in the United States, Canada, and Mexico: evaluation of national methane emission inventories and 2010â€“2017 sectoral trends by inverse analysis of in situ (GLOBALVIEWplus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 622 Atmospheric Chemistry and Physics, 2022, 22, 395-418.	1.9	25
77	Nitrous oxide (N₂O) emissions from California based on 2010 CalNex airborne measurements. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2809-2820.	1.2	24
78	Modelâ€data comparison of MCI field campaign atmospheric CO₂ mole fractions. Journal of Geophysical Research D: Atmospheres, 2014, 119, 10536-10551.	1.2	24
79	Nitrous Oxide Emissions Estimated With the CarbonTrackerâ€Lagrange North American Regional Inversion Framework. Global Biogeochemical Cycles, 2018, 32, 463-485.	1.9	24
80	Intercomparison of atmospheric trace gas dispersion models: Barnett Shale case study. Atmospheric Chemistry and Physics, 2019, 19, 2561-2576.	1.9	24
81	Forests dominate the interannual variability of the North American carbon sink. Environmental Research Letters, 2018, 13, 084015.	2.2	23
82	Technical note: A high-resolution inverse modelling technique for estimating surface CO₂ fluxes based on the NIES-TMâ€“FLEXPART coupled transport model and its adjoint. Atmospheric Chemistry and Physics, 2021, 21, 1245-1266.	1.9	23
83	Comparison between DC-8 and ER-2 species measurements in the tropical middle troposphere: NO, NOy, O3, CO2, CH4, and N2O. Journal of Geophysical Research, 1998, 103, 22087-22096.	3.3	22
84	Meteorological controls on the diurnal variability of carbon monoxide mixing ratio at a mountaintop monitoring site in the Appalachian Mountains. Tellus, Series B: Chemical and Physical Meteorology, 2022, 67, 25659.	0.8	22
85	Biases in atmospheric CO₂ estimates from correlated meteorology modeling errors. Atmospheric Chemistry and Physics, 2015, 15, 2903-2914.	1.9	22
86	Evaluation of wetland methane emissions across North America using atmospheric data and inverse modeling. Biogeosciences, 2016, 13, 1329-1339.	1.3	21
87	COS-derived GPP relationships with temperature and light help explain high-latitude atmospheric CO ₂ seasonal cycle amplification. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	21
88	Atmospheric constraints on 2004 emissions of methane and nitrous oxide in North America from atmospheric measurements and a receptor-oriented modeling framework. Journal of Integrative Environmental Sciences, 2010, 7, 125-133.	1.0	20
89	Atmospheric column-averaged mole fractions of carbon dioxide at 53 aircraft measurement sites. Atmospheric Chemistry and Physics, 2013, 13, 5265-5275.	1.9	20
90	Atmospheric CO₂ Observations Reveal Strong Correlation Between Regional Net Biospheric Carbon Uptake and Solarâ€Induced Chlorophyll Fluorescence. Geophysical Research Letters, 2018, 45, 1122-1132.	1.5	19

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91	Assessment of an atmospheric transport model for annual inverse estimates of California greenhouse gas emissions. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1901-1918.	1.2	18
92	Source Partitioning of Methane Emissions and its Seasonality in the U.S. Midwest. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 646-659.	1.3	18
93	Geostatistical inverse modeling with very large datasets: an example from the Orbiting Carbon Observatory 2 (OCO-2) satellite. Geoscientific Model Development, 2020, 13, 1771-1785.	1.3	18
94	Boreal forest fire CO and CH₄ emission factors derived from tower observations in Alaska during the extreme fire season of 2015. Atmospheric Chemistry and Physics, 2021, 21, 8557-8574.	1.9	17
95	Can CO2 Turbulent Flux Be Measured by Lidar? A Preliminary Study. Journal of Atmospheric and Oceanic Technology, 2011, 28, 365-377.	0.5	16
96	CTDAS-Lagrange v1.0: a high-resolution data assimilation system for regional carbon dioxide observations. Geoscientific Model Development, 2018, 11, 3515-3536.	1.3	16
97	Investigation of the N2O emission strength in the U. S. Corn Belt. Atmospheric Research, 2017, 194, 66-77.	1.8	13
98	Gradients of column CO₂ across North America from the NOAA Global Greenhouse Gas Reference Network. Atmospheric Chemistry and Physics, 2017, 17, 15151-15165.	1.9	12
99	Constraints on the seasonal cycle of stratospheric water vapor using in situ measurements from the ER-2 and a CO photochemical clock. Journal of Geophysical Research, 2001, 106, 22707-22724.	3.3	10
100	Quantifying nitrous oxide fluxes on multiple spatial scales in the Upper Midwest, USA. International Journal of Biometeorology, 2015, 59, 299-310.	1.3	10
101	Atmospheric observation-based estimation of fossil fuel CO2 emissions from regions of central and southern California. Science of the Total Environment, 2019, 664, 381-391.	3.9	10
102	Midwest US Croplands Determine Model Divergence in North American Carbon Fluxes. AGU Advances, 2021, 2, e2020AV000310.	2.3	7
103	Combining a receptor-oriented framework for tracer distributions with a cloud-resolving model to study transport in deep convective clouds: Application to the NASA CRYSTAL-FACE campaign. Geophysical Research Letters, 2004, 31, .	1.5	6
104	Inverse Estimation of an Annual Cycle of California's Nitrous Oxide Emissions. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4758-4771.	1.2	6
105	Strong regional atmospheric 14 C signature of respired CO 2 observed from a tall tower over the midwestern United States. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 2275-2295.	1.3	5
106	Atmospheric oil and natural gas hydrocarbon trends in the Northern Colorado Front Range are notably smaller than inventory emissions reductions. Elementa, 2021, 9, .	1.1	4
107	Evaluating consistency between total column CO₂ retrievals from OCO-2 and the in situ network over North America: implications for carbon flux estimation. Atmospheric Chemistry and Physics, 2021, 21, 14385-14401.	1.9	4
108	The influence of carbon exchange of a large lake on regional tracer-transport inversions: results from Lake Superior. Environmental Research Letters, 2011, 6, 034016.	2.2	3

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109	Data reduction for inverse modeling: an adaptive approach v1.0. Geoscientific Model Development, 2021, 14, 4683-4696.	1.3	3
110	Corrigendum to "Atmospheric column-averaged mole fractions of carbon dioxide at 53 aircraft measurement sites" published in Atmos. Chem. Phys. 13, 5265â€“5275, 2013. Atmospheric Chemistry and Physics, 2013, 13, 9213-9216.	1.9	2
111	Corrigendum to "A regional high-resolution carbon flux inversion of North America for 2004" published in Biogeosciences, 7, 1625-1644, 2010. Biogeosciences, 2010, 7, 2245-2245.	1.3	1
112	Remote sensing atmospheric CO<inf>2</inf> column abundance using an airborne pulsed laser sounder at 13 km altitude. , 2010, , .		0