Guido R Van Der Werf

List of Publications by Citations

147 papers	31,958 citations	71 h-index	157 g-index
157 ext. papers	38,274 ext. citations	10.5 avg, IF	6.78 L-index

#	Paper	IF	Citations
147	Global fire emissions and the contribution of deforestation, savanna, forest, agricultural, and peat fires (1997–2009). *Atmospheric Chemistry and Physics*, **2010**, 10, 11707-11735	6.8	2013
146	Fire in the Earth system. *Science*, **2009**, 324, 481-4	33.3	1799
145	Trends in the sources and sinks of carbon dioxide. *Nature Geoscience*, **2009**, 2, 831-836	18.3	1453
144	Interannual variability in global biomass burning emissions from 1997 to 2004. *Atmospheric Chemistry and Physics*, **2006**, 6, 3423-3441	6.8	1383
143	Three decades of global methane sources and sinks. *Nature Geoscience*, **2013**, 6, 813-823	18.3	1293
142	Global Carbon Budget 2018. *Earth System Science Data*, **2018**, 10, 2141-2194	10.5	831
141	Analysis of daily, monthly, and annual burned area using the fourth-generation global fire emissions database (GFED4). *Journal of Geophysical Research G: Biogeosciences*, **2013**, 118, 317-328	3.7	829
140	Contribution of semi-arid ecosystems to interannual variability of the global carbon cycle. *Nature*, **2014**, 509, 600-3	50.4	778
139	Global Carbon Budget 2019. *Earth System Science Data*, **2019**, 11, 1783-1838	10.5	776
138	Emissions of primary aerosol and precursor gases in the years 2000 and 1750 prescribed data-sets for AeroCom. *Atmospheric Chemistry and Physics*, **2006**, 6, 4321-4344	6.8	765
137	Contribution of anthropogenic and natural sources to atmospheric methane variability. *Nature*, **2006**, 443, 439-43	50.4	762
136	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, 18925-30	11.5	737
135	Global Carbon Budget 2016. *Earth System Science Data*, **2016**, 8, 605-649	10.5	730
134	Global fire emissions estimates during 1997–2016. *Earth System Science Data*, **2017**, 9, 697-720	10.5	693
133	Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power. *Biogeosciences*, **2012**, 9, 527-554	4.6	677
132	The global methane budget 2000–2012. *Earth System Science Data*, **2016**, 8, 697-751	10.5	641
131	Carbon emissions from land use and land-cover change. *Biogeosciences*, **2012**, 9, 5125-5142	4.6	629

130	Evolution of anthropogenic and biomass burning emissions of air pollutants at global and regional scales during the 1980–2010 period. *Climatic Change*, **2011**, 109, 163-190	4.5	623
129	Global Carbon Budget 2017. *Earth System Science Data*, **2018**, 10, 405-448	10.5	614
128	Global Carbon Budget 2020. *Earth System Science Data*, **2020**, 12, 3269-3340	10.5	533
127	Global Carbon Budget 2015. *Earth System Science Data*, **2015**, 7, 349-396	10.5	513
126	Continental-scale partitioning of fire emissions during the 1997 to 2001 El Niño/La Niña period. *Science*, **2004**, 303, 73-6	33.3	480
125	Assessing variability and long-term trends in burned area by merging multiple satellite fire products. *Biogeosciences*, **2010**, 7, 1171-1186	4.6	471
124	The Global Methane Budget 2000–2017. *Earth System Science Data*, **2020**, 12, 1561-1623	10.5	463
123	Global estimation of burned area using MODIS active fire observations. *Atmospheric Chemistry and Physics*, **2006**, 6, 957-974	6.8	448
122	Global burned area and biomass burning emissions from small fires. *Journal of Geophysical Research* , **2012**, 117, n/a-n/a		446
121	The global carbon budget 1959–2011. *Earth System Science Data*, **2013**, 5, 165-185	10.5	436
120	A human-driven decline in global burned area. *Science*, **2017**, 356, 1356-1362	33.3	433
119	Global carbon budget 2014. *Earth System Science Data*, **2015**, 7, 47-85	10.5	367
118	Drought and ecosystem carbon cycling. *Agricultural and Forest Meteorology*, **2011**, 151, 765-773	5.8	359
117	Global vulnerability of peatlands to fire and carbon loss. *Nature Geoscience*, **2015**, 8, 11-14	18.3	357
116	Carbon emissions from fires in tropical and subtropical ecosystems. *Global Change Biology*, **2003**, 9, 547-562	5.4	348
115	Climate regulation of fire emissions and deforestation in equatorial Asia. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 20350-5	11.5	278
114	Human amplification of drought-induced biomass burning in Indonesia since 1960. *Nature Geoscience*, **2009**, 2, 185-188	18.3	270
113	A comprehensive quantification of global nitrous oxide sources and sinks. *Nature*, **2020**, 586, 248-256	50.4	270

112	Vegetation fire emissions and their impact on air pollution and climate. *Atmospheric Environment*, **2009**, 43, 107-116	5.3	265
111	Historic global biomass burning emissions for CMIP6 (BB4CMIP) based on merging satellite observations with proxies and fire models (1750–2015). *Geoscientific Model Development*, **2017**, 10, 3329-3357	6.3	212
110	The European carbon balance. Part 3: forests. *Global Change Biology*, **2010**, 16, 1429-1450	11.4	206
109	Climate controls on the variability of fires in the tropics and subtropics. *Global Biogeochemical Cycles*, **2008**, 22, n/a-n/a	5.9	193
108	The status and challenge of global fire modelling. *Biogeosciences*, **2016**, 13, 3359-3375	4.6	193
107	Global impacts of aerosols from particular source regions and sectors. *Journal of Geophysical Research*, **2007**, 112,		191
106	Seven years of recent European net terrestrial carbon dioxide exchange constrained by atmospheric observations. *Global Change Biology*, **2010**, 16, 1317-1337	11.4	182
105	Indonesian fire activity and smoke pollution in 2015 show persistent nonlinear sensitivity to El Niño-induced drought. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 9204-9	11.5	178
104	Using satellite based soil moisture to quantify the water driven variability in NDVI: A case study over mainland Australia. *Remote Sensing of Environment*, **2014**, 140, 330-338	13.2	174
103	Evaluating the performance of pyrogenic and biogenic emission inventories against one decade of space-based formaldehyde columns. *Atmospheric Chemistry and Physics*, **2009**, 9, 1037-1060	6.8	167
102	Daily and 3-hourly variability in global fire emissions and consequences for atmospheric model predictions of carbon monoxide. *Journal of Geophysical Research*, **2011**, 116, n/a-n/a		165
101	The European carbon balance. Part 2: croplands. *Global Change Biology*, **2010**, 16, 1409-1428	11.4	165
100	Agricultural intensification increases deforestation fire activity in Amazonia. *Global Change Biology*, **2008**, 14, 2262-2275	11.4	154
99	Historical background and current developments for mapping burned area from satellite Earth observation. *Remote Sensing of Environment*, **2019**, 225, 45-64	13.2	152
98	Recent trends in African fires driven by cropland expansion and El Niño to La Niña transition. *Nature Climate Change*, **2014**, 4, 791-795	21.4	142
97	Vegetation fires in the Anthropocene. *Nature Reviews Earth & Environment*, **2020**, 1, 500-515	30.2	135
96	A full greenhouse gases budget of Africa: synthesis, uncertainties, and vulnerabilities. *Biogeosciences*, **2014**, 11, 381-407	4.6	134
95	Global emissions of non-methane hydrocarbons deduced from SCIAMACHY formaldehyde columns through 2003–2006. *Atmospheric Chemistry and Physics*, **2009**, 9, 3663-3679	6.8	124

94	Global carbon budget 2014		121
93	State of the Climate in 2010. *Bulletin of the American Meteorological Society*, **2011**, 92, S1-S236	6.1	114
92	The Global Fire Atlas of individual fire size, duration, speed and direction. *Earth System Science Data* , **2019**, 11, 529-552	10.5	113
91	Biological and geophysical feedbacks with fire in the Earth system. *Environmental Research Letters*, **2018**, 13, 033003	6.2	108
90	Long-term trends and interannual variability of forest, savanna and agricultural fires in South America. *Carbon Management*, **2013**, 4, 617-638	3.3	96
89	Biomass burning fuel consumption rates: a field measurement database. *Biogeosciences*, **2014**, 11, 7305-7329	4.2	95
88	Fire emissions from C3 and C4 vegetation and their influence on interannual variability of atmospheric CO2 and 13CO2. *Global Biogeochemical Cycles*, **2005**, 19, n/a-n/a	5.9	93
87	Top-down estimates of global CO sources using MOPITT measurements. *Geophysical Research Letters*, **2004**, 31,	4.9	91
86	Time-dependent inversion estimates of global biomass-burning CO emissions using Measurement of Pollution in the Troposphere (MOPITT) measurements. *Journal of Geophysical Research*, **2006**, 111,		90
85	Spatial and temporal variability in the ratio of trace gases emitted from biomass burning. *Atmospheric Chemistry and Physics*, **2011**, 11, 3611-3629	6.8	89
84	Natural land carbon dioxide exchanges in the ECMWF integrated forecasting system: Implementation and offline validation. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 5923-5946	4.4	88
83	Global fire emissions buffered by the production of pyrogenic carbon. *Nature Geoscience*, **2019**, 12, 742-747	14.3	81
82	A global analysis of the impact of drought on net primary productivity. *Hydrology and Earth System Sciences*, **2013**, 17, 3885-3894	5.5	80
81	Nine years of global hydrocarbon emissions based on source inversion of OMI formaldehyde observations. *Atmospheric Chemistry and Physics*, **2016**, 16, 10133-10158	6.8	77
80	Global AIRS and MOPITT CO measurements: Validation, comparison, and links to biomass burning variations and carbon cycle. *Journal of Geophysical Research*, **2008**, 113,		77
79	An aerosol boomerang: Rapid around-the-world transport of smoke from the December 2006 Australian forest fires observed from space. *Journal of Geophysical Research*, **2009**, 114,		76
78	A pan-tropical cascade of fire driven by El Niño/Southern Oscillation. *Nature Climate Change*, **2017**, 7, 906-911	21.4	74
77	Global fire emissions and the contribution of deforestation, savanna, forest, agricultural, and peat fires (1997–2009)		71

76	Denial of long-term issues with agriculture on tropical peatlands will have devastating consequences. *Global Change Biology*, **2017**, 23, 977-982	11.4	67
75	Nitrogen deposition in tropical forests from savanna and deforestation fires. *Global Change Biology* , **2010**, 16, 2024-2038	11.4	67
74	Estimates of fire emissions from an active deforestation region in the southern Amazon based on satellite data and biogeochemical modelling. *Biogeosciences*, **2009**, 6, 235-249	4.6	66
73	Contribution of ocean, fossil fuel, land biosphere, and biomass burning carbon fluxes to seasonal and interannual variability in atmospheric CO2. *Journal of Geophysical Research*, **2008**, 113, n/a-n/a		63
72	Evidence for long-range transport of carbon monoxide in the Southern Hemisphere from SCIAMACHY observations. *Geophysical Research Letters*, **2006**, 33,	4.9	63
71	The use of ATSR active fire counts for estimating relative patterns of biomass burning a study from the boreal forest region. *Geophysical Research Letters*, **2003**, 30,	4.9	59
70	Importance of transboundary transport of biomass burning emissions to regional air quality in Southeast Asia during a high fire event. *Atmospheric Chemistry and Physics*, **2015**, 15, 363-373	6.8	53
69	Satellite observations indicate substantial spatiotemporal variability in biomass burning NO_x emission factors for South America. *Atmospheric Chemistry and Physics*, **2014**, 14, 3929-3943	6.8	52
68	African burned area and fire carbon emissions are strongly impacted by small fires undetected by coarse resolution satellite data. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	52
67	Fire and deforestation dynamics in Amazonia (1973-2014). *Global Biogeochemical Cycles*, **2017**, 31, 24-38	5.9	51
66	Variability of fire carbon emissions in equatorial Asia and its nonlinear sensitivity to El Ni. *Geophysical Research Letters*, **2016**, 43, 10,472-10,479	4.9	50
65	Global Carbon Budget 2021. *Earth System Science Data*, **2022**, 14, 1917-2005	10.5	47
64	Optimizing global CO emission estimates using a four-dimensional variational data assimilation system and surface network observations. *Atmospheric Chemistry and Physics*, **2011**, 11, 4705-4723	6.8	46
63	What could have caused pre-industrial biomass burning emissions to exceed current rates?. *Climate of the Past*, **2013**, 9, 289-306	3.9	44
62	Advancing Scientific Understanding of the Global Methane Budget in Support of the Paris Agreement. *Global Biogeochemical Cycles*, **2019**, 33, 1475-1512	5.9	40
61	Evaluation of cropland maximum light use efficiency using eddy flux measurements in North America and Europe. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	38
60	SCIAMACHY CO over land and oceans: 2003–2007 interannual variability. *Atmospheric Chemistry and Physics*, **2009**, 9, 3799-3813	6.8	38
59	Reviews and syntheses: An empirical spatiotemporal description of the global surface–atmosphere carbon fluxes: opportunities and data limitations. *Biogeosciences*, **2017**, 14, 3685-3703	4.6	37

58	Early anthropogenic CH4 emissions and the variation of CH4 and 13CH4 over the last millennium. *Global Biogeochemical Cycles*, **2008**, 22, n/a-n/a	5.9	36
57	Chapter G2 Carbon emissions from land use and land-cover change		36
56	The generation of gridded emissions data for CMIP6. *Geoscientific Model Development*, **2020**, 13, 461-482	6.3	35
55	Comparing optimized CO emission estimates using MOPITT or NOAA surface network observations. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		35
54	Scanning Imaging Absorption Spectrometer for Atmospheric Chartography carbon monoxide total columns: Statistical evaluation and comparison with chemistry transport model results. *Journal of Geophysical Research*, **2007**, 112,		35
53	Terrestrial cycling of ¹³CO₂ by photosynthesis, respiration, and biomass burning in SiBCASA. *Biogeosciences*, **2014**, 11, 6553-6571	4.6	34
52	Fire-related carbon emissions from land use transitions in southern Amazonia. *Geophysical Research Letters*, **2008**, 35,	4.9	32
51	Biomass burning fuel consumption dynamics in the tropics and subtropics assessed from satellite. *Biogeosciences*, **2016**, 13, 3717-3734	4.6	30
50	Historical (1700–2012) global multi-model estimates of the fire emissions from the Fire Modeling Intercomparison Project (FireMIP). *Atmospheric Chemistry and Physics*, **2019**, 19, 12545-12567	6.8	29
49	Dynamic biomass burning emission factors and their impact on atmospheric CO mixing ratios. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 6797-6815	4.4	29
48	Optimal use of land surface temperature data to detect changes in tropical forest cover. *Journal of Geophysical Research*, **2011**, 116,		29
47	New fire diurnal cycle characterizations to improve fire radiative energy assessments made from MODIS observations. *Atmospheric Chemistry and Physics*, **2015**, 15, 8831-8846	6.8	28
46	Global Climate. *Bulletin of the American Meteorological Society*, **2020**, 101, S9-S128	6.1	26
45	Interannual variability of carbon monoxide emission estimates over South America from 2006 to 2010. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		25
44	Precipitation–fire linkages in Indonesia (1997–2015). *Biogeosciences*, **2017**, 14, 3995-4008	4.6	24
43	Modeling fire-driven deforestation potential in Amazonia under current and projected climate conditions. *Journal of Geophysical Research*, **2010**, 115,		24
42	Monitoring emissions from the 2015 Indonesian fires using CO satellite data. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	23
41	A carbon cycle science update since IPCC AR-4. *Ambio*, **2010**, 39, 402-12	6.5	22

40	Annual South American forest loss estimates based on passive microwave remote sensing (1990–2010). *Biogeosciences*, **2016**, 13, 609-624	4.6	22
39	Relationships between burned area, forest cover loss, and land cover change in the Brazilian Amazon based on satellite data. *Biogeosciences*, **2015**, 12, 6033-6043	4.6	20
38	Global cropland monthly gross primary production in the year 2000. *Biogeosciences*, **2014**, 11, 3871-3880	4.6	20
37	The Impact of Uncertainties in African Biomass Burning Emission Estimates on Modeling Global Air Quality, Long Range Transport and Tropospheric Chemical Lifetimes. *Atmosphere*, **2012**, 3, 132-163	2.7	20
36	The role of fire in global forest loss dynamics. *Global Change Biology*, **2021**, 27, 2377-2391	11.4	16
35	Fine Particle Emissions From Tropical Peat Fires Decrease Rapidly With Time Since Ignition. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 5607-5617	4.4	15
34	Opportunities and challenges for savanna burning emissions abatement in southern Africa. *Journal of Environmental Management*, **2021**, 288, 112414	7.9	15
33	Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power		14
32	Biomass burning fuel consumption rates: a field measurement database		12
31	Vast CO release from Australian fires in 2019-2020 constrained by satellite. *Nature*, **2021**, 597, 366-369	50.4	12
30	Impact of the Atlantic Multidecadal Oscillation (AMO) on deriving anthropogenic warming rates from the instrumental temperature record. *Earth System Dynamics*, **2014**, 5, 375-382	4.8	11
29	Satellite evidence of substantial rain-induced soil emissions of ammonia across the Sahel. *Atmospheric Chemistry and Physics*, **2018**, 18, 16713-16727	6.8	11
28	Global fire emissions estimates during 1997–2015		10
27	Biomass burning combustion efficiency observed from space using measurements of CO and NO₂ by the TROPOspheric Monitoring Instrument (TROPOMI). *Atmospheric Chemistry and Physics*, **2021**, 21, 597-616	6.8	10
26	Fire Research: Linking Past, Present, and Future Data. *Eos*, **2013**, 94, 421-422	1.5	8
25	The full greenhouse gases budget of Africa: synthesis, uncertainties and vulnerabilities		7
24	Assessing variability and long-term trends in burned area by merging multiple satellite fire products		7
23	Correction to "Scanning Imaging Absorption Spectrometer for Atmospheric Chartography carbon monoxide total columns: Statistical evaluation and comparison with chemistry transport model results" *Journal of Geophysical Research*, **2007**, 112,		6

22	Modelling biomass burning emissions and the effect of spatial resolution: a case study for Africa based on the Global Fire Emissions Database (GFED). *Geoscientific Model Development*, **2019**, 12, 4681-4703	6.3	6
21	Intraseasonal variability of greenhouse gas emission factors from biomass burning in the Brazilian Cerrado. *Biogeosciences*, **2021**, 18, 1375-1393	4.6	6
20	Evaluating the performance of pyrogenic and biogenic emission inventories against one decade of space-based formaldehyde columns		5
19	Historic global biomass burning emissions based on merging satellite observations with proxies and fire models (1750–2015) **2017**,		4
18	Importance of transboundary transport of biomass burning emissions to regional air quality in Southeast Asia		4
17	Estimates of fire emissions from an active deforestation region in the southern Amazon based on satellite data and biogeochemical modelling		4
16	Forecasting Global Fire Emissions on Subseasonal to Seasonal (S2S) Time Scales. *Journal of Advances in Modeling Earth Systems*, **2020**, 12, e2019MS001955	7.1	4
15	Disentangling effects of key coarse woody debris fuel properties on its combustion, consumption and carbon gas emissions during experimental laboratory fire. *Forest Ecology and Management*, **2018**, 427, 275-288	3.9	3
14	Spatial and temporal variability in the ratio of trace gases emitted from biomass burning		3
13	Relationships between burned area, forest cover loss and land use change in the Brazilian Amazon based on satellite data		3
12	A global analysis of the impact of drought on net primary productivity		3
11	Instantaneous Pre-Fire Biomass and Fuel Load Measurements from Multi-Spectral UAS Mapping in Southern African Savannas. *Fire*, **2021**, 4, 2	2.4	3
10	Historical (1700–2012) Global Multi-model Estimates of the Fire Emissions from the Fire Modeling Intercomparison Project (FireMIP) **2019**,		2
9	Optimizing global CO emissions using a four-dimensional variational data assimilation system and surface network observations		2
8	Satellite observations indicate substantial spatiotemporal variability in biomass burning NO_x emission factors for South America		2
7	New fire diurnal cycle characterizations to improve fire radiative energy assessments made from low-Earth orbit satellites sampling		2
6	Towards multi-tracer data-assimilation: biomass burning and carbon isotope exchange in SiBCASA		1
5	Annual South American forest loss estimates based on passive microwave remote sensing (1990–2010)		1

4	What could have caused pre-industrial biomass burning emissions to exceed current rates?		1
3	Nine years of global hydrocarbon emissions based on source inversion of OMI formaldehyde observations **2016**,		1
2	Stable carbon isotopic composition of biomass burning emissions □mplications for estimating the contribution of C₃□and C₄□plants. *Atmospheric Chemistry and Physics*, **2022**, 22, 2871-2890	6.8	1
1	New land-use-change emissions indicate a declining CO airborne fraction.. *Nature*, **2022**, 603, 450-454	50.4	1