

# Stephan Fueglistaler

## List of Publications by Year in descending order

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Version: 2024-02-01

84  
papers

4,746  
citations

126907

33  
h-index

114465

63  
g-index

112  
all docs

112  
docs citations

112  
times ranked

3893  
citing authors

#	ARTICLE	IF	CITATIONS
1	Tropical tropopause layer. <i>Reviews of Geophysics</i> , 2009, 47, .	23.0	827
2	Stratospheric aerosol-Observations, processes, and impact on climate. <i>Reviews of Geophysics</i> , 2016, 54, 278-335.	23.0	265
3	Stratospheric water vapor predicted from the Lagrangian temperature history of air entering the stratosphere in the tropics. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	224
4	The impact of geoengineering aerosols on stratospheric temperature and ozone. <i>Environmental Research Letters</i> , 2009, 4, 045108.	5.2	199
5	Tropical troposphere-to-stratosphere transport inferred from trajectory calculations. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	188
6	Control of interannual and longer-term variability of stratospheric water vapor. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	174
7	Regional dry-season climate changes due to three decades of Amazonian deforestation. <i>Nature Climate Change</i> , 2017, 7, 200-204.	18.8	165
8	Oxalic acid as a heterogeneous ice nucleus in the upper troposphere and its indirect aerosol effect. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 3115-3129.	4.9	145
9	Trends and variability of midlatitude stratospheric water vapour deduced from the re-evaluated Boulder balloon series and HALOE. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 1391-1402.	4.9	107
10	Technical Note: Chemistry-climate model SOCOL: version 2.0 with improved transport and chemistry/microphysics schemes. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 5957-5974.	4.9	105
11	Horizontal water vapor transport in the lower stratosphere from subtropics to high latitudes during boreal summer. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 8111-8127.	3.3	100
12	Water vapor transport and dehydration above convective outflow during Asian monsoon. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	93
13	The diabatic heat budget of the upper troposphere and lower/mid stratosphere in ECMWF reanalyses. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2009, 135, 21-37.	2.7	91
14	Large differences in reanalyses of diabatic heating in the tropical upper troposphere and lower stratosphere. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 9565-9576.	4.9	86
15	Impacts of Atmospheric Temperature Trends on Tropical Cyclone Activity. <i>Journal of Climate</i> , 2013, 26, 3877-3891.	3.2	83
16	Horizontal transport affecting trace gas seasonality in the Tropical Tropopause Layer (TTL). <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	80
17	The influence of summertime convection over Southeast Asia on water vapor in the tropical stratosphere. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	76
18	Advection&#x2013;condensation paradigm for stratospheric water vapor. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	75

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19	Insight from ozone and water vapour on transport in the tropical tropopause layer (TTL). Atmospheric Chemistry and Physics, 2011, 11, 407-419.	4.9	71
20	The relation between atmospheric humidity and temperature trends for stratospheric water. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1052-1074.	3.3	62
21	A climatological perspective of deep convection penetrating the TTL during the Indian summer monsoon from the AVHRR and MODIS instruments. Atmospheric Chemistry and Physics, 2010, 10, 4573-4582.	4.9	59
22	NAT-rock formation by mother clouds: a microphysical model study. Atmospheric Chemistry and Physics, 2002, 2, 93-98.	4.9	58
23	Effects of convective ice lofting on H <sub>2</sub> O and HDO in the tropical tropopause layer. Journal of Geophysical Research, 2007, 112, .	3.3	58
24	Extreme NAT supersaturations in mountain wave ice PSCs: A clue to NAT formation. Journal of Geophysical Research, 2003, 108, .	3.3	55
25	Dehydration potential of ultrathin clouds at the tropical tropopause. Geophysical Research Letters, 2003, 30, .	4.0	54
26	Detailed modeling of mountain wave PSCs. Atmospheric Chemistry and Physics, 2003, 3, 697-712.	4.9	54
27	Projections of tropical heat stress constrained by atmospheric dynamics. Nature Geoscience, 2021, 14, 133-137.	12.9	54
28	The SCOUT-O3 Darwin Aircraft Campaign: rationale and meteorology. Atmospheric Chemistry and Physics, 2009, 9, 93-117.	4.9	53
29	Tropical dehydration processes constrained by the seasonality of stratospheric deuterated water. Nature Geoscience, 2010, 3, 262-266.	12.9	50
30	Tropical temperature trends in Atmospheric General Circulation Model simulations and the impact of uncertainties in observed SSTs. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,327.	3.3	48
31	Impact of clouds on radiative heating rates in the tropical lower stratosphere. Journal of Geophysical Research, 2006, 111, .	3.3	44
32	The annual cycle in lower stratospheric temperatures revisited. Atmospheric Chemistry and Physics, 2011, 11, 3701-3711.	4.9	41
33	Large NAT particle formation by mother clouds: Analysis of SOLVE/THESEO-2000 observations. Geophysical Research Letters, 2002, 29, 52-1.	4.0	38
34	Influence of tropospheric SO <sub>2</sub> emissions on particle formation and the stratospheric humidity. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	38
35	Stepwise changes in stratospheric water vapor?. Journal of Geophysical Research, 2012, 117, .	3.3	37
36	Seasonal Prediction Skill of Northern Extratropical Surface Temperature Driven by the Stratosphere. Journal of Climate, 2017, 30, 4463-4475.	3.2	37

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37	Observational Evidence for Two Modes of Coupling Between Sea Surface Temperatures, Tropospheric Temperature Profile, and Shortwave Cloud Radiative Effect in the Tropics. <i>Geophysical Research Letters</i> , 2019, 46, 9890-9898.	4.0	37
38	Ultrathin Tropical Tropopause Clouds (UTTCs): II. Stabilization mechanisms. <i>Atmospheric Chemistry and Physics</i> , 2003, 3, 1093-1100.	4.9	34
39	Tropical response to stratospheric sudden warmings and its modulation by the QBO. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 7382-7395.	3.3	34
40	A Low-Level Circulation in the Tropics. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 1019-1034.	1.7	28
41	Climate Impacts From Large Volcanic Eruptions in a High-Resolution Climate Model: The Importance of Forcing Structure. <i>Geophysical Research Letters</i> , 2019, 46, 7690-7699.	4.0	28
42	Simple Spectral Models for Atmospheric Radiative Cooling. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 479-497.	1.7	28
43	Sensitivity of stratospheric Br&lt;sub&gt;y&gt; to uncertainties in very short lived substance emissions and atmospheric transport. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 1379-1392.	4.9	27
44	Natural variability contributes to model-satellite differences in tropical tropospheric warming. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	27
45	Springtime arctic ozone depletion forces northern hemisphere climate anomalies. <i>Nature Geoscience</i> , 2022, 15, 541-547.	12.9	27
46	The importance of the tropical tropopause layer for equatorial Kelvin wave propagation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 5160-5175.	3.3	25
47	Multitimescale variations in modeled stratospheric water vapor derived from three modern reanalysis products. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 6509-6534.	4.9	23
48	The distribution of precipitation and the spread in tropical upper tropospheric temperature trends in CMIP5/AMIP simulations. <i>Geophysical Research Letters</i> , 2015, 42, 6000-6007.	4.0	20
49	How Tropical Convection Couples High Moist Static Energy Over Land and Ocean. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086387.	4.0	20
50	A modelling study of the impact of cirrus clouds on the moisture budget of the upper troposphere. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 1425-1434.	4.9	19
51	Maintenance of the Stratospheric Structure in an Idealized General Circulation Model. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 3341-3358.	1.7	19
52	Stratospheric sudden warmings in an idealized GCM. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 11,054.	3.3	19
53	Cirrus and water vapour transport in the tropical tropopause layer - Part 2: Roles of ice nucleation and sedimentation, cloud dynamics, and moisture conditions. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 12225-12236.	4.9	18
54	Mechanism for Increasing Tropical Rainfall Unevenness With Global Warming. <i>Geophysical Research Letters</i> , 2019, 46, 14836-14843.	4.0	18

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55	Kelvin waves and shear-flow turbulent mixing in the TTL in (re-)analysis data. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	17
56	Microphysical, radiative, and dynamical impacts of thin cirrus clouds on humidity in the tropical tropopause layer and lower stratosphere. <i>Geophysical Research Letters</i> , 2014, 41, 6949-6955.	4.0	17
57	Departure from Clausius-Clapeyron scaling of water entering the stratosphere in response to changes in tropical upwelling. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 1962-1972.	3.3	17
58	Variability and trends in dynamical forcing of tropical lower stratospheric temperatures. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 13439-13453.	4.9	17
59	On the Controlling Factors for Globally Extreme Humid Heat. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL096082.	4.0	17
60	Trend in ice moistening the stratosphere – constraints from isotope data of water and methane. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 201-207.	4.9	15
61	Linearity of Outgoing Longwave Radiation: From an Atmospheric Column to Global Climate Models. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089235.	4.0	15
62	Mountain polar stratospheric cloud measurements by Ground Based FTIR Solar Absorption Spectroscopy. <i>Geophysical Research Letters</i> , 2001, 28, 2189-2192.	4.0	14
63	IGCM4: a fast, parallel and flexible intermediate climate model. <i>Geoscientific Model Development</i> , 2015, 8, 1157-1167.	3.6	14
64	On the Cooling-to-Space Approximation. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 465-478.	1.7	14
65	Cloud and Radiative Balance Changes in Response to ENSO in Observations and Models. <i>Journal of Climate</i> , 2014, 27, 3100-3113.	3.2	12
66	The Peculiar Trajectory of Global Warming. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033629.	3.3	12
67	Mechanism of Fast Atmospheric Energetic Equilibration Following Radiative Forcing by CO <sub>2</sub> . <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 2468-2482.	3.8	11
68	A Satellite-Based Climatology of Central and Southeastern U.S. Mesoscale Convective Systems. <i>Monthly Weather Review</i> , 2020, 148, 2607-2621.	1.4	11
69	Tracking Kelvin waves from the equatorial troposphere into the stratosphere. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	10
70	Changes in polar stratospheric temperature climatology in relation to stratospheric sudden warming occurrence. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	9
71	The Buffer Zone of the Quasi-Biennial Oscillation. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 3553-3567.	1.7	9
72	Statistical analysis of global variations of atmospheric relative humidity as observed by AIRS. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	8

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73	Anomalous Dynamics of QBO Disruptions Explained by 1D Theory with External Triggering. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 373-383.	1.7	8
74	Vertical Mixing and the Temperature and Wind Structure of the Tropical Tropopause Layer. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1609-1622.	1.7	7
75	Cirrus, Transport, and Mixing in the Tropical Upper Troposphere. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1339-1352.	1.7	7
76	Mean-Flow Damping Forms the Buffer Zone of the Quasi-Biennial Oscillation: 1D Theory. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 1955-1967.	1.7	5
77	The El Niño Southern Oscillation Pattern Effect. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL095261.	4.0	5
78	On the Causal Relationship Between the Moist Diabatic Circulation and Cloud Rapid Adjustment to Increasing CO <sub>2</sub> . <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 3836-3851.	3.8	3
79	Tropical Water Fluxes Dominated by Deep Convection Up to Near Tropopause Levels. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091471.	4.0	3
80	Large internal variability dominates over global warming signal in observed lower stratospheric QBO amplitude. <i>Journal of Climate</i> , 2021, , 1-43.	3.2	3
81	Reduction of Bias from Parameter Variance in Geophysical Data Estimation: Method and Application to Ice Water Content and Sedimentation Flux Estimated from Lidar. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 835-857.	1.7	1
82	Cause of the intense tropics-wide tropospheric warming in response to El Niño. <i>Journal of Climate</i> , 2022, , 1-30.	3.2	1
83	Geo-engineering side effects: Heating the tropical tropopause by sedimenting sulphur aerosol?. <i>IOP Conference Series: Earth and Environmental Science</i> , 2009, 6, 452017.	0.3	0
84	The role of large-scale convective organization for tropical high cloud amount. <i>Geophysical Research Letters</i> , 2014, 41, 5259-5263.	4.0	0