M Joan Alexander

List of Publications by Year in Descending Order

75 papers	7,261 citations	40 h-index	85 g-index
94 ext. papers	8,124 ext. citations	5.6 avg, IF	6.03 L-index

#	Paper	IF	Citations
75	Using TRMM Latent Heat as a Source to Estimate Convection Induced Gravity Wave Momentum Flux in the Lower Stratosphere. *Journal of Geophysical Research D: Atmospheres*, **2022**, 127, e2021JD035785	4.4	2
74	First Super-Pressure Balloon-Borne Fine-Vertical-Scale Profiles in the Upper TTL: Impacts of Atmospheric Waves on Cirrus Clouds and the QBO. *Geophysical Research Letters*, **2022**, 49,	4.9	0
73	Tropical Temperature Variability in the UTLS: New Insights from GPS Radio Occultation Observations. *Journal of Climate*, **2021**, 34, 2813-2838	4.4	6
72	Observational Validation of Parameterized Gravity Waves From Tropical Convection in the Whole Atmosphere Community Climate Model. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD033954	4.4	5
71	Using vertical phase differences to better resolve 3D gravity wave structure. *Atmospheric Measurement Techniques*, **2021**, 14, 5873-5886	4	1
70	Balloon-Borne Observations of Short Vertical Wavelength Gravity Waves and Interaction With QBO Winds. *Journal of Geophysical Research D: Atmospheres*, **2020**, 125, e2020JD032779	4.4	3
69	Realistic Simulation of Tropical Atmospheric Gravity Waves Using Radar-Observed Precipitation Rate and Echo Top Height. *Journal of Advances in Modeling Earth Systems*, **2020**, 12, e2019MS001949	7.1	1
68	Gravity waves in the winter stratosphere over the Southern Ocean: high-resolution satellite observations and 3-D spectral analysis. *Atmospheric Chemistry and Physics*, **2019**, 19, 15377-15414	6.8	15
67	Satellite Observations of Stratospheric Gravity Waves Associated With the Intensification of Tropical Cyclones. *Geophysical Research Letters*, **2018**, 45, 1692-1700	4.9	17
66	MJO-Related Intraseasonal Variation in the Stratosphere: Gravity Waves and Zonal Winds. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 775-788	4.4	6
65	GHOST: A Satellite Mission Concept for Persistent Monitoring of Stratospheric Gravity Waves Induced by Severe Storms. *Bulletin of the American Meteorological Society*, **2018**, 99, 1813-1828	6.1	3
64	Estimating Subseasonal Variability and Trends in Global Atmosphere Using Reanalysis Data. *Geophysical Research Letters*, **2018**, 45, 12999-13007	4.9	3
63	THE NASA AIRBORNE TROPICAL TROPOPAUSE EXPERIMENT: High-Altitude Aircraft Measurements in the Tropical Western Pacific. *Bulletin of the American Meteorological Society*, **2017**, 98, 129-143	6.1	59
62	Sensitivity of Gravity Wave Fluxes to Interannual Variations in Tropical Convection and Zonal Wind. *Journals of the Atmospheric Sciences*, **2017**, 74, 2701-2716	2.1	10
61	Small-Scale Wind Fluctuations in the Tropical Tropopause Layer from Aircraft Measurements: Occurrence, Nature, and Impact on Vertical Mixing. *Journals of the Atmospheric Sciences*, **2017**, 74, 3847-3869	2.1	16
60	A Census of Atmospheric Variability From Seconds to Decades. *Geophysical Research Letters*, **2017**, 44, 11,201	4.9	17
59	Relationships Between Gravity Waves Observed at Earth's Surface and in the Stratosphere Over the Central and Eastern United States. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 11,482	4.4	8

58	New AIM/CIPS global observations of gravity waves near 50–55 km. *Geophysical Research Letters*, **2017**, 44, 7044-7052	4.9	11
57	Exploring gravity wave characteristics in 3-D using a novel S-transform technique: AIRS/Aqua measurements over the Southern Andes and Drake Passage. *Atmospheric Chemistry and Physics*, **2017**, 17, 8553-8575	6.8	41
56	A decadal satellite record of gravity wave activity in the lower stratosphere to study polar stratospheric cloud formation. *Atmospheric Chemistry and Physics*, **2017**, 17, 2901-2920	6.8	29
55	Tropical Waves and the Quasi-Biennial Oscillation in a 7-km Global Climate Simulation. *Journals of the Atmospheric Sciences*, **2016**, 73, 3771-3783	2.1	34
54	High-frequency gravity waves and homogeneous ice nucleation in tropical tropopause layer cirrus. *Geophysical Research Letters*, **2016**, 43, 6629-6635	4.9	27
53	Climatology and ENSO-related interannual variability of gravity waves in the Southern Hemisphere subtropical stratosphere revealed by high-resolution AIRS observations. *Journal of Geophysical Research D: Atmospheres*, **2016**, 121, 7622-7640	4.4	13
52	MJO-related intraseasonal variation of gravity waves in the Southern Hemisphere tropical stratosphere revealed by high-resolution AIRS observations. *Journal of Geophysical Research D: Atmospheres*, **2016**, 121, 7641-7651	4.4	12
51	Stratospheric gravity waves at Southern Hemisphere orographic hotspots: 2003–2014 AIRS/Aqua observations. *Atmospheric Chemistry and Physics*, **2016**, 16, 9381-9397	6.8	45
50	Characteristics of Gravity Waves from Convection and Implications for Their Parameterization in Global Circulation Models. *Journals of the Atmospheric Sciences*, **2016**, 73, 2729-2742	2.1	19
49	A Case Study on the Far-Field Properties of Propagating Tropospheric Gravity Waves. *Monthly Weather Review*, **2016**, 144, 2947-2961	2.4	14
48	Ubiquitous influence of waves on tropical high cirrus clouds. *Geophysical Research Letters*, **2016**, 43, 5895–5901	4.9	27
47	Global and seasonal variations in three-dimensional gravity wave momentum flux from satellite limb-sounding temperatures. *Geophysical Research Letters*, **2015**, 42, 6860-6867	4.9	44
46	Realistic simulations of atmospheric gravity waves over the continental U.S. using precipitation radar data. *Journal of Advances in Modeling Earth Systems*, **2015**, 7, 823-835	7.1	26
45	Upper atmospheric gravity wave details revealed in nightglow satellite imagery. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E6728-35	11.5	63
44	Direct impacts of waves on tropical cold point tropopause temperature. *Geophysical Research Letters*, **2015**, 42, 1584-1592	4.9	40
43	Concentric gravity waves in polar mesospheric clouds from the Cloud Imaging and Particle Size experiment. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 5115-5127	4.4	21
42	Intercomparison of stratospheric gravity wave observations with AIRS and IASI. *Atmospheric Measurement Techniques*, **2014**, 7, 4517-4537	4	42
41	A global view of stratospheric gravity wave hotspots located with Atmospheric Infrared Sounder observations. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 416-434	4.4	148

40	Seasonal cycle of orographic gravity wave occurrence above small islands in the Southern Hemisphere: Implications for effects on the general circulation. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 11,589-11,599	4.4	60
39	Tropical Precipitation Variability and Convectively Coupled Equatorial Waves on Submonthly Time Scales in Reanalyses and TRMM. *Journal of Climate*, **2013**, 26, 3013-3030	4.4	50
38	A Comparison between Gravity Wave Momentum Fluxes in Observations and Climate Models. *Journal of Climate*, **2013**, 26, 6383-6405	4.4	205
37	Simultaneous observations of convective gravity waves from a ground-based airglow imager and the AIRS satellite experiment. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 3178-3191	4.4	48
36	Model Study of Intermediate-Scale Tropical Inertia Gravity Waves and Comparison to TWP-ICE Campaign Observations. *Journals of the Atmospheric Sciences*, **2012**, 69, 591-610	2.1	16
35	High Resolution Dynamics Limb Sounder observations of the gravity wave-driven elevated stratopause in 2006. *Journal of Geophysical Research*, **2012**, 117,		20
34	On the Intermittency of Gravity Wave Momentum Flux in the Stratosphere. *Journals of the Atmospheric Sciences*, **2012**, 69, 3433-3448	2.1	94
33	Three-dimensional properties of Andes mountain waves observed by satellite: A case study. *Journal of Geophysical Research*, **2011**, 116, n/a-n/a		43
32	Model Study of Waves Generated by Convection with Direct Validation via Satellite. *Journals of the Atmospheric Sciences*, **2010**, 67, 1617-1631	2.1	47
31	Global estimates of gravity wave parameters from GPS radio occultation temperature data. *Journal of Geophysical Research*, **2010**, 115,		86
30	Occurrence frequency of convective gravity waves during the North American thunderstorm season. *Journal of Geophysical Research*, **2010**, 115,		60
29	Equatorial waves in High Resolution Dynamics Limb Sounder (HIRDLS) data. *Journal of Geophysical Research*, **2010**, 115,		33
28	Recent developments in gravity-wave effects in climate models and the global distribution of gravity-wave momentum flux from observations and models. *Quarterly Journal of the Royal Meteorological Society*, **2010**, 136, 1103-1124	6.4	337
27	Retrieval of stratospheric temperatures from Atmospheric Infrared Sounder radiance measurements for gravity wave studies. *Journal of Geophysical Research*, **2009**, 114,		93
26	Antarctic NAT PSC belt of June 2003: Observational validation of the mountain wave seeding hypothesis. *Geophysical Research Letters*, **2009**, 36, n/a-n/a	4.9	47
25	Global estimates of gravity wave momentum flux from High Resolution Dynamics Limb Sounder observations. *Journal of Geophysical Research*, **2008**, 113,		172
24	Intermediate-scale tropical inertia gravity waves observed during the TWP-ICE campaign. *Journal of Geophysical Research*, **2008**, 113,		14
23	A Model Study of Gravity Waves over Hurricane Humberto (2001). *Journals of the Atmospheric Sciences*, **2008**, 65, 3231-3246	2.1	59

22	Observation and analysis of a large amplitude mountain wave event over the Antarctic peninsula. *Journal of Geophysical Research*, **2007**, 112,		89
21	Using Satellite Observations to Constrain Parameterizations of Gravity Wave Effects for Global Models. *Journals of the Atmospheric Sciences*, **2007**, 64, 1652-1665	2.1	121
20	Generation and Trapping of Gravity Waves from Convection with Comparison to Parameterization. *Journals of the Atmospheric Sciences*, **2006**, 63, 2963-2977	2.1	29
19	Spatial and Temporal Variations of Gravity Wave Parameters. Part I: Intrinsic Frequency, Wavelength, and Vertical Propagation Direction. *Journals of the Atmospheric Sciences*, **2005**, 62, 125-142	2.1	70
18	Absolute values of gravity wave momentum flux derived from satellite data. *Journal of Geophysical Research*, **2004**, 109,		257
17	On the spectrum of vertically propagating gravity waves generated by a transient heat source. *Atmospheric Chemistry and Physics*, **2004**, 4, 923-932	6.8	33
16	A Method of Specifying the Gravity Wave Spectrum above Convection Based on Latent Heating Properties and Background Wind. *Journals of the Atmospheric Sciences*, **2004**, 61, 324-337	2.1	99
15	Gravity wave dynamics and effects in the middle atmosphere. *Reviews of Geophysics*, **2003**, 41,	23.1	1562
14	Effects of Tropospheric Wind Shear on the Spectrum of Convectively Generated Gravity Waves. *Journals of the Atmospheric Sciences*, **2002**, 59, 1805-1824	2.1	85
13	The quasi-biennial oscillation. *Reviews of Geophysics*, **2001**, 39, 179-229	23.1	1337
12	Evidence for short vertical wavelength Kelvin waves in the Department of Energy-Atmospheric Radiation Measurement Nauru99 radiosonde data. *Journal of Geophysical Research*, **2001**, 106, 20125-20129		62
11	A Numerical Study of Three-Dimensional Gravity Waves Triggered by Deep Tropical Convection and Their Role in the Dynamics of the QBO. *Journals of the Atmospheric Sciences*, **2000**, 57, 3689-3702	2.1	160
10	Gravity waves in the tropical lower stratosphere: An observational study of seasonal and interannual variability. *Journal of Geophysical Research*, **2000**, 105, 17971-17982		164
9	Gravity waves in the tropical lower stratosphere: A model study of seasonal and interannual variability. *Journal of Geophysical Research*, **2000**, 105, 17983-17993		40
8	Tropical stratospheric gravity wave activity and relationships to clouds. *Journal of Geophysical Research*, **2000**, 105, 22299-22309		60
7	An analysis of the structure and forcing of the equatorial semiannual oscillation in zonal wind. *Journal of Geophysical Research*, **1998**, 103, 1759-1774		40
6	Interpretations of observed climatological patterns in stratospheric gravity wave variance. *Journal of Geophysical Research*, **1998**, 103, 8627-8640		213
5	A Model Study of Zonal Forcing in the Equatorial Stratosphere by Convectively Induced Gravity Waves. *Journals of the Atmospheric Sciences*, **1997**, 54, 408-419	2.1	112

4	Nonstationary gravity wave forcing of the stratospheric zonal mean wind. *Journal of Geophysical Research*, **1996**, 101, 23465-23474		72
3	Gravity wave momentum flux in the lower stratosphere over convection. *Geophysical Research Letters*, **1995**, 22, 2029-2032	4.9	112
2	The Gravity Wave Response above Deep Convection in a Squall Line Simulation. *Journals of the Atmospheric Sciences*, **1995**, 52, 2212-2226	2.1	209
1	Tonga eruption triggered waves propagating globally from surface to edge of space		5