# M Joan Alexander

List of Publications by Year
in descending order



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|---|---|---|---|
| 77 papers | 9,130 citations | 66234 42 h-index | 69108 77 g-index |
| 94 all docs | 94 docs citations | 94 times ranked | 4066 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Gravity wave dynamics and effects in the middle atmosphere. Reviews of Geophysics, 2003, 41, . | 9.0 | 1,958 |
| 2 | The quasi-biennial oscillation. Reviews of Geophysics, 2001, 39, 179-229. | 9.0 | 1,650 |
| 3 | Recent developments in gravityâ€wave effects in climate models and the global distribution of gravityâ€wave momentum flux from observations and models. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 1103-1124. | 1.0 | 403 |
| 4 | Absolute values of gravity wave momentum flux derived from satellite data. Journal of Geophysical Research, 2004, 109, . | 3.3 | 305 |
| 5 | Interpretations of observed climatological patterns in stratospheric gravity wave variance. Journal of Geophysical Research, 1998, 103, 8627-8640. | 3.3 | 250 |
| 6 | A Comparison between Gravity Wave Momentum Fluxes in Observations and Climate Models. Journal of Climate, 2013, 26, 6383-6405. | 1.2 | 245 |
| 7 | The Gravity Wave Response above Deep Convection in a Squall Line Simulation. Journals of the Atmospheric Sciences, 1995, 52, 2212-2226. | 0.6 | 235 |
| 8 | A global view of stratospheric gravity wave hotspots located with Atmospheric Infrared Sounder observations. Journal of Geophysical Research D: Atmospheres, 2013, 118, 416-434. | 1.2 | 203 |
| 9 | Gravity waves in the tropical lower stratosphere: An observational study of seasonal and interannual variability. Journal of Geophysical Research, 2000, 105, 17971-17982. | 3.3 | 197 |
| 10 | Global estimates of gravity wave momentum flux from High Resolution Dynamics Limb Sounder observations. Journal of Geophysical Research, 2008, 113, . | 3.3 | 195 |
| 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. | 0.6 | 180 |
| 12 | Gravity wave momentum flux in the lower stratosphere over convection. Geophysical Research Letters, 1995, 22, 2029-2032. | 1.5 | 147 |
| 13 | Using Satellite Observations to Constrain Parameterizations of Gravity Wave Effects for Global Models. Journals of the Atmospheric Sciences, 2007, 64, 1652-1665. | 0.6 | 147 |
| 14 | A Model Study of Zonal Forcing in the Equatorial Stratosphere by Convectively Induced Gravity Waves. Journals of the Atmospheric Sciences, 1997, 54, 408-419. | 0.6 | 124 |
| 15 | 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. | 0.6 | 117 |
| 16 | Retrieval of stratospheric temperatures from Atmospheric Infrared Sounder radiance measurements for gravity wave studies. Journal of Geophysical Research, 2009, 114, . | 3.3 | 114 |
| 17 | On the Intermittency of Gravity Wave Momentum Flux in the Stratosphere. Journals of the Atmospheric Sciences, 2012, 69, 3433-3448. | 0.6 | 113 |
| 18 | Global estimates of gravity wave parameters from GPS radio occultation temperature data. Journal of Geophysical Research, 2010, 115, . | 3.3 | 109 |

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|---|---|---|---|
| 19 | Surface-to-space atmospheric waves from Hunga Tongaâ€“Hunga Haâ€™apai eruption. Nature, 2022, 609, 741-746. | 13.7 | 107 |
| 20 | Observation and analysis of a large amplitude mountain wave event over the Antarctic peninsula. Journal of Geophysical Research, 2007, 112, . | 3.3 | 104 |
| 21 | Effects of Tropospheric Wind Shear on the Spectrum of Convectively Generated Gravity Waves. Journals of the Atmospheric Sciences, 2002, 59, 1805-1824. | 0.6 | 96 |
| 22 | 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. | 0.6 | 93 |
| 23 | 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. | 3.3 | 86 |
| 24 | Nonstationary gravity wave forcing of the stratospheric zonal mean wind. Journal of Geophysical Research, 1996, 101, 23465-23474. | 3.3 | 85 |
| 25 | Occurrence frequency of convective gravity waves during the North American thunderstorm season. Journal of Geophysical Research, 2010, 115, . | 3.3 | 84 |
| 26 | 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. | 1.7 | 79 |
| 27 | A Model Study of Gravity Waves over Hurricane Humberto (2001). Journals of the Atmospheric Sciences, 2008, 65, 3231-3246. | 0.6 | 72 |
| 28 | 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. | 1.2 | 70 |
| 29 | Tropical stratospheric gravity wave activity and relationships to clouds. Journal of Geophysical Research, 2000, 105, 22299-22309. | 3.3 | 67 |
| 30 | 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. | 3.3 | 65 |
| 31 | Simultaneous observations of convective gravity waves from a groundâ€based airglow imager and the AIRS satellite experiment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3178-3191. | 1.2 | 64 |
| 32 | Stratospheric gravity waves at Southern Hemisphere orographic hotspots: 2003â€“2014 AIRS/Aqua observations. Atmospheric Chemistry and Physics, 2016, 16, 9381-9397. | 1.9 | 63 |
| 33 | Intercomparison of stratospheric gravity wave observations with AIRS and IASI. Atmospheric Measurement Techniques, 2014, 7, 4517-4537. | 1.2 | 60 |
| 34 | 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. | 1.9 | 58 |
| 35 | Antarctic NAT PSC belt of June 2003: Observational validation of the mountain wave seeding hypothesis. Geophysical Research Letters, 2009, 36, . | 1.5 | 56 |
| 36 | Model Study of Waves Generated by Convection with Direct Validation via Satellite. Journals of the Atmospheric Sciences, 2010, 67, 1617-1631. | 0.6 | 55 |

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|---|---|---|---|
| 37 | Three-dimensional properties of Andes mountain waves observed by satellite: A case study. Journal of Geophysical Research, 2011, 116, n/a-n/a. | 3.3 | 53 |
| 38 | Tropical Precipitation Variability and Convectively Coupled Equatorial Waves on Submonthly Time Scales in Reanalyses and TRMM. Journal of Climate, 2013, 26, 3013-3030. | 1.2 | 53 |
| 39 | An analysis of the structure and forcing of the equatorial semiannual oscillation in zonal wind. Journal of Geophysical Research, 1998, 103, 1759-1774. | 3.3 | 52 |
| 40 | Gravity waves in the tropical lower stratosphere: A model study of seasonal and interannual variability. Journal of Geophysical Research, 2000, 105, 17983-17993. | 3.3 | 52 |
| 41 | Global and seasonal variations in threeâ€dimensional gravity wave momentum flux from satellite limbâ€sounding temperatures. Geophysical Research Letters, 2015, 42, 6860-6867. | 1.5 | 52 |
| 42 | Equatorial waves in High Resolution Dynamics Limb Sounder (HIRDLS) data. Journal of Geophysical Research, 2010, 115, . | 3.3 | 50 |
| 43 | Direct impacts of waves on tropical cold point tropopause temperature. Geophysical Research Letters, 2015, 42, 1584-1592. | 1.5 | 50 |
| 44 | Tropical Waves and the Quasi-Biennial Oscillation in a 7-km Global Climate Simulation. Journals of the Atmospheric Sciences, 2016, 73, 3771-3783. | 0.6 | 50 |
| 45 | 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. | 1.9 | 48 |
| 46 | Ubiquitous influence of waves on tropical high cirrus clouds. Geophysical Research Letters, 2016, 43, 5895-5901. | 1.5 | 42 |
| 47 | On the spectrum of vertically propagating gravity waves generated by a transient heat source. Atmospheric Chemistry and Physics, 2004, 4, 923-932. | 1.9 | 39 |
| 48 | Highâ€frequency gravity waves and homogeneous ice nucleation in tropical tropopause layer cirrus. Geophysical Research Letters, 2016, 43, 6629-6635. | 1.5 | 39 |
| 49 | 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. | 1.3 | 36 |
| 50 | Satellite Observations of Stratospheric Gravity Waves Associated With the Intensification of Tropical Cyclones. Geophysical Research Letters, 2018, 45, 1692-1700. | 1.5 | 32 |
| 51 | 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. | 1.9 | 31 |
| 52 | Generation and Trapping of Gravity Waves from Convection with Comparison to Parameterization. Journals of the Atmospheric Sciences, 2006, 63, 2963-2977. | 0.6 | 29 |
| 53 | A Census of Atmospheric Variability From Seconds to Decades. Geophysical Research Letters, 2017, 44, 11,201. | 1.5 | 28 |
| 54 | High Resolution Dynamics Limb Sounder observations of the gravity waveâ€driven elevated stratopause in 2006. Journal of Geophysical Research, 2012, 117, . | 3.3 | 25 |

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| 55 | Characteristics of Gravity Waves from Convection and Implications for Their Parameterization in Global Circulation Models. Journals of the Atmospheric Sciences, 2016, 73, 2729-2742. | 0.6 | 24 |
| 56 | 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. | 0.6 | 23 |
| 57 | 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. | 1.2 | 21 |
| 58 | Tropical Temperature Variability in the UTLS: New Insights from GPS Radio Occultation Observations. Journal of Climate, 2021, 34, 2813-2838. | 1.2 | 21 |
| 59 | New AIM/CIPS global observations of gravity waves near 50â€“55Âkm. Geophysical Research Letters, 2017, 44, 7044-7052. | 1.5 | 18 |
| 60 | Climatology and ENSOâ€related interannual variability of gravity waves in the Southern Hemisphere subtropical stratosphere revealed by highâ€resolution AIRS observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7622-7640. | 1.2 | 17 |
| 61 | MJOâ€related intraseasonal variation of gravity waves in the Southern Hemisphere tropical stratosphere revealed by highâ€resolution AIRS observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7641-7651. | 1.2 | 17 |
| 62 | Model Study of Intermediate-Scale Tropical Inertiaâ€“Gravity Waves and Comparison to TWP-ICE Campaign Observations. Journals of the Atmospheric Sciences, 2012, 69, 591-610. | 0.6 | 16 |
| 63 | A Case Study on the Far-Field Properties of Propagating Tropospheric Gravity Waves. Monthly Weather Review, 2016, 144, 2947-2961. | 0.5 | 15 |
| 64 | Intermediateâ€scale tropical inertia gravity waves observed during the TWPâ€ICE campaign. Journal of Geophysical Research, 2008, 113, . | 3.3 | 14 |
| 65 | Balloonâ€Borne Observations of Short Vertical Wavelength Gravity Waves and Interaction With QBO Winds. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032779. | 1.2 | 14 |
| 66 | Sensitivity of Gravity Wave Fluxes to Interannual Variations in Tropical Convection and Zonal Wind. Journals of the Atmospheric Sciences, 2017, 74, 2701-2716. | 0.6 | 13 |
| 67 | 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. | 1.2 | 11 |
| 68 | MJOâ€Related Intraseasonal Variation in the Stratosphere: Gravity Waves and Zonal Winds. Journal of Geophysical Research D: Atmospheres, 2018, 123, 775-788. | 1.2 | 10 |
| 69 | 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. | 1.2 | 7 |
| 70 | First Superâ€Pressure Balloonâ€Borne Fineâ€Verticalâ€Scale Profiles in the Upper TTL: Impacts of Atmospheric Waves on Cirrus Clouds and the QBO. Geophysical Research Letters, 2022, 49, . | 1.5 | 7 |
| 71 | 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. | 1.7 | 6 |
| 72 | Seasonal Prediction of the Quasiâ€Biennial Oscillation. Journal of Geophysical Research D: Atmospheres, 2022, 127, . | 1.2 | 5 |

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|---|---|---|---|
| 73 | Realistic Simulation of Tropical Atmospheric Gravity Waves Using Radarâ€Observed Precipitation Rate and Echo Top Height. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001949. | 1.3 | 4 |
| 74 | Using vertical phase differences to better resolve 3D gravity wave structure. Atmospheric Measurement Techniques, 2021, 14, 5873-5886. | 1.2 | 4 |
| 75 | Estimating Subseasonal Variability and Trends in Global Atmosphere Using Reanalysis Data. Geophysical Research Letters, 2018, 45, 12999-13007. | 1.5 | 3 |
| 76 | 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. | 1.2 | 3 |
| 77 | Stratospheric Gravity Waves as a Proxy for Hurricane Intensification: A Case Study of Weather Research and Forecast Simulation for Hurricane Joaquin. Geophysical Research Letters, 2022, 49, . | 1.5 | 3 |