# Jian Rao

## List of Publications by Year in descending order

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|---|---|---|---|
| 80 papers | 1,930 citations | 236925 25 h-index | 315739 38 g-index |
| 92 all docs | 92 docs citations | 92 times ranked | 1138 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Occurrence of Winter Stratospheric Sudden Warming Events and the Seasonal Timing of Spring Stratospheric Final Warming. Journals of the Atmospheric Sciences, 2014, 71, 2319-2334. | 1.7 | 93 |
| 2 | Recent strengthening of the stratospheric Arctic vortex response to warming in the central North Pacific. Nature Communications, 2018, 9, 1697. | 12.8 | 86 |
| 3 | The 2019 New Year Stratospheric Sudden Warming and Its Realâ€Time Predictions in Multiple S2S Models. Journal of Geophysical Research D: Atmospheres, 2019, 124, 11155-11174. | 3.3 | 77 |
| 4 | Predicting the Downward and Surface Influence of the February 2018 and January 2019 Sudden Stratospheric Warming Events in Subseasonal to Seasonal (S2S) Models. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031919. | 3.3 | 72 |
| 5 | Location and variation of the summertime upper-troposphere temperature maximum over South Asia. Climate Dynamics, 2015, 45, 2757-2774. | 3.8 | 70 |
| 6 | The Stratospheric Sudden Warming Event in February 2018 and its Prediction by a Climate System Model. Journal of Geophysical Research D: Atmospheres, 2018, 123, 13,332. | 3.3 | 66 |
| 7 | The Southern Hemisphere Minor Sudden Stratospheric Warming in September 2019 and its Predictions in S2S Models. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032723. | 3.3 | 63 |
| 8 | Asymmetry and nonlinearity of the influence of ENSO on the northern winter stratosphere: 1. Observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9000-9016. | 3.3 | 52 |
| 9 | Dynamic Linkage between Cold Air Outbreaks and Intensity Variations of the Meridional Mass Circulation. Journals of the Atmospheric Sciences, 2015, 72, 3214-3232. | 1.7 | 48 |
| 10 | A decomposition of ENSOâ€™s impacts on the northern winter stratosphere: competing effect of SST forcing in the tropical Indian Ocean. Climate Dynamics, 2016, 46, 3689-3707. | 3.8 | 43 |
| 11 | Parallel Comparison of Major Sudden Stratospheric Warming Events in CESM1-WACCM and CESM2-WACCM. Atmosphere, 2019, 10, 679. | 2.3 | 41 |
| 12 | Arctic Ozone Loss in March 2020 and its Seasonal Prediction in CFSv2: A Comparative Study With the 1997 and 2011 Cases. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033524. | 3.3 | 40 |
| 13 | The sudden stratospheric warming in January 2021. Environmental Research Letters, 2021, 16, 084029. | 5.2 | 40 |
| 14 | Asymmetry and nonlinearity of the influence of ENSO on the northern winter stratosphere: 2. Model study with WACCM. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9017-9032. | 3.3 | 38 |
| 15 | Impact of the Quasi-Biennial Oscillation on the Northern Winter Stratospheric Polar Vortex in CMIP5/6 Models. Journal of Climate, 2020, 33, 4787-4813. | 3.2 | 38 |
| 16 | Parallel comparison of the 1982/83, 1997/98 and 2015/16 super El NiÃ±os and their effects on the extratropical stratosphere. Advances in Atmospheric Sciences, 2017, 34, 1121-1133. | 4.3 | 37 |
| 17 | Relationship between Warm Airmass Transport into the Upper Polar Atmosphere and Cold Air Outbreaks in Winter. Journals of the Atmospheric Sciences, 2015, 72, 349-368. | 1.7 | 34 |
| 18 | CMIP5/6 models project little change in the statistical characteristics of sudden stratospheric warmings in the 21st century. Environmental Research Letters, 2021, 16, 034024. | 5.2 | 33 |

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|---|---|---|---|
| 19 | Feeling the Pulse of the Stratosphere: An Emerging Opportunity for Predicting Continental-Scale Cold-Air Outbreaks 1 Month in Advance. Bulletin of the American Meteorological Society, 2016, 97, 1475-1489. | 3.3 | 32 |
| 20 | How Does the Quasi-Biennial Oscillation Affect the Boreal Winter Tropospheric Circulation in CMIP5/6 Models?. Journal of Climate, 2020, 33, 8975-8996. | 3.2 | 32 |
| 21 | Parallel comparison of the northern winter stratospheric circulation in reanalysis and in CMIP5 models. Advances in Atmospheric Sciences, 2015, 32, 952-966. | 4.3 | 29 |
| 22 | Modulation of the Northern Winter Stratospheric El NiÃ±oâ€“Southern Oscillation Teleconnection by the PDO. Journal of Climate, 2019, 32, 5761-5783. | 3.2 | 29 |
| 23 | Statistical Characteristics of Major Sudden Stratospheric Warming Events in CESM1-WACCM: A Comparison with the JRA55 and NCEP/NCAR Reanalyses. Atmosphere, 2019, 10, 519. | 2.3 | 29 |
| 24 | Varying stratospheric responses to tropical Atlantic SST forcing from early to late winter. Climate Dynamics, 2018, 51, 2079-2096. | 3.8 | 27 |
| 25 | Comparison of the mass circulation and AO indices as indicators of cold air outbreaks in northern winter. Geophysical Research Letters, 2015, 42, 2442-2448. | 4.0 | 26 |
| 26 | The Generic Nature of the Tropospheric Response to Sudden Stratospheric Warmings. Journal of Climate, 2020, 33, 5589-5610. | 3.2 | 26 |
| 27 | The January 2021 Sudden Stratospheric Warming and Its Prediction in Subseasonal to Seasonal Models. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035057. | 3.3 | 26 |
| 28 | On the contrasting decadal changes of diurnal surface temperature range between the Tibetan Plateau and southeastern China during the 1980sâ€“2000s. Advances in Atmospheric Sciences, 2017, 34, 181-198. | 4.3 | 25 |
| 29 | On the Linkage among Strong Stratospheric Mass Circulation, Stratospheric Sudden Warming, and Cold Weather Events. Monthly Weather Review, 2018, 146, 2717-2739. | 1.4 | 24 |
| 30 | A closer look at the relationships between meridional mass circulation pulses in the stratosphere and cold air outbreak patterns in northern hemispheric winter. Climate Dynamics, 2018, 51, 3125-3143. | 3.8 | 23 |
| 31 | Projected changes of stratospheric final warmings in the Northern and Southern Hemispheres by CMIP5/6 models. Climate Dynamics, 2021, 56, 3353-3371. | 3.8 | 23 |
| 32 | Spatial Pattern and Zonal Shift of the North Atlantic Oscillation. Part I: A Dynamical Interpretation. Journals of the Atmospheric Sciences, 2010, 67, 2805-2826. | 1.7 | 22 |
| 33 | Tracking the delayed response of the northern winter stratosphere to ENSO using multi reanalyses and model simulations. Climate Dynamics, 2017, 48, 2859-2879. | 3.8 | 22 |
| 34 | A Mass Budget Analysis on the Interannual Variability of the Polar Surface Pressure in the Winter Season. Journals of the Atmospheric Sciences, 2014, 71, 3539-3553. | 1.7 | 21 |
| 35 | Predictability of Stratospheric Sudden Warmings in the Beijing Climate Center Forecast System with Statistical Error Corrections. Journal of Geophysical Research D: Atmospheres, 2019, 124, 8385-8400. | 3.3 | 21 |
| 36 | Linking quasi-biweekly variability of the South Asian high to atmospheric heating over Tibetan Plateau in summer. Climate Dynamics, 2019, 53, 3419-3429. | 3.8 | 21 |

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|---|---|---|---|
| 37 | Northern Hemisphere Sudden Stratospheric Warming and Its Downward Impact in Four Chinese CMIP6 Models. Advances in Atmospheric Sciences, 2021, 38, 187-202. | 4.3 | 21 |
| 38 | Modeling study of the destructive interference between the tropical Indian Ocean and eastern Pacific in their forcing in the southern winter extratropical stratosphere during ENSO. Climate Dynamics, 2020, 54, 2249-2266. | 3.8 | 20 |
| 39 | Combined Impact of El NiÃ±oâ€“Southern Oscillation and Pacific Decadal Oscillation on the Northern Winter Stratosphere. Atmosphere, 2019, 10, 211. | 2.3 | 19 |
| 40 | An Isentropic Mass Circulation View on the Extreme Cold Events in the 2020/21 Winter. Advances in Atmospheric Sciences, 2022, 39, 643-657. | 4.3 | 19 |
| 41 | Attributing analysis on the model bias in surface temperature in the climate system model FGOALS-s2 through a process-based decomposition method. Advances in Atmospheric Sciences, 2015, 32, 457-469. | 4.3 | 18 |
| 42 | Sub-seasonal to Seasonal Hindcasts of Stratospheric Sudden Warming by BCC_CSM1.1(m): A Comparison with ECMWF. Advances in Atmospheric Sciences, 2019, 36, 479-494. | 4.3 | 18 |
| 43 | Polar vortex oscillation viewed in an isentropic potential vorticity coordinate. Advances in Atmospheric Sciences, 2006, 23, 884-900. | 4.3 | 17 |
| 44 | The Strong Stratospheric Polar Vortex in March 2020 in Subâ€Seasonal to Seasonal Models: Implications for Empirical Prediction of the Low Arctic Total Ozone Extreme. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034190. | 3.3 | 17 |
| 45 | Evaluating the Breweâ€“Dobson circulation and its responses to ENSO, QBO, and the solar cycle in different reanalyses. Earth and Planetary Physics, 2019, 3, 1-16. | 1.1 | 17 |
| 46 | Projected Strengthening of the Extratropical Surface Impacts of the Stratospheric Quasiâ€Biennial Oscillation. Geophysical Research Letters, 2020, 47, e2020GL089149. | 4.0 | 16 |
| 47 | The salient differences in China summer rainfall response to ENSO: phases, intensities and flavors. Climate Research, 2019, 78, 51-67. | 1.1 | 16 |
| 48 | A QBO Cookbook: Sensitivity of the Quasiâ€Biennial Oscillation to Resolution, Resolved Waves, and Parameterized Gravity Waves. Journal of Advances in Modeling Earth Systems, 2022, 14, e2021MS002568. | 3.8 | 16 |
| 49 | Mean State of the Northern Hemisphere Stratospheric Polar Vortex in Three Generations of CMIP Models. Journal of Climate, 2022, 35, 4603-4625. | 3.2 | 15 |
| 50 | Understanding the variation of stratosphereâ€“troposphere coupling during stratospheric northern annular mode events from a mass circulation perspective. Climate Dynamics, 2019, 53, 5141-5164. | 3.8 | 14 |
| 51 | Predictability of the early winter Arctic oscillation from autumn Eurasian snowcover in subseasonal forecast models. Climate Dynamics, 2020, 55, 961-974. | 3.8 | 14 |
| 52 | The Impact of Split and Displacement Sudden Stratospheric Warmings on the Troposphere. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033989. | 3.3 | 14 |
| 53 | Downward propagation of sudden stratospheric warming signals and the local environment in the Beijing-Tianjin-Hebei region: A comparative study of the 2018 and 2019 winter cases. Atmospheric Research, 2021, 254, 105514. | 4.1 | 14 |
| 54 | The boreal spring stratospheric final warming and its interannual and interdecadal variability. Science China Earth Sciences, 2014, 57, 710-718. | 5.2 | 13 |

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|---|---|---|---|
| 55 | Spatial Pattern and Zonal Shift of the North Atlantic Oscillation. Part II: Numerical Experiments. Journals of the Atmospheric Sciences, 2010, 67, 2827-2853. | 1.7 | 12 |
| 56 | An emerging precursor signal in the stratosphere in recent decades for the Indian summer monsoon onset. Geophysical Research Letters, 2014, 41, 7391-7396. | 4.0 | 12 |
| 57 | Seasonal timing of stratospheric final warming associated with the intensity of stratospheric sudden warming in preceding winter. Science China Earth Sciences, 2015, 58, 615-627. | 5.2 | 12 |
| 58 | A stochastic model with a low-frequency amplification feedback for the stratospheric northern annular mode. Climate Dynamics, 2018, 50, 3757-3773. | 3.8 | 12 |
| 59 | Summer SST anomalies in the Indian Ocean and the seasonal timing of ENSO decay phase. Climate Dynamics, 2016, 47, 1827-1844. | 3.8 | 11 |
| 60 | Topographic Forcing from East Asia and North America in the Northern Winter Stratosphere and Their Mutual Interference. Journal of Climate, 2019, 32, 8639-8658. | 3.2 | 11 |
| 61 | Observational Subseasonal Variability of the PM2.5 Concentration in the Beijing-Tianjin-Hebei Area during the January 2021 Sudden Stratospheric Warming. Advances in Atmospheric Sciences, 2022, 39, 1623-1636. | 4.3 | 11 |
| 62 | Winter season stratospheric circulation in the SAMIL/LASG general circulation model. Advances in Atmospheric Sciences, 2009, 26, 451-464. | 4.3 | 10 |
| 63 | Changes in winter stratospheric circulation in CMIP5 scenarios simulated by the climate system model FGOALS-s2. Advances in Atmospheric Sciences, 2012, 29, 1374-1389. | 4.3 | 10 |
| 64 | Impact of the Scandinavian Pattern on Long-Lived Cold Surges over the South China Sea. Journal of Climate, 2022, 35, 1773-1785. | 3.2 | 9 |
| 65 | Simulation and projection of the sudden stratospheric warming events in different scenarios by CESM2-WACCM. Climate Dynamics, 2022, 59, 3741-3761. | 3.8 | 9 |
| 66 | Progress in research of stratosphere-troposphere interactions: Application of isentropic potential vorticity dynamics and the effects of the Tibetan Plateau. Journal of Meteorological Research, 2014, 28, 714-731. | 2.4 | 8 |
| 67 | Understanding the systematic air temperature biases in a coupled climate system model through a process-based decomposition method. Climate Dynamics, 2015, 45, 1801-1817. | 3.8 | 8 |
| 68 | Varying Rossby Wave Trains from the Developing to Decaying Period of the Upper Atmospheric Heat Source over the Tibetan Plateau in Boreal Summer. Advances in Atmospheric Sciences, 2018, 35, 1114-1128. | 4.3 | 8 |
| 69 | Sub-seasonal prediction skill for the stratospheric meridional mass circulation variability in CFSv2. Climate Dynamics, 2019, 53, 631-650. | 3.8 | 8 |
| 70 | Influence of the El NiÃ±oâ€“Southern Oscillation on entry stratospheric water vapor in coupled chemistryâ€“ocean CCMI and CMIP6 models. Atmospheric Chemistry and Physics, 2021, 21, 3725-3740. | 4.9 | 8 |
| 71 | Onset of the Bay of Bengal summer monsoon and the seasonal timing of <scp>ENSO</scp>'s decay phase. International Journal of Climatology, 2017, 37, 4938-4948. | 3.5 | 7 |
| 72 | On the Relationship Between the Stratospheric Quasiâ€Biennial Oscillation and Summer Precipitation in Northern China. Geophysical Research Letters, 2022, 49, . | 4.0 | 7 |

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|---|---|---|---|
| 73 | Interdecadal Variations of the Midlatitude Ozone Valleys in Summer. Atmosphere, 2019, 10, 677. | 2.3 | 5 |
| 74 | Dynamical role of the Rocky Mountain controlled by East Asian topographies in modulating the tropospheric westerly jet in northern winter. Atmospheric and Oceanic Science Letters, 2019, 12, 66-72. | 1.3 | 4 |
| 75 | Sub-seasonal variability of surface soil moisture over eastern China. Climate Dynamics, 2020, 55, 3527-3541. | 3.8 | 4 |
| 76 | The Rossby wave train patterns forced by shallower and deeper Tibetan Plateau atmospheric heat-source in summer in a linear baroclinic model. Atmospheric and Oceanic Science Letters, 2019, 12, 35-40. | 1.3 | 3 |
| 77 | Climatological features of blocking highs from the perspective of air mass and mass transport. International Journal of Climatology, 2020, 40, 782-794. | 3.5 | 3 |
| 78 | Statistical Characteristics of ENSO Events in CMIP5 Models. , 0, . | | 3 |
| 79 | A dissection of the topographic effects from Eurasia and North America on the isentropic meridional mass circulation in Northern Winter. Climate Dynamics, 2022, 59, 1555-1578. | 3.8 | 1 |
| 80 | Tropopause folding events to the northeast of Tibetan Plateau in boreal summer and their remote relation to the circulation anomalies over northeastern Atlantic. Climate Dynamics, 0, , 1. | 3.8 | 1 |