Richard B Rood

List of Publications by Year
in descending order

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114 papers	8,039 citations	117625 34 h-index	51608 86 g-index
115 all docs	115 docs citations	115 times ranked	6290 citing authors

#	Article	IF	Citations
1	Stratosphere-troposphere exchange. Reviews of Geophysics, 1995, 33, 403.	23.0	2,184
2	Multidimensional Flux-Form Semi-Lagrangian Transport Schemes. Monthly Weather Review, 1996, 124, 2046-2070.	1.4	1,022
3	Atmospheric sulfur cycle simulated in the global model GOCART: Model description and global properties. Journal of Geophysical Research, 2000, 105, 24671-24687.	3.3	525
4	An Assimilated Dataset for Earth Science Applications. Bulletin of the American Meteorological Society, 1993, 74, 2331-2342.	3.3	476
5	Stratospheric temperature trends: Observations and model simulations. Reviews of Geophysics, 2001, 39, 71-122.	23.0	326
6	An explicit fluxâ€form semiâ€lagrangian shallowâ€water model on the sphere. Quarterly Journal of the Royal Meteorological Society, 1997, 123, 2477-2498.	2.7	279
7	Numerical advection algorithms and their role in atmospheric transport and chemistry models. Reviews of Geophysics, 1987, 25, 71-100.	23.0	241
8	The GCMâ€“Reality Intercomparison Project for SPARC (GRIPS): Scientific Issues and Initial Results. Bulletin of the American Meteorological Society, 2000, 81, 781-796.	3.3	146
9	Effect of solar proton events on the middle atmosphere during the past two solar cycles as computed using a twoâ€dimensional model. Journal of Geophysical Research, 1990, 95, 7417-7428.	3.3	134
10	Moving Climate Information off the Shelf: Boundary Chains and the Role of RISAs as Adaptive Organizations. Weather, Climate, and Society, 2014, 6, 273-285.	1.1	111
11	Revisiting projected shifts in the climate envelopes of North American trees using updated general circulation models. Global Change Biology, 2011, 17, 2720-2730.	9.5	110
12	Climate projections and their impact on policy and practice. Wiley Interdisciplinary Reviews: Climate Change, 2010, 1, 670-682.	8.1	106
13	The Practitioner's Dilemma: How to Assess the Credibility of Downscaled Climate Projections. Eos, 2013, 94, 424-425.	0.1	103
14	Three-dimensional radon 222 calculations using assimilated meteorological data and a convective mixing algorithm. Journal of Geophysical Research, 1996, 101, 6871-6881.	3.3	100
15	Transport-induced interannual variability of carbon monoxide determined using a chemistry and transport model. Journal of Geophysical Research, 1996, 101, 28655-28669.	3.3	88
16	Global Modeling Initiative assessment model: Model description, integration, and testing of the transport shell. Journal of Geophysical Research, 2001, 106, 1669-1691.	3.3	77
17	Upper-Tropospheric Water Vapor fromUARSMLS. Bulletin of the American Meteorological Society, 1995, 76, 2381-2389.	3.3	76
18	Interpretation of ozone temperature correlations: 1. Theory. Journal of Geophysical Research, 1985, 90, 5733-5743.	3.3	70

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19	Two-dimensional and three-dimensional model simulations, measurements, and interpretation of the influence of the October 1989 solar proton events on the middle atmosphere. Journal of Geophysical Research, 1995, 100, 11641.	3.3	70
20	Recent water level changes across Earth's largest lake system and implications for future variability. Journal of Great Lakes Research, 2019, 45, 1-3.	1.9	69
21	A three-dimensional simulation of the ozone annual cycle using winds from a data assimilation system. Journal of Geophysical Research, 1996, 101, 1463-1474.	3.3	66
22	Impacts of Climate Change on Public Health in India: Future Research Directions. Environmental Health Perspectives, 2011, 119, 765-770.	6.0	66
23	Application of a Monotonic Upstream-biased Transport Scheme to Three-Dimensional Constituent Transport Calculations. Monthly Weather Review, 1991, 119, 2456-2464.	1.4	65
24	The GEOS ozone data assimilation system: Specification of error statistics. Quarterly Journal of the Royal Meteorological Society, 2001, 127, 1069-1094.	2.7	65
25	Evaluation of transport in the lower tropical stratosphere in a global chemistry and transport model. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	64
26	Comparing exposure metrics for classifying â€˜dangerous heatâ€™ in heat wave and health warning systems. Environment International, 2012, 46, 23-29.	10.0	61
27	The Use of Assimilated Stratospheric Data in Constituent Transport Calculations. Journals of the Atmospheric Sciences, 1989, 46, 687-702.	1.7	53
28	Thermodynamic Balance of Three-Dimensional Stratospheric Winds Derived from a Data Assimilation Procedure. Journals of the Atmospheric Sciences, 1993, 50, 2987-2993.	1.7	45
29	Interpretation of ozone temperature correlations: 2. Analysis of SBUV ozone data. Journal of Geophysical Research, 1985, 90, 10693-10708.	3.3	44
30	Measurements of polar vortex air in the midlatitudes. Journal of Geophysical Research, 1996, 101, 12879-12891.	3.3	44
31	Episodic total ozone minima and associated effects on heterogeneous chemistry and lower stratospheric transport. Journal of Geophysical Research, 1992, 97, 7979-7996.	3.3	42
32	Geostatistical exploration of spatial variation of summertime temperatures in the Detroit metropolitan region. Environmental Research, 2011, 111, 1046-1053.	7.5	42
33	Software Testing and Verification in Climate Model Development. IEEE Software, 2011, 28, 49-55.	1.8	42
34	Threeâ€dimensional simulations of wintertime ozone variability in the lower stratosphere. Journal of Geophysical Research, 1991, 96, 5055-5071.	3.3	40
35	Coupling climate and hydrological models: Interoperability through Web Services. Environmental Modelling and Software, 2013, 46, 250-259.	4.5	38
36	Synoptic-scale mass exchange from the troposphere to the stratosphere. Journal of Geophysical Research, 1997, 102, 23467-23485.	3.3	32

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37	Chemistry and transport in a threeâ€dimensional stratospheric model: Chlorine species during a simulated stratospheric warming. Journal of Geophysical Research, 1989, 94, 1057-1083.	3.3	31
38	Assimilation of ozone data from the Michelson Interferometer for Passive Atmospheric Sounding. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 2713-2734.	2.7	30
39	An Investigation into the Spatial Variability of Near-Surface Air Temperatures in the Detroit, Michigan, Metropolitan Region. Journal of Applied Meteorology and Climatology, 2012, 51, 1290-1304.	1.5	30
40	The effects of the October 1989 solar proton events on the stratosphere as computed using a threeâ€dimensional model. Geophysical Research Letters, 1993, 20, 459-462.	4.0	29
41	A three-dimensional simulation of the evolution of the middle latitude winter ozone in the middle stratosphere. Journal of Geophysical Research, 1997, 102, 19217-19232.	3.3	29
42	Global threeâ€dimensional constituent fields derived from profile data. Geophysical Research Letters, 1990, 17, 525-528.	4.0	28
43	Climate Change, Heat Waves, and Environmental Justice: Advancing Knowledge and Action. Environmental Justice, 2009, 2, 197-205.	1.5	28
44	A Trend Analysis of the 1930â€“2010 Extreme Heat Events in the Continental United States. Journal of Applied Meteorology and Climatology, 2014, 53, 565-582.	1.5	28
45	Monitoring of observation errors in the assimilation of satellite ozone data. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	27
46	Using Forecast and Observed Weather Data to Assess Performance of Forecast Products in Identifying Heat Waves and Estimating Heat Wave Effects on Mortality. Environmental Health Perspectives, 2014, 122, 912-918.	6.0	27
47	How Can We Advance Our Weather and Climate Models as a Community?. Bulletin of the American Meteorological Society, 2002, 83, 431-434.	3.3	25
48	A Stability Analysis of Divergence Damping on a Latitudeâ€“Longitude Grid. Monthly Weather Review, 2011, 139, 2976-2993.	1.4	24
49	Processes controlling dimethylsulfide over the ocean: Case studies using a 3-D model driven by assimilated meteorological fields. Journal of Geophysical Research, 1998, 103, 8341-8353.	3.3	21
50	A mechanistic model of Eulerian, Langrangian mean, and Lagrangian ozone transport by steady planetary waves. Journal of Geophysical Research, 1983, 88, 5208-5218.	3.3	20
51	The influlence of polar heterogeneous processes on reactive chlorine at middle latitudes: Three dimensional model implications. Geophysical Research Letters, 1991, 18, 25-28.	4.0	20
52	Tracer exchange between tropics and middle latitudes. Geophysical Research Letters, 1992, 19, 805-808.	4.0	20
53	A 3D simulation of the early winter distribution of reactive chlorine in the north polar vortex. Geophysical Research Letters, 1993, 20, 1271-1274.	4.0	20
54	Three dimensional simulation of hydrogen chloride and hydrogen fluoride during the Airborne Arctic Stratospheric Expedition. Geophysical Research Letters, 1990, 17, 529-532.	4.0	18

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55	Wintertime Nitric Acid Chemistry: Implications from Three-Dimensional Model Calculations. Journals of the Atmospheric Sciences, 1990, 47, 2696-2709.	1.7	17
56	Seasonal variability of middle-latitude ozone in the lowermost stratosphere derived from probability distribution functions. Journal of Geophysical Research, 2000, 105, 17793-17805.	3.3	17
57	Large lakes in climate models: A Great Lakes case study on the usability of CMIP5. Journal of Great Lakes Research, 2021, 47, 405-418.	1.9	17
58	Stratospheric temperatures during AASE: Results from Stratan. Geophysical Research Letters, 1990, 17, 337-340.	4.0	16
59	Implications of threeâ€dimensional tracer studies for twoâ€dimensional assessments of the impact of supersonic aircraft on stratospheric ozone. Journal of Geophysical Research, 1993, 98, 8949-8963.	3.3	16
60	Determining the effective resolution of advection schemes. Part I: Dispersion analysis. Journal of Computational Physics, 2014, 278, 485-496.	3.8	16
61	Ozone transport by diabatic and planetary wave circulations on a Î² plane. Journal of Geophysical Research, 1983, 88, 8491-8504.	3.3	15
62	Derivation of photochemical information near 1 mbar from ozone and temperature data. Journal of Geophysical Research, 1986, 91, 13153-13166.	3.3	15
63	Spatial and temporal variability of the extent of chemically processed stratospheric air. Geophysical Research Letters, 1991, 18, 29-32.	4.0	15
64	Vertical transport by convective clouds: Comparisons of three modeling approaches. Geophysical Research Letters, 1995, 22, 1089-1092.	4.0	15
65	Seasonal variations of upper tropospheric water vapor and high clouds observed from satellites. Journal of Geophysical Research, 1999, 104, 6193-6197.	3.3	15
66	Evaluation of a CCSM3 Simulation with a Finite Volume Dynamical Core for the Atmosphere at 1Â° Latitude Ã— 1.25Â° Longitude Resolution. Journal of Climate, 2008, 21, 1467-1486.	3.2	15
67	The role of meteorological processes in the description of uncertainty for climate change decision-making. Theoretical and Applied Climatology, 2017, 127, 643-654.	2.8	15
68	Impact of a Semi-Lagrangian and an Eulerian Dynamical Core on Climate Simulations. Journal of Climate, 1997, 10, 2374-2389.	3.2	14
69	Transport and the seasonal variation of ozone. Pure and Applied Geophysics, 1983, 121, 1049-1064.	1.9	13
70	Characteristics of wintertime and autumn nitric acid chemistry as defined by Limb Infrared Monitor of the Stratosphere (LIMS) data. Journal of Geophysical Research, 1993, 98, 18533-18545.	3.3	13
71	Lamination Frequencies as a Diagnostic for Horizontal Mixing in a 3D Transport Model*. Journals of the Atmospheric Sciences, 2000, 57, 247-261.	1.7	11
72	Potential vorticity: Measuring consistency between <scp>GCM</scp> dynamical cores and tracer advection schemes. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 739-751.	2.7	11

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73	High-Frequency Planetary Waves in the Polar Middle Atmosphere as Seen in a Data Assimilation System. Journals of the Atmospheric Sciences, 2003, 60, 2975-2992.	1.7	10
74	Tracer evolution in winds generated by a global spectral mechanistic model. Journal of Geophysical Research, 1994, 99, 5399.	3.3	9
75	Upper tropospheric water vapor from GEOS reanalysis and UARS MLS observation. Journal of Geophysical Research, 1998, 103, 19587-19594.	3.3	9
76	Assimilating TOVS Humidity into the GEOS-2 Data Assimilation System. Journal of Climate, 1999, 12, 2983-2995.	3.2	9
77	Downscale cascades in tracer transport test cases: an intercomparison of the dynamical cores in the Community Atmosphere Model CAM5. Geoscientific Model Development, 2012, 5, 1517-1530.	3.6	9
78	Global ozone minima in the historical record. Geophysical Research Letters, 1986, 13, 1244-1247.	4.0	8
79	Three-dimensional simulation of the influence of a cutoff low on the distribution of northern hemisphere processed air in late January 1992. Journal of Geophysical Research, 1995, 100, 16431.	3.3	8
80	A study on assimilating potential vorticity data. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 50, 490.	1.7	8
81	Simulated climate near steep topography: Sensitivity to numerical methods for atmospheric transport. Geophysical Research Letters, 2008, 35, .	4.0	8
82	Assessing Tracer Transport Algorithms and the Impact of Vertical Resolution in a Finite-Volume Dynamical Core. Monthly Weather Review, 2012, 140, 1620-1638.	1.4	8
83	An Object-Based Approach for Quantification of GCM Biases of the Simulation of Orographic Precipitation. Part I: Idealized Simulations. Journal of Climate, 2014, 27, 9139-9154.	3.2	8
84	Evaluating the Appropriateness of Downscaled Climate Information for Projecting Risks of Salmonella. International Journal of Environmental Research and Public Health, 2016, 13, 267.	2.6	8
85	A critical analysis of the concept of planetary wave breaking. Pure and Applied Geophysics, 1985, 123, 733-755.	1.9	7
86	Nitric acid forecast experiments. Physica Scripta, 1987, 36, 337-354.	2.5	7
87	A Comparison of Winds from the STRATAN Data Assimilation System to Balanced Wind Estimates. Journals of the Atmospheric Sciences, 1994, 51, 2309-2315.	1.7	7
88	Tracer transport for realistic aircraft emission scenarios calculated using a three-dimensional model. Journal of Geophysical Research, 1995, 100, 5203.	3.3	7
89	Determining the effective resolution of advection schemes. Part II: Numerical testing. Journal of Computational Physics, 2014, 278, 497-508.	3.8	6
90	Increasing the Usability of Climate Models through the Use of Consumer-Report-Style Resources for Decision-Making. Bulletin of the American Meteorological Society, 2020, 101, E1709-E1717.	3.3	6

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91	Three Dimensions Simulation of Spatial and Temporal Variability of Stratospheric Hydrogen Chloride. Geophysical Research Letters, 1989, 16, 1149-1152.	4.0	5
92	A study on assimilating potential vorticity data. Tellus, Series A: Dynamic Meteorology and Oceanography, 1998, 50, 490-506.	1.7	5
93	A decision tree algorithm for investigation of model biases related to dynamical cores and physical parameterizations. Journal of Advances in Modeling Earth Systems, 2016, 8, 1769-1785.	3.8	5
94	Using large eddy simulations to reveal the size, strength, and phase of updraft and downdraft cores of an Arctic mixedâ€phase stratocumulus cloud. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4378-4400.	3.3	5
95	Applying local discretization methods in the NASA finite-volume general circulation model. Computing in Science and Engineering, 2002, 4, 49-54.	1.2	4
96	A Perspective on the Role of the Dynamical Core in the Development of Weather and Climate Models. Lecture Notes in Computational Science and Engineering, 2011, , 513-537.	0.3	4
97	Ozone Assimilation. , 2003, , 263-277.		4
98	An Object-Based Approach for Quantification of GCM Biases of the Simulation of Orographic Precipitation. Part II: Quantitative Analysis. Journal of Climate, 2015, 28, 4863-4876.	3.2	3
99	Modeling seasonal onset of coastal ice. Climatic Change, 2019, 154, 125-141.	3.6	3
100	The Role of the Model in the Data Assimilation System. , 2010, , 351-379.		3
101	Reanalysis. , 2003, , 361-372.		3
102	The Minor Stratospheric Warming of January 1989: Results from STRATAN, a Stratospheric-Tropospheric Data Assimilation System. Monthly Weather Review, 1992, 120, 221-229.	1.4	2
103	A Northern Hemispheric Wave Train Associated with Interannual Variations in the Bermuda High during Boreal Summer. Journal of Climate, 2021, 34, 6163-6173.	3.2	2
104	Satellite observation and mapping of wintertime ozone variability in the lower stratosphere. Journal of Atmospheric and Solar-Terrestrial Physics, 1993, 55, 1081-1088.	0.9	1
105	The tropical upper troposphere and lower stratosphere in the GEOS-2 GCM. Advances in Space Research, 2001, 27, 1457-1465.	2.6	1
106	Validation of Climate Models: An Essential Practice. Simulation Foundations, Methods and Applications, 2019, , 737-762.	0.1	1
107	Reanalysis: Data Assimilation for Scientific Investigation of Climate. , 2010, , 623-646.		1
108	Three-Dimensional Constituent Transport Models and the Study of Interannual Variability. Journal of Geomagnetism and Geoelectricity, 1991, 43, 687-693.	0.9	1

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109	The impact of diabatic initialization on stratospheric analyses, forecasts, and transport experiments. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 297-315.	2.7	1
110	Global ozone minima in the historical record. History of Geophysics, 1990, , 217-220.	0.0	0
111	The dynamics of the HSCT environment. , 1991, , .		0
112	Atmospheres panel report to the payload panel. Global and Planetary Change, 1992, 6, 9-23.	3.5	0
113	The impact of diabatic initialization on stratospheric analyses, forecats, and transport experiments. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 297-315.	2.7	0
114	Fundamentals of Modeling, Data Assimilation, and High-Performance Computing. , 0, , 207-229.		0