

Geoffrey K Vallis

List of Publications by Year in descending order

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69
papers

4,678
citations

236925

25
h-index

175258

52
g-index

86
all docs

86
docs citations

86
times ranked

3373
citing authors

#	ARTICLE	IF	CITATIONS
1	Generation of Mean Flows and Jets on a Beta Plane and over Topography. <i>Journal of Physical Oceanography</i> , 1993, 23, 1346-1362.	1.7	340
2	Response of the large-scale structure of the atmosphere to global warming. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2015, 141, 1479-1501.	2.7	203
3	A Theory of the Interhemispheric Meridional Overturning Circulation and Associated Stratification. <i>Journal of Physical Oceanography</i> , 2012, 42, 1652-1667.	1.7	149
4	A Mechanism and Simple Dynamical Model of the North Atlantic Oscillation and Annular Modes. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 264-280.	1.7	143
5	Large-scale circulation with small diapycnal diffusion: The two-thermocline limit. <i>Journal of Marine Research</i> , 1997, 55, 223-275.	0.3	135
6	A Theory of Deep Stratification and Overturning Circulation in the Ocean. <i>Journal of Physical Oceanography</i> , 2011, 41, 485-502.	1.7	129
7	Large-Scale Circulation and Production of Stratification: Effects of Wind, Geometry, and Diffusion. <i>Journal of Physical Oceanography</i> , 2000, 30, 933-954.	1.7	126
8	Eddy-Zonal Flow Interactions and the Persistence of the Zonal Index. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 3296-3311.	1.7	108
9	Southern Ocean buoyancy forcing of ocean ventilation and glacial atmospheric CO ₂ . <i>Nature Geoscience</i> , 2015, 8, 861-864.	12.9	99
10	Isca, v1.0: a framework for the global modelling of the atmospheres of Earth and other planets at varying levels of complexity. <i>Geoscientific Model Development</i> , 2018, 11, 843-859.	3.6	97
11	The Energetics of Ocean Heat Transport. <i>Journal of Climate</i> , 2005, 18, 2604-2616.	3.2	80
12	The transition to superrotation in terrestrial atmospheres. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	77
13	Extremal energy properties and construction of stable solutions of the Euler equations. <i>Journal of Fluid Mechanics</i> , 1989, 207, 133-152.	3.4	74
14	Can the Increase in the Eddy Length Scale under Global Warming Cause the Poleward Shift of the Jet Streams?. <i>Journal of Climate</i> , 2011, 24, 3764-3780.	3.2	67
15	Model Hierarchies for Understanding Atmospheric Circulation. <i>Reviews of Geophysics</i> , 2019, 57, 250-280.	23.0	58
16	The Effects of Mesoscale Eddies on the Stratification and Transport of an Ocean with a Circumpolar Channel. <i>Journal of Physical Oceanography</i> , 2005, 35, 880-896.	1.7	57
17	A robust increase in the eddy length scale in the simulation of future climates. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	51
18	The Effects of Mesoscale Eddies on the Main Subtropical Thermocline. <i>Journal of Physical Oceanography</i> , 2004, 34, 2428-2443.	1.7	42

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19	The Thermal Phase Curve Offset on Tidally and Nontidally Locked Exoplanets: A Shallow Water Model. <i>Astrophysical Journal</i> , 2017, 842, 101.	4.5	41
20	Numerical studies of eddy transport properties in eddy-resolving and parametrized models. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1988, 114, 183-204.	2.7	40
21	On the Zonal Structure of the North Atlantic Oscillation and Annular Modes. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 332-352.	1.7	39
22	The Relationship between the Speed and the Latitude of an Eddy-Driven Jet in a Stirred Barotropic Model. <i>Journals of the Atmospheric Sciences</i> , 2012, 69, 3251-3263.	1.7	36
23	Regime Change Behavior during Asian Monsoon Onset. <i>Journal of Climate</i> , 2018, 31, 3327-3348.	3.2	32
24	Spontaneous Superrotation and the Role of Kelvin Waves in an Idealized Dry GCM. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 596-614.	1.7	30
25	Geophysical fluid dynamics: whence, whither and why?. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160140.	2.1	28
26	Atmospheric Response to SST Anomalies. Part I: Background-State Dependence, Teleconnections, and Local Effects in Winter. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 4107-4124.	1.7	27
27	The Impact of Parameterized Convection on Climatological Precipitation in Atmospheric Global Climate Models. <i>Geophysical Research Letters</i> , 2018, 45, 3728-3736.	4.0	26
28	A simple system for moist convection: the "Rainy" model. <i>Journal of Fluid Mechanics</i> , 2019, 862, 162-199.	3.4	26
29	Equilibration of Baroclinic Turbulence in Primitive Equations and Quasigeostrophic Models. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 837-863.	1.7	25
30	The Ventilated Pool: A Model of Subtropical Mode Water. <i>Journal of Physical Oceanography</i> , 2005, 35, 137-150.	1.7	24
31	Zonal Asymmetries, Teleconnections, and Annular Patterns in a GCM. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 207-219.	1.7	24
32	Jet Interaction and the Influence of a Minimum Phase Speed Bound on the Propagation of Eddies. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 2614-2628.	1.7	23
33	Mechanisms for climate variability during glacial and interglacial periods. <i>Paleoceanography</i> , 2005, 20, n/a-n/a.	3.0	22
34	Interhemispheric influence of surface buoyancy conditions on a circumpolar current. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	20
35	Relationship between eddy-driven jet latitude and width. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	19
36	Stratospheric sudden warmings in an idealized GCM. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 11,054.	3.3	19

#	ARTICLE	IF	CITATIONS
37	Atmospheric Response to SST Anomalies. Part II: Background-State Dependence, Teleconnections, and Local Effects in Summer. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 4125-4138.	1.7	19
38	An Intermediate Complexity Climate Model (ICCMp1) based on the GFDL flexible modelling system. <i>Geoscientific Model Development</i> , 2009, 2, 73-88.	3.6	16
39	Meridional structure and future changes of tropopause height and temperature. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2019, 145, 2698-2717.	2.7	16
40	Amplified Waveguide Teleconnections Along the Polar Front Jet Favor Summer Temperature Extremes Over Northern Eurasia. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093735.	4.0	16
41	A statistical-dynamical climate model with a simple hydrology cycle. <i>Tellus</i> , 1982, 34, 211-227.	0.8	15
42	The effects of gravity on the climate and circulation of a terrestrial planet. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2019, 145, 2627-2640.	2.7	15
43	Atmospheric Circulation and Thermal Phase-curve Offset of Tidally and Nontidally Locked Terrestrial Exoplanets. <i>Astrophysical Journal</i> , 2018, 868, 147.	4.5	14
44	Hierarchical Modeling of Solar System Planets with Isca. <i>Atmosphere</i> , 2019, 10, 803.	2.3	14
45	A statistical-dynamical climate model with a simple hydrology cycle. <i>Tellus</i> , 1982, 34, 211-227.	0.8	12
46	Convective organization and eastward propagating equatorial disturbances in a simple excitable system. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2020, 146, 2297-2314.	2.7	12
47	Instability and flow over topography. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1985, 34, 1-38.	1.2	11
48	Dynamics of Midlatitude Tropopause Height in an Idealized Model. <i>Journals of the Atmospheric Sciences</i> , 2011, 68, 823-838.	1.7	11
49	Processes and Timescales in Onset and Withdrawal of "Aquaplanet Monsoons". <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 2357-2373.	1.7	11
50	The Roles of Latent Heating and Dust in the Structure and Variability of the Northern Martian Polar Vortex. <i>Planetary Science Journal</i> , 2021, 2, 203.	3.6	11
51	Joint Dependence of Longwave Feedback on Surface Temperature and Relative Humidity. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094074.	4.0	10
52	Distilling the mechanism for the Madden-Julian Oscillation into a simple translating structure. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2021, 147, 3032-3047.	2.7	7
53	The Presence of Africa and Limited Soil Moisture Contribute to Future Drying of South America. <i>Geophysical Research Letters</i> , 2019, 46, 12445-12453.	4.0	6
54	Response of Tropical Rainfall to Reduced Evapotranspiration Depends on Continental Extent. <i>Journal of Climate</i> , 2021, 34, 9221-9234.	3.2	5

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55	Turbulence Theory: Imperfect, but Necessary. <i>AGU Advances</i> , 2021, 2, e2021AV000523.	5.4	5
56	Properties of conditionally filtered equations: Conservation, normal modes, and variational formulation. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2018, 144, 1555-1571.	2.7	4
57	The Trouble with Water: Condensation, Circulation and Climate. <i>European Physical Journal Plus</i> , 2020, 135, 1.	2.6	4
58	SimCloud version 1.0: a simple diagnostic cloud scheme for idealized climate models. <i>Geoscientific Model Development</i> , 2021, 14, 2801-2826.	3.6	4
59	Reduced High-Latitude Land Seasonality in Climates with Very High Carbon Dioxide. <i>Journal of Climate</i> , 2021, , 1-38.	3.2	4
60	Comment on "On the presence of annular variability in an aquaplanet model" by Masahiro Watanabe. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	3
61	Equilibration of a Baroclinic Planetary Atmosphere toward the Limit of Vanishing Bottom Friction. <i>Journals of the Atmospheric Sciences</i> , 2016, 73, 3249-3272.	1.7	3
62	A Stochastic Lagrangian Basis for a Probabilistic Parameterization of Moisture Condensation in Eulerian Models. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 3925-3941.	1.7	3
63	Atmospheric Dynamics of Terrestrial Planets. , 2018, , 1-31.		3
64	Atmospheric Dynamics of Terrestrial Planets. , 2018, , 285-315.		2
65	Zonal-Mean Atmospheric Dynamics of Slowly Rotating Terrestrial Planets. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 1397-1418.	1.7	2
66	Applications of entropy to predictability theory. <i>AIP Conference Proceedings</i> , 1983, , .	0.4	1
67	Baroclinic and barotropic predictability in geostrophic turbulence. <i>AIP Conference Proceedings</i> , 1983, , .	0.4	0
68	Atmospheric Dynamics of Terrestrial Planets. , 2018, , 1-31.		0
69	Reply to the Comment by Davison and Haynes. <i>Quarterly Journal of the Royal Meteorological Society</i> , 0, , .	2.7	0