

John Marshall

List of Publications by Year in descending order

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118
papers

15,944
citations

28190

55
h-index

20900

115
g-index

118
all docs

118
docs citations

118
times ranked

9762
citing authors

#	ARTICLE	IF	CITATIONS
1	A finite-volume, incompressible Navier Stokes model for studies of the ocean on parallel computers. <i>Journal of Geophysical Research</i> , 1997, 102, 5753-5766.	3.3	1,968
2	Hydrostatic, quasi-hydrostatic, and nonhydrostatic ocean modeling. <i>Journal of Geophysical Research</i> , 1997, 102, 5733-5752.	3.3	1,089
3	Open-ocean convection: Observations, theory, and models. <i>Reviews of Geophysics</i> , 1999, 37, 1-64.	9.0	932
4	North Atlantic climate variability: phenomena, impacts and mechanisms. <i>International Journal of Climatology</i> , 2001, 21, 1863-1898.	1.5	860
5	Closure of the meridional overturning circulation through Southern Ocean upwelling. <i>Nature Geoscience</i> , 2012, 5, 171-180.	5.4	757
6	Representation of Topography by Shaved Cells in a Height Coordinate Ocean Model. <i>Monthly Weather Review</i> , 1997, 125, 2293-2315.	0.5	520
7	Observations, inferences, and mechanisms of the Atlantic Meridional Overturning Circulation: A review. <i>Reviews of Geophysics</i> , 2016, 54, 5-63.	9.0	508
8	Specification of Eddy Transfer Coefficients in Coarse-Resolution Ocean Circulation Models*. <i>Journal of Physical Oceanography</i> , 1997, 27, 381-402.	0.7	425
9	Residual-Mean Solutions for the Antarctic Circumpolar Current and Its Associated Overturning Circulation. <i>Journal of Physical Oceanography</i> , 2003, 33, 2341-2354.	0.7	383
10	Southern Ocean warming delayed by circumpolar upwelling and equatorward transport. <i>Nature Geoscience</i> , 2016, 9, 549-554.	5.4	381
11	A Study of the Interaction of the North Atlantic Oscillation with Ocean Circulation. <i>Journal of Climate</i> , 2001, 14, 1399-1421.	1.2	315
12	The Relationship between ITCZ Location and Cross-Equatorial Atmospheric Heat Transport: From the Seasonal Cycle to the Last Glacial Maximum. <i>Journal of Climate</i> , 2013, 26, 3597-3618.	1.2	298
13	Have Aerosols Caused the Observed Atlantic Multidecadal Variability?. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 1135-1144.	0.6	282
14	Gravitational, Symmetric, and Baroclinic Instability of the Ocean Mixed Layer. <i>Journal of Physical Oceanography</i> , 1998, 28, 634-658.	0.7	267
15	Convection with Rotation in a Neutral Ocean: A Study of Open-Ocean Deep Convection. <i>Journal of Physical Oceanography</i> , 1993, 23, 1009-1039.	0.7	258
16	Implementation of an Atmosphere-Ocean General Circulation Model on the Expanded Spherical Cube. <i>Monthly Weather Review</i> , 2004, 132, 2845-2863.	0.5	249
17	Changes in ITCZ location and cross-equatorial heat transport at the Last Glacial Maximum, Heinrich Stadial 1, and the mid-Holocene. <i>Earth and Planetary Science Letters</i> , 2014, 390, 69-79.	1.8	241
18	Toward a Dynamical Understanding of Planetary-Scale Flow Regimes. <i>Journals of the Atmospheric Sciences</i> , 1993, 50, 1792-1818.	0.6	236

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19	Estimates and Implications of Surface Eddy Diffusivity in the Southern Ocean Derived from Tracer Transport. <i>Journal of Physical Oceanography</i> , 2006, 36, 1806-1821.	0.7	198
20	Antarctic Ocean and Sea Ice Response to Ozone Depletion: A Two-Time-Scale Problem. <i>Journal of Climate</i> , 2015, 28, 1206-1226.	1.2	179
21	Scales, Growth Rates, and Spectral Fluxes of Baroclinic Instability in the Ocean. <i>Journal of Physical Oceanography</i> , 2011, 41, 1057-1076.	0.7	173
22	Dynamics of Isolated Convective Regions in the Ocean. <i>Journal of Physical Oceanography</i> , 1996, 26, 1721-1734.	0.7	167
23	The ocean's role in the transient response of climate to abrupt greenhouse gas forcing. <i>Climate Dynamics</i> , 2015, 44, 2287-2299.	1.7	162
24	Integral Effects of Deep Convection. <i>Journal of Physical Oceanography</i> , 1995, 25, 855-872.	0.7	156
25	Constructing the Residual Circulation of the ACC from Observations. <i>Journal of Physical Oceanography</i> , 2002, 32, 3315-3327.	0.7	153
26	Estimating Eddy Stresses by Fitting Dynamics to Observations Using a Residual-Mean Ocean Circulation Model and Its Adjoint. <i>Journal of Physical Oceanography</i> , 2005, 35, 1891-1910.	0.7	152
27	Understanding Arctic Ocean Circulation: A Review of Ocean Dynamics in a Changing Climate. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2018JC014378.	1.0	150
28	A Note on Rotational and Divergent Eddy Fluxes. <i>Journal of Physical Oceanography</i> , 1981, 11, 1677-1680.	0.7	141
29	Mechanisms of air-sea CO ₂ flux variability in the equatorial Pacific and the North Atlantic. <i>Global Biogeochemical Cycles</i> , 2004, 18, n/a-n/a.	1.9	134
30	The Dependence of Southern Ocean Meridional Overturning on Wind Stress. <i>Journal of Physical Oceanography</i> , 2011, 41, 2261-2278.	0.7	134
31	Impact of the Atlantic meridional overturning circulation on ocean heat storage and transient climate change. <i>Geophysical Research Letters</i> , 2014, 41, 2108-2116.	1.5	130
32	The Role of Eddy Transfer in Setting the Stratification and Transport of a Circumpolar Current. <i>Journal of Physical Oceanography</i> , 2002, 32, 39-54.	0.7	128
33	Interannual variability of phytoplankton abundances in the North Atlantic. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2001, 48, 2323-2344.	0.6	127
34	Enhancement of Mesoscale Eddy Stirring at Steering Levels in the Southern Ocean. <i>Journal of Physical Oceanography</i> , 2010, 40, 170-184.	0.7	126
35	Effects of vertical variations of thickness diffusivity in an ocean general circulation model. <i>Ocean Modelling</i> , 2007, 18, 122-141.	1.0	117
36	Evidence for Enhanced Eddy Mixing at Middepth in the Southern Ocean. <i>Journal of Physical Oceanography</i> , 2009, 39, 50-69.	0.7	117

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37	The ocean's role in polar climate change: asymmetric Arctic and Antarctic responses to greenhouse gas and ozone forcing. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130040.	1.6	114
38	The Partitioning of Poleward Heat Transport between the Atmosphere and Ocean. <i>Journals of the Atmospheric Sciences</i> , 2006, 63, 1498-1511.	0.6	111
39	A Heton Model of the Spreading Phase of Open-Ocean Deep Convection. <i>Journal of Physical Oceanography</i> , 1993, 23, 1040-1056.	0.7	105
40	Observations of atmosphere-ocean coupling in the North Atlantic. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2001, 127, 1893-1916.	1.0	99
41	Potential Vorticity Constraints on the Dynamics and Hydrography of the Southern Ocean. <i>Journal of Physical Oceanography</i> , 1993, 23, 465-487.	0.7	96
42	Coupling of Trade Winds with Ocean Circulation Damps ITCZ Shifts. <i>Journal of Climate</i> , 2017, 30, 4395-4411.	1.2	93
43	Explorations of Atmosphere-Ocean-Ice Climates on an Aquaplanet and Their Meridional Energy Transports. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 1593-1611.	0.6	89
44	Climate Determinism Revisited: Multiple Equilibria in a Complex Climate Model. <i>Journal of Climate</i> , 2011, 24, 992-1012.	1.2	87
45	Restratification after Deep Convection. <i>Journal of Physical Oceanography</i> , 1997, 27, 2276-2287.	0.7	85
46	Fast and slow responses of Southern Ocean sea surface temperature to SAM in coupled climate models. <i>Climate Dynamics</i> , 2017, 48, 1595-1609.	1.7	85
47	Localization of Deep Water Formation: Role of Atmospheric Moisture Transport and Geometrical Constraints on Ocean Circulation. <i>Journal of Climate</i> , 2010, 23, 1456-1476.	1.2	81
48	Conservation of properties in a free-surface model. <i>Ocean Modelling</i> , 2004, 6, 221-244.	1.0	78
49	Climate at high-obliquity. <i>Icarus</i> , 2014, 243, 236-248.	1.1	76
50	Representation of convective plumes by vertical adjustment. <i>Journal of Geophysical Research</i> , 1996, 101, 18175-18182.	3.3	74
51	Can Eddies Set Ocean Stratification?. <i>Journal of Physical Oceanography</i> , 2002, 32, 26-38.	0.7	73
52	Sea ice-ocean coupling using a rescaled vertical coordinate \hat{z} . <i>Ocean Modelling</i> , 2008, 24, 1-14.	1.0	72
53	Direct Estimate of Lateral Eddy Diffusivity Upstream of Drake Passage. <i>Journal of Physical Oceanography</i> , 2014, 44, 2593-2616.	0.7	68
54	Hydrothermal plume dynamics on Europa: Implications for chaos formation. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	66

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55	Atmosphereâ€™Ocean Modeling Exploiting Fluid Isomorphisms. <i>Monthly Weather Review</i> , 2004, 132, 2882-2894.	0.5	61
56	Control of Lower-Limb Overturning Circulation in the Southern Ocean by Diapycnal Mixing and Mesoscale Eddy Transfer. <i>Journal of Physical Oceanography</i> , 2008, 38, 2832-2845.	0.7	61
57	Hemispherically asymmetric trade wind changes as signatures of past ITCZ shifts. <i>Quaternary Science Reviews</i> , 2018, 180, 214-228.	1.4	58
58	Mean Climate and Variability of the Atmosphere and Ocean on an Aquaplanet. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 4270-4286.	0.6	57
59	Ocean Heat Transport, Sea Ice, and Multiple Climate States: Insights from Energy Balance Models. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 2828-2843.	0.6	56
60	The Interannual Variability of Tropical Precipitation and Interhemispheric Energy Transport. <i>Journal of Climate</i> , 2014, 27, 3377-3392.	1.2	56
61	The Iceâ€™Ocean Governor: Iceâ€™Ocean Stress Feedback Limits Beaufort Gyre Spinâ€™Up. <i>Geophysical Research Letters</i> , 2018, 45, 11,293.	1.5	50
62	Controlling spurious diapycnal mixing in eddy-resolving height-coordinate ocean models â€™ Insights from virtual deliberate tracer release experiments. <i>Ocean Modelling</i> , 2012, 45-46, 14-26.	1.0	49
63	Exploring Mechanisms of Variability and Predictability of Atlantic Meridional Overturning Circulation in Two Coupled Climate Models. <i>Journal of Climate</i> , 2012, 25, 4067-4080.	1.2	47
64	A model of the upper branch of the meridional overturning of the southern ocean. <i>Progress in Oceanography</i> , 2006, 70, 331-345.	1.5	45
65	On the Relationship between Decadal Buoyancy Anomalies and Variability of the Atlantic Meridional Overturning Circulation. <i>Journal of Climate</i> , 2012, 25, 8009-8030.	1.2	45
66	What controls the uptake of transient tracers in the Southern Ocean?. <i>Global Biogeochemical Cycles</i> , 2004, 18, n/a-n/a.	1.9	44
67	Understanding the Regional Variability of Eddy Diffusivity in the Pacific Sector of the Southern Ocean. <i>Journal of Physical Oceanography</i> , 2009, 39, 2011-2023.	0.7	43
68	Representation of Eddies in Primitive Equation Models by a PV Flux. <i>Journal of Physical Oceanography</i> , 2000, 30, 2481-2503.	0.7	42
69	Rationalizing the Spatial Distribution of Mesoscale Eddy Diffusivity in Terms of Mixing Length Theory. <i>Journal of Physical Oceanography</i> , 2014, 44, 1523-1540.	0.7	42
70	The growth of convective plumes at seafloor hot springs. <i>Journal of Marine Research</i> , 1995, 53, 1025-1057.	0.3	41
71	Regimes and scaling laws for rotating deep convection in the ocean. <i>Dynamics of Atmospheres and Oceans</i> , 1995, 21, 227-256.	0.7	41
72	Seasonally derived components of the Canada Basin halocline. <i>Geophysical Research Letters</i> , 2017, 44, 5008-5015.	1.5	41

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73	Observational Inferences of Lateral Eddy Diffusivity in the Halocline of the Beaufort Gyre. <i>Geophysical Research Letters</i> , 2017, 44, 12,331.	1.5	41
74	Super-parameterization in ocean modeling: Application to deep convection. <i>Ocean Modelling</i> , 2011, 36, 90-101.	1.0	40
75	Efficient ocean modeling using non-hydrostatic algorithms. <i>Journal of Marine Systems</i> , 1998, 18, 115-134.	0.9	39
76	Contributions of Greenhouse Gas Forcing and the Southern Annular Mode to Historical Southern Ocean Surface Temperature Trends. <i>Geophysical Research Letters</i> , 2018, 45, 1086-1097.	1.5	36
77	The "sticky" ITCZ: ocean-moderated ITCZ shifts. <i>Climate Dynamics</i> , 2019, 53, 1-19.	1.7	36
78	Testing theories of the vertical stratification of the ACC against observations. <i>Dynamics of Atmospheres and Oceans</i> , 2002, 36, 233-246.	0.7	34
79	Antarctic Glacial Melt as a Driver of Recent Southern Ocean Climate Trends. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086892.	1.5	34
80	Ocean Basin Geometry and the Salinification of the Atlantic Ocean. <i>Journal of Climate</i> , 2013, 26, 6163-6184.	1.2	33
81	Robustness of an Effective Diffusivity Diagnostic in Oceanic Flows. <i>Journal of Physical Oceanography</i> , 2009, 39, 1993-2009.	0.7	32
82	The dependence of the ocean's MOC on mesoscale eddy diffusivities: A model study. <i>Ocean Modelling</i> , 2017, 111, 1-8.	1.0	31
83	A Three-Way Balance in the Beaufort Gyre: The Ice-Ocean Governor, Wind Stress, and Eddy Diffusivity. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 3107-3124.	1.0	31
84	Transformed Eulerian-Mean Theory. Part II: Potential Vorticity Homogenization and the Equilibrium of a Wind- and Buoyancy-Driven Zonal Flow. <i>Journal of Physical Oceanography</i> , 2005, 35, 175-187.	0.7	29
85	Eddy Modulation of Air-Sea Interaction and Convection. <i>Journal of Physical Oceanography</i> , 2008, 38, 65-83.	0.7	29
86	Twentieth century correlations between extratropical SST variability and ITCZ shifts. <i>Geophysical Research Letters</i> , 2017, 44, 9039-9047.	1.5	28
87	Eddy Compensation Dampens Southern Ocean Sea Surface Temperature Response to Westerly Wind Trends. <i>Geophysical Research Letters</i> , 2019, 46, 4365-4377.	1.5	26
88	The influence of the ambient flow on the spreading of convected water masses. <i>Journal of Marine Research</i> , 1998, 56, 107-139.	0.3	25
89	Evaluating carbon sequestration efficiency in an ocean circulation model by adjoint sensitivity analysis. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	25
90	Source waters for the highly productive Patagonian shelf in the southwestern Atlantic. <i>Journal of Marine Systems</i> , 2016, 158, 120-128.	0.9	25

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91	Circulation and Stirring in the Southeast Pacific Ocean and the Scotia Sea Sectors of the Antarctic Circumpolar Current. <i>Journal of Physical Oceanography</i> , 2016, 46, 2005-2027.	0.7	24
92	Linking Glacial–Interglacial States to Multiple Equilibria of Climate. <i>Geophysical Research Letters</i> , 2018, 45, 9160-9170.	1.5	24
93	Exploring Ocean Circulation on Icy Moons Heated From Below. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	1.5	24
94	The Antarctic Circumpolar Current in Three Dimensions. <i>Journal of Physical Oceanography</i> , 2006, 36, 651-669.	0.7	23
95	Mesoscale modulation of air–sea CO_2 flux in the Drake Passage. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 6635-6649.	1.0	23
96	Climate response functions for the Arctic Ocean: a proposed coordinated modelling experiment. <i>Geoscientific Model Development</i> , 2017, 10, 2833-2848.	1.3	23
97	A Laboratory Model of Thermocline Depth and Exchange Fluxes across Circumpolar Fronts*. <i>Journal of Physical Oceanography</i> , 2004, 34, 656-667.	0.7	18
98	The Climate Response to Multiple Volcanic Eruptions Mediated by Ocean Heat Uptake: Damping Processes and Accumulation Potential. <i>Journal of Climate</i> , 2018, 31, 8669-8687.	1.2	18
99	Sea-Ice Melt Driven by Ice–Ocean Stresses on the Mesoscale. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2020JC016404.	1.0	15
100	A Statistical Theory for the Patchiness of Open-Ocean Deep Convection: The Effect of Preconditioning. <i>Journal of Physical Oceanography</i> , 2002, 32, 599-626.	0.7	14
101	Laboratory and Numerical Experiments in Oceanic Convection. , 1994, , 173-201.		12
102	Impact of Anomalous Ocean Heat Transport on the North Atlantic Oscillation. <i>Journal of Climate</i> , 2005, 18, 4955-4969.	1.2	11
103	Anomalous chlorofluorocarbon uptake by mesoscale eddies in the Drake Passage region. <i>Journal of Geophysical Research: Oceans</i> , 2015, 120, 1065-1078.	1.0	11
104	Impact of Current–Wind Interaction on Vertical Processes in the Southern Ocean. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2020JC016046.	1.0	10
105	Mechanisms of Thermohaline Mode Switching with Application to Warm Equable Climates. <i>Journal of Climate</i> , 2002, 15, 2056-2072.	1.2	10
106	Using Neutral Singular Vectors to Study Low-Frequency Atmospheric Variability. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 3206-3222.	0.6	10
107	Equilibration of a Warm Pumped Lens on a σ_θ plane. <i>Journal of Physical Oceanography</i> , 2003, 33, 885-899.	0.7	8
108	The Role of Neutral Singular Vectors in Midlatitude Air–Sea Coupling. <i>Journal of Climate</i> , 2003, 16, 88-102.	1.2	7

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109	Impact of Near-Inertial Waves on Vertical Mixing and Air-Sea CO ₂ Fluxes in the Southern Ocean. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 4605-4617.	1.0	7
110	Freshwater transport in the coupled ocean-atmosphere system: a passive ocean. <i>Ocean Dynamics</i> , 2015, 65, 1029-1036.	0.9	6
111	A Comparison of Implicitly Parallel Multithreaded and Data-Parallel Implementations of an Ocean Model. <i>Journal of Parallel and Distributed Computing</i> , 1998, 48, 1-51.	2.7	5
112	Why is there net surface heating over the Antarctic Circumpolar Current?. <i>Ocean Dynamics</i> , 2015, 65, 751-760.	0.9	5
113	On the effects of the ocean on atmospheric CFC-11 lifetimes and emissions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, e2021528118.	3.3	5
114	Water mass transformation and overturning circulation in the Arabian Gulf. <i>Journal of Physical Oceanography</i> , 2021, , .	0.7	4
115	Observations of Upwelling and Downwelling Around Antarctica Mediated by Sea Ice. <i>Frontiers in Marine Science</i> , 0, 9, .	1.2	4
116	Suppressed <i>p</i> CO ₂ in the Southern Ocean Due to the Interaction Between Current and Wind. <i>Journal of Geophysical Research: Oceans</i> , 2021, 126, e2021JC017884.	1.0	3
117	Mechanisms of Buoyancy Transport through Mixed Layers and Statistical Signatures from Isobaric Floats. <i>Journal of Physical Oceanography</i> , 2002, 32, 545-557.	0.7	2
118	Planet-in-a-Bottle: A Numerical Fluid-Laboratory System. <i>Lecture Notes in Computer Science</i> , 2007, , 1163-1170.	1.0	0