

# John Marshall

## List of Publications by Citations

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115  
papers

12,979  
citations

53  
h-index

113  
g-index

118  
ext. papers

14,256  
ext. citations

3.9  
avg, IF

6.68  
L-index

#	Paper	IF	Citations
115	A finite-volume, incompressible Navier Stokes model for studies of the ocean on parallel computers. <i>Journal of Geophysical Research</i> , <b>1997</b> , 102, 5753-5766		1584
114	Hydrostatic, quasi-hydrostatic, and nonhydrostatic ocean modeling. <i>Journal of Geophysical Research</i> , <b>1997</b> , 102, 5733-5752		908
113	Open-ocean convection: Observations, theory, and models. <i>Reviews of Geophysics</i> , <b>1999</b> , 37, 1-64	23.1	788
112	North Atlantic climate variability: phenomena, impacts and mechanisms. <i>International Journal of Climatology</i> , <b>2001</b> , 21, 1863-1898	3.5	764
111	Closure of the meridional overturning circulation through Southern Ocean upwelling. <i>Nature Geoscience</i> , <b>2012</b> , 5, 171-180	18.3	568
110	Representation of Topography by Shaved Cells in a Height Coordinate Ocean Model. <i>Monthly Weather Review</i> , <b>1997</b> , 125, 2293-2315	2.4	445
109	Specification of Eddy Transfer Coefficients in Coarse-Resolution Ocean Circulation Models*. <i>Journal of Physical Oceanography</i> , <b>1997</b> , 27, 381-402	2.4	377
108	Observations, inferences, and mechanisms of the Atlantic Meridional Overturning Circulation: A review. <i>Reviews of Geophysics</i> , <b>2016</b> , 54, 5-63	23.1	317
107	Residual-Mean Solutions for the Antarctic Circumpolar Current and Its Associated Overturning Circulation. <i>Journal of Physical Oceanography</i> , <b>2003</b> , 33, 2341-2354	2.4	305
106	A Study of the Interaction of the North Atlantic Oscillation with Ocean Circulation. <i>Journal of Climate</i> , <b>2001</b> , 14, 1399-1421	4.4	280
105	Southern Ocean warming delayed by circumpolar upwelling and equatorward transport. <i>Nature Geoscience</i> , <b>2016</b> , 9, 549-554	18.3	264
104	Have Aerosols Caused the Observed Atlantic Multidecadal Variability?. <i>Journals of the Atmospheric Sciences</i> , <b>2013</b> , 70, 1135-1144	2.1	240
103	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> , <b>2013</b> , 26, 3597-3618	4.4	237
102	Convection with Rotation in a Neutral Ocean: A Study of Open-Ocean Deep Convection. <i>Journal of Physical Oceanography</i> , <b>1993</b> , 23, 1009-1039	2.4	230
101	Toward a Dynamical Understanding of Planetary-Scale Flow Regimes. <i>Journals of the Atmospheric Sciences</i> , <b>1993</b> , 50, 1792-1818	2.1	220
100	Implementation of an Atmosphere-Ocean General Circulation Model on the Expanded Spherical Cube. <i>Monthly Weather Review</i> , <b>2004</b> , 132, 2845-2863	2.4	213
99	Gravitational, Symmetric, and Baroclinic Instability of the Ocean Mixed Layer. <i>Journal of Physical Oceanography</i> , <b>1998</b> , 28, 634-658	2.4	208

98	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> , <b>2014</b> , 390, 69-79	5.3	187
97	Estimates and Implications of Surface Eddy Diffusivity in the Southern Ocean Derived from Tracer Transport. <i>Journal of Physical Oceanography</i> , <b>2006</b> , 36, 1806-1821	2.4	185
96	Dynamics of Isolated Convective Regions in the Ocean. <i>Journal of Physical Oceanography</i> , <b>1996</b> , 26, 1721-1734	2.4	152
95	Scales, Growth Rates, and Spectral Fluxes of Baroclinic Instability in the Ocean. <i>Journal of Physical Oceanography</i> , <b>2011</b> , 41, 1057-1076	2.4	141
94	Antarctic Ocean and Sea Ice Response to Ozone Depletion: A Two-Time-Scale Problem. <i>Journal of Climate</i> , <b>2015</b> , 28, 1206-1226	4.4	139
93	Constructing the Residual Circulation of the ACC from Observations. <i>Journal of Physical Oceanography</i> , <b>2002</b> , 32, 3315-3327	2.4	138
92	Estimating Eddy Stresses by Fitting Dynamics to Observations Using a Residual-Mean Ocean Circulation Model and Its Adjoint. <i>Journal of Physical Oceanography</i> , <b>2005</b> , 35, 1891-1910	2.4	133
91	Integral Effects of Deep Convection. <i>Journal of Physical Oceanography</i> , <b>1995</b> , 25, 855-872	2.4	133
90	A Note on Rotational and Divergent Eddy Fluxes. <i>Journal of Physical Oceanography</i> , <b>1981</b> , 11, 1677-1680	2.4	116
89	The ocean's role in the transient response of climate to abrupt greenhouse gas forcing. <i>Climate Dynamics</i> , <b>2015</b> , 44, 2287-2299	4.2	114
88	Mechanisms of air-sea CO <sub>2</sub> flux variability in the equatorial Pacific and the North Atlantic. <i>Global Biogeochemical Cycles</i> , <b>2004</b> , 18, n/a-n/a	5.9	114
87	Enhancement of Mesoscale Eddy Stirring at Steering Levels in the Southern Ocean. <i>Journal of Physical Oceanography</i> , <b>2010</b> , 40, 170-184	2.4	113
86	The Role of Eddy Transfer in Setting the Stratification and Transport of a Circumpolar Current. <i>Journal of Physical Oceanography</i> , <b>2002</b> , 32, 39-54	2.4	112
85	The Dependence of Southern Ocean Meridional Overturning on Wind Stress. <i>Journal of Physical Oceanography</i> , <b>2011</b> , 41, 2261-2278	2.4	111
84	Interannual variability of phytoplankton abundances in the North Atlantic. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , <b>2001</b> , 48, 2323-2344	2.3	107
83	Effects of vertical variations of thickness diffusivity in an ocean general circulation model. <i>Ocean Modelling</i> , <b>2007</b> , 18, 122-141	3	101
82	Impact of the Atlantic meridional overturning circulation on ocean heat storage and transient climate change. <i>Geophysical Research Letters</i> , <b>2014</b> , 41, 2108-2116	4.9	98
81	Evidence for Enhanced Eddy Mixing at Middepth in the Southern Ocean. <i>Journal of Physical Oceanography</i> , <b>2009</b> , 39, 50-69	2.4	98

80	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> , <b>2014</b> , 372, 20130040	3	97
79	The Partitioning of Poleward Heat Transport between the Atmosphere and Ocean. <i>Journals of the Atmospheric Sciences</i> , <b>2006</b> , 63, 1498-1511	2.1	92
78	A Heton Model of the Spreading Phase of Open-Ocean Deep Convection. <i>Journal of Physical Oceanography</i> , <b>1993</b> , 23, 1040-1056	2.4	91
77	Observations of atmosphere-ocean coupling in the North Atlantic. <i>Quarterly Journal of the Royal Meteorological Society</i> , <b>2001</b> , 127, 1893-1916	6.4	87
76	Potential Vorticity Constraints on the Dynamics and Hydrography of the Southern Ocean. <i>Journal of Physical Oceanography</i> , <b>1993</b> , 23, 465-487	2.4	82
75	Explorations of Atmosphere-Ocean Ice Climates on an Aquaplanet and Their Meridional Energy Transports. <i>Journals of the Atmospheric Sciences</i> , <b>2009</b> , 66, 1593-1611	2.1	80
74	Coupling of Trade Winds with Ocean Circulation Damps ITCZ Shifts. <i>Journal of Climate</i> , <b>2017</b> , 30, 4395-4411	4.1	79
73	Restratification after Deep Convection. <i>Journal of Physical Oceanography</i> , <b>1997</b> , 27, 2276-2287	2.4	76
72	Climate Determinism Revisited: Multiple Equilibria in a Complex Climate Model. <i>Journal of Climate</i> , <b>2011</b> , 24, 992-1012	4.4	74
71	Fast and slow responses of Southern Ocean sea surface temperature to SAM in coupled climate models. <i>Climate Dynamics</i> , <b>2017</b> , 48, 1595-1609	4.2	69
70	Conservation of properties in a free-surface model. <i>Ocean Modelling</i> , <b>2004</b> , 6, 221-244	3	69
69	Localization of Deep Water Formation: Role of Atmospheric Moisture Transport and Geometrical Constraints on Ocean Circulation. <i>Journal of Climate</i> , <b>2010</b> , 23, 1456-1476	4.4	65
68	Sea ice-ocean coupling using a rescaled vertical coordinate $z^*$ . <i>Ocean Modelling</i> , <b>2008</b> , 24, 1-14	3	64
67	Can Eddies Set Ocean Stratification?. <i>Journal of Physical Oceanography</i> , <b>2002</b> , 32, 26-38	2.4	63
66	Climate at high-obliquity. <i>Icarus</i> , <b>2014</b> , 243, 236-248	3.8	61
65	Representation of convective plumes by vertical adjustment. <i>Journal of Geophysical Research</i> , <b>1996</b> , 101, 18175-18182		61
64	Control of Lower-Limb Overturning Circulation in the Southern Ocean by Diapycnal Mixing and Mesoscale Eddy Transfer. <i>Journal of Physical Oceanography</i> , <b>2008</b> , 38, 2832-2845	2.4	56
63	Understanding Arctic Ocean Circulation: A Review of Ocean Dynamics in a Changing Climate. <i>Journal of Geophysical Research: Oceans</i> , <b>2020</b> , 125, e2018JC014378	3.3	55

62	Direct Estimate of Lateral Eddy Diffusivity Upstream of Drake Passage. <i>Journal of Physical Oceanography</i> , <b>2014</b> , 44, 2593-2616	2.4	52
61	Atmosphere-Ocean Modeling Exploiting Fluid Isomorphisms. <i>Monthly Weather Review</i> , <b>2004</b> , 132, 2882-2894	3.4	52
60	The Interannual Variability of Tropical Precipitation and Interhemispheric Energy Transport. <i>Journal of Climate</i> , <b>2014</b> , 27, 3377-3392	4.4	51
59	Mean Climate and Variability of the Atmosphere and Ocean on an Aquaplanet. <i>Journals of the Atmospheric Sciences</i> , <b>2007</b> , 64, 4270-4286	2.1	50
58	Ocean Heat Transport, Sea Ice, and Multiple Climate States: Insights from Energy Balance Models. <i>Journals of the Atmospheric Sciences</i> , <b>2009</b> , 66, 2828-2843	2.1	49
57	Hydrothermal plume dynamics on Europa: Implications for chaos formation. <i>Journal of Geophysical Research</i> , <b>2004</b> , 109,		49
56	Controlling spurious diapycnal mixing in eddy-resolving height-coordinate ocean models [Insights from virtual deliberate tracer release experiments. <i>Ocean Modelling</i> , <b>2012</b> , 45-46, 14-26	3	45
55	Understanding the Regional Variability of Eddy Diffusivity in the Pacific Sector of the Southern Ocean. <i>Journal of Physical Oceanography</i> , <b>2009</b> , 39, 2011-2023	2.4	41
54	Exploring Mechanisms of Variability and Predictability of Atlantic Meridional Overturning Circulation in Two Coupled Climate Models. <i>Journal of Climate</i> , <b>2012</b> , 25, 4067-4080	4.4	41
53	A model of the upper branch of the meridional overturning of the southern ocean. <i>Progress in Oceanography</i> , <b>2006</b> , 70, 331-345	3.8	41
52	Representation of Eddies in Primitive Equation Models by a PV Flux. <i>Journal of Physical Oceanography</i> , <b>2000</b> , 30, 2481-2503	2.4	40
51	What controls the uptake of transient tracers in the Southern Ocean?. <i>Global Biogeochemical Cycles</i> , <b>2004</b> , 18, n/a-n/a	5.9	39
50	On the Relationship between Decadal Buoyancy Anomalies and Variability of the Atlantic Meridional Overturning Circulation. <i>Journal of Climate</i> , <b>2012</b> , 25, 8009-8030	4.4	36
49	Super-parameterization in ocean modeling: Application to deep convection. <i>Ocean Modelling</i> , <b>2011</b> , 36, 90-101	3	34
48	The growth of convective plumes at seafloor hot springs. <i>Journal of Marine Research</i> , <b>1995</b> , 53, 1025-1057	2.5	33
47	Hemispherically asymmetric trade wind changes as signatures of past ITCZ shifts. <i>Quaternary Science Reviews</i> , <b>2018</b> , 180, 214-228	3.9	33
46	Efficient ocean modeling using non-hydrostatic algorithms. <i>Journal of Marine Systems</i> , <b>1998</b> , 18, 115-134	2.7	32
45	Regimes and scaling laws for rotating deep convection in the ocean. <i>Dynamics of Atmospheres and Oceans</i> , <b>1995</b> , 21, 227-256	1.9	32

44	Rationalizing the Spatial Distribution of Mesoscale Eddy Diffusivity in Terms of Mixing Length Theory. <i>Journal of Physical Oceanography</i> , <b>2014</b> , 44, 1523-1540	2.4	31
43	Robustness of an Effective Diffusivity Diagnostic in Oceanic Flows. <i>Journal of Physical Oceanography</i> , <b>2009</b> , 39, 1993-2009	2.4	31
42	Observational Inferences of Lateral Eddy Diffusivity in the Halocline of the Beaufort Gyre. <i>Geophysical Research Letters</i> , <b>2017</b> , 44, 12,331	4.9	30
41	The Ice-Ocean Governor: Ice-Ocean Stress Feedback Limits Beaufort Gyre Spin-Up. <i>Geophysical Research Letters</i> , <b>2018</b> , 45, 11,293	4.9	30
40	Ocean Basin Geometry and the Salinification of the Atlantic Ocean. <i>Journal of Climate</i> , <b>2013</b> , 26, 6163-6184	4.4	29
39	The Sticky ITCZ: ocean-moderated ITCZ shifts. <i>Climate Dynamics</i> , <b>2019</b> , 53, 1-19	4.2	28
38	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> , <b>2005</b> , 35, 175-187	2.4	27
37	The dependence of the ocean MOC on mesoscale eddy diffusivities: A model study. <i>Ocean Modelling</i> , <b>2017</b> , 111, 1-8	3	26
36	Seasonally derived components of the Canada Basin halocline. <i>Geophysical Research Letters</i> , <b>2017</b> , 44, 5008-5015	4.9	25
35	Testing theories of the vertical stratification of the ACC against observations. <i>Dynamics of Atmospheres and Oceans</i> , <b>2002</b> , 36, 233-246	1.9	25
34	The influence of the ambient flow on the spreading of convected water masses. <i>Journal of Marine Research</i> , <b>1998</b> , 56, 107-139	1.5	24
33	Eddy Modulation of Air-Sea Interaction and Convection. <i>Journal of Physical Oceanography</i> , <b>2008</b> , 38, 65-83	2.4	23
32	Evaluating carbon sequestration efficiency in an ocean circulation model by adjoint sensitivity analysis. <i>Journal of Geophysical Research</i> , <b>2004</b> , 109,		23
31	Contributions of Greenhouse Gas Forcing and the Southern Annular Mode to Historical Southern Ocean Surface Temperature Trends. <i>Geophysical Research Letters</i> , <b>2018</b> , 45, 1086-1097	4.9	21
30	Source waters for the highly productive Patagonian shelf in the southwestern Atlantic. <i>Journal of Marine Systems</i> , <b>2016</b> , 158, 120-128	2.7	20
29	Twentieth century correlations between extratropical SST variability and ITCZ shifts. <i>Geophysical Research Letters</i> , <b>2017</b> , 44, 9039-9047	4.9	20
28	The Antarctic Circumpolar Current in Three Dimensions. <i>Journal of Physical Oceanography</i> , <b>2006</b> , 36, 651-669	2.4	20
27	Circulation and Stirring in the Southeast Pacific Ocean and the Scotia Sea Sectors of the Antarctic Circumpolar Current. <i>Journal of Physical Oceanography</i> , <b>2016</b> , 46, 2005-2027	2.4	18

26	Climate response functions for the Arctic Ocean: a proposed coordinated modelling experiment. <i>Geoscientific Model Development</i> , <b>2017</b> , 10, 2833-2848	6.3	18
25	A Laboratory Model of Thermocline Depth and Exchange Fluxes across Circumpolar Fronts*. <i>Journal of Physical Oceanography</i> , <b>2004</b> , 34, 656-667	2.4	17
24	A Three-Way Balance in the Beaufort Gyre: The Ice-Ocean Governor, Wind Stress, and Eddy Diffusivity. <i>Journal of Geophysical Research: Oceans</i> , <b>2019</b> , 124, 3107-3124	3.3	15
23	Linking Glacial-Interglacial States to Multiple Equilibria of Climate. <i>Geophysical Research Letters</i> , <b>2018</b> , 45, 9160-9170	4.9	14
22	Eddy Compensation Dampens Southern Ocean Sea Surface Temperature Response to Westerly Wind Trends. <i>Geophysical Research Letters</i> , <b>2019</b> , 46, 4365-4377	4.9	13
21	Mesoscale modulation of air-sea CO <sub>2</sub> flux in Drake Passage. <i>Journal of Geophysical Research: Oceans</i> , <b>2016</b> , 121, 6635-6649	3.3	13
20	A Statistical Theory for the Batchiness of Open-Ocean Deep Convection: The Effect of Preconditioning. <i>Journal of Physical Oceanography</i> , <b>2002</b> , 32, 599-626	2.4	13
19	The Climate Response to Multiple Volcanic Eruptions Mediated by Ocean Heat Uptake: Damping Processes and Accumulation Potential. <i>Journal of Climate</i> , <b>2018</b> , 31, 8669-8687	4.4	11
18	Anomalous chlorofluorocarbon uptake by mesoscale eddies in the Drake Passage region. <i>Journal of Geophysical Research: Oceans</i> , <b>2015</b> , 120, 1065-1078	3.3	10
17	Antarctic Glacial Melt as a Driver of Recent Southern Ocean Climate Trends. <i>Geophysical Research Letters</i> , <b>2020</b> , 47, e2019GL086892	4.9	10
16	Impact of Anomalous Ocean Heat Transport on the North Atlantic Oscillation. <i>Journal of Climate</i> , <b>2005</b> , 18, 4955-4969	4.4	10
15	Mechanisms of Thermohaline Mode Switching with Application to Warm Equable Climates. <i>Journal of Climate</i> , <b>2002</b> , 15, 2056-2072	4.4	9
14	Using Neutral Singular Vectors to Study Low-Frequency Atmospheric Variability. <i>Journals of the Atmospheric Sciences</i> , <b>2002</b> , 59, 3206-3222	2.1	8
13	Equilibration of a Warm Pumped Lens on a plane. <i>Journal of Physical Oceanography</i> , <b>2003</b> , 33, 885-899	2.4	8
12	The Role of Neutral Singular Vectors in Midlatitude Air-Sea Coupling. <i>Journal of Climate</i> , <b>2003</b> , 16, 88-102	4.4	7
11	Laboratory and Numerical Experiments in Oceanic Convection <b>1994</b> , 173-201		7
10	Sea-Ice Melt Driven by Ice-Ocean Stresses on the Mesoscale. <i>Journal of Geophysical Research: Oceans</i> , <b>2020</b> , 125, e2020JC016404	3.3	6
9	Impact of Current-Wind Interaction on Vertical Processes in the Southern Ocean. <i>Journal of Geophysical Research: Oceans</i> , <b>2020</b> , 125, e2020JC016046	3.3	5



8	Impact of Near-Inertial Waves on Vertical Mixing and Air-Sea CO <sub>2</sub> Fluxes in the Southern Ocean. <i>Journal of Geophysical Research: Oceans</i> , <b>2019</b> , 124, 4605-4617	3.3	4
7	Freshwater transport in the coupled ocean-atmosphere system: a passive ocean. <i>Ocean Dynamics</i> , <b>2015</b> , 65, 1029-1036	2.3	4
6	Why is there net surface heating over the Antarctic Circumpolar Current?. <i>Ocean Dynamics</i> , <b>2015</b> , 65, 751-760	2.3	3
5	A Comparison of Implicitly Parallel Multithreaded and Data-Parallel Implementations of an Ocean Model. <i>Journal of Parallel and Distributed Computing</i> , <b>1998</b> , 48, 1-51	4.4	3
4	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> , <b>2021</b> , 118,	11.5	3
3	Mechanisms of Buoyancy Transport through Mixed Layers and Statistical Signatures from Isobaric Floats. <i>Journal of Physical Oceanography</i> , <b>2002</b> , 32, 545-557	2.4	2
2	Suppressed pCO <sub>2</sub> in the Southern Ocean Due to the Interaction Between Current and Wind. <i>Journal of Geophysical Research: Oceans</i> , <b>2021</b> , 126, e2021JC017884	3.3	0
1	Planet-in-a-Bottle: A Numerical Fluid-Laboratory System. <i>Lecture Notes in Computer Science</i> , <b>2007</b> , 1163-1170	11.7	0