

# David Marshall

## List of Publications by Year in descending order

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110  
papers

4,718  
citations

81900

39  
h-index

110387

64  
g-index

115  
all docs

115  
docs citations

115  
times ranked

3445  
citing authors

#	ARTICLE	IF	CITATIONS
1	How slippery are piecewise-constant coastlines in numerical ocean models?. <i>Tellus, Series A: Dynamic Meteorology and Oceanography</i> , 2022, 50, 95.	1.7	34
2	Relative strength of the Antarctic Circumpolar Current and Atlantic Meridional Overturning Circulation. <i>Tellus, Series A: Dynamic Meteorology and Oceanography</i> , 2022, 69, 1338884.	1.7	7
3	The role of ocean mixing in the climate system. , 2022, , 5-34.		8
4	Why Mean Potential Vorticity Cannot Be Materially Conserved in the Eddying Southern Ocean. <i>Journal of Physical Oceanography</i> , 2022, 52, 1629-1654.	1.7	2
5	Acute Sensitivity of Global Ocean Circulation and Heat Content to Eddy Energy Dissipation Timescale. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	8
6	The Annual Cycle of Upper-Ocean Potential Vorticity and Its Relationship to Submesoscale Instabilities. <i>Journal of Physical Oceanography</i> , 2021, 51, 385-402.	1.7	8
7	An Idealized Model Study of Eddy Energetics in the Western Boundary "Graveyard". <i>Journal of Physical Oceanography</i> , 2021, 51, 1265-1282.	1.7	13
8	Demons in the North Atlantic: Variability of Deep Ocean Ventilation. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL092340.	4.0	7
9	Distinct sources of interannual subtropical and subpolar Atlantic overturning variability. <i>Nature Geoscience</i> , 2021, 14, 491-495.	12.9	23
10	Symmetric Instability in Cross-Equatorial Western Boundary Currents. <i>Journal of Physical Oceanography</i> , 2021, 51, 2049-2067.	1.7	4
11	Resolving and Parameterising the Ocean Mesoscale in Earth System Models. <i>Current Climate Change Reports</i> , 2020, 6, 137-152.	8.6	62
12	Locations and Mechanisms of Ocean Ventilation in the High-Latitude North Atlantic in an Eddy-Permitting Ocean Model. <i>Journal of Climate</i> , 2020, 33, 10113-10131.	3.2	14
13	Random Movement of Mesoscale Eddies in the Global Ocean. <i>Journal of Physical Oceanography</i> , 2020, 50, 2341-2357.	1.7	23
14	Ertel Potential Vorticity versus Bernoulli Potential on Approximately Neutral Surfaces in the Antarctic Circumpolar Current. <i>Journal of Physical Oceanography</i> , 2020, 50, 2621-2648.	1.7	4
15	Recent Contributions of Theory to Our Understanding of the Atlantic Meridional Overturning Circulation. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 5376-5399.	2.6	71
16	AMOC sensitivity to surface buoyancy fluxes: the role of air-sea feedback mechanisms. <i>Climate Dynamics</i> , 2019, 53, 4521-4537.	3.8	20
17	A sea change in our view of overturning in the subpolar North Atlantic. <i>Science</i> , 2019, 363, 516-521.	12.6	333
18	A Geometric Interpretation of Southern Ocean Eddy Form Stress. <i>Journal of Physical Oceanography</i> , 2019, 49, 2553-2570.	1.7	9

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19	Sensitivity of Deep Ocean Mixing to Local Internal Tide Breaking and Mixing Efficiency. <i>Geophysical Research Letters</i> , 2019, 46, 14622-14633.	4.0	20
20	Atlantic-Pacific Asymmetry in Deep Water Formation. <i>Annual Review of Earth and Planetary Sciences</i> , 2018, 46, 327-352.	11.0	68
21	Implementation of a Geometrically Informed and Energetically Constrained Mesoscale Eddy Parameterization in an Ocean Circulation Model. <i>Journal of Physical Oceanography</i> , 2018, 48, 2363-2382.	1.7	39
22	Implications of Eddy Cancellation for Nutrient Distribution Within Subtropical Gyres. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 6720-6735.	2.6	11
23	Eddy-mixing entropy and its maximization in forced-dissipative geostrophic turbulence. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2018, 2018, 073206.	2.3	2
24	Impacts of Atmospheric Reanalysis Uncertainty on Atlantic Overturning Estimates at 25°N. <i>Journal of Climate</i> , 2018, 31, 8719-8744.	3.2	7
25	The impact of Southern Ocean residual upwelling on atmospheric CO <sub>2</sub> on centennial and millennial timescales. <i>Climate Dynamics</i> , 2017, 48, 1611-1631.	3.8	19
26	Evaluation of a scalar eddy transport coefficient based on geometric constraints. <i>Ocean Modelling</i> , 2017, 109, 44-54.	2.4	24
27	Overturning in the Subpolar North Atlantic Program: A New International Ocean Observing System. <i>Bulletin of the American Meteorological Society</i> , 2017, 98, 737-752.	3.3	173
28	Eddy saturation and frictional control of the Antarctic Circumpolar Current. <i>Geophysical Research Letters</i> , 2017, 44, 286-292.	4.0	66
29	Emergent eddy saturation from an energy constrained eddy parameterisation. <i>Ocean Modelling</i> , 2017, 112, 125-138.	2.4	33
30	The statistical nature of turbulent barotropic ocean jets. <i>Ocean Modelling</i> , 2017, 113, 34-49.	2.4	8
31	Submesoscale Instabilities in Mesoscale Eddies. <i>Journal of Physical Oceanography</i> , 2017, 47, 3061-3085.	1.7	51
32	A Model of the Ocean Overturning Circulation with Two Closed Basins and a Reentrant Channel. <i>Journal of Physical Oceanography</i> , 2017, 47, 2887-2906.	1.7	28
33	Characterizing the chaotic nature of ocean ventilation. <i>Journal of Geophysical Research: Oceans</i> , 2017, 122, 7577-7594.	2.6	14
34	A Theoretical Model of Long Rossby Waves in the Southern Ocean and Their Interaction with Bottom Topography. <i>Fluids</i> , 2016, 1, 17.	1.7	3
35	A new gauge-invariant method for diagnosing eddy diffusivities. <i>Ocean Modelling</i> , 2016, 104, 252-268.	2.4	11
36	Eddy Cancellation of the Ekman Cell in Subtropical Gyres. <i>Journal of Physical Oceanography</i> , 2016, 46, 2995-3010.	1.7	14

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37	Seasonality of submesoscale flows in the ocean surface boundary layer. <i>Geophysical Research Letters</i> , 2016, 43, 2118-2126.	4.0	104
38	A regime diagram for ocean geostrophic turbulence. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 2411-2417.	2.7	15
39	A Geometric Interpretation of Eddy Reynolds Stresses in Barotropic Ocean Jets. <i>Journal of Physical Oceanography</i> , 2016, 46, 2285-2307.	1.7	14
40	Gill's model of the Antarctic Circumpolar Current, revisited: The role of latitudinal variations in wind stress. <i>Ocean Modelling</i> , 2016, 97, 37-51.	2.4	21
41	Dynamical Attribution of Recent Variability in Atlantic Overturning. <i>Journal of Climate</i> , 2016, 29, 3339-3352.	3.2	41
42	On the dynamical influence of ocean eddy potential vorticity fluxes. <i>Ocean Modelling</i> , 2015, 92, 169-182.	2.4	21
43	The seasonal cycle of submesoscale flows. <i>Ocean Modelling</i> , 2015, 92, 69-84.	2.4	72
44	The role of ocean gateways in the dynamics and sensitivity to wind stress of the early Antarctic Circumpolar Current. <i>Paleoceanography</i> , 2015, 30, 284-302.	3.0	29
45	The Injection of Zonal Momentum by Buoyancy Forcing in a Southern Ocean Model. <i>Journal of Physical Oceanography</i> , 2015, 45, 259-271.	1.7	24
46	Impacts and effects of mesoscale ocean eddies on ocean carbon storage and atmospheric $pCO_2$ . <i>Global Biogeochemical Cycles</i> , 2014, 28, 877-896.	4.9	23
47	A Conceptual Model of Ocean Heat Uptake under Climate Change. <i>Journal of Climate</i> , 2014, 27, 8444-8465.	3.2	58
48	The Atlantic Overturning Circulation: More Evidence of Variability and Links to Climate. <i>Bulletin of the American Meteorological Society</i> , 2014, 95, ES163-ES166.	3.3	3
49	A Simple Model of the Response of the Atlantic to the North Atlantic Oscillation. <i>Journal of Climate</i> , 2014, 27, 4052-4069.	3.2	21
50	Advection of baroclinic eddies by depth mean flow. <i>Geophysical Research Letters</i> , 2014, 41, 3517-3521.	4.0	51
51	Eddy Saturation of Equilibrated Circumpolar Currents. <i>Journal of Physical Oceanography</i> , 2013, 43, 507-532.	1.7	177
52	The Eliassen-Palm flux tensor. <i>Journal of Fluid Mechanics</i> , 2013, 729, 69-102.	3.4	38
53	Rosby rip currents. <i>Geophysical Research Letters</i> , 2013, 40, 4333-4337.	4.0	10
54	Vertical Eddy Energy Fluxes in the North Atlantic Subtropical and Subpolar Gyres. <i>Journal of Physical Oceanography</i> , 2013, 43, 95-103.	1.7	44

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55	Propagation of Meridional Circulation Anomalies along Western and Eastern Boundaries. <i>Journal of Physical Oceanography</i> , 2013, 43, 2699-2717.	1.7	39
56	Conceptual Models of the Wind-Driven and Thermohaline Circulation. <i>International Geophysics</i> , 2013, , 257-282.	0.6	7
57	On the Wind Power Input to the Ocean General Circulation. <i>Journal of Physical Oceanography</i> , 2012, 42, 1357-1365.	1.7	93
58	A Framework for Parameterizing Eddy Potential Vorticity Fluxes. <i>Journal of Physical Oceanography</i> , 2012, 42, 539-557.	1.7	124
59	SUSTAINED MONITORING OF THE SOUTHERN OCEAN AT DRAKE PASSAGE: PAST ACHIEVEMENTS AND FUTURE PRIORITIES. <i>Reviews of Geophysics</i> , 2011, 49, .	23.0	121
60	Remote forcing of the Antarctic Circumpolar Current by diapycnal mixing. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	25
61	A Model of Atlantic Heat Content and Sea Level Change in Response to Thermohaline Forcing. <i>Journal of Climate</i> , 2011, 24, 5619-5632.	3.2	12
62	Accurate representation of geostrophic and hydrostatic balance in unstructured mesh finite element ocean modelling. <i>Ocean Modelling</i> , 2011, 39, 248-261.	2.4	12
63	Rosby wormholes. <i>Journal of Marine Research</i> , 2011, 69, 309-330.	0.3	7
64	Momentum Balance of the Wind-Driven and Meridional Overturning Circulation. <i>Journal of Physical Oceanography</i> , 2011, 41, 960-978.	1.7	4
65	Spin-up and adjustment of the Antarctic Circumpolar Current and global pycnocline. <i>Journal of Marine Research</i> , 2011, 69, 167-189.	0.3	47
66	Momentum Balance of the Wind-Driven and Meridional Overturning Circulation. <i>Journal of Physical Oceanography</i> , 2011, 41, 960-978.	1.7	13
67	Idealised flow past an island in a dynamically adaptive finite element model. <i>Ocean Dynamics</i> , 2010, 60, 835-850.	2.2	6
68	Significant sink of ocean-eddy energy near western boundaries. <i>Nature Geoscience</i> , 2010, 3, 608-612.	12.9	151
69	Oscillatory sensitivity of Atlantic overturning to high-latitude forcing. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	23
70	Where do winds drive the Antarctic Circumpolar Current?. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	45
71	Parameterization of ocean eddies: Potential vorticity mixing, energetics and Arnold's first stability theorem. <i>Ocean Modelling</i> , 2010, 32, 188-204.	2.4	85
72	Basinwide Integrated Volume Transports in an Eddy-Filled Ocean. <i>Journal of Physical Oceanography</i> , 2009, 39, 3091-3110.	1.7	91

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73	Eddy Formation in the Tropical Atlantic Induced by Abrupt Changes in the Meridional Overturning Circulation. <i>Journal of Physical Oceanography</i> , 2009, 39, 3021-3031.	1.7	4
74	Gulf Stream separation in numerical ocean models. <i>Geophysical Monograph Series</i> , 2008, , 39-61.	0.1	62
75	Unstructured adaptive meshes for ocean modeling. <i>Geophysical Monograph Series</i> , 2008, , 383-408.	0.1	29
76	A Conjecture on the Role of Bottom-Enhanced Diapycnal Mixing in the Parameterization of Geostrophic Eddies. <i>Journal of Physical Oceanography</i> , 2008, 38, 1607-1613.	1.7	32
77	Overturning cells in the Southern Ocean and subtropical gyres. <i>Ocean Science</i> , 2007, 3, 17-30.	3.4	7
78	Reconciling theories of a mechanically driven meridional overturning circulation with thermohaline forcing and multiple equilibria. <i>Climate Dynamics</i> , 2007, 29, 821-836.	3.8	60
79	Atlantic Climate Variability and Predictability: A CLIVAR Perspective. <i>Journal of Climate</i> , 2006, 19, 5100-5121.	3.2	99
80	Adjoint goal-based error norms for adaptive mesh ocean modelling. <i>Ocean Modelling</i> , 2006, 15, 3-38.	2.4	29
81	On the Separation of a Barotropic Western Boundary Current from a Cape. <i>Journal of Physical Oceanography</i> , 2005, 35, 1726-1743.	1.7	13
82	The Effects of Stratification on Flow Separation. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 2618-2625.	1.7	12
83	Three-dimensional unstructured mesh ocean modelling. <i>Ocean Modelling</i> , 2005, 10, 5-33.	2.4	164
84	Small and mesoscale processes and their impact on the large scale: an introduction. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2004, 51, 2883-2887.	1.4	9
85	Global Teleconnections of Meridional Overturning Circulation Anomalies. <i>Journal of Physical Oceanography</i> , 2004, 34, 1702-1722.	1.7	64
86	Understanding the Structure of the Subtropical Thermocline. <i>Journal of Physical Oceanography</i> , 2003, 33, 1240-1249.	1.7	9
87	A Theory for the Surface Atlantic Response to Thermohaline Variability. <i>Journal of Physical Oceanography</i> , 2002, 32, 1121-1132.	1.7	231
88	Localization of abrupt change in the North Atlantic thermohaline circulation. <i>Geophysical Research Letters</i> , 2002, 29, 7-1-7-4.	4.0	34
89	An Implicit Formula for Boundary Current Separation. <i>Journal of Physical Oceanography</i> , 2001, 31, 1633-1638.	1.7	41
90	On the insensitivity of the wind-driven circulation to bottom topography. <i>Journal of Marine Research</i> , 2001, 59, 1-27.	0.3	20

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91	On the Dynamics of Wind-Driven Circumpolar Currents. <i>Journal of Physical Oceanography</i> , 2001, 31, 3258-3273.	1.7	70
92	Flow past a Cylinder on a $\beta$ -Plane, with Application to Gulf Stream Separation and the Antarctic Circumpolar Current. <i>Journal of Physical Oceanography</i> , 2001, 31, 3274-3283.	1.7	40
93	Dynamical Pathways of Antarctic Bottom Water in the Atlantic. <i>Journal of Physical Oceanography</i> , 2000, 30, 622-640.	1.7	42
94	Vertical Fluxes of Potential Vorticity and the Structure of the Thermocline. <i>Journal of Physical Oceanography</i> , 2000, 30, 3102-3112.	1.7	11
95	On the influence of bottom topography and the Deep Western Boundary Current on Gulf Stream separation. <i>Journal of Marine Research</i> , 2000, 58, 297-325.	0.3	28
96	On the validity of downgradient eddy closures in ocean models. <i>Journal of Geophysical Research</i> , 2000, 105, 28613-28627.	3.3	46
97	Interactions between Geostrophic Eddies and the Mean Circulation over Large-Scale Bottom Topography. <i>Journal of Physical Oceanography</i> , 2000, 30, 3223-3238.	1.7	47
98	The Relation between Eddy-Induced Transport and Isopycnic Gradients of Potential Vorticity. <i>Journal of Physical Oceanography</i> , 1999, 29, 1571-1578.	1.7	40
99	Dynamics of the Mediterranean Salinity Tongue. <i>Journal of Physical Oceanography</i> , 1999, 29, 1425-1441.	1.7	9
100	How slippery are piecewise-constant coastlines in numerical ocean models?. <i>Tellus, Series A: Dynamic Meteorology and Oceanography</i> , 1998, 50, 95-108.	1.7	44
101	Do We Require Adiabatic Dissipation Schemes in Eddy-Resolving Ocean Models?. <i>Journal of Physical Oceanography</i> , 1998, 28, 2050-2063.	1.7	72
102	Subduction of water masses in an eddying ocean. <i>Journal of Marine Research</i> , 1997, 55, 201-222.	0.3	197
103	On the eddy transfer of tracers: Advective or diffusive?. <i>Journal of Marine Research</i> , 1997, 55, 483-505.	0.3	93
104	Influence of Topography on the Large-Scale Ocean Circulation. <i>Journal of Physical Oceanography</i> , 1995, 25, 1622-1635.	1.7	32
105	Topographic Steering of the Antarctic Circumpolar Current. <i>Journal of Physical Oceanography</i> , 1995, 25, 1636-1650.	1.7	62
106	On the Thermodynamics of Subduction. <i>Journal of Physical Oceanography</i> , 1995, 25, 138-151.	1.7	25
107	Resonance of Fofonoff's Mode in a Rotated Basin. <i>Journal of Physical Oceanography</i> , 1993, 23, 970-978.	1.7	0
108	On the Feedback of the Rhines-Young Pool on the Ventilated Thermocline. <i>Journal of Physical Oceanography</i> , 1993, 23, 1592-1596.	1.7	4

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109	Zonal Penetration Scale of Midlatitude Oceanic Jets. Journal of Physical Oceanography, 1992, 22, 1018-1032.	1.7	21
110	Spurious forces can dominate the vorticity budget of ocean gyres on the C&G grid. Journal of Advances in Modeling Earth Systems, 0, , .	3.8	3