Matthew Alford

List of Publications by Year
in descending order

139 papers	7,539 citations	66234 42 h-index	58464 82 g-index
147 all docs	147 docs citations	147 times ranked	3473 citing authors

#	Article	IF	Citations
1	The formation and fate of internal waves in the South China Sea. Nature, 2015, 521, 65-69.	13.7	487
2	Global Patterns of Diapycnal Mixing from Measurements of the Turbulent Dissipation Rate. Journal of Physical Oceanography, 2014, 44, 1854-1872.	0.7	392
3	Redistribution of energy available for ocean mixing by long-range propagation of internal waves. Nature, 2003, 423, 159-162.	13.7	326
4	Near-Inertial Internal Gravity Waves in the Ocean. Annual Review of Marine Science, 2016, 8, 95-123.	5.1	277
5	Climate Process Team on Internal Waveâ€"Driven Ocean Mixing. Bulletin of the American Meteorological Society, 2017, 98, 2429-2454.	1.7	235
6	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
7	Energy Flux and Dissipation in Luzon Strait: Two Tales of Two Ridges. Journal of Physical Oceanography, 2011, 41, 2211-2222.	0.7	222
8	Estimating Internal Wave Energy Fluxes in the Ocean. Journal of Atmospheric and Oceanic Technology, 2005, 22, 1551-1570.	0.5	220
9	Internal Swell Generation: The Spatial Distribution of Energy Flux from the Wind to Mixed Layer Near-Inertial Motions. Journal of Physical Oceanography, 2001, 31, 2359-2368.	0.7	189
10	Speed and Evolution of Nonlinear Internal Waves Transiting the South China Sea. Journal of Physical Oceanography, 2010, 40, 1338-1355.	0.7	188
11	Improved global maps and 54-year history of wind-work on ocean inertial motions. Geophysical Research Letters, 2003, 30, .	1.5	170
12	Global Observations of Open-Ocean Mode-1 M2 Internal Tides. Journal of Physical Oceanography, 2016, 46, 1657-1684.	0.7	164
13	Near-inertial mixing: Modulation of shear, strain and microstructure at low latitude. Journal of Geophysical Research, 2001, 106, 16947-16968.	3.3	159
14	Long-Range Propagation of the Semidiurnal Internal Tide from the Hawaiian Ridge. Journal of Physical Oceanography, 2010, 40, 713-736.	0.7	155
15	Observations of Overturning in the Thermocline: The Context of Ocean Mixing. Journal of Physical Oceanography, 2000, 30, 805-832.	0.7	153
16	The Breaking and Scattering of the Internal Tide on a Continental Slope. Journal of Physical Oceanography, 2011, 41, 926-945.	0.7	146
17	The Impact of Oceanic Near-Inertial Waves on Climate. Journal of Climate, 2013, 26, 2833-2844.	1.2	141
18	Internal waves across the Pacific. Geophysical Research Letters, 2007, 34, .	1.5	135

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19	Source and propagation of internal solitary waves in the northeastern South China Sea. Journal of Geophysical Research, 2006, 111, .	3.3	117
20	Annual Cycle and Depth Penetration of Wind-Generated Near-Inertial Internal Waves at Ocean Station Papa in the Northeast Pacific. Journal of Physical Oceanography, 2012, 42, 889-909.	0.7	117
21	Hotspots of deep ocean mixing on the Oregon continental slope. Geophysical Research Letters, 2007, 34, .	1.5	103
22	Parametric Subharmonic Instability of the Internal Tide at 29Â°N. Journal of Physical Oceanography, 2013, 43, 17-28.	0.7	100
23	Three-Dimensional Double-Ridge Internal Tide Resonance in Luzon Strait. Journal of Physical Oceanography, 2014, 44, 850-869.	0.7	92
24	Global Patterns of Low-Mode Internal-Wave Propagation. Part I: Energy and Energy Flux. Journal of Physical Oceanography, 2007, 37, 1829-1848.	0.7	90
25	Simulating the Long-Range Swell of Internal Waves Generated by Ocean Storms. Oceanography, 2012, 25, 30-41.	0.5	88
26	Seasonal and Spatial Variability of Near-Inertial Kinetic Energy from Historical Moored Velocity Records. Journal of Physical Oceanography, 2007, 37, 2022-2037.	0.7	86
27	Structure, Propagation, and Mixing of Energetic Baroclinic Tides in Mamala Bay, Oahu, Hawaii. Journal of Physical Oceanography, 2006, 36, 997-1018.	0.7	82
28	New Altimetric Estimates of Mode-1 M2 Internal Tides in the Central North Pacific Ocean. Journal of Physical Oceanography, 2009, 39, 1669-1684.	0.7	79
29	Spectral decomposition of internal gravity wave sea surface height in global models. Journal of Geophysical Research: Oceans, 2017, 122, 7803-7821.	1.0	78
30	Sustained, Full-Water-Column Observations of Internal Waves and Mixing near Mendocino Escarpment. Journal of Physical Oceanography, 2010, 40, 2643-2660.	0.7	66
31	From Luzon Strait to Dongsha Plateau: Stages in the Life of an Internal Wave. Oceanography, 2011, 24, 64-77.	0.5	63
32	Frequency content of sea surface height variability from internal gravity waves to mesoscale eddies. Journal of Geophysical Research: Oceans, 2017, 122, 2519-2538.	1.0	60
33	The Cascade of Tidal Energy from Low to High Modes on a Continental Slope. Journal of Physical Oceanography, 2012, 42, 1217-1232.	0.7	59
34	A Primer on Global Internal Tide and Internal Gravity Wave Continuum Modeling in HYCOM and MITgcm. , 0, , .		56
35	Observations of Internal Tides on the Oregon Continental Slope. Journal of Physical Oceanography, 2011, 41, 1772-1794.	0.7	55
36	Mapping Low-Mode Internal Tides from Multisatellite Altimetry. Oceanography, 2012, 25, 42-51.	0.5	53

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37	Observations of Near-Inertial Internal Gravity Waves Radiating from a Frontal Jet. Journal of Physical Oceanography, 2013, 43, 1225-1239.	0.7	53
38	Turbulent mixing and hydraulic control of abyssal water in the Samoan Passage. Geophysical Research Letters, 2013, 40, 4668-4674.	1.5	49
39	Structure and Variability of Internal Tides in Luzon Strait. Journal of Physical Oceanography, 2015, 45, 1574-1594.	0.7	48
40	The Latitudinal Dependence of Shear and Mixing in the Pacific Transiting the Critical Latitude for PSI. Journal of Physical Oceanography, 2013, 43, 3-16.	0.7	46
41	Global Patterns of Low-Mode Internal-Wave Propagation. Part II: Group Velocity. Journal of Physical Oceanography, 2007, 37, 1849-1858.	0.7	45
42	Structure and variability of semidiurnal internal tides in Mamala Bay, Hawaii. Journal of Geophysical Research, 2004, 109, .	3.3	43
43	Diagnosing a partly standing internal wave in Mamala Bay, Oahu. Geophysical Research Letters, 2007, 34, .	1.5	42
44	Sub-mesoscale lateral density structure in the oceanic surface mixed layer. Geophysical Research Letters, 2006, 33, .	1.5	41
45	Internal Tides and Mixing in a Submarine Canyon with Time-Varying Stratification. Journal of Physical Oceanography, 2012, 42, 2121-2142.	0.7	41
46	Observations of parametric subharmonic instability of the diurnal internal tide in the South China Sea. Geophysical Research Letters, 2008, 35, .	1.5	40
47	Eddy Wake Generation From Broadband Currents Near Palau. Journal of Geophysical Research: Oceans, 2019, 124, 4891-4903.	1.0	40
48	Patterns of Turbulent and Double-Diffusive Phenomena: Observations from a Rapid-Profiling Microconductivity Probe. Journal of Physical Oceanography, 2000, 30, 833-854.	0.7	39
49	Internal tides around the Hawaiian Ridge estimated from multisatellite altimetry. Journal of Geophysical Research, 2011, 116, .	3.3	39
50	Reflection of Linear Internal Tides from Realistic Topography: The Tasman Continental Slope. Journal of Physical Oceanography, 2016, 46, 3321-3337.	0.7	39
51	Diapycnal mixing in the Banda Sea: Results of the first microstructure measurements in the Indonesian Throughflow. Geophysical Research Letters, 1999, 26, 2741-2744.	1.5	38
52	Extent of impact of deep-sea nodule mining midwater plumes is influenced by sediment loading, turbulence and thresholds. Communications Earth & Environment, 2021, 2, .	2.6	38
53	Characteristics, generation and mass transport of nonlinear internal waves on the <scp>W</scp>ashington continental shelf. Journal of Geophysical Research: Oceans, 2015, 120, 741-758.	1.0	37
54	Atmospheric and Oceanic Processes in the Vicinity of an Island Strait. Oceanography, 2011, 24, 112-121.	0.5	37

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55	Internal Waves on the Washington Continental Shelf. Oceanography, 2012, 25, 66-79.	0.5	36
56	Internal Bores and Breaking Internal Tides on the Oregon Continental Slope. Journal of Physical Oceanography, 2013, 43, 120-139.	0.7	36
57	Characterizing Thermohaline Intrusions in the North Pacific Subtropical Frontal Zone. Journal of Physical Oceanography, 2009, 39, 2735-2756.	0.7	35
58	A Tale of Two Spicy Seas. Oceanography, 2016, 29, 50-61.	0.5	35
59	Breaking Internal Tides Keep the Ocean in Balance. Eos, 2015, 96, .	0.1	35
60	Pathways, Volume Transport, and Mixing of Abyssal Water in the Samoan Passage. Journal of Physical Oceanography, 2015, 45, 562-588.	0.7	33
61	Alongâ€isopycnal variability of spice in the North Pacific. Journal of Geophysical Research: Oceans, 2015, 120, 2287-2307.	1.0	32
62	Spaceâ€"Time Scales of Shear in the North Pacific. Journal of Physical Oceanography, 2017, 47, 2455-2478.	0.7	32
63	Microstructure Observations of Turbulent Heat Fluxes in a Warm-Core Canada Basin Eddy. Journal of Physical Oceanography, 2018, 48, 2397-2418.	0.7	32
64	Transition from partly standing to progressive internal tides in Monterey Submarine Canyon. Deep-Sea Research Part II: Topical Studies in Oceanography, 2014, 104, 164-173.	0.6	31
65	Fine-Structure Contamination: Observations and a Model of a Simple Two-Wave Case. Journal of Physical Oceanography, 2001, 31, 2645-2649.	0.7	30
66	Three-Dimensional Structure and Temporal Evolution of Submesoscale Thermohaline Intrusions in the North Pacific Subtropical Frontal Zone. Journal of Physical Oceanography, 2010, 40, 1669-1689.	0.7	30
67	Mixing over the steep side of the Cycladic Plateau in the Aegean Sea. Journal of Marine Systems, 2012, 89, 30-47.	0.9	30
68	Restratification of the Surface Mixed Layer with Submesoscale Lateral Density Gradients: Diagnosing the Importance of the Horizontal Dimension. Journal of Physical Oceanography, 2008, 38, 2438-2460.	0.7	29
69	Semidiurnal internal tide energy fluxes and their variability in a <scp>G</scp>lobal <scp>O</scp>cean <scp>M</scp>odel and moored observations. Journal of Geophysical Research: Oceans, 2017, 122, 1882-1900.	1.0	29
70	The Direct Breaking of Internal Waves at Steep Topography. Oceanography, 2012, 25, 150-159.	0.5	28
71	Internal tidal energy fluxes in the South China Sea from density and velocity measurements by gliders. Journal of Geophysical Research: Oceans, 2013, 118, 3939-3949.	1.0	27
72	The Global Mesoscale Eddy Available Potential Energy Field in Models and Observations. Journal of Geophysical Research: Oceans, 2017, 122, 9126-9143.	1.0	26

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73	Breaking internal lee waves at Kaena Ridge, Hawaii. Geophysical Research Letters, 2014, 41, 906-912.	1.5	25
74	Goldilocks mixing in oceanic shear-induced turbulent overturns. Journal of Fluid Mechanics, 2021, 928, .	1.4	25
75	An Introduction to the Special Issue on Internal Waves. Oceanography, 2012, 25, 15-19.	0.5	24
76	Flow and mixing in Juan de Fuca Canyon, Washington. Geophysical Research Letters, 2014, 41, 1608-1615.	1.5	24
77	Warming and Weakening of the Abyssal Flow through Samoan Passage. Journal of Physical Oceanography, 2016, 46, 2389-2401.	0.7	24
78	Geographical Distribution of Diurnal and Semidiurnal Parametric Subharmonic Instability in a Global Ocean Circulation Model. Journal of Physical Oceanography, 2018, 48, 1409-1431.	0.7	24
79	Revisiting Near-Inertial Wind Work: Slab Models, Relative Stress, and Mixed Layer Deepening. Journal of Physical Oceanography, 2020, 50, 3141-3156.	0.7	24
80	Observations of Internal Gravity Waves by Argo Floats. Journal of Physical Oceanography, 2014, 44, 2370-2386.	0.7	23
81	Flow and mixing in Ascension, a steep, narrow canyon. Journal of Geophysical Research, 2011, 116, .	3.3	22
82	Instabilities in nonlinear internal waves on the Washington continental shelf. Journal of Geophysical Research: Oceans, 2015, 120, 5272-5283.	1.0	22
83	Propagation and dissipation of the internal tide in upper Monterey Canyon. Journal of Geophysical Research: Oceans, 2013, 118, 4855-4877.	1.0	20
84	Frequency Shift of Near-Inertial Waves in the South China Sea. Journal of Physical Oceanography, 2020, 50, 1121-1135.	0.7	20
85	A warm jet in a cold ocean. Nature Communications, 2021, 12, 2418.	5.8	20
86	Global Calculations of Local and Remote Near-Inertial-Wave Dissipation. Journal of Physical Oceanography, 2020, 50, 3157-3164.	0.7	20
87	An Ocean Refractometer: Resolving Millimeter-Scale Turbulent Density Fluctuations via the Refractive Index. Journal of Atmospheric and Oceanic Technology, 2006, 23, 121-137.	0.5	19
88	Velocity Structure of Internal Tide Beams Emanating from Kaena Ridge, Hawaii. Journal of Physical Oceanography, 2012, 42, 1039-1044.	0.7	19
89	Improved Internal Wave Spectral Continuum in a Regional Ocean Model. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015974.	1.0	19
90	Internal Tide Attenuation in the North Pacific. Geophysical Research Letters, 2019, 46, 8205-8213.	1.5	18

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91	Topographic Form Drag on Tides and Low-Frequency Flow: Observations of Nonlinear Lee Waves over a Tall Submarine Ridge near Palau. Journal of Physical Oceanography, 2020, 50, 1489-1507.	0.7	18
92	FLEAT: A Multiscale Observational and Modeling Program to Understand How Topography Affects Flows in the Western North Pacific. Oceanography, 2019, 32, 10-21.	0.5	17
93	Statistical Comparisons of Temperature Variance and Kinetic Energy in Global Ocean Models and Observations: Results From Mesoscale to Internal Wave Frequencies. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015306.	1.0	16
94	Oceanic turbulence from a planktonic perspective. Limnology and Oceanography, 2022, 67, 348-363.	1.6	16
95	Mixing, 3D Mapping, and Lagrangian Evolution of a Thermohaline Intrusion. Journal of Physical Oceanography, 2005, 35, 1689-1711.	0.7	15
96	Wind-driven submesoscale subduction at the north Pacific subtropical front. Journal of Geophysical Research: Oceans, 2013, 118, 5333-5352.	1.0	15
97	Observations of the Tasman Sea Internal Tide Beam. Journal of Physical Oceanography, 2018, 48, 1283-1297.	0.7	15
98	Understanding Vorticity Caused by Flow Passing an Island. Oceanography, 2019, 32, 66-73.	0.5	15
99	The Impact of Observed Variations in the Shear-to-Strain Ratio of Internal Waves on Inferred Turbulent Diffusivities. Journal of Physical Oceanography, 2016, 46, 3299-3320.	0.7	14
100	Resonant Forcing of Mixed Layer Inertial Motions by Atmospheric Easterly Waves in the Northeast Tropical Pacific*. Journal of Physical Oceanography, 2010, 40, 401-416.	0.7	13
101	Application of a model of internal hydraulicÂjumps. Journal of Fluid Mechanics, 2018, 834, 125-148.	1.4	13
102	A novel crossâ€shore transport mechanism revealed by subsurface, robotic larval mimics: Internal wave deformation of the background velocity field. Limnology and Oceanography, 2020, 65, 1456-1470.	1.6	13
103	Variability and Sources of the Internal Wave Continuum Examined from Global Moored Velocity Records. Journal of Physical Oceanography, 2021, 51, 2807-2823.	0.7	12
104	Moored observations of episodic abyssal flow and mixing at station ALOHA. Geophysical Research Letters, 2011, 38, .	1.5	11
105	Satellite Investigation of the M2 Internal Tide in the Tasman Sea. Journal of Physical Oceanography, 2018, 48, 687-703.	0.7	11
106	Microstructure Mixing Observations and Finescale Parameterizations in the Beaufort Sea. Journal of Physical Oceanography, 2021, 51, 19-35.	0.7	11
107	Observations of internal waves and parametric subharmonic instability in the Philippines archipelago. Journal of Geophysical Research, 2012, 117, .	3.3	10
108	A reflecting, steepening, and breaking internal tide in a submarine canyon. Journal of Geophysical Research: Oceans, 2017, 122, 6872-6882.	1.0	10

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109	Turbulence Driven by Reflected Internal Tides in a Supercritical Submarine Canyon. Journal of Physical Oceanography, 2021, 51, 591-609.	0.7	10
110	Eddies, Topography, and the Abyssal Flow by the Kyushu-Palau Ridge Near Velasco Reef. Oceanography, 2019, 32, 46-55.	0.5	10
111	Internal tsunami waves transport sediment released by underwater landslides. Scientific Reports, 2019, 9, 10775.	1.6	8
112	Pacific Abyssal Transport and Mixing: Through the Samoan Passage versus around the Manihiki Plateau. Journal of Physical Oceanography, 2019, 49, 1577-1592.	0.7	8
113	A Spatial Geography of Abyssal Turbulent Mixing in the Samoan Passage. Oceanography, 2019, 32, 194-203.	0.5	8
114	Dataâ€Driven Identification of Turbulent Oceanic Mixing From Observational Microstructure Data. Geophysical Research Letters, 2021, 48, .	1.5	8
115	Generation and Propagation of Nonlinear Internal Waves in Sheared Currents Over the Washington Continental Shelf. Journal of Geophysical Research: Oceans, 2018, 123, 2381-2400.	1.0	7
116	Generation and Propagation of Near-Inertial Waves in a Baroclinic Current on the Tasmanian Shelf. Journal of Physical Oceanography, 2019, 49, 2653-2667.	0.7	7
117	Persistent Turbulence in the Samoan Passage. Journal of Physical Oceanography, 2019, 49, 3179-3197.	0.7	7
118	Stalling and Dissipation of a Nearâ€Inertial Wave (NIW) in an Anticyclonic Ocean Eddy: Direct Determination of Group Velocity and Comparison With Theory. Journal of Geophysical Research: Oceans, 2021, 126, e2020JC016742.	1.0	7
119	Observations of Near-Inertial Surface Currents at Palau. Oceanography, 2019, 32, 74-83.	0.5	6
120	An Inductive Charging and Real-Time Communications System for Profiling Moorings. Journal of Atmospheric and Oceanic Technology, 2015, 32, 2243-2252.	0.5	5
121	Internal Waves in the East Australian Current. Geophysical Research Letters, 2017, 44, 12,280.	1.5	5
122	Global Assessment of Semidiurnal Internal Tide Aliasing in Argo Profiles. Journal of Physical Oceanography, 2019, 49, 2523-2533.	0.7	5
123	Squeeze Dispersion and the Effective Diapycnal Diffusivity of Oceanic Tracers. Geophysical Research Letters, 2019, 46, 5378-5386.	1.5	5
124	Broadband Submesoscale Vorticity Generated by Flow around an Island. Journal of Physical Oceanography, 2021, 51, 1301-1317.	0.7	5
125	Estimating Dissipation Rates Associated With Double Diffusion. Geophysical Research Letters, 2021, 48, e2021GL092779.	1.5	5
126	Internal wave measurements on the Cycladic Plateau of the Aegean Sea. Journal of Geophysical Research, 2012, 117, .	3.3	4

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127	Modular, Flexible, Low-Cost Microstructure Measurements: The Epsilometer. Journal of Atmospheric and Oceanic Technology, 2021, 38, 657-668.	0.5	4
128	Flow-Topography Interactions in the Samoan Passage. Oceanography, 2019, 32, 184-193.	0.5	4
129	Internal Tide Structure and Temporal Variability on the Reflective Continental Slope of Southeastern Tasmania. Journal of Physical Oceanography, 2021, 51, 611-631.	0.7	3
130	Effect of crossflow on trapping depths of particle plumes: laboratory experiments and application to the PLUMEX field experiment. Environmental Fluid Mechanics, 2021, 21, 741-757.	0.7	3
131	Reply to comment by F. Feser et al. on â€˜Improved global maps and 54-year history of wind-work on ocean inertial motionsâ€™. Geophysical Research Letters, 2003, 30, .	1.5	2
132	Mixing Rates and Bottom Drag in Bering Strait. Journal of Physical Oceanography, 2020, 50, 809-825.	0.7	2
133	Double Diffusion, Shear Instabilities, and Heat Impacts of a Pacific Summer Water Intrusion in the Beaufort Sea. Journal of Physical Oceanography, 2022, 52, 189-203.	0.7	2
134	High Resolution Doppler profiler measurements of turbulence from a profiling body. , 2011, , .		1
135	Hydraulic control of flow in a multi-passage system connecting two basins. Journal of Fluid Mechanics, 2022, 940, .	1.4	1
136	Internal wave breaking near the foot of a steep East-Pacific continental slope. Progress in Oceanography, 2022, 205, 102817.	1.5	1
137	Reply to comment by M. Watanabe et al. on â€œImproved global maps and 54-year history of wind-work on ocean inertial motionsâ€: Time aliasing in estimating the wind-induced inertial energy. Geophysical Research Letters, 2005, 32, .	1.5	0
138	Assessing the State of the Art of Ocean Internal Wave Research: Is There an Internal Wave Continuum in the Ocean? Seattle, Washington, 3-4 October 2008. Eos, 2008, 89, 545-545.	0.1	0
139	Ocean Current Measurement in a Density Following Reference Frame. , 2019, , .		0