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	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
2	Oceanic turbulence from a planktonic perspective. Limnology and Oceanography, 2022, 67, 348-363.	1.6	16
3	Hydraulic control of flow in a multi-passage system connecting two basins. Journal of Fluid Mechanics, 2022, 940, .	1.4	1
4	Internal wave breaking near the foot of a steep East-Pacific continental slope. Progress in Oceanography, 2022, 205, 102817.	1.5	1
5	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
6	Turbulence Driven by Reflected Internal Tides in a Supercritical Submarine Canyon. Journal of Physical Oceanography, 2021, 51, 591-609.	0.7	10
7	Modular, Flexible, Low-Cost Microstructure Measurements: The Epsilometer. Journal of Atmospheric and Oceanic Technology, 2021, 38, 657-668.	0.5	4
8	A warm jet in a cold ocean. Nature Communications, 2021, 12, 2418.	5.8	20
9	Broadband Submesoscale Vorticity Generated by Flow around an Island. Journal of Physical Oceanography, 2021, 51, 1301-1317.	0.7	5
10	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
11	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
12	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
13	Estimating Dissipation Rates Associated With Double Diffusion. Geophysical Research Letters, 2021, 48, e2021GL092779.	1.5	5
14	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
15	Microstructure Mixing Observations and Finescale Parameterizations in the Beaufort Sea. Journal of Physical Oceanography, 2021, 51, 19-35.	0.7	11
16	Goldilocks mixing in oceanic shear-induced turbulent overturns. Journal of Fluid Mechanics, 2021, 928, .	1.4	25
17	Dataâ€Driven Identification of Turbulent Oceanic Mixing From Observational Microstructure Data. Geophysical Research Letters, 2021, 48, .	1.5	8
18	Frequency Shift of Near-Inertial Waves in the South China Sea. Journal of Physical Oceanography, 2020, 50, 1121-1135.	0.7	20

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19	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
20	Mixing Rates and Bottom Drag in Bering Strait. Journal of Physical Oceanography, 2020, 50, 809-825.	0.7	2
21	Improved Internal Wave Spectral Continuum in a Regional Ocean Model. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015974.	1.0	19
22	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
23	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
24	Revisiting Near-Inertial Wind Work: Slab Models, Relative Stress, and Mixed Layer Deepening. Journal of Physical Oceanography, 2020, 50, 3141-3156.	0.7	24
25	Global Calculations of Local and Remote Near-Inertial-Wave Dissipation. Journal of Physical Oceanography, 2020, 50, 3157-3164.	0.7	20
26	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
27	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
28	Internal Tide Attenuation in the North Pacific. Geophysical Research Letters, 2019, 46, 8205-8213.	1.5	18
29	Internal tsunami waves transport sediment released by underwater landslides. Scientific Reports, 2019, 9, 10775.	1.6	8
30	Persistent Turbulence in the Samoan Passage. Journal of Physical Oceanography, 2019, 49, 3179-3197.	0.7	7
31	Global Assessment of Semidiurnal Internal Tide Aliasing in Argo Profiles. Journal of Physical Oceanography, 2019, 49, 2523-2533.	0.7	5
32	Eddy Wake Generation From Broadband Currents Near Palau. Journal of Geophysical Research: Oceans, 2019, 124, 4891-4903.	1.0	40
33	Squeeze Dispersion and the Effective Diapycnal Diffusivity of Oceanic Tracers. Geophysical Research Letters, 2019, 46, 5378-5386.	1.5	5
34	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
35	Ocean Current Measurement in a Density Following Reference Frame. , 2019, , .		0
36	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

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37	Understanding Vorticity Caused by Flow Passing an Island. Oceanography, 2019, 32, 66-73.	0.5	15
38	Flow-Topography Interactions in the Samoan Passage. Oceanography, 2019, 32, 184-193.	0.5	4
39	Eddies, Topography, and the Abyssal Flow by the Kyushu-Palau Ridge Near Velasco Reef. Oceanography, 2019, 32, 46-55.	0.5	10
40	A Spatial Geography of Abyssal Turbulent Mixing in the Samoan Passage. Oceanography, 2019, 32, 194-203.	0.5	8
41	Observations of Near-Inertial Surface Currents at Palau. Oceanography, 2019, 32, 74-83.	0.5	6
42	Observations of the Tasman Sea Internal Tide Beam. Journal of Physical Oceanography, 2018, 48, 1283-1297.	0.7	15
43	Satellite Investigation of the M2 Internal Tide in the Tasman Sea. Journal of Physical Oceanography, 2018, 48, 687-703.	0.7	11
44	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
45	Application of a model of internal hydraulicÂjumps. Journal of Fluid Mechanics, 2018, 834, 125-148.	1.4	13
46	Microstructure Observations of Turbulent Heat Fluxes in a Warm-Core Canada Basin Eddy. Journal of Physical Oceanography, 2018, 48, 2397-2418.	0.7	32
47	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
48	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
49	Climate Process Team on Internal Waveâ€"Driven Ocean Mixing. Bulletin of the American Meteorological Society, 2017, 98, 2429-2454.	1.7	235
50	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
51	Spectral decomposition of internal gravity wave sea surface height in global models. Journal of Geophysical Research: Oceans, 2017, 122, 7803-7821.	1.0	78
52	A reflecting, steepening, and breaking internal tide in a submarine canyon. Journal of Geophysical Research: Oceans, 2017, 122, 6872-6882.	1.0	10
53	Spaceâ€"Time Scales of Shear in the North Pacific. Journal of Physical Oceanography, 2017, 47, 2455-2478.	0.7	32
54	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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55	Internal Waves in the East Australian Current. Geophysical Research Letters, 2017, 44, 12,280.	1.5	5
56	A Tale of Two Spicy Seas. Oceanography, 2016, 29, 50-61.	0.5	35
57	Reflection of Linear Internal Tides from Realistic Topography: The Tasman Continental Slope. Journal of Physical Oceanography, 2016, 46, 3321-3337.	0.7	39
58	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
59	Warming and Weakening of the Abyssal Flow through Samoan Passage. Journal of Physical Oceanography, 2016, 46, 2389-2401.	0.7	24
60	Global Observations of Open-Ocean Mode-1 M2 Internal Tides. Journal of Physical Oceanography, 2016, 46, 1657-1684.	0.7	164
61	Near-Inertial Internal Gravity Waves in the Ocean. Annual Review of Marine Science, 2016, 8, 95-123.	5.1	277
62	Alongâ€isopycnal variability of spice in the North Pacific. Journal of Geophysical Research: Oceans, 2015, 120, 2287-2307.	1.0	32
63	Instabilities in nonlinear internal waves on the Washington continental shelf. Journal of Geophysical Research: Oceans, 2015, 120, 5272-5283.	1.0	22
64	Pathways, Volume Transport, and Mixing of Abyssal Water in the Samoan Passage. Journal of Physical Oceanography, 2015, 45, 562-588.	0.7	33
65	An Inductive Charging and Real-Time Communications System for Profiling Moorings. Journal of Atmospheric and Oceanic Technology, 2015, 32, 2243-2252.	0.5	5
66	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
67	The formation and fate of internal waves in the South China Sea. Nature, 2015, 521, 65-69.	13.7	487
68	Structure and Variability of Internal Tides in Luzon Strait. Journal of Physical Oceanography, 2015, 45, 1574-1594.	0.7	48
69	Breaking Internal Tides Keep the Ocean in Balance. Eos, 2015, 96, .	0.1	35
70	Three-Dimensional Double-Ridge Internal Tide Resonance in Luzon Strait. Journal of Physical Oceanography, 2014, 44, 850-869.	0.7	92
71	Global Patterns of Diapycnal Mixing from Measurements of the Turbulent Dissipation Rate. Journal of Physical Oceanography, 2014, 44, 1854-1872.	0.7	392
72	Observations of Internal Gravity Waves by Argo Floats. Journal of Physical Oceanography, 2014, 44, 2370-2386.	0.7	23

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73	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
74	Flow and mixing in Juan de Fuca Canyon, Washington. Geophysical Research Letters, 2014, 41, 1608-1615.	1.5	24
75	Breaking internal lee waves at Kaena Ridge, Hawaii. Geophysical Research Letters, 2014, 41, 906-912.	1.5	25
76	Internal Bores and Breaking Internal Tides on the Oregon Continental Slope. Journal of Physical Oceanography, 2013, 43, 120-139.	0.7	36
77	Observations of Near-Inertial Internal Gravity Waves Radiating from a Frontal Jet. Journal of Physical Oceanography, 2013, 43, 1225-1239.	0.7	53
78	Wind-driven submesoscale subduction at the north Pacific subtropical front. Journal of Geophysical Research: Oceans, 2013, 118, 5333-5352.	1.0	15
79	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
80	Parametric Subharmonic Instability of the Internal Tide at 29Â°N. Journal of Physical Oceanography, 2013, 43, 17-28.	0.7	100
81	The Impact of Oceanic Near-Inertial Waves on Climate. Journal of Climate, 2013, 26, 2833-2844.	1.2	141
82	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
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	Turbulent mixing and hydraulic control of abyssal water in the Samoan Passage. Geophysical Research Letters, 2013, 40, 4668-4674.	1.5	49
85	Internal wave measurements on the Cycladic Plateau of the Aegean Sea. Journal of Geophysical Research, 2012, 117, .	3.3	4
86	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
87	Internal Tides and Mixing in a Submarine Canyon with Time-Varying Stratification. Journal of Physical Oceanography, 2012, 42, 2121-2142.	0.7	41
88	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
89	An Introduction to the Special Issue on Internal Waves. Oceanography, 2012, 25, 15-19.	0.5	24
90	The Direct Breaking of Internal Waves at Steep Topography. Oceanography, 2012, 25, 150-159.	0.5	28

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91	Mapping Low-Mode Internal Tides from Multisatellite Altimetry. Oceanography, 2012, 25, 42-51.	0.5	53
92	Internal Waves on the Washington Continental Shelf. Oceanography, 2012, 25, 66-79.	0.5	36
93	Simulating the Long-Range Swell of Internal Waves Generated by Ocean Storms. Oceanography, 2012, 25, 30-41.	0.5	88
94	Observations of internal waves and parametric subharmonic instability in the Philippines archipelago. Journal of Geophysical Research, 2012, 117, .	3.3	10
95	Velocity Structure of Internal Tide Beams Emanating from Kaena Ridge, Hawaii. Journal of Physical Oceanography, 2012, 42, 1039-1044.	0.7	19
96	Mixing over the steep side of the Cycladic Plateau in the Aegean Sea. Journal of Marine Systems, 2012, 89, 30-47.	0.9	30
97	High Resolution Doppler profiler measurements of turbulence from a profiling body. , 2011, , .		1
98	Flow and mixing in Ascension, a steep, narrow canyon. Journal of Geophysical Research, 2011, 116, .	3.3	22
99	Moored observations of episodic abyssal flow and mixing at station ALOHA. Geophysical Research Letters, 2011, 38, .	1.5	11
100	Internal tides around the Hawaiian Ridge estimated from multisatellite altimetry. Journal of Geophysical Research, 2011, 116, .	3.3	39
101	The Breaking and Scattering of the Internal Tide on a Continental Slope. Journal of Physical Oceanography, 2011, 41, 926-945.	0.7	146
102	From Luzon Strait to Dongsha Plateau: Stages in the Life of an Internal Wave. Oceanography, 2011, 24, 64-77.	0.5	63
103	Energy Flux and Dissipation in Luzon Strait: Two Tales of Two Ridges. Journal of Physical Oceanography, 2011, 41, 2211-2222.	0.7	222
104	Observations of Internal Tides on the Oregon Continental Slope. Journal of Physical Oceanography, 2011, 41, 1772-1794.	0.7	55
105	Atmospheric and Oceanic Processes in the Vicinity of an Island Strait. Oceanography, 2011, 24, 112-121.	0.5	37
106	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
107	Speed and Evolution of Nonlinear Internal Waves Transiting the South China Sea. Journal of Physical Oceanography, 2010, 40, 1338-1355.	0.7	188
108	Sustained, Full-Water-Column Observations of Internal Waves and Mixing near Mendocino Escarpment. Journal of Physical Oceanography, 2010, 40, 2643-2660.	0.7	66

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109	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
110	Long-Range Propagation of the Semidiurnal Internal Tide from the Hawaiian Ridge. Journal of Physical Oceanography, 2010, 40, 713-736.	0.7	155
111	Characterizing Thermohaline Intrusions in the North Pacific Subtropical Frontal Zone. Journal of Physical Oceanography, 2009, 39, 2735-2756.	0.7	35
112	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
113	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
114	Observations of parametric subharmonic instability of the diurnal internal tide in the South China Sea. Geophysical Research Letters, 2008, 35, .	1.5	40
115	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
116	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
117	Global Patterns of Low-Mode Internal-Wave Propagation. Part II: Group Velocity. Journal of Physical Oceanography, 2007, 37, 1849-1858.	0.7	45
118	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
119	Hotspots of deep ocean mixing on the Oregon continental slope. Geophysical Research Letters, 2007, 34, .	1.5	103
120	Diagnosing a partly standing internal wave in Mamala Bay, Oahu. Geophysical Research Letters, 2007, 34, .	1.5	42
121	Internal waves across the Pacific. Geophysical Research Letters, 2007, 34, .	1.5	135
122	Sub-mesoscale lateral density structure in the oceanic surface mixed layer. Geophysical Research Letters, 2006, 33, .	1.5	41
123	Source and propagation of internal solitary waves in the northeastern South China Sea. Journal of Geophysical Research, 2006, 111, .	3.3	117
124	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
125	Structure, Propagation, and Mixing of Energetic Baroclinic Tides in Mamala Bay, Oahu, Hawaii. Journal of Physical Oceanography, 2006, 36, 997-1018.	0.7	82
126	Mixing, 3D Mapping, and Lagrangian Evolution of a Thermohaline Intrusion. Journal of Physical Oceanography, 2005, 35, 1689-1711.	0.7	15

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127	Estimating Internal Wave Energy Fluxes in the Ocean. Journal of Atmospheric and Oceanic Technology, 2005, 22, 1551-1570.	0.5	220
128	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
129	Structure and variability of semidiurnal internal tides in Mamala Bay, Hawaii. Journal of Geophysical Research, 2004, 109, .	3.3	43
130	Redistribution of energy available for ocean mixing by long-range propagation of internal waves. Nature, 2003, 423, 159-162.	13.7	326
131	Improved global maps and 54-year history of wind-work on ocean inertial motions. Geophysical Research Letters, 2003, 30, .	1.5	170
132	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
133	Near-inertial mixing: Modulation of shear, strain and microstructure at low latitude. Journal of Geophysical Research, 2001, 106, 16947-16968.	3.3	159
134	Fine-Structure Contamination: Observations and a Model of a Simple Two-Wave Case. Journal of Physical Oceanography, 2001, 31, 2645-2649.	0.7	30
135	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
136	Observations of Overturning in the Thermocline: The Context of Ocean Mixing. Journal of Physical Oceanography, 2000, 30, 805-832.	0.7	153
137	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
138	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
139	A Primer on Global Internal Tide and Internal Gravity Wave Continuum Modeling in HYCOM and MITgcm. , 0, , .		56