

Baylor Fox-Kemper

List of Publications by Year in descending order

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105
papers

7,003
citations

61984

43
h-index

62596

80
g-index

131
all docs

131
docs citations

131
times ranked

6176
citing authors

#	ARTICLE	IF	CITATIONS
1	The Community Earth System Model Version 2 (CESM2). <i>Journal of Advances in Modeling Earth Systems</i> , 2020, 12, e2019MS001916.	3.8	935
2	Parameterization of Mixed Layer Eddies. Part I: Theory and Diagnosis. <i>Journal of Physical Oceanography</i> , 2008, 38, 1145-1165.	1.7	567
3	Mixed Layer Instabilities and Restratification. <i>Journal of Physical Oceanography</i> , 2007, 37, 2228-2250.	1.7	521
4	The physical oceanography of the transport of floating marine debris. <i>Environmental Research Letters</i> , 2020, 15, 023003.	5.2	469
5	Parameterization of mixed layer eddies. III: Implementation and impact in global ocean climate simulations. <i>Ocean Modelling</i> , 2011, 39, 61-78.	2.4	269
6	A global perspective on Langmuir turbulence in the ocean surface boundary layer. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	238
7	OMIP contribution to CMIP6: experimental and diagnostic protocol for the physical component of the Ocean Model Intercomparison Project. <i>Geoscientific Model Development</i> , 2016, 9, 3231-3296.	3.6	223
8	Wind Waves in the Coupled Climate System. <i>Bulletin of the American Meteorological Society</i> , 2012, 93, 1651-1661.	3.3	184
9	Challenges and Prospects in Ocean Circulation Models. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	133
10	Will There Be a Significant Change to El Niño in the Twenty-First Century?. <i>Journal of Climate</i> , 2012, 25, 2129-2145.	3.2	129
11	Parameterization of Mixed Layer Eddies. Part II: Prognosis and Impact. <i>Journal of Physical Oceanography</i> , 2008, 38, 1166-1179.	1.7	119
12	Precession-band variance missing from East Asian monsoon runoff. <i>Nature Communications</i> , 2018, 9, 3364.	12.8	112
13	The role of mixed-layer instabilities in submesoscale turbulence. <i>Journal of Fluid Mechanics</i> , 2016, 788, 5-41.	3.4	107
14	The form and orientation of Langmuir cells for misaligned winds and waves. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	105
15	Langmuirâ€“Submesoscale Interactions: Descriptive Analysis of Multiscale Frontal Spindown Simulations. <i>Journal of Physical Oceanography</i> , 2014, 44, 2249-2272.	1.7	105
16	Evaluation of global oceanâ€“sea-ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2 (OMIP-2). <i>Geoscientific Model Development</i> , 2020, 13, 3643-3708.	3.6	99
17	Quantifying upper ocean turbulence driven by surface waves. <i>Geophysical Research Letters</i> , 2014, 41, 102-107.	4.0	98
18	The influence of ENSO on global terrestrial water storage using GRACE. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	95

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19	Langmuir mixing effects on global climate: WAVEWATCH III in CESM. <i>Ocean Modelling</i> , 2016, 103, 145-160.	2.4	91
20	Wave spectral moments and Stokes drift estimation. <i>Ocean Modelling</i> , 2011, 40, 273-288.	2.4	88
21	Can large eddy simulation techniques improve mesoscale rich ocean models?. <i>Geophysical Monograph Series</i> , 2008, , 319-337.	0.1	84
22	Parameterization of Frontal Symmetric Instabilities. I: Theory for Resolved Fronts. <i>Ocean Modelling</i> , 2017, 109, 72-95.	2.4	84
23	Understanding Stokes forces in the wave-averaged equations. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 3579-3596.	2.6	77
24	Impact of horizontal resolution on global ocean-sea ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2 (OMIP-2). <i>Geoscientific Model Development</i> , 2020, 13, 4595-4637.	3.6	75
25	Assessing the Effects of Langmuir Turbulence on the Entrainment Buoyancy Flux in the Ocean Surface Boundary Layer. <i>Journal of Physical Oceanography</i> , 2017, 47, 2863-2886.	1.7	71
26	Effects of submesoscale turbulence on ocean tracers. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 908-933.	2.6	70
27	Comparing Ocean Surface Boundary Vertical Mixing Schemes Including Langmuir Turbulence. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 3545-3592.	3.8	62
28	Resolving and Parameterising the Ocean Mesoscale in Earth System Models. <i>Current Climate Change Reports</i> , 2020, 6, 137-152.	8.6	62
29	Integrated Observations of Global Surface Winds, Currents, and Waves: Requirements and Challenges for the Next Decade. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	60
30	Eddy parameterization challenge suite I: Eady spindown. <i>Ocean Modelling</i> , 2013, 64, 12-28.	2.4	59
31	On the Indeterminacy of Rotational and Divergent Eddy Fluxes*. <i>Journal of Physical Oceanography</i> , 2003, 33, 478-483.	1.7	57
32	Oceanic wave-balanced surface fronts and filaments. <i>Journal of Fluid Mechanics</i> , 2013, 730, 464-490.	3.4	55
33	ENSO Model Validation Using Wavelet Probability Analysis. <i>Journal of Climate</i> , 2010, 23, 5540-5547.	3.2	54
34	Evaluation of scale-aware subgrid mesoscale eddy models in a global eddy-rich model. <i>Ocean Modelling</i> , 2017, 115, 42-58.	2.4	53
35	Symmetric and Geostrophic Instabilities in the Wave-Forced Ocean Mixed Layer. <i>Journal of Physical Oceanography</i> , 2015, 45, 3033-3056.	1.7	51
36	The Seasonality of Submesoscale Energy Production, Content, and Cascade. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087388.	4.0	51

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37	Computing Ocean Surface Currents Over the Coastal California Current System Using 30-Min-Lag Sequential SAR Images. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2014, 52, 7559-7580.	6.3	50
38	Impacts of wave spreading and multidirectional waves on estimating Stokes drift. <i>Ocean Modelling</i> , 2015, 96, 49-64.	2.4	50
39	A scale-aware subgrid model for quasi-geostrophic turbulence. <i>Journal of Geophysical Research: Oceans</i> , 2017, 122, 1529-1554.	2.6	50
40	Characterization of turbulence anisotropy, coherence, and intermittency at a prospective tidal energy site: Observational data analysis. <i>Renewable Energy</i> , 2015, 76, 441-453.	8.9	49
41	Surface waves affect frontogenesis. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 3597-3624.	2.6	49
42	Differences in the Indonesian seaway in a coupled climate model and their relevance to Pliocene climate and El Niño. <i>Paleoceanography</i> , 2009, 24, .	3.0	48
43	Log-Normal Turbulence Dissipation in Global Ocean Models. <i>Physical Review Letters</i> , 2018, 120, 094501.	7.8	47
44	Statistical models of global Langmuir mixing. <i>Ocean Modelling</i> , 2017, 113, 95-114.	2.4	39
45	The Scale of Submesoscale Baroclinic Instability Globally. <i>Journal of Physical Oceanography</i> , 2020, 50, 2649-2667.	1.7	39
46	Saildrone: Adaptively Sampling the Marine Environment. <i>Bulletin of the American Meteorological Society</i> , 2020, 101, E744-E762.	3.3	38
47	A tracer-based inversion method for diagnosing eddy-induced diffusivity and advection. <i>Ocean Modelling</i> , 2015, 86, 1-14.	2.4	37
48	SEASTAR: A Mission to Study Ocean Submesoscale Dynamics and Small-Scale Atmosphere-Ocean Processes in Coastal, Shelf and Polar Seas. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	37
49	Submesoscale Fronts and Their Dynamical Processes Associated with Symmetric Instability in the Northwest Pacific Subtropical Ocean. <i>Journal of Physical Oceanography</i> , 2021, 51, 83-100.	1.7	37
50	Seasonal thermal fronts on the northern South China Sea shelf: Satellite measurements and three repeated field surveys. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 1914-1930.	2.6	31
51	Impacts of Convergence on Structure Functions from Surface Drifters in the Gulf of Mexico. <i>Journal of Physical Oceanography</i> , 2019, 49, 675-690.	1.7	31
52	Wind-driven barotropic gyre I: Circulation control by eddy vorticity fluxes to an enhanced removal region. <i>Journal of Marine Research</i> , 2004, 62, 169-193.	0.3	29
53	A Diagnosis of Anisotropic Eddy Diffusion From a High-Resolution Global Ocean Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2020, 12, e2019MS001904.	3.8	28
54	The small scales of the ocean may hold the key to surprises. <i>Nature Climate Change</i> , 2022, 12, 496-499.	18.8	26

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55	Scale Transition From Geostrophic Motions to Internal Waves in the Northern South China Sea. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 9364-9383.	2.6	25
56	The Scale and Activity of Symmetric Instability Estimated from a Global Submesoscale-Permitting Ocean Model. <i>Journal of Physical Oceanography</i> , 2021, 51, 1655-1670.	1.7	24
57	Mean Biases, Variability, and Trends in Air–Sea Fluxes and Sea Surface Temperature in the CCSM4. <i>Journal of Climate</i> , 2012, 25, 7781-7801.	3.2	23
58	Estimating the sea ice floe size distribution using satellite altimetry: theory, climatology, and model comparison. <i>Cryosphere</i> , 2019, 13, 2869-2885.	3.9	23
59	On the interactions between planetary geostrophy and mesoscale eddies. <i>Dynamics of Atmospheres and Oceans</i> , 2011, 51, 109-136.	1.8	21
60	Quantifying errors in coral-based ENSO estimates: Toward improved forward modeling of $\delta^{18}O$. <i>Paleoceanography</i> , 2013, 28, 633-649.	3.0	21
61	Hurricane wake restratification rates of one-, two- and three-dimensional processes. <i>Journal of Marine Research</i> , 2012, 70, 824-850.	0.3	20
62	Estimates of Ocean Macroturbulence: Structure Function and Spectral Slope from Argo Profiling Floats. <i>Journal of Physical Oceanography</i> , 2015, 45, 1773-1793.	1.7	20
63	Small-Scale Dispersion in the Presence of Langmuir Circulation. <i>Journal of Physical Oceanography</i> , 2019, 49, 3069-3085.	1.7	19
64	Problems and Prospects in Large-Scale Ocean Circulation Models. , 2010, , .		18
65	Adaptive volume penalization for ocean modeling. <i>Ocean Dynamics</i> , 2012, 62, 1201-1215.	2.2	17
66	Lateral Transport in the Ocean Interior. <i>International Geophysics</i> , 2013, , 185-209.	0.6	17
67	Submesoscale Eddies in the Upper Ocean of the Kuroshio Extension from High-resolution Simulation: Energy Budget. <i>Journal of Physical Oceanography</i> , 2021, , .	1.7	17
68	Advances in Observing and Understanding Small-Scale Open Ocean Circulation During the Gulf of Mexico Research Initiative Era. <i>Frontiers in Marine Science</i> , 2020, 7, .	2.5	16
69	Reevaluating the Roles of Eddies in Multiple Barotropic Wind-Driven Gyres. <i>Journal of Physical Oceanography</i> , 2005, 35, 1263-1278.	1.7	15
70	Surface Ocean Dispersion Observations From the Ship-Tethered Aerostat Remote Sensing System. <i>Frontiers in Marine Science</i> , 2018, 5, .	2.5	15
71	A perturbation approach to understanding the effects of turbulence on frontogenesis. <i>Journal of Fluid Mechanics</i> , 0, 883, .	3.4	15
72	Understanding the ENSO–CO ₂ Link Using Stabilized Climate Simulations. <i>Journal of Climate</i> , 2012, 25, 7917-7936.	3.2	14

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73	Data-driven versus self-similar parameterizations for stochastic advection by Lie transport and location uncertainty. <i>Nonlinear Processes in Geophysics</i> , 2020, 27, 209-234.	1.3	14
74	Nonequilibrium Oscillations, Probability Angular Momentum, and the Climate System. <i>Journal of Statistical Physics</i> , 2020, 179, 1010-1027.	1.2	13
75	Wind-driven barotropic gyre II: Effects of eddies and low interior viscosity. <i>Journal of Marine Research</i> , 2004, 62, 195-232.	0.3	12
76	Ocean Climate Observing Requirements in Support of Climate Research and Climate Information. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	12
77	A Breakdown in Potential Vorticity Estimation Delineates the Submesoscale Turbulence Boundary in Large Eddy Simulations. <i>Journal of Advances in Modeling Earth Systems</i> , 2020, 12, e2020MS002049.	3.8	12
78	Application of Symmetric Instability Parameterization in the Coastal and Regional Ocean Community Model (CROCO). <i>Journal of Advances in Modeling Earth Systems</i> , 2021, 13, e2020MS002302.	3.8	12
79	The Response of East Asian Monsoon to the Precessional Cycle: A New Study Using the Geophysical Fluid Dynamics Laboratory Model. <i>Geophysical Research Letters</i> , 2019, 46, 11388-11396.	4.0	11
80	Adaptive wavelet collocation method on the shallow water model. <i>Journal of Computational Physics</i> , 2014, 271, 342-359.	3.8	10
81	Biases in Structure Functions from Observations of Submesoscale Flows. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC015769.	2.6	10
82	Hemispheric sea ice distribution sets the glacial tempo. <i>Geophysical Research Letters</i> , 2017, 44, 1008-1014.	4.0	9
83	Effects of Langmuir Turbulence on Upper Ocean Carbonate Chemistry. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 3030-3048.	3.8	9
84	Anisotropy of Langmuir turbulence and the Langmuir-enhanced mixed layer entrainment. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	8
85	The impact of a parameterisation of submesoscale mixed layer eddies on mixed layer depths in the NEMO ocean model. <i>Ocean Modelling</i> , 2020, 154, 101678.	2.4	7
86	The Growth and Saturation of Submesoscale Instabilities in the Presence of a Barotropic Jet. <i>Journal of Physical Oceanography</i> , 2018, 48, 2779-2797.	1.7	6
87	Reduced-Order Quasilinear Model of Ocean Boundary-Layer Turbulence. <i>Journal of Physical Oceanography</i> , 2020, 50, 537-558.	1.7	6
88	Notions for the Motions of the Oceans. , 0, , .		6
89	An Eddifying Parsons Model. <i>Journal of Physical Oceanography</i> , 2009, 39, 3216-3227.	1.7	5
90	Manifest and Subtle Cyclic Behavior in Nonequilibrium Steady States. <i>Journal of Physics: Conference Series</i> , 2016, 750, 012003.	0.4	5

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91	Numerical modelling in a multiscale ocean. <i>Journal of Marine Research</i> , 2017, 75, 683-725.	0.3	5
92	Ocean near-surface layers. , 2022, , 65-94.		5
93	Multiscale simulations of Langmuir cells and submesoscale eddies using XSEDE resources. , 2012, , .		4
94	Generalized linear modeling of the El Niño/Southern Oscillation with application to seasonal forecasting and climate change projections. <i>Journal of Geophysical Research: Oceans</i> , 2013, 118, 3764-3781.	2.6	2
95	Can we use sea surface temperature and productivity proxy records to reconstruct Ekman upwelling?. <i>Climate of the Past</i> , 2019, 15, 1985-1998.	3.4	2
96	Advective structure functions in anisotropic two-dimensional turbulence. <i>Journal of Fluid Mechanics</i> , 2021, 916, .	3.4	2
97	Consistent Predictability of the Ocean State Ocean Model Using Information Theory and Flushing Timescales. <i>Journal of Geophysical Research: Oceans</i> , 2021, 126, e2020JC016875.	2.6	2
98	Evaluating Coupled Climate Model Parameterizations via Skill at Reproducing the Monsoon Intraseasonal Oscillation. <i>Journal of Climate</i> , 2022, 35, 1873-1884.	3.2	2
99	Rapid variations in deep ocean temperature detected in the Holocene. <i>Geophysical Research Letters</i> , 2016, 43, 12,190.	4.0	1
100	Autoregressive Statistical Modeling of a Peru Margin Multi-proxy Holocene Record Shows Correlation Not Causation, Flickering Regimes and Persistence. <i>Journal of Statistical Physics</i> , 2020, 179, 1553-1571.	1.2	1
101	Data Availability Principles and Practice. <i>Journal of Physical Oceanography</i> , 2020, 50, 3377-3378.	1.7	1
102	Effects of symmetric instability in the Kuroshio Extension region in winter. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2022, 202, 105142.	1.4	1
103	Ocean dynamics. <i>Journal of Marine Research</i> , 2017, 75, 641-682.	0.3	0
104	Biological and Physical Interactions at Local Ocean Scales: Coupled Systems. , 0, , 5-17.		0
105	Video: Holi Tracers. , 0, , .		0