Michael Behrenfeld

List of Publications by Year
in descending order

116 papers	23,086 citations	25034 57 h-index	21540 114 g-index
120 all docs	120 docs citations	120 times ranked	18531 citing authors

#	Article	IF	Citations
1	Primary Production of the Biosphere: Integrating Terrestrial and Oceanic Components. , 1998, 281, 237-240.		4,598
2	Photosynthetic rates derived from satelliteâ€based chlorophyll concentration. Limnology and Oceanography, 1997, 42, 1-20.	3.1	2,270
3	Climate-driven trends in contemporary ocean productivity. Nature, 2006, 444, 752-755.	27.8	1,873
4	Scientistsâ€™ warning to humanity: microorganisms and climate change. Nature Reviews Microbiology, 2019, 17, 569-586.	28.6	1,138
5	Carbon-based ocean productivity and phytoplankton physiology from space. Global Biogeochemical Cycles, 2005, 19, .	4.9	872
6	A consumer's guide to phytoplankton primary productivity models. Limnology and Oceanography, 1997, 42, 1479-1491.	3.1	598
7	A comparison of global estimates of marine primary production from ocean color. Deep-Sea Research Part II: Topical Studies in Oceanography, 2006, 53, 741-770.	1.4	574
8	Carbonâ€based primary productivity modeling with vertically resolved photoacclimation. Global Biogeochemical Cycles, 2008, 22, .	4.9	535
9	Biospheric Primary Production During an ENSO Transition. Science, 2001, 291, 2594-2597.	12.6	523
10	Abandoning Sverdrup's Critical Depth Hypothesis on phytoplankton blooms. Ecology, 2010, 91, 977-989.	3.2	496
11	Confirmation of iron limitation of phytoplankton photosynthesis in the equatorial Pacific Ocean. Nature, 1996, 383, 508-511.	27.8	421
12	Seasonal rhythms of net primary production and particulate organic carbon flux to depth describe the efficiency of biological pump in the global ocean. Journal of Geophysical Research, 2007, 112, .	3.3	383
13	Global assessment of ocean carbon export by combining satellite observations and foodâ€web models. Global Biogeochemical Cycles, 2014, 28, 181-196.	4.9	368
14	Resurrecting the Ecological Underpinnings of Ocean Plankton Blooms. Annual Review of Marine Science, 2014, 6, 167-194.	11.6	328
15	Widespread Iron Limitation of Phytoplankton in the South Pacific Ocean. Science, 1999, 283, 840-843.	12.6	314
16	Satellite-detected fluorescence reveals global physiology of ocean phytoplankton. Biogeosciences, 2009, 6, 779-794.	3.3	280
17	Regional to global assessments of phytoplankton dynamics from the SeaWiFS mission. Remote Sensing of Environment, 2013, 135, 77-91.	11.0	254
18	Revaluating ocean warming impacts on globalÂphytoplankton. Nature Climate Change, 2016, 6, 323-330.	18.8	240

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19	Comparison of algorithms for estimating ocean primary production from surface chlorophyll, temperature, and irradiance. Global Biogeochemical Cycles, 2002, 16, 9-1-9-15.	4.9	232
20	Controls on tropical Pacific Ocean productivity revealed through nutrient stress diagnostics. Nature, 2006, 442, 1025-1028.	27.8	231
21	Regional variations in the influence of mesoscale eddies on nearâ€surface chlorophyll. Journal of Geophysical Research: Oceans, 2014, 119, 8195-8220.	2.6	231
22	IN SEARCH OF A PHYSIOLOGICAL BASIS FOR COVARIATIONS IN LIGHTâ€LIMITED AND LIGHTâ€SATURATED PHOTOSYNTHESIS¹. Journal of Phycology, 2004, 40, 4-25.	2.3	212
23	Assessing the uncertainties of model estimates of primary productivity in the tropical Pacific Ocean. Journal of Marine Systems, 2009, 76, 113-133.	2.1	212
24	Satellite observations of chlorophyll, phytoplankton biomass, and Ekman pumping in nonlinear mesoscale eddies. Journal of Geophysical Research: Oceans, 2013, 118, 6349-6370.	2.6	208
25	Photophysiological Expressions of Iron Stress in Phytoplankton. Annual Review of Marine Science, 2013, 5, 217-246.	11.6	207
26	Skill metrics for confronting global upper ocean ecosystem-biogeochemistry models against field and remote sensing data. Journal of Marine Systems, 2009, 76, 95-112.	2.1	204
27	The Plankton, Aerosol, Cloud, Ocean Ecosystem Mission: Status, Science, Advances. Bulletin of the American Meteorological Society, 2019, 100, 1775-1794.	3.3	199
28	An evaluation of ocean color model estimates of marine primary productivity in coastal and pelagic regions across the globe. Biogeosciences, 2011, 8, 489-503.	3.3	177
29	Title is missing!. Photosynthesis Research, 1998, 58, 259-268.	2.9	176
30	Analytical phytoplankton carbon measurements spanning diverse ecosystems. Deep-Sea Research Part I: Oceanographic Research Papers, 2015, 102, 16-25.	1.4	175
31	Independence and interdependencies among global ocean color properties: Reassessing the bio-optical assumption. Journal of Geophysical Research, 2005, 110, .	3.3	170
32	Evolved physiological responses of phytoplankton to their integrated growth environment. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2687-2703.	4.0	167
33	Beam attenuation and chlorophyll concentration as alternative optical indices of phytoplankton biomass. Journal of Marine Research, 2006, 64, 431-451.	0.3	166
34	Significant contribution of large particles to optical backscattering in the open ocean. Biogeosciences, 2009, 6, 947-967.	3.3	158
35	Challenges of modeling depthâ€integrated marine primary productivity over multiple decades: A case study at BATS and HOT. Global Biogeochemical Cycles, 2010, 24, .	4.9	150
36	Annual boomâ€“bust cycles of polar phytoplankton biomass revealed by space-based lidar. Nature Geoscience, 2017, 10, 118-122.	12.9	150

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37	Colored dissolved organic matter and its influence on the satellite-based characterization of the ocean biosphere. Geophysical Research Letters, 2005, 32, .	4.0	143
38	Student's tutorial on bloom hypotheses in the context of phytoplankton annual cycles. Global Change Biology, 2018, 24, 55-77.	9.5	130
39	Spaceborne Lidar in the Study of Marine Systems. Annual Review of Marine Science, 2018, 10, 121-147.	11.6	128
40	Climate-mediated dance of the plankton. Nature Climate Change, 2014, 4, 880-887.	18.8	124
41	Physiological optimization underlies growth rate-independent chlorophyll-specific gross and net primary production. Photosynthesis Research, 2010, 103, 125-137.	2.9	120
42	Annual cycles of ecological disturbance and recovery underlying the subarctic Atlantic spring plankton bloom. Global Biogeochemical Cycles, 2013, 27, 526-540.	4.9	119
43	Spaceâ€based lidar measurements of global ocean carbon stocks. Geophysical Research Letters, 2013, 40, 4355-4360.	4.0	117
44	The CAFE model: A net production model for global ocean phytoplankton. Global Biogeochemical Cycles, 2016, 30, 1756-1777.	4.9	113
45	The North Atlantic Aerosol and Marine Ecosystem Study (NAAMES): Science Motive and Mission Overview. Frontiers in Marine Science, 2019, 6, .	2.5	111
46	Global satellite-observed daily vertical migrations of ocean animals. Nature, 2019, 576, 257-261.	27.8	111
47	Climate-induced interannual variability of marine primary and export production in three global coupled climate carbon cycle models. Biogeosciences, 2008, 5, 597-614.	3.3	104
48	The beam attenuation to chlorophyll ratio: an optical index of phytoplankton physiology in the surface ocean?. Deep-Sea Research Part I: Oceanographic Research Papers, 2003, 50, 1537-1549.	1.4	95
49	Underway and Moored Methods for Improving Accuracy in Measurement of Spectral Particulate Absorption and Attenuation. Journal of Atmospheric and Oceanic Technology, 2010, 27, 1733-1746.	1.3	90
50	A common partitioning strategy for photosynthetic products in evolutionarily distinct phytoplankton species. New Phytologist, 2013, 198, 1030-1038.	7.3	81
51	Going Beyond Standard Ocean Color Observations: Lidar and Polarimetry. Frontiers in Marine Science, 2019, 6, .	2.5	80
52	Small phytoplankton dominate western North Atlantic biomass. ISME Journal, 2020, 14, 1663-1674.	9.8	74
53	Annual cycles of phytoplankton biomass in the subarctic Atlantic and Pacific Ocean. Global Biogeochemical Cycles, 2016, 30, 175-190.	4.9	71
54	Surplus Photosynthetic Antennae Complexes Underlie Diagnostics of Iron Limitation in a Cyanobacterium. PLoS ONE, 2011, 6, e18753.	2.5	69

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55	Diel variations in the photosynthetic parameters of Prochlorococcus strain PCC 9511: Combined effects of light and cell cycle. Limnology and Oceanography, 2005, 50, 850-863.	3.1	67
56	Coherence of particulate beam attenuation and backscattering coefficients in diverse open ocean environments. Optics Express, 2010, 18, 15419.	3.4	67
57	LINKING TIMEâ€ÐEPENDENT CARBONâ€FIXATION EFFICIENCIES IN DUNALIELLA TERTIOLECTA (CHLOROPHYCEAE) TO UNDERLYING METABOLIC PATHWAYS¹. Journal of Phycology, 2011, 47, 66-76.	2.3	64
58	Vertically- resolved phytoplankton carbon and net primary production from a high spectral resolution lidar. Optics Express, 2017, 25, 13577.	3.4	64
59	The measurement of phytoplankton biomass using flowâ€cytometric sorting and elemental analysis of carbon. Limnology and Oceanography: Methods, 2012, 10, 910-920.	2.0	60
60	Seasonal modulation of phytoplankton biomass in the Southern Ocean. Nature Communications, 2020, 11, 5364.	12.8	51
61	Thoughts on the evolution and ecological niche of diatoms. Ecological Monographs, 2021, 91, e01457.	5.4	50
62	Photoacclimation Responses in Subarctic Atlantic Phytoplankton Following a Natural Mixing-Restratification Event. Frontiers in Marine Science, 2018, 5, .	2.5	49
63	Particulate optical scattering coefficients along an Atlantic Meridional Transect. Optics Express, 2012, 20, 21532.	3.4	48
64	Advancing interpretations of¹⁴C-uptake measurements in the context of phytoplankton physiology and ecology: Fig.Â1.. Journal of Plankton Research, 2015, 37, 692-698.	1.8	47
65	Contrasting Strategies of Photosynthetic Energy Utilization Drive Lifestyle Strategies in Ecologically Important Picoeukaryotes. Metabolites, 2014, 4, 260-280.	2.9	44
66	Factors driving the seasonal and hourly variability of sea-spray aerosol number in the North Atlantic. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20309-20314.	7.1	43
67	Evaluating satellite estimates of particulate backscatter in the global open ocean using autonomous profiling floats. Optics Express, 2019, 27, 30191.	3.4	43
68	Global net community production and the putative net heterotrophy of the oligotrophic oceans. Global Biogeochemical Cycles, 2012, 26, .	4.9	41
69	Phytoplankton Growth and Productivity in the Western North Atlantic: Observations of Regional Variability From the NAAMES Field Campaigns. Frontiers in Marine Science, 2020, 7, .	2.5	41
70	Inferring phytoplankton carbon and eco-physiological rates from diel cycles of spectral particulate beam-attenuation coefficient. Biogeosciences, 2011, 8, 3423-3439.	3.3	40
71	Photoacclimation of natural phytoplankton communities. Marine Ecology - Progress Series, 2016, 542, 51-62.	1.9	40
72	Seasonal Differences and Variability of Concentrations, Chemical Composition, and Cloud Condensation Nuclei of Marine Aerosol Over the North Atlantic. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033145.	3.3	36

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73	Evaluating Optical Proxies of Particulate Organic Carbon across the Surface Atlantic Ocean. Frontiers in Marine Science, 2017, 4, .	2.5	35
74	Uncertain future for ocean algae. Nature Climate Change, 2011, 1, 33-34.	18.8	34
75	Fluorescence and nonphotochemical quenching responses to simulated vertical mixing in the marine diatom Thalassiosira weissflogii. Marine Ecology - Progress Series, 2012, 448, 67-78.	1.9	34
76	Retrospective satellite ocean color analysis of purposeful and natural ocean iron fertilization. Deep-Sea Research Part I: Oceanographic Research Papers, 2013, 73, 1-16.	1.4	33
77	Basin-wide modification of dynamical and biogeochemical processes by the positive phase of the Indian Ocean dipole during the SeaWiFS era. Geophysical Monograph Series, 2009, , 385-407.	0.1	32
78	Carbon: Chlorophyll Ratios and Net Primary Productivity of Subarctic Pacific Surface Waters Derived From Autonomous Shipboard Sensors. Global Biogeochemical Cycles, 2018, 32, 267-288.	4.9	32
79	Global Retrievals of Solarâ€Induced Chlorophyll Fluorescence at Red Wavelengths With TROPOMI. Geophysical Research Letters, 2020, 47, e2020GL087541.	4.0	31
80	Particulate Backscattering in the Global Ocean: A Comparison of Independent Assessments. Geophysical Research Letters, 2021, 48, e2020GL090909.	4.0	31
81	Variability in Marine Plankton Ecosystems Are Not Observed in Freshly Emitted Sea Spray Aerosol Over the North Atlantic Ocean. Geophysical Research Letters, 2020, 47, e2019GL085938.	4.0	30
82	Ice Nucleation by Marine Aerosols Over the North Atlantic Ocean in Late Spring. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD030913.	3.3	30
83	Net Community Production, Dissolved Organic Carbon Accumulation, and Vertical Export in the Western North Atlantic. Frontiers in Marine Science, 2020, 7, .	2.5	30
84	Seasonal bias in global ocean color observations. Applied Optics, 2021, 60, 6978.	1.8	30
85	Seasonal Variations in Western North Atlantic Remote Marine Aerosol Properties. Journal of Geophysical Research D: Atmospheres, 2019, 124, 14240-14261.	3.3	29
86	Temperate infection in a virusâ€“host system previously known for virulent dynamics. Nature Communications, 2020, 11, 4626.	12.8	28
87	An operational overview of the EXport Processes in the Ocean from RemoTe Sensing (EXPORTS) Northeast Pacific field deployment. Elementa, 2021, 9, .	3.2	28
88	Phytoplankton community structuring and succession in a competition-neutral resource landscape. ISME Communications, 2021, 1, .	4.2	24
89	Geostationary satellite observations of dynamic phytoplankton photophysiology. Geophysical Research Letters, 2014, 41, 5052-5059.	4.0	22
90	Combined Atmospheric and Ocean Profiling from an Airborne High Spectral Resolution Lidar. EPJ Web of Conferences, 2016, 119, 22001.	0.3	21

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91	Spatial and temporal variability of the phytoplankton carbon to chlorophyll ratio in the equatorial Pacific: A basinâ€scale modeling study. Journal of Geophysical Research, 2009, 114, .	3.3	20
92	Phytoplankton Phenology in the North Atlantic: Insights From Profiling Float Measurements. Frontiers in Marine Science, 2020, 7, .	2.5	19
93	Regional warming exacerbates match/mismatch vulnerability for cod larvae in Alaska. Progress in Oceanography, 2021, 193, 102555.	3.2	19
94	Seasonal mixed layer depth shapes phytoplankton physiology, viral production, and accumulation in the North Atlantic. Nature Communications, 2021, 12, 6634.	12.8	19
95	Exploring Vitamin B1 Cycling and Its Connections to the Microbial Community in the North Atlantic Ocean. Frontiers in Marine Science, 2020, 7, .	2.5	17
96	Satelliteâ€Đetected Ocean Ecosystem Response to Volcanic Eruptions in the Subarctic Northeast Pacific Ocean. Geophysical Research Letters, 2019, 46, 11270-11280.	4.0	16
97	Shifts in Phytoplankton Community Structure Across an Anticyclonic Eddy Revealed From High Spectral Resolution Lidar Scattering Measurements. Frontiers in Marine Science, 2020, 7, .	2.5	15
98	Linking marine phytoplankton emissions, meteorological processes, and downwind particle properties with FLEXPART. Atmospheric Chemistry and Physics, 2021, 21, 831-851.	4.9	15
99	In Situ Estimates of Net Primary Production in the Western North Atlantic With Argo Profiling Floats. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006116.	3.0	15
100	The Seasonal Flux and Fate of Dissolved Organic Carbon Through Bacterioplankton in the Western North Atlantic. Frontiers in Microbiology, 2021, 12, 669883.	3.5	14
101	Phytoplankton biodiversity and the inverted paradox. ISME Communications, 2021, 1, .	4.2	14
102	Sensitivity of remote sensingâ€“derived phytoplankton productivity to mixed layer depth: Lessons from the carbonâ€based productivity model. Global Biogeochemical Cycles, 2009, 23, .	4.9	12
103	Oceanic Net Primary Production. Springer Remote Sensing/photogrammetry, 2014, , 205-230.	0.4	12
104	Predictability of Seawater DMS During the North Atlantic Aerosol and Marine Ecosystem Study (NAAMES). Frontiers in Marine Science, 2021, 7, .	2.5	11
105	Reply to a comment by Stephen M. Chiswell on: â€œAnnual cycles of ecological disturbance and recovery underlying the subarctic Atlantic spring plankton bloomâ€•by M. J. Behrenfeld et al. (2013). Global Biogeochemical Cycles, 2013, 27, 1294-1296.	4.9	9
106	Evidence of Systematic Triggering at Teleseismic Distances Following Large Earthquakes. Scientific Reports, 2018, 8, 11611.	3.3	9
107	Seasonal Differences in Submicron Marine Aerosol Particle Organic Composition in the North Atlantic. Frontiers in Marine Science, 2021, 8, .	2.5	9
108	Comparison of primary productivity models in the Southern Ocean: preliminary results. Proceedings of SPIE, 2010, , .	0.8	6

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109	Improbability mapping: A metric for satellite-detection of submarine volcanic eruptions. Remote Sensing of Environment, 2014, 140, 596-603.	11.0	6
110	Spring Accumulation Rates in North Atlantic Phytoplankton Communities Linked to Alterations in the Balance Between Division and Loss. Frontiers in Microbiology, 2021, 12, 706137.	3.5	5
111	Characterization of Sea Surface Microlayer and Marine Aerosol Organic Composition Using STXM-NEXAFS Microscopy and FTIR Spectroscopy. ACS Earth and Space Chemistry, 2022, 6, 1899-1913.	2.7	5
112	North Atlantic Ocean SST-gradient-driven variations in aerosol and cloud evolution along Lagrangian cold-air outbreak trajectories. Atmospheric Chemistry and Physics, 2022, 22, 2795-2815.	4.9	4
113	Novel incubationâ€free approaches to determine phytoplankton net primary productivity, growth, and biomass based on flow cytometry and quantification of ATP and NAD(H). Limnology and Oceanography: Methods, 2017, 15, 928-938.	2.0	3
114	Editorial: Unraveling Mechanisms Underlying Annual Plankton Blooms in the North Atlantic and Their Implications for Biogenic Aerosol Properties and Cloud Formation. Frontiers in Marine Science, 2021, 8, .	2.5	3
115	Photoacclimation State of Thalassiosiraweissflogii is not Affected by Changes in Optical Depth Under A Fluctuating Light Regime Simulating Deep Mixing¹. Journal of Phycology, 2021, 57, 1212-1222.	2.3	2
116	Phytoplankton in a witch's brew. Nature Geoscience, 2016, 9, 194-195.	12.9	0