Katja Fennel

List of Publications by Year
in descending order

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121	6,743	76196	69108
papers	citations	40	77
		h-index	g-index

180	180	180	7313
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ocean forecasting in terrain-following coordinates: Formulation and skill assessment of the Regional Ocean Modeling System. Journal of Computational Physics, 2008, 227, 3595-3624.	1.9	1,032
2	Nitrogen cycling in the Middle Atlantic Bight: Results from a three-dimensional model and implications for the North Atlantic nitrogen budget. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	1.9	378
3	The Rise of Oxygen over the Past 205 Million Years and the Evolution of Large Placental Mammals. Science, 2005, 309, 2202-2204.	6.0	304
4	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
5	Globally Consistent Quantitative Observations of Planktonic Ecosystems. Frontiers in Marine Science, 2019, 6, .	1.2	234
6	Subsurface maxima of phytoplankton and chlorophyll: Steadyâ€state solutions from a simple model. Limnology and Oceanography, 2003, 48, 1521-1534.	1.6	228
7	Biogeochemical Controls on Coastal Hypoxia. Annual Review of Marine Science, 2019, 11, 105-130.	5.1	221
8	Biological overprint of the geological carbon cycle. Marine Geology, 2005, 217, 323-338.	0.9	166
9	Denitrification effects on airâ€sea CO₂ flux in the coastal ocean: Simulations for the northwest North Atlantic. Geophysical Research Letters, 2008, 35, .	1.5	153
10	The co-evolution of the nitrogen, carbon and oxygen cycles in the Proterozoic ocean. Numerische Mathematik, 2005, 305, 526-545.	0.7	148
11	Testing a marine ecosystem model: sensitivity analysis and parameter optimization. Journal of Marine Systems, 2001, 28, 45-63.	0.9	146
12	A reevaluation of the magnitude and impacts of anthropogenic atmospheric nitrogen inputs on the ocean. Global Biogeochemical Cycles, 2017, 31, 289-305.	1.9	146
13	Sensitivity of hypoxia predictions for the northern Gulf of Mexico to sediment oxygen consumption and model nesting. Journal of Geophysical Research: Oceans, 2013, 118, 990-1002.	1.0	117
14	Monitoring ocean biogeochemistry with autonomous platforms. Nature Reviews Earth & Environment, 2020, 1, 315-326.	12.2	114
15	A coupled physical-biological model of the Northern Gulf of Mexico shelf: model description, validation and analysis of phytoplankton variability. Biogeosciences, 2011, 8, 1881-1899.	1.3	110
16	What proportion of riverine nutrients reaches the open ocean?. Global Biogeochemical Cycles, 2017, 31, 39-58.	1.9	105
17	Modeling denitrification in aquatic sediments. Biogeochemistry, 2009, 93, 159-178.	1.7	103
18	Copernicus Marine Service Ocean State Report. Journal of Operational Oceanography, 2018, 11, S1-S142.	0.6	96

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19	Developing priority variables (â€œecosystem Essential Ocean Variablesâ€•â€” eEOVs) for observing dynamics and change in Southern Ocean ecosystems. Journal of Marine Systems, 2016, 161, 26-41.	0.9	89
20	Eutrophicationâ€•induced acidification of coastal waters in the northern Gulf of Mexico: Insights into origin and processes from a coupled physicalâ€•biogeochemical model. Geophysical Research Letters, 2017, 44, 946-956.	1.5	89
21	Modeling the Dynamics of Continental Shelf Carbon. Annual Review of Marine Science, 2011, 3, 93-122.	5.1	86
22	Measurements of spectral optical properties and their relation to biogeochemical variables and processes in Crater Lake, Crater Lake National Park, OR. Hydrobiologia, 2007, 574, 149-159.	1.0	76
23	Climate Change Projected to Exacerbate Impacts of Coastal Eutrophication in the Northern Gulf of Mexico. Journal of Geophysical Research: Oceans, 2018, 123, 3408-3426.	1.0	72
24	Modeling ocean circulation and biogeochemical variability in the Gulf of Mexico. Biogeosciences, 2013, 10, 7219-7234.	1.3	70
25	Rapid coastal deoxygenation due to ocean circulation shift in the northwest Atlantic. Nature Climate Change, 2018, 8, 868-872.	8.1	69
26	Advancing Marine Biogeochemical and Ecosystem Reanalyses and Forecasts as Tools for Monitoring and Managing Ecosystem Health. Frontiers in Marine Science, 2019, 6, .	1.2	62
27	A model study of the response of hypoxia to upwelling-favorable wind on the northern Gulf of Mexico shelf. Journal of Marine Systems, 2014, 131, 63-73.	0.9	60
28	Quantifying biological carbon export for the northwest North Atlantic continental shelves. Geophysical Research Letters, 2009, 36, .	1.5	58
29	Domoic acid uptake and elimination kinetics in oysters and mussels in relation to body size and anatomical distribution of toxin. Aquatic Toxicology, 2010, 100, 17-29.	1.9	57
30	The role of continental shelves in nitrogen and carbon cycling: Northwestern North Atlantic case study. Ocean Science, 2010, 6, 539-548.	1.3	55
31	A deterministic model for N2 fixation at stn. ALOHA in the subtropical North Pacific Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 49, 149-174.	0.6	54
32	Data assimilation with a local Ensemble Kalman Filter applied to a three-dimensional biological model of the Middle Atlantic Bight. Journal of Marine Systems, 2012, 94, 145-156.	0.9	54
33	Simulating the effects of phosphorus limitation in the Mississippi and Atchafalaya River plumes. Biogeosciences, 2012, 9, 4707-4723.	1.3	53
34	Eastern US Continental Shelf Carbon Budget: Integrating Models, Data Assimilation, and Analysis. Oceanography, 2008, 21, 86-104.	0.5	52
35	Modeling the dynamics and export of dissolved organic matter in the Northeastern U.S. continental shelf. Estuarine, Coastal and Shelf Science, 2010, 88, 488-507.	0.9	52
36	Estimating time-dependent parameters for a biological ocean model using an emulator approach. Journal of Marine Systems, 2012, 96-97, 32-47.	0.9	52

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37	A box model approach for a long-term assessment of estuarine eutrophication, Szczecin Lagoon, southern Baltic. Journal of Marine Systems, 2000, 25, 387-403.	0.9	50
38	Optimizing models of the North Atlantic spring bloom using physical, chemical and bio-optical observations from a Lagrangian float. Biogeosciences, 2011, 8, 1291-1307.	1.3	50
39	Numerical analysis of the primary processes controlling oxygen dynamics on the Louisiana shelf. Biogeosciences, 2015, 12, 2063-2076.	1.3	49
40	Carbon cycling in the North American coastal ocean: a synthesis. Biogeosciences, 2019, 16, 1281-1304.	1.3	45
41	Satellite estimation of coastal pCO2 and air-sea flux of carbon dioxide in the northern Gulf of Mexico. Remote Sensing of Environment, 2018, 207, 71-83.	4.6	42
42	A modeling study of physical controls on hypoxia generation in the northern Gulf of Mexico. Journal of Geophysical Research: Oceans, 2015, 120, 5019-5039.	1.0	39
43	Particle filterâ€based data assimilation for a threeâ€dimensional biological ocean model and satellite observations. Journal of Geophysical Research: Oceans, 2013, 118, 2746-2760.	1.0	38
44	Effects of model physics on hypoxia simulations for the northern Gulf of Mexico: A model intercomparison. Journal of Geophysical Research: Oceans, 2016, 121, 5731-5750.	1.0	37
45	The roles of resuspension, diffusion and biogeochemical processes on oxygen dynamics offshore of the RhÃ´ne River, France: a numerical modeling study. Biogeosciences, 2017, 14, 1919-1946.	1.3	37
46	Interannual variability in atmospheric CO₂ uptake on the northeast U.S. continental shelf. Journal of Geophysical Research, 2009, 114, .	3.3	34
47	Sensitivity and uncertainty analysis of model hypoxia estimates for the Texasâ€Louisiana shelf. Journal of Geophysical Research: Oceans, 2013, 118, 1316-1332.	1.0	32
48	Impact of Seabed Resuspension on Oxygen and Nitrogen Dynamics in the Northern Gulf of Mexico: A Numerical Modeling Study. Journal of Geophysical Research: Oceans, 2018, 123, 7237-7263.	1.0	31
49	Convection and the Timing of Phytoplankton Spring Blooms in the Western Baltic Sea. Estuarine, Coastal and Shelf Science, 1999, 49, 113-128.	0.9	29
50	Insights on multivariate updates of physical and biogeochemical ocean variables using an Ensemble Kalman Filter and an idealized model of upwelling. Ocean Modelling, 2018, 126, 13-28.	1.0	29
51	N and P as ultimate and proximate limiting nutrients in the northern Gulf of Mexico: implications for hypoxia reduction strategies. Biogeosciences, 2018, 15, 3121-3131.	1.3	29
52	Putting Temperature and Oxygen Thresholds of Marine Animals in Context of Environmental Change: A Regional Perspective for the Scotian Shelf and Gulf of St. Lawrence. PLoS ONE, 2016, 11, e0167411.	1.1	28
53	Modeling Ocean Ecosystems: The PARADIGM Program. Oceanography, 2006, 19, 22-51.	0.5	27
54	Diagnosing transit times on the northwestern North Atlantic continental shelf. Ocean Science, 2018, 14, 1207-1221.	1.3	26

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55	Sediment-water column fluxes of carbon, oxygen and nutrients in Bedford Basin, Nova Scotia, inferred from ²²⁴Ra measurements. Biogeosciences, 2013, 10, 53-66.	1.3	25
56	Model investigations of the North Atlantic spring bloom initiation. Progress in Oceanography, 2015, 138, 176-193.	1.5	25
57	Beyond Chlorophyll Fluorescence: The Time is Right to Expand Biological Measurements in Ocean Observing Programs. Limnology and Oceanography Bulletin, 2018, 27, 89-90.	0.2	25
58	Reanalysis in Earth System Science: Toward Terrestrial Ecosystem Reanalysis. Reviews of Geophysics, 2021, 59, e2020RG000715.	9.0	24
59	Impacts of iron control on phytoplankton production in the modern and glacial Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 833-851.	0.6	22
60	Geochemical and Biological Consequences of Phytoplankton Evolution. , 2007, , 405-430.		22
61	Introduction to special section on The U.S. IOOS Coastal and Ocean Modeling Testbed. Journal of Geophysical Research: Oceans, 2013, 118, 6319-6328.	1.0	22
62	Effect of Changes in Dissolved Oxygen Concentrations on the Spatial Dynamics of the Gulf Menhaden Fishery in the Northern Gulf of Mexico. Marine and Coastal Fisheries, 2014, 6, 223-234.	0.6	22
63	A modelâ€based insight into the coupling of nitrogen and sulfur cycles in a coastal upwelling system. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 264-285.	1.3	22
64	Simulated reduction of hypoxia in the northern Gulf of Mexico due to phosphorus limitation. Elementa, 2014, 2, .	1.1	22
65	The generation of phytoplankton patchiness by mesoscale current patterns. Ocean Dynamics, 2001, 52, 58-70.	0.9	21
66	A one ocean model of biodiversity. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 1816-1823.	0.6	21
67	Simulating sedimentâ€“water exchange of nutrients and oxygen: A comparative assessment of models against mesocosm observations. Continental Shelf Research, 2013, 63, 69-84.	0.9	21
68	Processes controlling midâ€water column oxygen minima over the Texasâ€Louisiana shelf. Journal of Geophysical Research: Oceans, 2015, 120, 2800-2812.	1.0	21
69	Modeling <i>p</i>CO₂ variability in the Gulf of Mexico. Biogeosciences, 2016, 13, 4359-4377.	1.3	21
70	An observation-based evaluation and ranking of historical Earth system model simulations in the northwest North Atlantic Ocean. Biogeosciences, 2021, 18, 1803-1822.	1.3	21
71	Statistical validation of a 3-D bio-physical model of the western North Atlantic. Biogeosciences, 2009, 6, 1961-1974.	1.3	21
72	Sequential data assimilation applied to a physicalâ€“biological model for the Bermuda Atlantic time series station. Journal of Marine Systems, 2010, 79, 144-156.	0.9	20

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73	Parameterization of biogeochemical sedimentâ€“water fluxes using in situ measurements and a diagenetic model. Biogeosciences, 2016, 13, 77-94.	1.3	20
74	A numerical model study of the main factors contributing to hypoxia and its interannual and short-term variability in the East China Sea. Biogeosciences, 2020, 17, 5745-5761.	1.3	20
75	Coupling 3-D Eulerian bio-physics (ROMS) with individual-based shellfish ecophysiology (SHELL-E): A hybrid model for carrying capacity and environmental impacts of bivalve aquaculture. Ecological Modelling, 2014, 273, 63-78.	1.2	19
76	Ocean biogeochemical models as management tools: a case study for Atlantic wolffish and declining oxygen. ICES Journal of Marine Science, 2016, 73, 263-274.	1.2	19
77	Quantifying the contributions of riverine vs. oceanic nitrogen to hypoxia in the East China Sea. Biogeosciences, 2020, 17, 2701-2714.	1.3	19
78	Quantifying the Relative Importance of Riverine and Openâ€Ocean Nitrogen Sources for Hypoxia Formation in the Northern Gulf of Mexico. Journal of Geophysical Research: Oceans, 2019, 124, 5451-5467.	1.0	18
79	Modeling controls of phytoplankton production in the southwest Pacific sector of the Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 769-798.	0.6	17
80	Interannual and seasonal variabilities in airâ€sea CO₂ fluxes along the U.S. eastern continental shelf and their sensitivity to increasing air temperatures and variable winds. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 295-311.	1.3	17
81	Sensitivity of Northwest North Atlantic Shelf Circulation to Surface and Boundary Forcing: A Regional Model Assessment. Atmosphere - Ocean, 2016, 54, 230-247.	0.6	17
82	Assessing the value of biogeochemical Argo profiles versus ocean color observations for biogeochemical model optimization in the Gulf of Mexico. Biogeosciences, 2020, 17, 4059-4074.	1.3	17
83	Biogeochemistry and ecosystems of continental margins in the western North Pacific Ocean and their interactions and responses to external forcing â€“ an overview and synthesis. Biogeosciences, 2014, 11, 7061-7075.	1.3	16
84	Estimating the Crossâ€Shelf Export of Riverine Materials: Part 2. Estimates of Global Freshwater and Nutrient Export. Global Biogeochemical Cycles, 2018, 32, 176-186.	1.9	16
85	Time-Evolving, Spatially Explicit Forecasts of the Northern Gulf of Mexico Hypoxic Zone. Environmental Science & Technology, 2019, 53, 14449-14458.	4.6	15
86	Seasonal and interannual variability of physical and biological dynamics at the shelfbreak front of the Middle Atlantic Bight: nutrient supply mechanisms. Biogeosciences, 2011, 8, 2935-2946.	1.3	13
87	Autonomous data describe North Atlantic spring bloom. Eos, 2011, 92, 465-466.	0.1	11
88	Community composition influences the population growth and ecological impact of invasive species in response to climate change. Oecologia, 2019, 189, 537-548.	0.9	11
89	Evaluation of nonidentical versus identical twin approaches for observation impact assessments: an ensemble-Kalman-filter-based ocean assimilation application for the Gulf of Mexico. Ocean Science, 2019, 15, 1801-1814.	1.3	11
90	Can ocean community production and respiration be determined by measuring high-frequency oxygen profiles from autonomous floats?. Biogeosciences, 2020, 17, 4119-4134.	1.3	11

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91	Introduction and Assessment of Measures for Quantitative Model-Data Comparison Using Satellite Images. Remote Sensing, 2010, 2, 794-818.	1.8	10
92	Role of sediment denitrification in water column oxygen dynamics: comparison of the North American East and West Coasts. Biogeosciences, 2012, 9, 2673-2682.	1.3	10
93	Modelling the biogeochemical effects of heterotrophic and autotrophic N₂ fixation in the Gulf of Aqaba (Israel), Red Sea. Biogeosciences, 2018, 15, 7379-7401.	1.3	10
94	Measurements of spectral optical properties and their relation to biogeochemical variables and processes in Crater Lake, Crater Lake National Park, OR. , 2007, , 149-159.		10
95	Feedbacks Between the Nitrogen, Carbon and Oxygen Cycles. , 2008, , 1537-1563.		9
96	Periodic timeâ€dependent parameters improving forecasting abilities of biological ocean models. Geophysical Research Letters, 2014, 41, 6848-6854.	1.5	9
97	Estimating the Crossâ€Shelf Export of Riverine Materials: Part 1. General Relationships From an Idealized Numerical Model. Global Biogeochemical Cycles, 2018, 32, 160-175.	1.9	9
98	Evaluating ecosystem model complexity for the northwest North Atlantic through surrogate-based optimization. Ocean Modelling, 2019, 142, 101437.	1.0	9
99	Ideas and perspectives: Biogeochemistry â€“ some key foci for the future. Biogeosciences, 2021, 18, 3005-3013.	1.3	8
100	Widespread implementation of controlled upwelling in the North Pacific Subtropical Gyre would counteract diazotrophic N2 fixation. Marine Ecology - Progress Series, 2008, 371, 301-303.	0.9	8
101	A modelling study of temporal and spatial <i>p</i>CO₂ variability on the biologically active and temperature-dominated Scotian Shelf. Biogeosciences, 2021, 18, 6271-6286.	1.3	8
102	Seasonal nutrient and plankton dynamics in a physical-biological model of Crater Lake. Hydrobiologia, 2007, 574, 265-280.	1.0	7
103	Fusion-Based Hypoxia Estimates: Combining Geostatistical and Mechanistic Models of Dissolved Oxygen Variability. Environmental Science & Technology, 2020, 54, 13016-13025.	4.6	7
104	A Test Bed for Coastal and Ocean Modeling. Eos, 2017, , .	0.1	7
105	Ocean hotspots of nitrogen loss. Nature, 2017, 551, 305-306.	13.7	6
106	Benthic Respiration in Hypoxic Waters Enhances Bottom Water Acidification in the Northern Gulf of Mexico. Journal of Geophysical Research: Oceans, 2020, 125, e2020JC016152.	1.0	6
107	A case for addressing the unresolved role of permeable shelf sediments in ocean denitrification. Limnology and Oceanography Letters, 2022, 7, 11-25.	1.6	6
108	Title is missing!. Hydrobiologia, 1999, 393, 25-33.	1.0	5

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109	Numerical Modeling of Hypoxia and Its Effects: Synthesis and Going Forward. , 2017, , 401-421.		5
110	Hurricane Arthur and its effect on the short-term variability of <i>p</i>CO₂ on the Scotian Shelf, NW Atlantic. Biogeosciences, 2018, 15, 2111-2123.	1.3	4
111	Modeling River-Induced Phosphorus Limitation in the Context of Coastal Hypoxia. , 2017, , 149-171.		4
112	Generation Mechanisms of Mesoscale Eddies in the Mauritanian Upwelling Region. Journal of Physical Oceanography, 2022, 52, 161-182.	0.7	4
113	Elucidating Coastal Ocean Carbon Transport Processes: A Novel Approach Applied to the Northwest North Atlantic Shelf. Geophysical Research Letters, 2022, 49, .	1.5	4
114	Modeling of nitrogen and phosphorus profiles in sediment of Osaka Bay, Japan with parameter optimization using the polynomial chaos expansion. Coastal Engineering Journal, 2018, 60, 499-515.	0.7	3
115	Physical and Biochemical Structure Measured by APEX-EM Floats. , 2019, , .		3
116	Assessing the utility of frequency dependent nudging for reducing biases in biogeochemical models. Ocean Modelling, 2014, 81, 25-35.	1.0	2
117	Perspectives and Integration in SOLAS Science. Springer Earth System Sciences, 2014, , 247-306.	0.1	2
118	Can assimilation of satellite observations improve subsurface biological properties in a numerical model? A case study for the Gulf of Mexico. Ocean Science, 2021, 17, 1141-1156.	1.3	1
119	Routledge Handbook of Maritime Regulation and Enforcement. , 0, , .		1
120	Other Nutrients and Dissolved Oxygen and Climate Change. , 2014, , 111-116.		0
121	Ocean Acidification Post-Paris: Gauging Law and Policy Responses in Light of Evolving Scientific Knowledge. Ocean Yearbook, 2019, 33, 207-249.	0.2	0