Brian Helmuth

List of Publications by Year
in descending order

119 papers	9,877 citations	26630 56 h-index	36028 97 g-index
125 all docs	125 docs citations	125 times ranked	7908 citing authors

#	Article	IF	Citations
1	Climate Change and Latitudinal Patterns of Intertidal Thermal Stress. Science, 2002, 298, 1015-1017.	12.6	603
2	Can we predict ectotherm responses to climate change using thermal performance curves and body temperatures?. Ecology Letters, 2016, 19, 1372-1385.	6.4	587
3	Living on the Edge of Two Changing Worlds: Forecasting the Responses of Rocky Intertidal Ecosystems to Climate Change. Annual Review of Ecology, Evolution, and Systematics, 2006, 37, 373-404.	8.3	573
4	Microhabitats, Thermal Heterogeneity, and Patterns of Physiological Stress in the Rocky Intertidal Zone. Biological Bulletin, 2001, 201, 374-384.	1.8	447
5	MOSAIC PATTERNS OF THERMAL STRESS IN THE ROCKY INTERTIDAL ZONE: IMPLICATIONS FOR CLIMATE CHANGE. Ecological Monographs, 2006, 76, 461-479.	5.4	392
6	BIOPHYSICS, PHYSIOLOGICAL ECOLOGY, AND CLIMATE CHANGE: Does Mechanism Matter?. Annual Review of Physiology, 2005, 67, 177-201.	13.1	380
7	Modelling the ecological niche from functional traits. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3469-3483.	4.0	262
8	INTERTIDAL MUSSEL MICROCLIMATES: PREDICTING THE BODY TEMPERATURE OF A SESSILE INVERTEBRATE. Ecological Monographs, 1998, 68, 51-74.	5.4	253
9	Localâ€•and regionalâ€scale effects of wave exposure, thermal stress, and absolute versus effective shore level on patterns of intertidal zonation. Limnology and Oceanography, 2003, 48, 1498-1508.	3.1	226
10	Long-distance dispersal of a subantarctic brooding bivalve (Gaimardia trapesina) by kelp-rafting. Marine Biology, 1994, 120, 421-426.	1.5	195
11	From cells to coastlines: how can we use physiology to forecast the impacts of climate change?. Journal of Experimental Biology, 2009, 212, 753-760.	1.7	187
12	Organismal climatology: analyzing environmental variability at scales relevant to physiological stress. Journal of Experimental Biology, 2010, 213, 995-1003.	1.7	185
13	Effects of water flow and branch spacing on particle capture by the reef coral Madracis mirabilis (Duchassaing and Michelotti). Journal of Experimental Marine Biology and Ecology, 1997, 211, 1-28.	1.5	168
14	Physiological Ecology of Rocky Intertidal Organisms: A Synergy of Concepts. Integrative and Comparative Biology, 2002, 42, 771-775.	2.0	164
15	Water flow and prey capture by three scleractinian corals, Madracis mirabilis , Montastrea cavernosa and Porites porites , in a field enclosure. Marine Biology, 1998, 131, 347-360.	1.5	151
16	Variation in the sensitivity of organismal body temperature to climate change over local and geographic scales. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9560-9565.	7.1	145
17	How do we Measure the Environment? Linking Intertidal Thermal Physiology and Ecology Through Biophysics. Integrative and Comparative Biology, 2002, 42, 837-845.	2.0	144
18	Influence of thermal history on the response of Montastraea annularis to short-term temperature exposure. Marine Biology, 2005, 148, 261-270.	1.5	128

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19	Water flow influences oxygen transport and photosynthetic efficiency in corals. Coral Reefs, 2006, 25, 47-57.	2.2	122
20	Body temperature during low tide alters the feeding performance of a top intertidal predator. Limnology and Oceanography, 2008, 53, 1562-1573.	3.1	121
21	Interacting environmental mosaics drive geographic variation in mussel performance and predation vulnerability. Ecology Letters, 2016, 19, 771-779.	6.4	118
22	QUANTIFYING SCALE IN ECOLOGY: LESSONS FROM AWAVE-SWEPT SHORE. Ecological Monographs, 2004, 74, 513-532.	5.4	117
23	Climate change, species distribution models, and physiological performance metrics: predicting when biogeographic models are likely to fail. Ecology and Evolution, 2013, 3, 3334-3346.	1.9	115
24	THERMAL BIOLOGY OF ROCKY INTERTIDAL MUSSELS: QUANTIFYING BODY TEMPERATURES USING CLIMATOLOGICAL DATA. Ecology, 1999, 80, 15-34.	3.2	109
25	Physiological Mechanisms in Coping with Climate Change. Physiological and Biochemical Zoology, 2010, 83, 713-720.	1.5	108
26	Beyond long-term averages: making biological sense of a rapidly changing world. Climate Change Responses, 2014, 1, .	2.6	106
27	Biologists ignore ocean weather at their peril. Nature, 2018, 560, 299-301.	27.8	104
28	Spatial patterns of growth in the mussel, Mytilus californianus, across a major oceanographic and biogeographic boundary at Point Conception, California, USA. Journal of Experimental Marine Biology and Ecology, 2007, 340, 126-148.	1.5	103
29	Biomechanics meets the ecological niche: the importance of temporal data resolution. Journal of Experimental Biology, 2012, 215, 922-933.	1.7	102
30	The menace of momentum: Dynamic forces on flexible organisms. Limnology and Oceanography, 1998, 43, 955-968.	3.1	101
31	Predicting wave exposure in the rocky intertidal zone: Do bigger waves always lead tolarger forces?. Limnology and Oceanography, 2003, 48, 1338-1345.	3.1	98
32	The influence of colony morphology and orientation to flow on particle capture by the scleractinian coral Agaricia agaricites (Linnaeus). Journal of Experimental Marine Biology and Ecology, 1993, 165, 251-278.	1.5	94
33	Variation beneath the surface: Quantifying complex thermal environments on coral reefs in the Caribbean, Bahamas and Florida. Journal of Marine Research, 2006, 64, 563-588.	0.3	93
34	Septal complexity in ammonoid cephalopods increased mechanical risk and limited depth. Paleobiology, 1997, 23, 470-481.	2.0	89
35	Testing the effects of wave exposure, site, and behavior on intertidal mussel body temperatures: applications and limits of temperature logger design. Marine Biology, 2004, 145, 339.	1.5	89
36	Combining heat-transfer and energy budget models to predict thermal stress in Mediterranean intertidal mussels. Chemistry and Ecology, 2011, 27, 135-145.	1.6	87

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37	Effects of temperature change on mussel, <i>Mytilus</i>. Integrative Zoology, 2012, 7, 312-327.	2.6	80
38	Effects of water flow on growth and energetics of the scleractinian coral Agaricia tenuifolia in Belize. Coral Reefs, 2003, 22, 35-47.	2.2	77
39	Global Observational Needs and Resources for Marine Biodiversity. Frontiers in Marine Science, 2019, 6, .	2.5	77
40	Morphological variation in coral aggregations: branch spacing and mass flux to coral tissues. Journal of Experimental Marine Biology and Ecology, 1997, 209, 233-259.	1.5	76
41	Predatorâ€"prey interactions under climate change: the importance of habitat vs body temperature. Oikos, 2009, 118, 219-224.	2.7	76
42	Chronic parrotfish grazing impedes coral recovery after bleaching. Coral Reefs, 2006, 25, 361-368.	2.2	74
43	An improved noninvasive method for measuring heartbeat of intertidal animals. Limnology and Oceanography: Methods, 2013, 11, 91-100.	2.0	74
44	Untangling the roles of microclimate, behaviour and physiological polymorphism in governing vulnerability of intertidal snails to heat stress. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20162367.	2.6	73
45	Long-term, high frequency in situ measurements of intertidal mussel bed temperatures using biomimetic sensors. Scientific Data, 2016, 3, 160087.	5.3	69
46	Adaptive marine conservation planning in the face of climate change: What can we learn from physiological, ecological and genetic studies?. Global Ecology and Conservation, 2019, 17, e00566.	2.1	69
47	Confronting the physiological bottleneck: A challenge from ecomechanics. Integrative and Comparative Biology, 2009, 49, 197-201.	2.0	68
48	How ocean acidification can benefit calcifiers. Current Biology, 2017, 27, R95-R96.	3.9	67
49	Extreme water velocities: Topographical amplification of waveâ€induced flow in the surf zone of rocky shores. Limnology and Oceanography, 2003, 48, 1-8.	3.1	66
50	Hidden signals of climate change in intertidal ecosystems: What (not) to expect when you are expecting. Journal of Experimental Marine Biology and Ecology, 2011, 400, 191-199.	1.5	66
51	Tipping Points, Thresholds and the Keystone Role of Physiology in Marine Climate Change Research. Advances in Marine Biology, 2011, 60, 123-160.	1.4	65
52	Conceptualizing ecosystem tipping points within a physiological framework. Ecology and Evolution, 2017, 7, 6035-6045.	1.9	64
53	Predicting biological invasions in marine habitats through ecoâ€physiological mechanistic models: a case study with the bivalve <i><scp>B</scp>rachidontes pharaonis</i>. Diversity and Distributions, 2013, 19, 1235-1247.	4.1	63
54	Spatial variability in habitat temperature may drive patterns of selection between an invasive and native mussel species. Marine Ecology - Progress Series, 2007, 339, 157-167.	1.9	61

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55	Temporal coincidence of environmental stress events modulates predation rates. Ecology Letters, 2012, 15, 680-688.	6.4	59
56	Implications of movement behavior on mussel dislodgement: exogenous selection in a Mytilus spp. hybrid zone. Marine Biology, 2005, 146, 333-343.	1.5	58
57	Interactive effects of food availability and aerial body temperature on the survival of two intertidal Mytilus species. Journal of Thermal Biology, 2010, 35, 161-166.	2.5	56
58	The impact of climate change on mediterranean intertidal communities: losses in coastal ecosystem integrity and services. Regional Environmental Change, 2014, 14, 5-17.	2.9	56
59	When to worry about the weather: role of tidal cycle in determining patterns of risk in intertidal ecosystems. Global Change Biology, 2009, 15, 3056-3065.	9.5	55
60	Thermal tolerance and climate warming sensitivity in tropical snails. Ecology and Evolution, 2015, 5, 5905-5919.	1.9	55
61	The combination of selection and dispersal helps explain genetic structure in intertidal mussels. Oecologia, 2011, 165, 947-958.	2.0	54
62	An Intertidal Sea Star Adjusts Thermal Inertia to Avoid Extreme Body Temperatures. American Naturalist, 2009, 174, 890-897.	2.1	52
63	Climate change in the rocky intertidal zone: predicting and measuring the body temperature of a keystone predator. Marine Ecology - Progress Series, 2009, 374, 43-56.	1.9	52
64	Interplay of host morphology and symbiont microhabitat in coral aggregations. Marine Biology, 1997, 130, 1-10.	1.5	51
65	The duality of ocean acidification as a resource and a stressor. Ecology, 2018, 99, 1005-1010.	3.2	51
66	Morphological and Ecological Determinants of Body Temperature of<i>Geukensia demissa</i>, the Atlantic Ribbed Mussel, and Their Effects On Mussel Mortality. Biological Bulletin, 2007, 213, 141-151.	1.8	50
67	Predicting intertidal organism temperatures with modified land surface models. Ecological Modelling, 2011, 222, 3568-3576.	2.5	42
68	The Corticosterone Stress Response in Gentoo and King Penguins during the Non-Fasting Period. Condor, 1996, 98, 850-854.	1.6	38
69	Testing the effects of temporal data resolution on predictions of the effects of climate change on bivalves. Ecological Modelling, 2014, 278, 1-8.	2.5	38
70	Geographical variation in climatic sensitivity of intertidal mussel zonation. Global Ecology and Biogeography, 2014, 23, 744-756.	5.8	38
71	A Dynamic Energy Budget (DEB) Model for the Keystone Predator Pisaster ochraceus. PLoS ONE, 2014, 9, e104658.	2.5	36
72	Physiological determinants of biogeography: The importance of metabolic depression to heat tolerance. Global Change Biology, 2021, 27, 2561-2579.	9.5	34

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73	CLIMATE AND RECRUITMENT OF ROCKY SHORE INTERTIDAL INVERTEBRATES IN THE EASTERN NORTH ATLANTIC. Ecology, 2008, 89, S81-90.	3.2	32
74	Meeting the climate change challenge: Pressing issues in southern China and SE Asian coastal ecosystems. Regional Studies in Marine Science, 2016, 8, 373-381.	0.7	32
75	A Bioenergetics Framework for Integrating the Effects of Multiple Stressors: Opening a â€˜Black Boxâ€™ in Climate Change Research*. American Malacological Bulletin, 2015, 33, 150-160.	0.2	31
76	Global warming and artificial shorelines reshape seashore biogeography. Global Ecology and Biogeography, 2020, 29, 220-231.	5.8	30
77	Moving forward in globalâ€change ecology: capitalizing on natural variability. Ecology and Evolution, 2013, 3, 170-181.	1.9	29
78	A mechanistic approach reveals non linear effects of climate warming on mussels throughout the Mediterranean sea. Climatic Change, 2016, 139, 293-306.	3.6	27
79	Mapping physiology: biophysical mechanisms define scales of climate change impacts. , 2019, 7, coz028.		27
80	Temperature-dependent photosynthesis in the intertidal alga Fucus gardneri and sensitivity to ongoing climate change. Journal of Experimental Marine Biology and Ecology, 2014, 458, 6-12.	1.5	26
81	Shore-level size gradients and thermal refuge use in the predatory sea star Pisaster ochraceus: the role of environmental stressors. Marine Ecology - Progress Series, 2015, 539, 191-205.	1.9	26
82	Thermal sensitivity and the role of behavior in driving an intertidal predatorâ€“prey interaction. Ecological Monographs, 2016, 86, 429-447.	5.4	25
83	The aquaculture supply chain in the time of covid-19 pandemic: Vulnerability, resilience, solutions and priorities at the global scale. Environmental Science and Policy, 2022, 127, 98-110.	4.9	25
84	Experiencing the salt marsh environment through the foot of Littoraria irrorata: Behavioral responses to thermal and desiccation stresses. Journal of Experimental Marine Biology and Ecology, 2011, 409, 143-153.	1.5	24
85	Dynamic Energy Budget model parameter estimation for the bivalve Mytilus californianus: Application of the covariation method. Journal of Sea Research, 2014, 94, 105-110.	1.6	24
86	The Synergistic Impacts of Anthropogenic Stressors and COVID-19 on Aquaculture: A Current Global Perspective. Reviews in Fisheries Science and Aquaculture, 2022, 30, 123-135.	9.1	24
87	Remote Sensing for Biodiversity. , 2017, , 187-210.		23
88	Body temperature and desiccation constrain the activity of Littoraria irrorata within the Spartina alterniflora canopy. Journal of Thermal Biology, 2012, 37, 15-22.	2.5	21
89	Moving Toward a Strategy for Addressing Climate Displacement of Marine Resources: A Proof-of-Concept. Frontiers in Marine Science, 2020, 7, .	2.5	19
90	Intracolony variability in photosynthesis by corals is affected by water flow: role of oxygen flux. Marine Ecology - Progress Series, 2007, 349, 103-110.	1.9	19

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91	Evaluation of effective shore level as a method of characterizing intertidal wave exposure regimes. Limnology and Oceanography: Methods, 2006, 4, 448-457.	2.0	18
92	Science integration into US climate and ocean policy. Nature Climate Change, 2014, 4, 671-677.	18.8	18
93	Recent Advances in Data Logging for Intertidal Ecology. Frontiers in Ecology and Evolution, 2018, 6, .	2.2	18
94	Cross-Scale Approaches to Forecasting Biogeographic Responses to Climate Change. Advances in Ecological Research, 2016, , 371-433.	2.7	17
95	Survival and arm abscission are linked to regional heterothermy in an intertidal sea star. Journal of Experimental Biology, 2013, 216, 2183-2191.	1.7	15
96	Nutrients influence the thermal ecophysiology of an intertidal macroalga: multiple stressors or multiple drivers?. Ecological Applications, 2017, 27, 669-681.	3.8	15
97	Physiological and biochemical responses to acute environmental stress and predation risk in the blue mussel, Mytilus edulis. Journal of Sea Research, 2020, 159, 101891.	1.6	15
98	Physiologically grounded metrics of model skill: a case study estimating heat stress in intertidal populations. , 2016, 4, cow038.		13
99	Inducible aggression and intraspecific competition for space in a marine bryozoan, Membranipora membranacea. Limnology and Oceanography, 1996, 41, 505-512.	3.1	12
100	Pido: Predictive Delay Optimization for Intertidal Wireless Sensor Networks. Sensors, 2018, 18, 1464.	3.8	11
101	The six dimensions of collective leadership that advance sustainability objectives: rethinking what it means to be an academic leader. Ecology and Society, 2021, 26, .	2.3	8
102	Biomechanics meets the ecological niche: the importance of temporal data resolution. Journal of Experimental Biology, 2012, 215, 1422-1424.	1.7	7
103	Beliefs about Human-Nature Relationships and Implications for Investment and Stewardship Surrounding Land-Water System Conservation. Land, 2021, 10, 1293.	2.9	6
104	Increased Thermal Sensitivity of a Tropical Marine Gastropod Under Combined CO2 and Temperature Stress. Frontiers in Marine Science, 2021, 8, .	2.5	5
105	High resolution spatiotemporal patterns of seawater temperatures across the Belize Mesoamerican Barrier Reef. Scientific Data, 2020, 7, 396.	5.3	4
106	Thermal Biology of Rocky Intertidal Mussels: Quantifying Body Temperatures Using Climatological Data. Ecology, 1999, 80, 15.	3.2	4
107	Impacts of Climate Change on Marine Organisms. , 2013, , 35-63.		4
108	Optimizing Large-Scale Biodiversity Sampling Effort: Toward an Unbalanced Survey Design. Oceanography, 2021, 34, .	1.0	4

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109	Microclimate. , 2008, , 2389-2393.		3
110	Monitoring the Intertidal Environment with Biomimetic Devices. , 2011, , .		3
111	Marine Life 2030: Forecasting Changes to Ocean Biodiversity to Inform Decision-Making: A Critical Role for the Marine Biodiversity Observation Network (MBON). Marine Technology Society Journal, 2021, 55, 84-85.	0.4	3
112	Robots Versus Humans: Automated Annotation Accurately Quantifies Essential Ocean Variables of Rocky Intertidal Functional Groups and Habitat State. Frontiers in Marine Science, 2021, 8, .	2.5	1
113	THERMAL BIOLOGY OF ROCKY INTERTIDAL MUSSELS: QUANTIFYING BODY TEMPERATURES USING CLIMATOLOGICAL DATA. , 1999, 80, 15.		1
114	Ecological forecasting and hindcasting in the rocky intertidal zone: Where and when do we worry about weather?. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2008, 150, S167.	1.8	0
115	Microclimate. , 2008, , 472-475.		0
116	Predicting patterns of stress and mortality in intertidal invertebrates: applications of biophysical ecology in a changing world. Nature Precedings, 2010, , .	0.1	0
117	Heat budget model facilitates exploration of thermal ecology on urban shoreline infrastructure. Ecological Engineering, 2021, 171, 106371.	3.6	0
118	Sustaining the Assessment of Climate Impacts on Oceans and Marine Resources. , 2013, , 156-169.		0
119	Assessing The Use of Virtual Reality Technology in Teaching Marine Ecological Concepts. Journal of STEM Outreach, 2019, 2, .	0.5	0