David K Woolf

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Bubbles and the air-sea exchange of gases in near-saturation conditions. Journal of Marine Research, 1991, 49, 435-466.	0.3	251
2	Marine renewable energy: The ecological implications of altering the hydrodynamics of the marine environment. Ocean and Coastal Management, 2011, 54, 2-9.	4.4	171
3	Bubbles and their role in gas exchange. , 1997, , 173-206.		162
4	Revised estimates of ocean-atmosphere CO2 flux are consistent with ocean carbon inventory. Nature Communications, 2020, 11, 4422.	12.8	129
5	Bubbles and the airâ€sea transfer velocity of gases. Atmosphere - Ocean, 1993, 31, 517-540.	1.6	123
6	Parametrization of gas transfer velocities and sea-state-dependent wave breaking. Tellus, Series B: Chemical and Physical Meteorology, 2005, 57, 87-94.	1.6	116
7	The influence of the North Atlantic Oscillation on sea-level variability in the North Atlantic region. Vital, 2003, 9, 145-167.	0.0	107
8	Discriminating between the film drops and jet drops produced by a simulated whitecap. Journal of Geophysical Research, 1987, 92, 5142-5150.	3.3	88
9	Aeration Due to Breaking Waves. Part I: Bubble Populations. Journal of Physical Oceanography, 2004, 34, 989-1007.	1.7	87
10	Waves and climate change in the north-east Atlantic. Geophysical Research Letters, 2006, 33, .	4.0	83
11	Comments on â€œVariations of Whitecap Coverage with Wind stress and Water Temperature. Journal of Physical Oceanography, 1989, 19, 706-709.	1.7	72
12	The wave and tidal resource of Scotland. Renewable Energy, 2017, 114, 3-17.	8.9	71
13	Strategic priorities for assessing ecological impacts of marine renewable energy devices in the Pentland Firth (Scotland, UK). Marine Policy, 2009, 33, 635-642.	3.2	69
14	Transfer Across the Air-Sea Interface. Springer Earth System Sciences, 2014, , 55-112.	0.2	69
15	Modelling of bubble-mediated gas transfer: Fundamental principles and a laboratory test. Journal of Marine Systems, 2007, 66, 71-91.	2.1	65
16	Towards a vulnerability assessment of the UK and northern European coasts: the role of regional climate variability. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 1329-1358.	3.4	64
17	Parameterizations and Algorithms for Oceanic Whitecap Coverage. Journal of Physical Oceanography, 2011, 41, 742-756.	1.7	62
18	On the calculation of airâ€sea fluxes of CO₂ in the presence of temperature and salinity gradients. Journal of Geophysical Research: Oceans, 2016, 121, 1229-1248.	2.6	60

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19	Parametrization of gas transfer velocities and sea-state-dependent wave breaking. Tellus, Series B: Chemical and Physical Meteorology, 2005, 57, 87-94.	1.6	58
20	Current Patterns in the Inner Sound (Pentland Firth) from Underway ADCP Data*. Journal of Atmospheric and Oceanic Technology, 2013, 30, 96-111.	1.3	57
21	Key Uncertainties in the Recent Airâ€Sea Flux of CO₂. Global Biogeochemical Cycles, 2019, 33, 1548-1563.	4.9	54
22	Physical Exchanges at the Airâ€"Sea Interface: UKâ€"SOLAS Field Measurements. Bulletin of the American Meteorological Society, 2009, 90, 629-644.	3.3	52
23	Some Factors Affecting the Size Distributions of Oceanic Bubbles. Journal of Physical Oceanography, 1992, 22, 382-389.	1.7	50
24	The dynamics of an energetic tidal channel, the Pentland Firth, Scotland. Continental Shelf Research, 2012, 48, 50-60.	1.8	49
25	One-dimensional modelling of convective CO2 exchange in the Tropical Atlantic. Ocean Modelling, 2007, 19, 161-182.	2.4	46
26	Marine condensation nucleus generation inferred from whitecap simulation tank results. Journal of Geophysical Research, 1987, 92, 6569-6576.	3.3	40
27	The influence of the North Atlantic Oscillation on the sea-level around the northern European coasts reconsidered: the thermosteric effects. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 845-856.	3.4	40
28	A reconciliation of empirical and mechanistic models of the airâ€sea gas transfer velocity. Journal of Geophysical Research: Oceans, 2016, 121, 818-835.	2.6	38
29	FluxEngine: A Flexible Processing System for Calculating Atmosphereâ€"Ocean Carbon Dioxide Gas Fluxes and Climatologies. Journal of Atmospheric and Oceanic Technology, 2016, 33, 741-756.	1.3	36
30	Measurements of the offshore wave climate around the British Isles by satellite altimeter. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 27-31.	3.4	35
31	Tuning a physically-based model of the airâ€"sea gas transfer velocity. Ocean Modelling, 2010, 31, 28-35.	2.4	35
32	The OceanFlux Greenhouse Gases methodology for deriving a sea surface climatology of CO₂ fugacity in support of airâ€"sea gas flux studies. Ocean Science, 2015, 11, 519-541.	3.4	35
33	Application of new parameterizations of gas transfer velocity and their impact on regional and global marine CO2 budgets. Journal of Marine Systems, 2007, 66, 195-203.	2.1	32
34	Spaceâ€based retrievals of airâ€sea gas transfer velocities using altimeters: Calibration for dimethyl sulfide. Journal of Geophysical Research, 2012, 117, .	3.3	32
35	Climate change impacts on seaâ€"air fluxes of CO₂ in three Arctic seas: a sensitivity study using Earth observation. Biogeosciences, 2013, 10, 8109-8128.	3.3	22
36	Satellites will address critical science priorities for quantifying ocean carbon. Frontiers in Ecology and the Environment, 2020, 18, 27-35.	4.0	22

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37	Progress in satellite remote sensing for studying physical processes at the ocean surface and its borders with the atmosphere and sea ice. Progress in Physical Geography, 2016, 40, 215-246.	3.2	19
38	A Sensitivity Analysis of the Impact of Rain on Regional and Global Sea-Air Fluxes of CO2. PLoS ONE, 2016, 11, e0161105.	2.5	17
39	Asymmetric transfer of CO2 across a broken sea surface. Scientific Reports, 2018, 8, 8301.	3.3	17
40	Tidal resource and interactions between multiple channels in the Goto Islands, Japan. International Journal of Marine Energy, 2017, 19, 332-344.	1.8	16
41	A regional analysis of new production on the northwest European shelf using oxygen fluxes and a ship-of-opportunity. Estuarine, Coastal and Shelf Science, 2006, 69, 478-490.	2.1	15
42	The response to phase-dependent wind stress and cloud fraction of the diurnal cycle of SST and airâ€“sea CO2 exchange. Ocean Modelling, 2008, 23, 33-48.	2.4	14
43	Improvements to estimating the airâ€“sea gas transfer velocity by using dual-frequency, altimeter backscatter. Remote Sensing of Environment, 2013, 139, 1-5.	11.0	14
44	Calculating longâ€term global airâ€sea flux of carbon dioxide using scatterometer, passive microwave, and model reanalysis wind data. Journal of Geophysical Research, 2008, 113, .	3.3	11
45	Climate change and adaptation in the coastal areas of Europe's Northern Periphery Region. Ocean and Coastal Management, 2014, 94, 9-21.	4.4	10
46	The FluxEngine airâ€“sea gas flux toolbox: simplified interface and extensions for in situ analyses and multiple sparingly soluble gases. Ocean Science, 2019, 15, 1707-1728.	3.4	10
47	Gas Exchange and Bubble-Induced Supersaturation in a Wind-Wave Tank. Journal of Atmospheric and Oceanic Technology, 2004, 21, 1925-1935.	1.3	9
48	Sensitivity of Ferry Services to the Western Isles of Scotland to Changes in Wave and Wind Climate. Journal of Applied Meteorology and Climatology, 2013, 52, 1069-1084.	1.5	8
49	LUMINY - An Overview. Geophysical Monograph Series, 0, , 291-294.	0.1	8
50	Supplement to Physical Exchanges at the Airâ€“Sea Interface: UKâ€“SOLAS Field Measurements. Bulletin of the American Meteorological Society, 2009, 90, ES9-ES16.	3.3	5
51	Future policy implications of tidal energy array interactions. Marine Policy, 2019, 108, 103611.	3.2	5
52	A study of gas exchange during the transition from deep winter mixing to spring bloom in the Bay of Biscay measured by continuous observation from a ship of opportunity. Journal of Operational Oceanography, 2008, 1, 41-50.	1.2	4
53	Sensitivity of Ferry Services to the Western Isles of Scotland to Changes in Wave Climate. , 2004, , .		1
54	Comment on an article by J. Wu. Tellus, Series B: Chemical and Physical Meteorology, 1990, 42, 385-386.	1.6	0

#	Article	IF	Citations
55	Bubbles. , 2019, , 26-31.		0
56	The Physics and Hydrodynamic Setting of Marine Renewable Energy. Humanity and the Sea, 2014, , 5-20.	0.5	0