Marcel Nicolaus

List of Publications by Year
in descending order

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78 papers	4,048 citations	126907 33 h-index	128289 60 g-index
90 all docs	90 docs citations	90 times ranked	3865 citing authors

#	Article	IF	Citations
1	Export of Algal Biomass from the Melting Arctic Sea Ice. Science, 2013, 339, 1430-1432.	12.6	383
2	Changes in Arctic sea ice result in increasing light transmittance and absorption. Geophysical Research Letters, 2012, 39, .	4.0	260
3	Leads in Arctic pack ice enable early phytoplankton blooms below snow-covered sea ice. Scientific Reports, 2017, 7, 40850.	3.3	259
4	A transitioning Arctic surface energy budget: the impacts of solar zenith angle, surface albedo and cloud radiative forcing. Climate Dynamics, 2011, 37, 1643-1660.	3.8	162
5	Photosynthetic production in the central Arctic Ocean during the record sea-ice minimum in 2012. Biogeosciences, 2015, 12, 3525-3549.	3.3	149
6	The Arctic Cloud Puzzle: Using ACLOUD/PASCAL Multiplatform Observations to Unravel the Role of Clouds and Aerosol Particles in Arctic Amplification. Bulletin of the American Meteorological Society, 2019, 100, 841-871.	3.3	145
7	Increasing frequency and duration of Arctic winter warming events. Geophysical Research Letters, 2017, 44, 6974-6983.	4.0	134
8	Overview of the MOSAiC expedition: Atmosphere. Elementa, 2022, 10, .	3.2	121
9	Floating Ice-Algal Aggregates below Melting Arctic Sea Ice. PLoS ONE, 2013, 8, e76599.	2.5	109
10	Arctic warming interrupts the Transpolar Drift and affects long-range transport of sea ice and ice-rafted matter. Scientific Reports, 2019, 9, 5459.	3.3	108
11	Evidence of Arctic sea ice thinning from direct observations. Geophysical Research Letters, 2014, 41, 5029-5036.	4.0	105
12	Exploring Arctic Transpolar Drift During Dramatic Sea Ice Retreat. Eos, 2008, 89, 21-22.	0.1	94
13	Seasonality of spectral albedo and transmittance as observed in the Arctic Transpolar Drift in 2007. Journal of Geophysical Research, 2010, 115, .	3.3	92
14	Overview of the MOSAiC expedition: Snow and sea ice. Elementa, 2022, 10, .	3.2	91
15	Thin ice and storms: Sea ice deformation from buoy arrays deployed during <scp>Nâ€ICE</scp>2015. Journal of Geophysical Research: Oceans, 2017, 122, 4661-4674.	2.6	88
16	A modern concept for autonomous and continuous measurements of spectral albedo and transmittance of sea ice. Cold Regions Science and Technology, 2010, 62, 14-28.	3.5	71
17	Influence of ice thickness and surface properties on light transmission through <scp>A</scp>rctic sea ice. Journal of Geophysical Research: Oceans, 2015, 120, 5932-5944.	2.6	70
18	Shallow methylmercury production in the marginal sea ice zone of the central Arctic Ocean. Scientific Reports, 2015, 5, 10318.	3.3	70

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19	The MOSAiC ice floe: sediment-laden survivor from the Siberian shelf. Cryosphere, 2020, 14, 2173-2187.	3.9	59
20	Overview of the MOSAiC expedition: Physical oceanography. Elementa, 2022, 10, .	3.2	54
21	Mapping radiation transfer through sea ice using a remotely operated vehicle (ROV). Cryosphere, 2013, 7, 763-777.	3.9	52
22	Seasonal cycle and long-term trend of solar energy fluxes through Arctic sea ice. Cryosphere, 2014, 8, 2219-2233.	3.9	52
23	Seasonal Evolution of Light Transmission Distributions Through Arctic Sea Ice. Journal of Geophysical Research: Oceans, 2019, 124, 5418-5435.	2.6	51
24	Sea ice and snow thickness and physical properties of an ice floe in the western Weddell Sea and their changes during spring warming. Deep-Sea Research Part II: Topical Studies in Oceanography, 2008, 55, 963-974.	1.4	47
25	Closing the loop â€“ Approaches to monitoring the state of the Arctic Mediterranean during the International Polar Year 2007â€“2008. Progress in Oceanography, 2011, 90, 62-89.	3.2	47
26	Satelliteâ€observed drop of Arctic sea ice growth in winter 2015â€“2016. Geophysical Research Letters, 2017, 44, 3236-3245.	4.0	46
27	The influence of sea ice cover on air-sea gas exchange estimated with radon-222 profiles. Journal of Geophysical Research: Oceans, 2014, 119, 2735-2751.	2.6	45
28	Environmental drivers of under-ice phytoplankton bloom dynamics in the Arctic Ocean. Elementa, 2020, 8, .	3.2	45
29	Observations of superimposed ice formation at melt-onset on fast ice on Kongsfjorden, Svalbard. Physics and Chemistry of the Earth, 2003, 28, 1241-1248.	2.9	44
30	A model study of differences of snow thinning on Arctic and Antarctic first-year sea ice during spring and summer. Annals of Glaciology, 2006, 44, 147-153.	1.4	41
31	Distribution of algal aggregates under summer sea ice in the Central Arctic. Polar Biology, 2015, 38, 719-731.	1.2	39
32	Mixing, heat fluxes and heat content evolution of the Arctic Ocean mixed layer. Ocean Science, 2011, 7, 335-349.	3.4	38
33	Sea ice algae chlorophyll a concentrations derived from under-ice spectral radiation profiling platforms. Journal of Geophysical Research: Oceans, 2016, 121, 8511-8534.	2.6	38
34	Evolution of firstâ€year and secondâ€year snow properties on sea ice in the Weddell Sea during springâ€summer transition. Journal of Geophysical Research, 2009, 114, .	3.3	37
35	Influence of snow depth and surface flooding on light transmission through <scp>A</scp>ntarctic pack ice. Journal of Geophysical Research: Oceans, 2017, 122, 2108-2119.	2.6	37
36	The anisotropic scattering coefficient of sea ice. Journal of Geophysical Research: Oceans, 2014, 119, 842-855.	2.6	36

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37	A new snow thermodynamic scheme for large-scale sea-ice models. Annals of Glaciology, 2011, 52, 337-346.	1.4	32
38	Assessment of radiation forcing data sets for large-scale sea ice models in the Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2011, 58, 1237-1249.	1.4	31
39	Seasonal evolution of an iceâ€shelf influenced fastâ€ice regime, derived from an autonomous thermistor chain. Journal of Geophysical Research: Oceans, 2015, 120, 1703-1724.	2.6	31
40	The microwave emissivity variability of snow covered first-year sea ice from late winter to early summer: a model study. Cryosphere, 2014, 8, 891-904.	3.9	30
41	Characterizing Spatial Variability of Ice Algal Chlorophyll a and Net Primary Production between Sea Ice Habitats Using Horizontal Profiling Platforms. Frontiers in Marine Science, 2017, 4, .	2.5	29
42	Variability of light transmission through Arctic land-fast sea ice during spring. Cryosphere, 2013, 7, 977-986.	3.9	26
43	Antarctic sympagic meiofauna in winter: Comparing diversity, abundance and biomass between perennially and seasonally ice-covered regions. Deep-Sea Research Part II: Topical Studies in Oceanography, 2011, 58, 1062-1074.	1.4	25
44	Geometric Effects of an Inhomogeneous Sea Ice Cover on the under Ice Light Field. Frontiers in Earth Science, 2016, 4, .	1.8	25
45	A New Remotely Operated Sensor Platform for Interdisciplinary Observations under Sea Ice. Frontiers in Marine Science, 2017, 4, .	2.5	24
46	The importance of diurnal processes for the Seasonal cycle of Sea-ice microwave brightness temperatures during early Summer in the Weddell Sea, Antarctica. Annals of Glaciology, 2006, 44, 297-302.	1.4	22
47	Snow Depth and Air Temperature Seasonality on Sea Ice Derived From Snow Buoy Measurements. Frontiers in Marine Science, 2021, 8, .	2.5	22
48	Sensitivity of the light field under sea ice to spatially inhomogeneous optical properties and incident light assessed with three-dimensional Monte Carlo radiative transfer simulations. Cold Regions Science and Technology, 2012, 73, 1-11.	3.5	21
49	Ice platelets below Weddell Sea landfast sea ice. Annals of Glaciology, 2015, 56, 175-190.	1.4	21
50	Timing and regional patterns of snowmelt on Antarctic sea ice from passive microwave satellite observations. Journal of Geophysical Research: Oceans, 2016, 121, 5916-5930.	2.6	21
51	Validation of the sea ice surface albedo scheme of the regional climate model HIRHAMâ€“NAOSIM using aircraft measurements during the ACLOUD/PASCAL campaigns. Cryosphere, 2019, 13, 1695-1708.	3.9	21
52	Seasonality and timing of sea ice mass balance and heat fluxes in the Arctic transpolar drift during 2019â€“2020. Elementa, 2022, 10, .	3.2	21
53	Satellite microwave observations of the interannual variability of snowmelt on sea ice in the Southern Ocean. Journal of Geophysical Research, 2009, 114, .	3.3	20
54	Morphology of sea ice pressure ridges in the northwestern Weddell Sea in winter. Journal of Geophysical Research, 2012, 117, .	3.3	20

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55	Autonomous observations of solar energy partitioning in first-year sea ice in the Arctic Basin. Journal of Geophysical Research: Oceans, 2014, 119, 2066-2080.	2.6	20
56	Spectral albedo and transmittance of thin young <scp>A</scp>rctic sea ice. Journal of Geophysical Research: Oceans, 2016, 121, 540-553.	2.6	20
57	An intercomparison between AMSR-E snow-depth and satellite C- and Ku-band radar backscatter data for Antarctic sea ice. Annals of Glaciology, 2011, 52, 279-290.	1.4	19
58	Platelet Ice Under Arctic Pack Ice in Winter. Geophysical Research Letters, 2020, 47, e2020GL088898.	4.0	17
59	Snowfall and snow accumulation during the MOSAiC winter and spring seasons. Cryosphere, 2022, 16, 2373-2402.	3.9	17
60	The Impact of Diffusive Water Vapor Transport on Snow Profiles in Deep and Shallow Snow Covers and on Sea Ice. Frontiers in Earth Science, 2020, 8, .	1.8	15
61	Thermodynamic and dynamic contributions to seasonal Arctic sea ice thickness distributions from airborne observations. Elementa, 2022, 10, .	3.2	15
62	Arctic in Rapid Transition: Priorities for the future of marine and coastal research in the Arctic. Polar Science, 2016, 10, 364-373.	1.2	14
63	Version 1 of a sea ice module for the physics-based, detailed, multi-layer SNOWPACK model. Geoscientific Model Development, 2020, 13, 99-119.	3.6	14
64	Atmospheric conditions in the central Arctic Ocean through the melt seasons of 2012 and 2013: Impact on surface conditions and solar energy deposition into the iceâ€ocean system. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1043-1058.	3.3	13
65	Ice Tank Experiments Highlight Changes in Sea Ice Types. Eos, 2009, 90, 81-82.	0.1	12
66	Seasonal and interannual variability of landfast sea ice in Atka Bay, Weddell Sea, Antarctica. Cryosphere, 2020, 14, 2775-2793.	3.9	12
67	Monitoring a changing Arctic: Recent advancements in the study of sea ice microbial communities. Ambio, 2022, 51, 318-332.	5.5	12
68	New observations of the distribution, morphology and dissolution dynamics of cryogenic gypsum in the Arctic Ocean. Cryosphere, 2020, 14, 1795-1808.	3.9	11
69	High radar-backscatter regions on Antarctic sea-ice and their relation to sea-ice and snow properties and meteorological conditions. International Journal of Remote Sensing, 2011, 32, 3967-3984.	2.9	9
70	The impact of early-summer snow properties on Antarctic landfast sea-ice X-band backscatter. Annals of Glaciology, 2015, 56, 263-273.	1.4	8
71	Observing snowmelt dynamics on fast ice in Kongsfjorden, Svalbard, with NOAA/AVHRR data and field measurements. Polar Research, 2009, 28, 203-213.	1.6	6
72	Retrieval of sea ice thickness during melt season from in situ, airborne and satellite imagery. , 2016, , .		6

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73	Under-Ice Light Field in the Western Arctic Ocean During Late Summer. Frontiers in Earth Science, 2022, 9, .	1.8	6
74	From Bright Windows to Dark Spots: Snow Cover Controls Melt Pond Optical Properties During Refreezing. Geophysical Research Letters, 2021, 48, e2021GL095369.	4.0	5
75	Numerical model studies of Antarctic ice-sheetâ€“ice-shelfâ€“ocean systems and ice caps. Annals of Glaciology, 2005, 41, 111-120.	1.4	4
76	Net heterotrophy in High Arctic first-year and multi-year spring sea ice. Elementa, 2022, 10, .	3.2	1
77	Snow Depth Retrieval on Arctic Sea Ice Using Under-Ice Hyperspectral Radiation Measurements. Frontiers in Earth Science, 2021, 9, .	1.8	1
78	Correction to â€œEvolution of first- and second-year snow properties on sea ice in the Weddell Sea during spring-summer transitionâ€• Journal of Geophysical Research, 2011, 116, .	3.3	0