Martin Vancoppenolle

List of Publications by Year
in descending order

69 papers	4,561 citations	172207 29 h-index	110170 64 g-index
90 all docs	90 docs citations	90 times ranked	5163 citing authors

#	Article	IF	Citations
1	Presentation and Evaluation of the IPSLâ€CM6Aâ€LR Climate Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002010.	1.3	541
2	EC-Earth. Bulletin of the American Meteorological Society, 2010, 91, 1357-1364.	1.7	474
3	Quantifying climate feedbacks in polar regions. Nature Communications, 2018, 9, 1919.	5.8	254
4	Simulating the mass balance and salinity of Arctic and Antarctic sea ice. 1. Model description and validation. Ocean Modelling, 2009, 27, 33-53.	1.0	230
5	Role of sea ice in global biogeochemical cycles: emerging views and challenges. Quaternary Science Reviews, 2013, 79, 207-230.	1.4	202
6	The EC-Earth3 Earth system model for the Coupled Model Intercomparison Project 6. Geoscientific Model Development, 2022, 15, 2973-3020.	1.3	192
7	Future Arctic Ocean primary productivity from CMIP5 simulations: Uncertain outcome, but consistent mechanisms. Global Biogeochemical Cycles, 2013, 27, 605-619.	1.9	185
8	The Louvain-La-Neuve sea ice model LIM3.6: global and regional capabilities. Geoscientific Model Development, 2015, 8, 2991-3005.	1.3	171
9	Modeling brine and nutrient dynamics in Antarctic sea ice: The case of dissolved silica. Journal of Geophysical Research, 2010, 115, .	3.3	117
10	Spatial distribution of the iron supply to phytoplankton in the Southern Ocean: a model study. Biogeosciences, 2009, 6, 2861-2878.	1.3	111
11	The multiphase physics of sea ice: a review for model developers. Cryosphere, 2011, 5, 989-1009.	1.5	101
12	The future of Arctic sea-ice biogeochemistry and ice-associated ecosystems. Nature Climate Change, 2020, 10, 983-992.	8.1	96
13	Chlorophyll a in Antarctic sea ice from historical ice core data. Geophysical Research Letters, 2012, 39, .	1.5	95
14	The CMIP6 Sea-Ice Model Intercomparison Project (SIMIP): understanding sea ice through climate-model simulations. Geoscientific Model Development, 2016, 9, 3427-3446.	1.3	83
15	Increased variability of the Arctic summer ice extent in a warmer climate. Geophysical Research Letters, 2009, 36, .	1.5	80
16	Simulating the mass balance and salinity of Arctic and Antarctic sea ice. 2. Importance of sea ice salinity variations. Ocean Modelling, 2009, 27, 54-69.	1.0	78
17	Methods for biogeochemical studies of sea ice: The state of the art, caveats, and recommendations. Elementa, 2015, 3, .	1.1	77
18	A model reconstruction of the Antarctic sea ice thickness and volume changes over 1980â€“2008 using data assimilation. Ocean Modelling, 2013, 64, 67-75.	1.0	75

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19	Physical and biogeochemical properties in landfast sea ice (Barrow, Alaska): Insights on brine and gas dynamics across seasons. Journal of Geophysical Research: Oceans, 2013, 118, 3172-3189.	1.0	75
20	Southern Ocean CO₂ sink: The contribution of the sea ice. Journal of Geophysical Research: Oceans, 2014, 119, 6340-6355.	1.0	72
21	Arctic sea-ice change tied to its mean state through thermodynamic processes. Nature Climate Change, 2018, 8, 599-603.	8.1	68
22	Iron in sea ice: Review and new insights. Elementa, 2016, 4, .	1.1	65
23	On the influence of model physics on simulations of Arctic and Antarctic sea ice. Cryosphere, 2011, 5, 687-699.	1.5	62
24	Climate change enhances primary production in the western Antarctic Peninsula. Global Change Biology, 2015, 21, 2191-2205.	4.2	58
25	Summer landfast sea ice desalination at Point Barrow, Alaska: Modeling and observations. Journal of Geophysical Research, 2007, 112, .	3.3	56
26	ESD Reviews: Climate feedbacks in the Earth system and prospects for their evaluation. Earth System Dynamics, 2019, 10, 379-452.	2.7	46
27	An inter-comparison of the mass budget of the Arctic sea ice in CMIP6 models. Cryosphere, 2021, 15, 951-982.	1.5	42
28	On the formulation of snow thermal conductivity in largeâ€scale sea ice models. Journal of Advances in Modeling Earth Systems, 2013, 5, 542-557.	1.3	40
29	Macro-nutrient concentrations in Antarctic pack ice: Overall patterns and overlooked processes. Elementa, 2017, 5, .	1.1	39
30	Chlorophyllâ€a in Antarctic Landfast Sea Ice: A First Synthesis of Historical Ice Core Data. Journal of Geophysical Research: Oceans, 2018, 123, 8444-8459.	1.0	34
31	A new snow thermodynamic scheme for large-scale sea-ice models. Annals of Glaciology, 2011, 52, 337-346.	2.8	32
32	Modeling the salinity profile of undeformed Arctic sea ice. Geophysical Research Letters, 2006, 33, .	1.5	31
33	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.	0.6	31
34	Fullâ€depth desalination of warm sea ice. Journal of Geophysical Research: Oceans, 2013, 118, 435-447.	1.0	30
35	On the sensitivity of undeformed Arctic sea ice to its vertical salinity profile. Geophysical Research Letters, 2005, 32, .	1.5	29
36	Modelling argon dynamics in first-year sea ice. Ocean Modelling, 2014, 73, 1-18.	1.0	29

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37	Drivers of inorganic carbon dynamics in firstâ€year sea ice: A model study. Journal of Geophysical Research: Oceans, 2015, 120, 471-495.	1.0	28
38	Comparing sea ice, hydrography and circulation between NEMO3.6 LIM3 and LIM2. Geoscientific Model Development, 2017, 10, 1009-1031.	1.3	26
39	Development and validation of a one-dimensional snow-ice algae model against observations in Resolute Passage, Canadian Arctic Archipelago. Journal of Geophysical Research, 2011, 116, .	3.3	25
40	Interactions between wind-blown snow redistribution and melt ponds in a coupled oceanâ€“sea ice model. Ocean Modelling, 2015, 87, 67-80.	1.0	24
41	The influence of winds, sea-surface temperature and precipitation anomalies on Antarctic regional sea-ice conditions during IPY 2007. Deep-Sea Research Part II: Topical Studies in Oceanography, 2011, 58, 999-1018.	0.6	23
42	Better constraints on the sea-ice state using global sea-ice data assimilation. Geoscientific Model Development, 2012, 5, 1501-1515.	1.3	23
43	Investigations on physical and textural properties of Arctic first-year sea ice in the Amundsen Gulf, Canada, November 2007â€“June 2008 (IPY-CFL system study). Journal of Glaciology, 2013, 59, 819-837.	1.1	22
44	The Future of Sea Ice Modeling: Where Do We Go from Here?. Bulletin of the American Meteorological Society, 2020, 101, E1304-E1311.	1.7	22
45	Arctic sea-ice-free season projected to extend into autumn. Cryosphere, 2019, 13, 79-96.	1.5	21
46	Assessment of the sea-ice carbon pump: Insights from a three-dimensional ocean-sea-ice biogeochemical model (NEMO-LIM-PISCES). Elementa, 2016, 4, .	1.1	20
47	Sensitivity of ocean biogeochemistry to the iron supply from the Antarctic Ice Sheet explored with a biogeochemical model. Biogeosciences, 2019, 16, 3583-3603.	1.3	19
48	A Multi-Sensor and Modeling Approach for Mapping Light Under Sea Ice During the Ice-Growth Season. Frontiers in Marine Science, 2021, 7, .	1.2	18
49	Biogeochemical Impact of Snow Cover and Cyclonic Intrusions on the Winter Weddell Sea Ice Pack. Journal of Geophysical Research: Oceans, 2017, 122, 9548-9571.	1.0	17
50	On the discretization of the ice thickness distribution in the NEMO3.6-LIM3 global oceanâ€“sea ice model. Geoscientific Model Development, 2019, 12, 3745-3758.	1.3	14
51	Should Sea-Ice Modeling Tools Designed for Climate Research Be Used for Short-Term Forecasting?. Current Climate Change Reports, 2020, 6, 121-136.	2.8	14
52	Thermodynamics of Sea Ice Phase Composition Revisited. Journal of Geophysical Research: Oceans, 2019, 124, 615-634.	1.0	12
53	Field Observations and Physicalâ€Biogeochemical Modeling Suggest Low Silicon Affinity for Antarctic Fast Ice Diatoms. Journal of Geophysical Research: Oceans, 2019, 124, 7837-7853.	1.0	11
54	Tracer Measurements in Growing Sea Ice Support Convective Gravity Drainage Parameterizations. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015791.	1.0	11

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55	Air-ice carbon pathways inferred from a sea ice tank experiment. Elementa, 2016, 4, .	1.1	11
56	Thermodynamics of slush and snowâ€“ice formation in the Antarctic sea-ice zone. Deep-Sea Research Part II: Topical Studies in Oceanography, 2016, 131, 75-83.	0.6	10
57	The Tuning Strategy of IPSLâ€CM6Aâ€LR. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002340.	1.3	10
58	Influence of short-term synoptic events and snow depth on DMS, DMSP, and DMSO dynamics in Antarctic spring sea ice. Elementa, 2016, 4, .	1.1	10
59	Comparison of different numerical approaches to the 1D sea-ice thermodynamics problem. Ocean Modelling, 2015, 87, 20-29.	1.0	9
60	Physical and biological properties of early winter Antarctic sea ice in the Ross Sea. Annals of Glaciology, 2020, 61, 241-259.	2.8	9
61	Saroma-ko Lagoon Observations for sea ice Physico-chemistry and Ecosystems 2019 (SLOPE2019). Bulletin of Glaciological Research, 2020, 38, 1-12.	0.5	7
62	Continental and Sea Ice Iron Sources Fertilize the Southern Ocean in Synergy. Geophysical Research Letters, 2021, 48, e2021GL094761.	1.5	7
63	Sensitivity of Arctic sea ice to melt pond processes and atmospheric forcing: A model study. Ocean Modelling, 2021, 167, 101872.	1.0	5
64	Benefits from representing snow properties and related processes in coupled oceanâ€“sea ice models. Ocean Modelling, 2015, 87, 81-85.	1.0	4
65	The vertical age profile in sea ice: Theory and numerical results. Ocean Modelling, 2011, 40, 211-226.	1.0	3
66	Assessing the O2 budget under sea ice: An experimental and modelling approach. Elementa, 2015, 3, .	1.1	3
67	Iron Incorporation From Seawater Into Antarctic Sea Ice: A Model Study. Global Biogeochemical Cycles, 2020, 34, e2020GB006665.	1.9	3
68	Subâ€ice Platelet Layer Physics: Insights From a Mushyâ€layer Sea Ice Model. Journal of Geophysical Research: Oceans, 2021, 126, e2019JC015918.	1.0	2
69	SITool (v1.0) â€“ a new evaluation tool for large-scale sea ice simulations: application to CMIP6 OMIP. Geoscientific Model Development, 2021, 14, 6331-6354.	1.3	2