Jan T M Lenaerts

List of Publications by Year
in descending order

117 papers	11,407 citations	30070 54 h-index	30922 102 g-index
186 all docs	186 docs citations	186 times ranked	8723 citing authors

#	Article	IF	Citations
1	A Reconciled Estimate of Ice-Sheet Mass Balance. Science, 2012, 338, 1183-1189.	12.6	1,246
2	The Community Earth System Model Version 2 (CESM2). Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001916.	3.8	935
3	Acceleration of the contribution of the Greenland and Antarctic ice sheets to sea level rise. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	870
4	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. Journal of Advances in Modeling Earth Systems, 2019, 11, 4245-4287.	3.8	692
5	Calving fluxes and basal melt rates of Antarctic ice shelves. Nature, 2013, 502, 89-92.	27.8	503
6	Estimating the Greenland ice sheet surface mass balance contribution to future sea level rise using the regional atmospheric climate model MAR. Cryosphere, 2013, 7, 469-489.	3.9	325
7	A new, highâ€resolution surface mass balance map of Antarctica (1979â€"2010) based on regional atmospheric climate modeling. Geophysical Research Letters, 2012, 39, .	4.0	315
8	Modelling the climate and surface mass balance of polar ice sheets using RACMO2 â€" PartÂ2: Antarctica (1979â€"2016). Cryosphere, 2018, 12, 1479-1498.	3.9	268
9	Recent large increases in freshwater fluxes from Greenland into the North Atlantic. Geophysical Research Letters, 2012, 39, .	4.0	261
10	Improved representation of East Antarctic surface mass balance in a regional atmospheric climate model. Journal of Glaciology, 2014, 60, 761-770.	2.2	208
11	Extensive liquid meltwater storage in firn within the Greenland ice sheet. Nature Geoscience, 2014, 7, 95-98.	12.9	196
12	Modelling the climate and surface mass balance of polar ice sheets using RACMO2 â€" PartÂ1: Greenland (1958â€"2016). Cryosphere, 2018, 12, 811-831.	3.9	194
13	Estimation of the Antarctic surface mass balance using the regional climate model MAR (1979â€"2015) and identification of dominant processes. Cryosphere, 2019, 13, 281-296.	3.9	171
14	Clouds enhance Greenland ice sheet meltwater runoff. Nature Communications, 2016, 7, 10266.	12.8	164
15	Meltwater produced by windâ€"albedo interaction stored in an East Antarctic ice shelf. Nature Climate Change, 2017, 7, 58-62.	18.8	138
16	The Greenland and Antarctic ice sheets under 1.5 Â°C global warming. Nature Climate Change, 2018, 8, 1053-1061.	18.8	135
17	Fate of the Atlantic Meridional Overturning Circulation: Strong decline under continued warming and Greenland melting. Geophysical Research Letters, 2016, 43, 12,252.	4.0	132
18	Limits in detecting acceleration of ice sheet mass loss due to climate variability. Nature Geoscience, 2013, 6, 613-616.	12.9	131

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19	Regional Antarctic snow accumulation over the past 1000 years. Climate of the Past, 2017, 13, 1491-1513.	3.4	124
20	Airborneâ€radar and iceâ€core observations of annual snow accumulation over Thwaites Glacier, West Antarctica confirm the spatiotemporal variability of global and regional atmospheric models. Geophysical Research Letters, 2013, 40, 3649-3654.	4.0	119
21	Observing and Modeling Ice Sheet Surface Mass Balance. Reviews of Geophysics, 2019, 57, 376-420.	23.0	119
22	Mass balance of Greenland's three largest outlet glaciers, 2000-2010. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	116
23	GrSMBMIP: intercomparison of the modelled 1980â€"2012 surface mass balance over the Greenland Ice Sheet. Cryosphere, 2020, 14, 3935-3958.	3.9	111
24	Sensitivity of Greenland Ice Sheet surface mass balance to surface albedo parameterization: a study with a regional climate model. Cryosphere, 2012, 6, 1175-1186.	3.9	109
25	A new albedo parameterization for use in climate models over the Antarctic ice sheet. Journal of Geophysical Research, 2011, 116, .	3.3	107
26	Antarctic ice rises and rumples: Their properties and significance for ice-sheet dynamics and evolution. Earth-Science Reviews, 2015, 150, 724-745.	9.1	103
27	Present-day and future Antarctic ice sheet climate and surface mass balance in the Community Earth System Model. Climate Dynamics, 2016, 47, 1367-1381.	3.8	99
28	Extreme Precipitation and Climate Gradients in Patagonia Revealed by High-Resolution Regional Atmospheric Climate Modeling. Journal of Climate, 2014, 27, 4607-4621.	3.2	97
29	Irreversible mass loss of Canadian Arctic Archipelago glaciers. Geophysical Research Letters, 2013, 40, 870-874.	4.0	93
30	Constraining the recent mass balance of Pine Island and Thwaites glaciers, West Antarctica, with airborne observations of snow accumulation. Cryosphere, 2014, 8, 1375-1392.	3.9	90
31	Contemporary (1960â€"2012) Evolution of the Climate and Surface Mass Balance of the Greenland Ice Sheet. Surveys in Geophysics, 2014, 35, 1155-1174.	4.6	89
32	Limits to future expansion of surfaceâ€meltâ€enhanced ice flow into the interior of western Greenland. Geophysical Research Letters, 2015, 42, 1800-1807.	4.0	89
33	Influence of persistent wind scour on the surface mass balance of Antarctica. Nature Geoscience, 2013, 6, 367-371.	12.9	87
34	Modeling drifting snow in Antarctica with a regional climate model: 1. Methods and model evaluation. Journal of Geophysical Research, 2012, 117, .	3.3	81
35	Improving the Representation of Polar Snow and Firn in the Community Earth System Model. Journal of Advances in Modeling Earth Systems, 2017, 9, 2583-2600.	3.8	78
36	Empirical estimation of present-day Antarctic glacial isostatic adjustment and ice mass change. Cryosphere, 2014, 8, 743-760.	3.9	77

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37	Extent of low-accumulation 'wind glaze' areas on the East Antarctic plateau: implications for continental ice mass balance. Journal of Glaciology, 2012, 58, 633-647.	2.2	76
38	Understanding of Contemporary Regional Seaâ€Level Change and the Implications for the Future. Reviews of Geophysics, 2020, 58, e2019RG000672.	23.0	74
39	Recent snowfall anomalies in Dronning Maud Land, East Antarctica, in a historical and future climate perspective. Geophysical Research Letters, 2013, 40, 2684-2688.	4.0	72
40	A tipping point in refreezing accelerates mass loss of Greenlandâ€™s glaciers and ice caps. Nature Communications, 2017, 8, 14730.	12.8	72
41	An Evaluation of Surface Climatology in State-of-the-Art Reanalyses over the Antarctic Ice Sheet. Journal of Climate, 2019, 32, 6899-6915.	3.2	71
42	Rapid loss of firn pore space accelerates 21st century Greenland mass loss. Geophysical Research Letters, 2013, 40, 2109-2113.	4.0	70
43	Drifting snow climate of the Greenland ice sheet: a study with a regional climate model. Cryosphere, 2012, 6, 891-899.	3.9	69
44	The Freshwater System West of the Antarctic Peninsula: Spatial and Temporal Changes. Journal of Climate, 2013, 26, 1669-1684.	3.2	68
45	<i>Brief Communication</i> "Expansion of meltwater lakes on the Greenland Ice Sheet". Cryosphere, 2013, 7, 201-204.	3.9	68
46	Polar clouds and radiation in satellite observations, reanalyses, and climate models. Geophysical Research Letters, 2017, 44, 3355-3364.	4.0	68
47	Updated cloud physics in a regional atmospheric climate model improves the modelled surface energy balance of Antarctica. Cryosphere, 2014, 8, 125-135.	3.9	67
48	Oceanic controls on the mass balance of Wilkins Ice Shelf, Antarctica. Journal of Geophysical Research, 2012, 117, .	3.3	62
49	Insignificant change in Antarctic snowmelt volume since 1979. Geophysical Research Letters, 2012, 39, .	4.0	61
50	Channelized Melting Drives Thinning Under a Rapidly Melting Antarctic Ice Shelf. Geophysical Research Letters, 2017, 44, 9796-9804.	4.0	61
51	Modelling snowdrift sublimation on an Antarctic ice shelf. Cryosphere, 2010, 4, 179-190.	3.9	60
52	Representing Greenland ice sheet freshwater fluxes in climate models. Geophysical Research Letters, 2015, 42, 6373-6381.	4.0	60
53	Antarctic Atmospheric River Climatology and Precipitation Impacts. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033788.	3.3	60
54	Increasing meltwater discharge from the Nuuk region of the Greenland ice sheet and implications for mass balance (1960â€"2012). Journal of Glaciology, 2014, 60, 314-322.	2.2	58

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55	An Overview of Interactions and Feedbacks Between Ice Sheets and the Earth System. Reviews of Geophysics, 2018, 56, 361-408.	23.0	58
56	A Comparison of Antarctic Ice Sheet Surface Mass Balance from Atmospheric Climate Models and In Situ Observations. Journal of Climate, 2016, 29, 5317-5337.	3.2	57
57	The Effect of Foehnâ€Induced Surface Melt on Firn Evolution Over the Northeast Antarctic Peninsula. Geophysical Research Letters, 2019, 46, 3822-3831.	4.0	55
58	Latest Cretaceous climatic and environmental change in the South Atlantic region. Paleoceanography, 2017, 32, 466-483.	3.0	51
59	Ice Sheets and Sea Level: Thinking Outside the Box. Surveys in Geophysics, 2011, 32, 495-505.	4.6	50
60	Reaching 1.5 and 2.0â€‰Â°C global surface temperature targets using stratospheric aerosol geoengineering. Earth System Dynamics, 2020, 11, 579-601.	7.1	50
61	A 40-year accumulation dataset for Adelie Land, Antarctica and its application for model validation. Climate Dynamics, 2012, 38, 75-86.	3.8	49
62	Evaluation of the antarctic surface wind climate from ERA reanalyses and RACMO2/ANT simulations based on automatic weather stations. Climate Dynamics, 2013, 40, 353-376.	3.8	48
63	High variability of climate and surface mass balance induced by Antarctic ice rises. Journal of Glaciology, 2014, 60, 1101-1110.	2.2	43
64	Modeling drifting snow in Antarctica with a regional climate model: 2. Results. Journal of Geophysical Research, 2012, 117, .	3.3	40
65	Climate and surface mass balance of coastal West Antarctica resolved by regional climate modelling. Annals of Glaciology, 2018, 59, 29-41.	1.4	40
66	Greenland Ice Sheet Contribution to 21st Century Sea Level Rise as Simulated by the Coupled CESM2.1â€CISM2.1. Geophysical Research Letters, 2020, 47, e2019GL086836.	4.0	40
67	Surface energy balance, melt and sublimation at Neumayer Station, East Antarctica. Antarctic Science, 2010, 22, 87.	0.9	37
68	Ice core evidence for a 20th century increase in surface mass balance in coastal Dronning Maud Land, East Antarctica. Cryosphere, 2016, 10, 2501-2516.	3.9	34
69	Impact of model resolution on simulated wind, drifting snow and surface mass balance in Terre AdÃ©lie, East Antarctica. Journal of Glaciology, 2012, 58, 821-829.	2.2	32
70	Englacial latent-heat transfer has limited influence on seaward ice flux in western Greenland. Journal of Glaciology, 2017, 63, 1-16.	2.2	32
71	The Signature of Ozone Depletion in Recent Antarctic Precipitation Change: A Study With the Community Earth System Model. Geophysical Research Letters, 2018, 45, 12,931.	4.0	32
72	Blowing snow detection from ground-based ceilometers: application to East Antarctica. Cryosphere, 2017, 11, 2755-2772.	3.9	31

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73	A 21st Century Warming Threshold for Sustained Greenland Ice Sheet Mass Loss. Geophysical Research Letters, 2021, 48, e2020GL090471.	4.0	29
74	Basin-scale heterogeneity in Antarctic precipitation and its impact on surface mass variability. Cryosphere, 2017, 11, 2595-2609.	3.9	28
75	Recent climate warming drives ecological change in a remote high-Arctic lake. Scientific Reports, 2018, 8, 6858.	3.3	27
76	Regional grid refinement in an Earth system model: impacts on the simulated Greenland surface mass balance. Cryosphere, 2019, 13, 1547-1564.	3.9	26
77	Observations of Buried Lake Drainage on the Antarctic Ice Sheet. Geophysical Research Letters, 2020, 47, e2020GL087970.	4.0	25
78	A New Regional Climate Model for POLARâ€CORDEX: Evaluation of a 30â€Year Hindcast with COSMOâ€CLM² Over Antarctica. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1405-1427.	3.3	24
79	Presentâ€Day Greenland Ice Sheet Climate and Surface Mass Balance in CESM2. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005318.	2.8	24
80	Drifting snow measurements on the Greenland Ice Sheet and their application for model evaluation. Cryosphere, 2014, 8, 801-814.	3.9	22
81	Two decades of dynamic change and progressive destabilization on the Thwaites Eastern Ice Shelf. Cryosphere, 2021, 15, 5187-5203.	3.9	22
82	Physics-based SNOWPACK model improves representation of near-surface Antarctic snow and firn density. Cryosphere, 2021, 15, 1065-1085.	3.9	21
83	How useful is snow accumulation in reconstructing surface air temperature in Antarctica? A study combining ice core records and climate models. Cryosphere, 2020, 14, 1187-1207.	3.9	19
84	An ice sheet model validation framework for the Greenland ice sheet. Geoscientific Model Development, 2017, 10, 255-270.	3.6	18
85	Significant Spatial Variability in Radarâ€Derived West Antarctic Accumulation Linked to Surface Winds and Topography. Geophysical Research Letters, 2019, 46, 13126-13134.	4.0	18
86	Surface mass balance downscaling through elevation classes in an Earth system model: application to the Greenland ice sheet. Cryosphere, 2019, 13, 3193-3208.	3.9	18
87	Present and future near-surface wind climate of Greenland from high resolution regional climate modelling. Climate Dynamics, 2014, 42, 1595-1611.	3.8	17
88	Unravelling the high-altitude Nansen blue ice field meteorite trap (East Antarctica) and implications for regional palaeo-conditions. Geochimica Et Cosmochimica Acta, 2019, 248, 289-310.	3.9	17
89	Future Antarctic snow accumulation trend is dominated by atmospheric synoptic-scale events. Communications Earth & Environment, 2020, 1, .	6.8	17
90	Impact of coastal East Antarctic ice rises on surface mass balance: insights from observations and modeling. Cryosphere, 2020, 14, 3367-3380.	3.9	17

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91	Influence of sea-ice anomalies on Antarctic precipitation using source attribution in the Community Earth System Model. Cryosphere, 2020, 14, 429-444.	3.9	16
92	Impact of Cloud Physics on the Greenland Ice Sheet Nearâ€Surface Climate: A Study With the Community Atmosphere Model. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031470.	3.3	16
93	Processâ€Based Model Evaluation Using Surface Energy Budget Observations in Central Greenland. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4777-4796.	3.3	15
94	Contrasting regional variability of buried meltwater extent over 2 years across the Greenland Ice Sheet. Cryosphere, 2021, 15, 2983-3005.	3.9	15
95	The Spatiotemporal Variability of Cloud Radiative Effects on the Greenland Ice Sheet Surface Mass Balance. Geophysical Research Letters, 2020, 47, e2020GL087315.	4.0	14
96	Largeâ€Scale Atmospheric Drivers of Snowfall Over Thwaites Glacier, Antarctica. Geophysical Research Letters, 2021, 48, e2021GL093644.	4.0	14
97	Present-day and future Greenland Ice Sheet precipitation frequency from CloudSat observations and the Community Earth System Model. Cryosphere, 2020, 14, 2253-2265.	3.9	14
98	On the formation of blue ice on Byrd Glacier, Antarctica. Journal of Glaciology, 2014, 60, 41-50.	2.2	13
99	Description and Demonstration of the Coupled Community Earth System Model v2 â€" Community Ice Sheet Model v2 (CESM2â€CISM2). Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002356.	3.8	13
100	Recent surface mass balance from Syowa Station to Dome F, East Antarctica: comparison of field observations, atmospheric reanalyses, and a regional atmospheric climate model. Climate Dynamics, 2015, 45, 2885-2899.	3.8	12
101	Extreme windâ€ice interaction over Recovery Ice Stream, East Antarctica. Geophysical Research Letters, 2015, 42, 8064-8071.	4.0	11
102	Accumulation rates (2009â€"2017) in Southeast Greenland derived from airborne snow radar and comparison with regional climate models. Annals of Glaciology, 2020, 61, 225-233.	1.4	11
103	Brief communication: CESM2 climate forcing (1950â€"2014) yields realistic Greenland ice sheet surface mass balance. Cryosphere, 2020, 14, 1425-1435.	3.9	11
104	Using remotely sensed data from AIRS to estimate the vapor flux on the Greenland ice sheet: Comparisons with observations and a regional climate model. Journal of Geophysical Research D: Atmospheres, 2017, 122, 202-229.	3.3	10
105	Mass balance of the SÃ¸r Rondane glacial system, East Antarctica. Annals of Glaciology, 2015, 56, 63-69.	1.4	9
106	Energetics of surface melt in West Antarctica. Cryosphere, 2021, 15, 3459-3494.	3.9	9
107	Drivers of ASCAT C band backscatter variability in the dry snow zone of Antarctica. Journal of Glaciology, 2016, 62, 170-184.	2.2	7
108	The sea level response to ice sheet freshwater forcing in the Community Earth System Model. Environmental Research Letters, 2016, 11, 104002.	5.2	7

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109	Reconciling the surface temperatureâ€“surface mass balance relationship in models and ice cores in Antarctica over the last 2 centuries. Cryosphere, 2020, 14, 4083-4102.	3.9	6
110	Scoring Antarctic surface mass balance in climate models to refine future projections. Cryosphere, 2020, 14, 4719-4733.	3.9	5
111	From ice core to ground-penetrating radar: representativeness of SMB at three ice rises along the Princess Ragnhild Coast, East Antarctica. Journal of Glaciology, 2022, 68, 1221-1233.	2.2	5
112	Importance of Blowing Snow During Cloudy Conditions in East Antarctica: Comparison of Ground-Based and Space-Borne Retrievals Over Ice-Shelf and Mountain Regions. Frontiers in Earth Science, 2020, 8, .	1.8	4
113	Spatially distributed simulations of the effect of snow on mass balance and flooding of Antarctic sea ice. Journal of Glaciology, 2021, 67, 1055-1073.	2.2	4
114	Improved clouds over Southern Ocean amplify Antarctic precipitation response to ozone depletion in an earth system model. Climate Dynamics, 2020, 55, 1665-1684.	3.8	3
115	Influence of Arctic sea-ice loss on the Greenland ice sheet climate. Climate Dynamics, 2022, 58, 179-193.	3.8	3
116	Global change on the Blue Planet. Communications Earth & Environment, 2021, 2, .	6.8	2
117	Ice Sheets and Sea Level: Thinking Outside the Box. Space Sciences Series of ISSI, 2011, , 495-505.	0.0	2