Claude R Duguay

List of Publications by Year
in descending order

124	4,551	101543	123424
papers	citations	36 h-index	61 g-index

135	135	135	3760
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Recent trends in Canadian lake ice cover. Hydrological Processes, 2006, 20, 781-801.	2.6	238
2	Ice-cover variability on shallow lakes at high latitudes: model simulations and observations. Hydrological Processes, 2003, 17, 3465-3483.	2.6	165
3	Cold Regions Hydrology High-Resolution Observatory for Snow and Cold Land Processes. Proceedings of the IEEE, 2010, 98, 752-765.	21.3	148
4	The Role of Northern Lakes in a Regional Energy Balance. Journal of Hydrometeorology, 2005, 6, 291-305.	1.9	141
5	Effects of Changes in Arctic Lake and River Ice. Ambio, 2011, 40, 63-74.	5.5	123
6	Comparison of MODIS-derived land surface temperatures with ground surface and air temperature measurements in continuous permafrost terrain. Cryosphere, 2012, 6, 51-69.	3.9	121
7	State of the Climate in 2011. Bulletin of the American Meteorological Society, 2012, 93, S1-S282.	3.3	121
8	Impacts of large-scale teleconnections on freshwater-ice break/freeze-up dates over Canada. Journal of Hydrology, 2006, 330, 340-353.	5.4	117
9	Response of ice cover on shallow lakes of the North Slope of Alaska to contemporary climate conditions (1950â€“2011): radar remote-sensing and numerical modeling data analysis. Cryosphere, 2014, 8, 167-180.	3.9	107
10	Past and Future Changes in Arctic Lake and River Ice. Ambio, 2011, 40, 53-62.	5.5	105
11	Sea ice conditions and melt season duration variability within the Canadian Arctic Archipelago: 1979â€“2008. Geophysical Research Letters, 2009, 36, .	4.0	95
12	RADARSAT backscatter characteristics of ice growing on shallow sub-Arctic lakes, Churchill, Manitoba, Canada. Hydrological Processes, 2002, 16, 1631-1644.	2.6	87
13	Contemporary (1951â€“2001) Evolution of Lakes in the Old Crow Basin, Northern Yukon, Canada: Remote Sensing, Numerical Modeling, and Stable Isotope Analysis. Arctic, 2009, 62, .	0.4	87
14	The effect of soil and crop residue characteristics on polarimetric radar response. Remote Sensing of Environment, 2002, 80, 308-320.	11.0	86
15	Variability and change in the Canadian cryosphere. Climatic Change, 2012, 115, 59-88.	3.6	79
16	Variability in ice phenology on Great Bear Lake and Great Slave Lake, Northwest Territories, Canada, from SeaWinds/QuikSCAT: 2000â€“2006. Remote Sensing of Environment, 2009, 113, 816-834.	11.0	78
17	Using the MODIS land surface temperature product for mapping permafrost: an application to northern QuÃ©bec and Labrador, Canada. Permafrost and Periglacial Processes, 2009, 20, 407-416.	3.4	71
18	River-ice break-up/freeze-up: a review of climatic drivers, historical trends and future predictions. Annals of Glaciology, 2007, 46, 443-451.	1.4	65

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19	Radiation Modeling in Mountainous Terrain Review and Status. Mountain Research and Development, 1993, 13, 339.	1.0	63
20	Development of a historical ice database for the study of climate change in Canada. Hydrological Processes, 2002, 16, 3707-3722.	2.6	59
21	Simulation of ice phenology on Great Slave Lake, Northwest Territories, Canada. Hydrological Processes, 2002, 16, 3691-3706.	2.6	57
22	Satellite microwave assessment of Northern Hemisphere lake ice phenology from 2002 to 2015. Cryosphere, 2017, 11, 47-63.	3.9	54
23	The catastrophic thermokarst lake drainage events of 2018 in northwestern Alaska: fast-forward into the future. Cryosphere, 2020, 14, 4279-4297.	3.9	51
24	Bootstrap-based tests for trends in hydrological time series, with application to ice phenology data. Journal of Hydrology, 2011, 410, 150-161.	5.4	50
25	The fate of lake ice in the North American Arctic. Cryosphere, 2011, 5, 869-892.	3.9	50
26	Microwave Backscatter From Arctic Lake Ice and Polarimetric Implications. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 5972-5982.	6.3	46
27	Mapping lichen in a caribou habitat of Northern Quebec, Canada, using an enhancement_classification method and spectral mixture analysis. Remote Sensing of Environment, 2005, 94, 232-243.	11.0	45
28	Canadian cryospheric response to an anomalous warm summer: A synthesis of the climate change action fund project â€œthe state of the arctic cryosphere during the extreme warm summer of 1998â€• Atmosphere - Ocean, 2006, 44, 347-375.	1.6	44
29	Evolution of snow and ice temperature, thickness and energy balance in Lake OrajÃ¤rvi, northern Finland. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 21564.	1.7	43
30	Defining the Sensitivity of Multi-Frequency and Multi-Polarized Radar Backscatter to Post-Harvest Crop Residue. Canadian Journal of Remote Sensing, 2001, 27, 247-263.	2.4	42
31	Estimating ice phenology on large northern lakes from AMSR-E: algorithm development and application to Great Bear Lake and Great Slave Lake, Canada. Cryosphere, 2012, 6, 235-254.	3.9	42
32	A Neural Network Method to Determine the Presence or Absence of Permafrost near Mayo, Yukon Territory, Canada. Permafrost and Periglacial Processes, 1997, 8, 205-215.	3.4	40
33	Arctic Freshwater Ice and Its Climatic Role. Ambio, 2011, 40, 46-52.	5.5	40
34	Assessment of machine learning classifiers for global lake ice cover mapping from MODIS TOA reflectance data. Remote Sensing of Environment, 2021, 253, 112206.	11.0	40
35	Lake ice growth and decay in central Alaska, USA: observations and computer simulations compared. Annals of Glaciology, 2005, 40, 195-199.	1.4	38
36	Changing sea ice melt parameters in the Canadian Arctic Archipelago: Implications for the future presence of multiyear ice. Journal of Geophysical Research, 2008, 113, .	3.3	38

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37	50 years of lake ice research from active microwave remote sensing: Progress and prospects. Remote Sensing of Environment, 2021, 264, 112616.	11.0	38
38	Spatio-temporal influence of tundra snow properties on Ku-band (17.2 GHz) backscatter. Journal of Glaciology, 2015, 61, 267-279.	2.2	37
39	Sensitivity of AMSR-E Brightness Temperatures to the Seasonal Evolution of Lake Ice Thickness. IEEE Geoscience and Remote Sensing Letters, 2010, 7, 751-755.	3.1	34
40	A comparison of simulated and measured lake ice thickness using a Shallow Water Ice Profiler. Hydrological Processes, 2011, 25, 2932-2941.	2.6	34
41	Remote Sensing of Environmental Changes in Cold Regions: Methods, Achievements and Challenges. Remote Sensing, 2019, 11, 1952.	4.0	34
42	The Potential Use of Synthetic Aperture Radar for Estimating Methane Ebullition From Arctic Lakes¹. Journal of the American Water Resources Association, 2008, 44, 305-315.	2.4	32
43	Monitoring Bedfast Ice and Ice Phenology in Lakes of the Lena River Delta Using TerraSAR-X Backscatter and Coherence Time Series. Remote Sensing, 2016, 8, 903.	4.0	32
44	An approach to the estimation of surface net radiation in mountain areas using remote sensing and digital terrain data. Theoretical and Applied Climatology, 1995, 52, 55-68.	2.8	31
45	Pan-Arctic Land Surface Temperature from MODIS and AATSR: Product Development and Intercomparison. Remote Sensing, 2012, 4, 3833-3856.	4.0	31
46	Estimation of ice thickness on large northern lakes from AMSR-E brightness temperature measurements. Remote Sensing of Environment, 2014, 150, 1-19.	11.0	31
47	Ice Freeze-up and Break-up Detection of Shallow Lakes in Northern Alaska with Spaceborne SAR. Remote Sensing, 2015, 7, 6133-6159.	4.0	30
48	Spatial and Temporal Variations in Surface Albedo of a Subarctic Landscape Using Surface-Based Measurements and Remote Sensing. Arctic and Alpine Research, 1997, 29, 261.	1.3	29
49	Response of the Porcupine and Old Crow rivers in northern Yukon, Canada, to Holocene climatic change. Holocene, 2002, 12, 27-34.	1.7	29
50	Ice Characteristics and Processes, and Remote Sensing of Frozen Rivers and Lakes. Geophysical Monograph Series, 2013, , 63-90.	0.1	29
51	Freshwater lake ice thickness derived using surface-based X- and Ku-band FMCW scatterometers. Cold Regions Science and Technology, 2015, 120, 115-126.	3.5	29
52	Ku-, X- and C-band measured and modeled microwave backscatter from a highly saline snow cover on first-year sea ice. Remote Sensing of Environment, 2016, 187, 62-75.	11.0	29
53	Megaripples at Wau-an-Namus, Libya: A new analog for similar features on Mars. Icarus, 2019, 319, 840-851.	2.5	29
54	Lake Ice-Water Classification of RADARSAT-2 Images by Integrating IRGS Segmentation with Pixel-Based Random Forest Labeling. Remote Sensing, 2020, 12, 1425.	4.0	29

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55	Evaluation of Three Supervised Classifiers in Mapping â€œDepth to Late-Summer Frozen Ground,â€•Central Yukon Territory. Canadian Journal of Remote Sensing, 1996, 22, 163-174.	2.4	28
56	Evidence of recent changes in the ice regime of lakes in the Canadian High Arctic from spaceborne satellite observations. Cryosphere, 2016, 10, 941-960.	3.9	27
57	Observing Scattering Mechanisms of Bubbled Freshwater Lake Ice Using Polarimetric RADARSAT-2 (C-Band) and UW-Scat (X- and Ku-Bands). IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 2887-2903.	6.3	27
58	UW-Scat: A Ground-Based Dual-Frequency Scatterometer for Observation of Snow Properties. IEEE Geoscience and Remote Sensing Letters, 2013, 10, 528-532.	3.1	26
59	Model simulation of the effects of climate variability and change on lake ice in central Alaska, USA. Annals of Glaciology, 2005, 40, 113-118.	1.4	26
60	Modelling Lake Ice Phenology with an Examination of Satellite-Detected Subgrid Cell Variability. Advances in Meteorology, 2012, 2012, 1-19.	1.6	25
61	Climate-Lake Interactions. , 2008, , 139-160.		25
62	Climatological trends of snowfall over the Laurentian Great Lakes Basin. International Journal of Climatology, 2018, 38, 3942-3962.	3.5	24
63	Impact of partly ice-free Lake Ladoga on temperature and cloudiness in an anticyclonic winter situation â€“ a case study using a limited area model. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 23929.	1.7	24
64	Uncertainty in snow mass retrievals from satellite passive microwave data in lake-rich high-latitude environments. Hydrological Processes, 2006, 20, 1019-1022.	2.6	23
65	Holocene Evolution of Lakes in the Bluefish Basin, Northern Yukon, Canada. Arctic, 2009, 62, .	0.4	23
66	Observed and Projected Climate Change in the Churchill Region of the Hudson Bay Lowlands and Implications for Pond Sustainability. Arctic, Antarctic, and Alpine Research, 2014, 46, 272-285.	1.1	22
67	Use of Synthetic Aperture Radar (SAR) to Identify and Characterize Overwintering Areas of Fish in Iceâ€Covered Arctic Rivers: A Demonstration with Broad Whitefish and Their Habitats in the Sagavanirktok River, Alaska. Transactions of the American Fisheries Society, 2010, 139, 1711-1722.	1.4	20
68	The Influence of Lakes on the Regional Energy and Water Balance of the Central Mackenzie River Basin. , 2008, , 309-325.		20
69	Evaluation of the HUT modified snow emission model over lake ice using airborne passive microwave measurements. Remote Sensing of Environment, 2011, 115, 233-244.	11.0	19
70	Improvement of Lake Ice Thickness Retrieval From MODIS Satellite Data Using a Thermodynamic Model. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 5956-5965.	6.3	19
71	Detection of Permafrost Features Using SPOT Panchromatic Imagery, Fosheim Peninsula, Ellesmere Island, N.W.T.. Canadian Journal of Remote Sensing, 1999, 25, 34-44.	2.4	18
72	Estimation of Water Quality Parameters in Lake Erie from MERIS Using Linear Mixed Effect Models. Remote Sensing, 2016, 8, 473.	4.0	18

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73	Semi-Automated Classification of Lake Ice Cover Using Dual Polarization RADARSAT-2 Imagery. Remote Sensing, 2018, 10, 1727.	4.0	18
74	Mapping Surface Albedo in the East Slope of the Colorado Front Range, U.S.A., with Landsat Thematic Mapper. Arctic and Alpine Research, 1991, 23, 213.	1.3	17
75	Observation and Modeling of X- and Ku-Band Backscatter of Snow-Covered Freshwater Lake Ice. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 3629-3642.	4.9	17
76	Assessing the Performance of Methods for Monitoring Ice Phenology of the Worldâ€™s Largest High Arctic Lake Using High-Density Time Series Analysis of Sentinel-1 Data. Remote Sensing, 2020, 12, 382.	4.0	17
77	Modelling the radiation budget of alpine snowfields with remotely sensed data: model formulation and validation. Annals of Glaciology, 1993, 17, 288-294.	1.4	16
78	Lichen mapping in the summer range of the George River caribou herd using Landsat TM imagery. Canadian Journal of Remote Sensing, 2004, 30, 867-881.	2.4	16
79	Application of GNSS Interferometric Reflectometry for the Estimation of Lake Ice Thickness. Remote Sensing, 2020, 12, 2721.	4.0	16
80	Monitoring ice break-up on the Mackenzie River using MODIS data. Cryosphere, 2016, 10, 569-584.	3.9	14
81	Satellite-derived light extinction coefficient and its impact on thermal structure simulations in a 1-D lake model. Hydrology and Earth System Sciences, 2017, 21, 377-391.	4.9	14
82	Geophysical and atmospheric controls on Ku-, X- and C-band backscatter evolution from a saline snow cover on first-year sea ice from late-winter to pre-early melt. Remote Sensing of Environment, 2017, 198, 425-441.	11.0	13
83	Pan-Arctic linkages between snow accumulation and growing-season air temperature, soil moisture and vegetation. Biogeosciences, 2013, 10, 7575-7597.	3.3	12
84	River ice phenology and thickness from satellite altimetry: potential for ice bridge road operation and climate studies. Cryosphere, 2021, 15, 5387-5407.	3.9	12
85	Comparison of Evidential Reasoning and Neural Network Approaches in a Multi-source Classification of Alpine Tundra Vegetation. Canadian Journal of Remote Sensing, 1996, 22, 433-440.	2.4	11
86	Impact of satellite-based lake surface observations on the initial state of HIRLAM. Part I: evaluation of remotely-sensed lake surface water temperature observations. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 21534.	1.7	11
87	A software package for integrating digital elevation models into the digital analysis of remote-sensing data. Computers and Geosciences, 1989, 15, 669-678.	4.2	10
88	Use of passive-microwave data to monitor spatial and temporal variations of snow cover at tree line near Churchill, Manitoba, Canada. Annals of Glaciology, 2002, 34, 58-64.	1.4	10
89	Impact of satellite-based lake surface observations on the initial state of HIRLAM. Part II: Analysis of lake surface temperature and ice cover. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 21395.	1.7	10
90	Quantifying the relationships between lake fraction, snow water equivalent and snow depth, and microwave brightness temperatures in an arctic tundra landscape. Remote Sensing of Environment, 2012, 127, 329-340.	11.0	9

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91	CRYSYS - Use of the Cryospheric System to Monitor Global Change in Canada: Overview and Progress. Canadian Journal of Remote Sensing, 1999, 25, 3-11.	2.4	8
92	Historical Spatiotemporal Trends in Snowfall Extremes over the Canadian Domain of the Great Lakes Basin. Advances in Meteorology, 2018, 2018, 1-20.	1.6	8
93	Impact of Spectral Resolution on Quantifying Cyanobacteria in Lakes and Reservoirs: A Machine-Learning Assessment. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-20.	6.3	8
94	Support Vector Regression for Chlorophyll-A Estimation Using Sentinel-2 Images in Small Waterbodies. , 2021, , .		8
95	CoReH<inf>2</inf>O, a dual frequency radar mission for snow and ice observations. , 2012, , .		7
96	Remote Sensing of Snow Cover. Geophysical Monograph Series, 2013, , 7-38.	0.1	7
97	Subnivean Arctic and sub-Arctic net ecosystem exchange (NEE). Progress in Physical Geography, 2013, 37, 484-515.	3.2	7
98	Influence of surface water on coarse resolution C-band backscatter: Implications for freeze/thaw retrieval from scatterometer data. Remote Sensing of Environment, 2020, 247, 111911.	11.0	7
99	Improvement of field fluorometry estimates of chlorophyll a concentration in a cyanobacteriaâ€rich eutrophic lake. Limnology and Oceanography: Methods, 2022, 20, 193-209.	2.0	7
100	Remote Sensing of Surface Water and Soil Moisture. Geophysical Monograph Series, 0, , 119-142.	0.1	6
101	A 41-year (1979â€“2019) passive-microwave-derived lake ice phenology data record of the Northern Hemisphere. Earth System Science Data, 2022, 14, 3329-3347.	9.9	6
102	Remote Sensing of the Radiation Balance during the Growing Season at the Niwot Ridge Long-Term Ecological Research Site, Front Range, Colorado, U.S.A.. Arctic and Alpine Research, 1994, 26, 393.	1.3	5
103	Integrated observations of lake ice at Nam Co on the Tibetan Plateau from 2001 to 2009. , 2011, , .		5
104	Investigating the Influence of Variable Freshwater Ice Types on Passive and Active Microwave Observations. Remote Sensing, 2017, 9, 1242.	4.0	5
105	Assessment of coupled CRCM5â€“FLake on the reproduction of wintertime lake-induced precipitation in the Great Lakes Basin. Theoretical and Applied Climatology, 2019, 138, 77-96.	2.8	5
106	Mapping lichen changes in the summer range of the George River Caribou Herd (QuÃ©bec-Labrador,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.6	5
107	Incorporating Aleatoric Uncertainties in Lake Ice Mapping Using RADARSATâ€“2 SAR Images and CNNs. Remote Sensing, 2022, 14, 644.	4.0	5
108	A New Approach for the Estimation of Lake Ice Thickness From Conventional Radar Altimetry. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-15.	6.3	5

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109	Towards improved objective analysis of lake surface water temperature in a NWP model: preliminary assessment of statistical properties. Tellus, Series A: Dynamic Meteorology and Oceanography, 2017, 69, 1313025.	1.7	4
110	Identifying groundwater discharge zones in the Central Mackenzie Valley using remotely sensed optical and thermal imagery. Canadian Journal of Earth Sciences, 2021, 58, 105-121.	1.3	4
111	Incorporating topographic and climatic GIS data into satellite image analysis of an alpine tundra ecosystem, front range, Colorado rocky mountains. Geocarto International, 1995, 10, 43-60.	3.5	3
112	CoReH<inf>2</inf>O - Cold Regions Hydrology High-esolution Observatory. , 2009, , .		3
113	Radiation balance of wetland tundra at northern treeline estimated from remotely sensed data. Climate Research, 1999, 13, 77-90.	1.1	3
114	COREH2O: High-resolution X/Ku-band radar imaging of cold land processes. , 2013, , .		2
115	Advancement in Bedfast Lake ICE Mapping From Sentinel-1 Sar Data. , 2019, , .		2
116	Enhancement-classification and spectral mixture analysis of caribou lichen habitats, northern Quebec, Canada. , 0, , .		1
117	Modelling the radiation budget of alpine snowfields with remotely sensed data: model formulation and validation. Annals of Glaciology, 1993, 17, 288-294.	1.4	1
118	A Neural Network Method to Determine the Presence or Absence of Permafrost near Mayo, Yukon Territory, Canada. Permafrost and Periglacial Processes, 1997, 8, 205-215.	3.4	1
119	Utilisation d'un gÃ©oradar pour l'Ã©tude du couvert nival Ã la limite des arbres, Churchill, Manitoba. Houille Blanche, 2002, 88, 92-97.	0.3	1
120	Deep convolutional neural network with random field model for lake ice mapping from Sentinel-1 imagery. International Journal of Remote Sensing, 2021, 42, 9351-9375.	2.9	1
121	CoReH<inf>2</inf>0, a dual frequency radar satellite for COld REgions Hydrology. , 2011, , .		0
122	Spatially distributed dual frequency (17.2 and 9.2 GHZ) scatterometer observations of shallow tundra snow. , 2012, , .		0
123	Ground-based scatterometer observations of snow-covered freshwater lake ice using UW-SCAT (9.6/17.2 GHz). , 2014, , .		0
124	Evaluation of regional-scale snow albedo characteristics during winter season from 2003 to 2014. , 2015, , .		0