

# John Gibson

## List of Publications by Year in descending order

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92  
papers

5,062  
citations

101384

36  
h-index

91712

69  
g-index

94  
all docs

94  
docs citations

94  
times ranked

4998  
citing authors

#	ARTICLE	IF	CITATIONS
1	Terrestrial water fluxes dominated by transpiration. <i>Nature</i> , 2013, 496, 347-350.	13.7	966
2	Regional water balance trends and evaporation-transpiration partitioning from a stable isotope survey of lakes in northern Canada. <i>Global Biogeochemical Cycles</i> , 2002, 16, 10-1-10-14.	1.9	254
3	Climate Change Effects on Hydroecology of Arctic Freshwater Ecosystems. <i>Ambio</i> , 2006, 35, 347-358.	2.8	232
4	Estimating Evaporation Using Stable Isotopes: Quantitative Results and Sensitivity Analysis for Two Catchments in Northern Canada. <i>Hydrology Research</i> , 1993, 24, 79-94.	1.1	193
5	Global prediction of $\delta^{18}O$ evaporation slopes for lakes and soil water accounting for seasonality. <i>Global Biogeochemical Cycles</i> , 2008, 22, .	1.9	183
6	Quantitative comparison of lake throughflow, residency, and catchment runoff using stable isotopes: modelling and results from a regional survey of Boreal lakes. <i>Journal of Hydrology</i> , 2002, 262, 128-144.	2.3	175
7	Stable isotope mass balance of lakes: a contemporary perspective. <i>Quaternary Science Reviews</i> , 2016, 131, 316-328.	1.4	167
8	Estimation of evaporative loss based on the stable isotope composition of water using Hydrocalculator. <i>Journal of Hydrology</i> , 2015, 523, 781-789.	2.3	157
9	Short-term evaporation and water budget comparisons in shallow Arctic lakes using non-steady isotope mass balance. <i>Journal of Hydrology</i> , 2002, 264, 242-261.	2.3	124
10	Hydrologic functions of wetlands in a discontinuous permafrost basin indicated by isotopic and chemical signatures. <i>Journal of Hydrology</i> , 2004, 296, 81-97.	2.3	107
11	Stable isotope estimates of evaporation : inflow and water residence time for lakes across the United States as a tool for national lake water quality assessments. <i>Limnology and Oceanography</i> , 2014, 59, 2150-2165.	1.6	107
12	Water balance along a chain of tundra lakes: A 20-year isotopic perspective. <i>Journal of Hydrology</i> , 2014, 519, 2148-2164.	2.3	93
13	Climate Change, Flow Regulation and Land-Use Effects on the Hydrology of the Peace-Athabasca-Slave System; Findings from the Northern Rivers Ecosystem Initiative. <i>Environmental Monitoring and Assessment</i> , 2006, 113, 167-197.	1.3	91
14	The contribution of groundwater discharge to the overall water budget of two typical Boreal lakes in Alberta/Canada estimated from a radon mass balance. <i>Hydrology and Earth System Sciences</i> , 2010, 14, 79-89.	1.9	87
15	Stable isotope fingerprint of open-water evaporation losses and effective drainage area fluctuations in a subarctic shield watershed. <i>Journal of Hydrology</i> , 2010, 381, 142-150.	2.3	86
16	Landscape variables influencing nutrients and phytoplankton communities in Boreal Plain lakes of northern Alberta: a comparison of wetland- and upland-dominated catchments. <i>Canadian Journal of Fisheries and Aquatic Sciences</i> , 2001, 58, 1286-1299.	0.7	85
17	Development of a Pan-Arctic Database for River Chemistry. <i>Eos</i> , 2008, 89, 217-218.	0.1	72
18	DEVELOPMENT AND VALIDATION OF AN ISOTOPIC METHOD FOR ESTIMATING LAKE EVAPORATION. <i>Hydrological Processes</i> , 1996, 10, 1369-1382.	1.1	68

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19	ISOTOPES IN WATER. , 2006, , 1-66.		68
20	Stable isotope mass balance of the Laurentian Great Lakes. Journal of Great Lakes Research, 2014, 40, 336-346.	0.8	65
21	Isotope studies in large river basins: A new global research focus. Eos, 2002, 83, 613.	0.1	64
22	Pan-derived isotopic composition of atmospheric water vapour and its variability in northern Canada. Journal of Hydrology, 1999, 217, 55-74.	2.3	59
23	Application of isotope tracers in continental scale hydrological modeling. Journal of Hydrology, 2006, 330, 444-456.	2.3	58
24	Runoff to boreal lakes linked to land cover, watershed morphology and permafrost thaw: a 9â€year isotope mass balance assessment. Hydrological Processes, 2015, 29, 3848-3861.	1.1	57
25	Evidence of discharging saline formation water to the Athabasca River in the oil sands mining region, northern Alberta. Canadian Journal of Earth Sciences, 2013, 50, 1244-1257.	0.6	56
26	Isotopic time-series partitioning of streamflow components in wetland-dominated catchments, lower Liard River basin, Northwest Territories, Canada. Hydrological Processes, 2005, 19, 3357-3381.	1.1	54
27	Synoptic and time-series stable isotope surveys of the Mackenzie River from Great Slave Lake to the Arctic Ocean, 2003 to 2006. Journal of Hydrology, 2010, 383, 223-232.	2.3	52
28	Water-yield estimates for critical loadings assessment: comparisons of gauging methods versus an isotopic approach. Canadian Journal of Fisheries and Aquatic Sciences, 2008, 65, 83-99.	0.7	50
29	Runoff generation in a hypermaritime bog-forest upland. Hydrological Processes, 2000, 14, 2711-2730.	1.1	49
30	Reconstruction of paleohydrology and paleohumidity from oxygen isotope records in the Bolivian Andes. Palaeogeography, Palaeoclimatology, Palaeoecology, 2001, 176, 177-192.	1.0	49
31	Determination of groundwater discharge rates and water residence time of groundwaterâ€fed lakes by stable isotopes of water ( <sup>18</sup> O, <sup>2</sup> H) and radon ( <sup>222</sup> Rn) mass balances. Hydrological Processes, 2018, 32, 805-816.	1.1	49
32	Quantifying saline groundwater seepage to surface waters in the Athabasca oil sands region. Applied Geochemistry, 2012, 27, 2068-2076.	1.4	45
33	Regional trends in evaporation loss and water yield based on stable isotope mass balance of lakes: The Ontario Precambrian Shield surveys. Journal of Hydrology, 2017, 544, 500-510.	2.3	45
34	Using stable isotopes paired with tritium analysis to assess thermokarst lake water balances in the Source Area of the Yellow River, northeastern Qinghai-Tibet Plateau, China. Science of the Total Environment, 2019, 689, 1276-1292.	3.9	43
35	Forest-tundra water balance signals traced by isotopic enrichment in lakes. Journal of Hydrology, 2001, 251, 1-13.	2.3	42
36	Characterizing the PAHs in surface waters and snow in the Athabasca region: Implications for identifying hydrological pathways of atmospheric deposition. Science of the Total Environment, 2017, 603-604, 570-583.	3.9	41

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37	Recently surveyed lakes in northern Manitoba and Saskatchewan, Canada: characteristics and critical loads of acidity. <i>Journal of Limnology</i> , 2010, 69, 45.	0.3	39
38	Stable isotope mass balance of fifty lakes in central Alberta: Assessing the role of water balance parameters in determining trophic status and lake level. <i>Journal of Hydrology: Regional Studies</i> , 2016, 6, 13-25.	1.0	39
39	Chemical characteristics and acid sensitivity of boreal headwater lakes in northwest Saskatchewan. <i>Journal of Limnology</i> , 2010, 69, 33.	0.3	37
40	Isotope-based partitioning of streamflow in the oil sands region, northern Alberta: Towards a monitoring strategy for assessing flow sources and water quality controls. <i>Journal of Hydrology: Regional Studies</i> , 2016, 5, 131-148.	1.0	37
41	Use of water isotope tracers in high latitude hydrology and paleohydrology. , 2004, , 187-207.		36
42	Stable isotopes in river ice: identifying primary over-winter streamflow signals and their hydrological significance. <i>Hydrological Processes</i> , 2002, 16, 873-890.	1.1	31
43	Partitioning impacts of climate and regulation on water level variability in Great Slave Lake. <i>Journal of Hydrology</i> , 2006, 329, 196-206.	2.3	30
44	Isotope Hydrology Research in Canada, 2003-2007. <i>Canadian Water Resources Journal</i> , 2009, 34, 163-176.	0.5	29
45	Interactions between groundwater and seasonally ice-covered lakes: Using water stable isotopes and radon-222 multilayer mass balance models. <i>Hydrological Processes</i> , 2017, 31, 2566-2581.	1.1	27
46	Site-specific estimates of water yield applied in regional acid sensitivity surveys across western Canada. <i>Journal of Limnology</i> , 2010, 69, 67.	0.3	26
47	Inter-annual variations in water yield to lakes in northeastern Alberta: implications for estimating critical loads of acidity. <i>Journal of Limnology</i> , 2010, 69, 126.	0.3	25
48	Using regional datasets of isotope geochemistry to resolve complex groundwater flow and formation connectivity in northeastern Alberta, Canada. <i>Applied Geochemistry</i> , 2019, 101, 140-159.	1.4	25
49	Hillslope-swamp interactions and flow pathways in a hypermaritime rainforest, British Columbia. <i>Hydrological Processes</i> , 2003, 17, 3005-3022.	1.1	24
50	The stable isotopes of site wide waters at an oil sands mine in northern Alberta, Canada. <i>Journal of Hydrology</i> , 2016, 541, 1155-1164.	2.3	24
51	Linkages between spatio-temporal patterns of environmental factors and distribution of plant assemblages across a boreal peatland complex. <i>Boreas</i> , 2016, 45, 207-219.	1.2	21
52	Plant functional traits as indicator of the ecological condition of wetlands in the Grassland and Parkland of Alberta, Canada. <i>Ecological Indicators</i> , 2019, 98, 483-491.	2.6	21
53	Isotopic characteristics of ice cover in a large northern river basin. <i>Hydrological Processes</i> , 1999, 13, 2537-2548.	1.1	20
54	Origin and hydrogeological setting of saline groundwater discharges to the Athabasca River: Geochemical and isotopic characterization of the hyporheic zone. <i>Applied Geochemistry</i> , 2018, 98, 172-190.	1.4	20

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55	Historical Changes in Arctic Freshwater Ecosystems. <i>Ambio</i> , 2006, 35, 339-346.	2.8	19
56	A New Conceptual Model for Predicting Isotopic Enrichment of Lakes in Seasonal Climates. <i>PAGES News</i> , 2002, 10, 10-11.	0.3	19
57	Geochemical and isotopic mass balances of kettle lakes in southern Quebec (Canada) as tools to document variations in groundwater quantity and quality. <i>Environmental Earth Sciences</i> , 2017, 76, 1.	1.3	18
58	Evaporative isotope enrichment as a constraint on reach water balance along a dryland river. <i>Isotopes in Environmental and Health Studies</i> , 2008, 44, 83-98.	0.5	17
59	Characterization of organic composition in snow and surface waters in the Athabasca Oil Sands Region, using ultrahigh resolution Fourier transform mass spectrometry. <i>Science of the Total Environment</i> , 2015, 518-519, 148-158.	3.9	17
60	Using tritium and <sup>222</sup> Rn to estimate groundwater discharge and thawing permafrost contributing to surface water in permafrost regions on Qinghai-Tibet Plateau. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2019, 322, 561-578.	0.7	16
61	Mapping water yield distribution across the South Athabasca Oil Sands (SAOS) area: Baseline surveys applying isotope mass balance of lakes. <i>Journal of Hydrology: Regional Studies</i> , 2019, 21, 1-13.	1.0	16
62	Higher tritium concentrations measured in permafrost thaw lakes in northern Alberta. <i>Hydrological Processes</i> , 2016, 30, 245-249.	1.1	15
63	<sup>18</sup> O and <sup>2</sup> H in streamflow across Canada. <i>Journal of Hydrology: Regional Studies</i> , 2020, 32, 100754.	1.0	15
64	Isotopic constraints on water balance of tundra lakes and watersheds affected by permafrost degradation, Mackenzie Delta region, Northwest Territories, Canada. <i>Science of the Total Environment</i> , 2020, 731, 139176.	3.9	15
65	When to conduct an isotopic survey for lake water balance evaluation in highly seasonal climates. <i>Hydrological Processes</i> , 2018, 32, 379-387.	1.1	14
66	Isotopic response of runoff to forest disturbance in small mountain catchments. <i>Hydrological Processes</i> , 2018, 32, 3650-3661.	1.1	14
67	Isotopic tracing of hydrologic drivers including permafrost thaw status for lakes across Northeastern Alberta, Canada: A 16-year, 50-lake assessment. <i>Journal of Hydrology: Regional Studies</i> , 2019, 26, 100643.	1.0	14
68	The controls on boreal peatland surface water chemistry in Northern Alberta, Canada. <i>Hydrological Processes</i> , 2010, 24, 2143-2155.	1.1	12
69	Isotopic and geochemical surveys of lakes in coastal B.C.: Insights into regional water balance and water quality controls. <i>Journal of Hydrology: Regional Studies</i> , 2018, 17, 47-63.	1.0	12
70	Quantifying floodwater impacts on a lake water budget via volume-dependent transient stable isotope mass balance. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 3731-3757.	1.9	12
71	Suitability of selected free-gas and dissolved-gas sampling containers for carbon isotopic analysis. <i>Rapid Communications in Mass Spectrometry</i> , 2015, 29, 1215-1226.	0.7	11
72	Isotopic constraints on water balance and evapotranspiration partitioning in gauged watersheds across Canada. <i>Journal of Hydrology: Regional Studies</i> , 2021, 37, 100878.	1.0	11

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73	Comment on "Profiling Oil Sands Mixtures from Industrial Developments and Natural Groundwaters for Source Identification". Environmental Science & Technology, 2014, 48, 11013-11014.	4.6	10
74	Dataset of 18O and 2H in streamflow across Canada: A national resource for tracing water sources, water balance and predictive modelling. Data in Brief, 2021, 34, 106723.	0.5	9
75	Utility of a multi-tracer approach as a component of adaptive monitoring for municipal wastewater impacts. Water Quality Research Journal of Canada, 2020, 55, 327-341.	1.2	8
76	Jasechko et al. reply. Nature, 2014, 506, E2-E3.	13.7	7
77	Impacts of changes in groundwater recharge on the isotopic composition and geochemistry of seasonally ice-covered lakes: insights for sustainable management. Hydrology and Earth System Sciences, 2017, 21, 5875-5889.	1.9	7
78	Stable Isotopes in Large Scale Hydrological Applications. , 2010, , 389-405.		7
79	Profiling of dissolved organic compounds in the oil sands region using complimentary liquid-liquid extraction and ultrahigh resolution Fourier transform mass spectrometry. Environmental Earth Sciences, 2017, 76, 1.	1.3	6
80	Comparison of atmospheric water vapour $\delta^{18}O$ and $\delta^2H$ estimated using evaporation pan, rainfall equilibrium and continuous measurements. Journal of Hydrology, 2019, 576, 551-560.	2.3	5
81	Molecular profiling of naphthenic acids in technical mixtures and oil sands process-affected water using polar reversed-phase liquid chromatography-mass spectrometry. Electrophoresis, 2016, 37, 3089-3100.	1.3	4
82	Hydrogeochemistry Studies in the Oil Sands Region to Investigate the Role of Terrain Connectivity in Nitrogen Critical Loads. Water (Switzerland), 2021, 13, 2204.	1.2	4
83	Carbon dissolution effects on pH changes of RAMP lakes in northeastern Alberta, Canada. Journal of Hydrology: Regional Studies, 2022, 40, 101045.	1.0	4
84	Variability in flow and tracer-based performance metric sensitivities reveal regional differences in dominant hydrological processes across the Athabasca River basin. Journal of Hydrology: Regional Studies, 2022, 41, 101088.	1.0	4
85	Watershed, climate, and stable isotope data (oxygen-18 and deuterium) for 50 boreal lakes in the oil sands region, northeastern Alberta, Canada, 2002-2017. Data in Brief, 2020, 29, 105308.	0.5	3
86	Estimating Stable Measured Values and Detecting Anomalies in Groundwater Geochemistry Time Series Data Across the Athabasca Oil Sands Area, Canada. Natural Resources Research, 2021, 30, 1755-1779.	2.2	3
87	Isotope-based water balance assessment of open water wetlands across Alberta: Regional trends with emphasis on the oil sands region. Journal of Hydrology: Regional Studies, 2022, 40, 101036.	1.0	3
88	Moss cellulose 18O applied to reconstruct past changes in water balance of a boreal wetland complex, northeastern Alberta. Catena, 2022, 213, 106116.	2.2	3
89	Using stable isotopes to track hydrological processes at an oil sands mine, Alberta, Canada. Journal of Hydrology: Regional Studies, 2022, 40, 101032.	1.0	2
90	Isobalance. Special issue. Hydrological Processes, 2000, 14, iii-iii.	1.1	1

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91	Stable isotope data (oxygen-18 and deuterium) from surveys of lakes, wetlands, rivers, and input waters across the South Athabasca Oil Sands region, Alberta, 2007â€“2009. <i>Data in Brief</i> , 2019, 22, 781-786.	0.5	1
92	Groundwater monitoring near oil sands development: Insights from regional water quality datasets in the Alberta Oil Sands Region (AOSR). <i>Journal of Hydrology: Regional Studies</i> , 2022, 41, 101079.	1.0	0