Margaret M Barbour

List of Publications by Year
in descending order

89	6,818	76326 40	62596 80
papers	citations	h-index	g-index

92	92	92	6964
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mesophyll diffusion conductance to CO2: An unappreciated central player in photosynthesis. Plant Science, 2012, 193-194, 70-84.	3.6	563
2	Stable oxygen isotope composition of plant tissue: a review. Functional Plant Biology, 2007, 34, 83.	2.1	526
3	Why are non-photosynthetic tissues generally 13C enriched compared with leaves in C3 plants? Review and synthesis of current hypotheses. Functional Plant Biology, 2009, 36, 199.	2.1	348
4	Relative humidityâ€•and ABAâ€•induced variation in carbon and oxygen isotope ratios of cotton leaves. Plant, Cell and Environment, 2000, 23, 473-485.	5.7	337
5	Sensitivity of plants to changing atmospheric <scp>CO</scp>₂ concentration: from the geological past to the next century. New Phytologist, 2013, 197, 1077-1094.	7.3	336
6	Diffusional conductances to CO2 as a target for increasing photosynthesis and photosynthetic water-use efficiency. Photosynthesis Research, 2013, 117, 45-59.	2.9	305
7	Stable isotopes in leaf water of terrestrial plants. Plant, Cell and Environment, 2016, 39, 1087-1102.	5.7	256
8	Expressing leaf water and cellulose oxygen isotope ratios as enrichment above source water reveals evidence of a Pï¿½clet effect. Oecologia, 2004, 138, 426-435.	2.0	252
9	Seasonal variation in Î´13 C and Î´18 O of cellulose from growth rings of Pinus radiata. Plant, Cell and Environment, 2002, 25, 1483-1499.	5.7	239
10	New constraints on atmospheric CO₂ concentration for the Phanerozoic. Geophysical Research Letters, 2014, 41, 4685-4694.	4.0	189
11	Leaf day respiration: low <scp>CO</scp>₂ flux but high significance for metabolism and carbon balance. New Phytologist, 2017, 216, 986-1001.	7.3	159
12	Variation in the Oxygen Isotope Ratio of Phloem Sap Sucrose from Castor Bean. Evidence in Support of the PÃ©clet Effect. Plant Physiology, 2000, 123, 671-680.	4.8	150
13	A new measurement technique reveals rapid post-illumination changes in the carbon isotope composition of leaf-respired CO2. Plant, Cell and Environment, 2007, 30, 469-482.	5.7	148
14	Variability in mesophyll conductance between barley genotypes, and effects on transpiration efficiency and carbon isotope discrimination. Plant, Cell and Environment, 2010, 33, 1176-85.	5.7	125
15	A singleâ€substrate model to interpret intraâ€annual stable isotope signals in treeâ€ring cellulose. Plant, Cell and Environment, 2009, 32, 1071-1090.	5.7	100
16	Ecosystem service and biodiversity trade-offs in two woody successions. Journal of Applied Ecology, 2011, 48, 926-934.	4.0	96
17	Online <scp>CO</scp>₂ and H₂O oxygen isotope fractionation allows estimation of mesophyll conductance in C₄ plants, and reveals that mesophyll conductance decreases as leaves age in both C₄ and C₃ plants. New Phytologist, 2016, 210, 875-889.	7.3	95
18	Do pathways of water movement and leaf anatomical dimensions allow development of gradients in H218O between veins and the sites of evaporation within leaves?. Plant, Cell and Environment, 2004, 27, 107-121.	5.7	86

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19	The oxygen isotope enrichment of leafâ€exported assimilates â€" does it always reflect lamina leaf water enrichment?. New Phytologist, 2013, 200, 144-157.	7.3	86
20	Climate and soils together regulate photosynthetic carbon isotope discrimination within C₃ plants worldwide. Global Ecology and Biogeography, 2018, 27, 1056-1067.	5.8	85
21	Transpiration rate relates to withinâ€and acrossâ€species variations in effective path length in a leaf water model of oxygen isotope enrichment. Plant, Cell and Environment, 2013, 36, 1338-1351.	5.7	84
22	Oxygen isotope ratio of leaf and grain material correlates with stomatal conductance and grain yield in irrigated wheat. Functional Plant Biology, 2000, 27, 625.	2.1	83
23	Sap flow rates and sapwood density are critical factors in withinâ€and betweenâ€tree variation in CO 2 efflux from stems of mature Dacrydium cupressinum trees. New Phytologist, 2005, 167, 815-828.	7.3	83
24	The stomatal response to evaporative demand persists at night in Ricinus communis plants with high nocturnal conductance. Plant, Cell and Environment, 2007, 30, 711-721.	5.7	77
25	The impact of soil microorganisms on the global budget of Î´ ¹⁸ O in atmospheric CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 22411-22415.	7.1	74
26	Correlations between oxygen isotope ratios of wood constituents of Quercus and Pinus samples from around the world. Functional Plant Biology, 2001, 28, 335.	2.1	69
27	Variation in the degree of coupling between Î´ 13 C of phloem sap and ecosystem respiration in two mature Nothofagus forests. New Phytologist, 2005, 166, 497-512.	7.3	68
28	Nocturnal stomatal conductance and implications for modelling Î´18O of leaf-respired CO2 in temperate tree species. Functional Plant Biology, 2005, 32, 1107.	2.1	67
29	Variation in mesophyll conductance among Australian wheat genotypes. Functional Plant Biology, 2014, 41, 568.	2.1	64
30	Increasing leaf hydraulic conductance with transpiration rate minimizes the water potential drawdown from stem to leaf. Journal of Experimental Botany, 2015, 66, 1303-1315.	4.8	58
31	Isotopic composition of transpiration and rates of change in leaf water isotopologue storage in response to environmental variables. Plant, Cell and Environment, 2013, 36, 2190-2206.	5.7	57
32	Photosynthesis and reflectance indices for rainforest species in ecosystems undergoing progression and retrogression along a soil fertility chronosequence in New Zealand. Oecologia, 2005, 144, 233-244.	2.0	56
33	Components of ecosystem evaporation in a temperate coniferous rainforest, with canopy transpiration scaled using sapwood density. New Phytologist, 2005, 165, 549-558.	7.3	55
34	Quantifying the contribution of soil organic matter turnover to forest soil respiration, using natural abundance Î´13C. Soil Biology and Biochemistry, 2010, 42, 935-943.	8.8	55
35	Embracing 3D Complexity in Leaf Carbonâ€"Water Exchange. Trends in Plant Science, 2019, 24, 15-24.	8.8	55
36	Shortâ€term effects of CO₂ and O₂ on citrate metabolism in illuminated leaves. Plant, Cell and Environment, 2012, 35, 2208-2220.	5.7	53

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37	Measurements of transpiration isotopologues and leaf water to assess enrichment models in cotton. New Phytologist, 2015, 206, 637-646.	7.3	53
38	Turnover time of the nonâ€structural carbohydrate pool influences Î´¹⁸<scp>O</scp> of leaf cellulose. Plant, Cell and Environment, 2014, 37, 2500-2507.	5.7	48
39	Examining the largeâ€scale convergence of photosynthesisâ€weighted tree leaf temperatures through stable oxygen isotope analysis of multiple data sets. New Phytologist, 2011, 192, 912-924.	7.3	45
40	Cell and chloroplast anatomical features are poorly estimated from 2D crossâ€sections. New Phytologist, 2020, 225, 2567-2578.	7.3	44
41	Segmentation of lettuce in coloured 3D point clouds for fresh weight estimation. Computers and Electronics in Agriculture, 2018, 154, 373-381.	7.7	43
42	A demonstration of the theoretical prediction that sap velocity is related to wood density in the conifer Dacrydium cupressinum. New Phytologist, 2003, 158, 477-488.	7.3	41
43	Leaf vein fraction influences the PÃ©clet effect and ¹⁸O enrichment in leaf water. Plant, Cell and Environment, 2016, 39, 2414-2427.	5.7	41
44	Tracking the origins of the Kok effect, 70 years after its discovery. New Phytologist, 2017, 214, 506-510.	7.3	40
45	Effects of leaf age and tree size on stomatal and mesophyll limitations to photosynthesis in mountain beech (Nothofagus solandrii var. cliffortiodes). Tree Physiology, 2011, 31, 985-996.	3.1	37
46	Observed relationships between leaf H218O Peclet effective length and leaf hydraulic conductance reflect assumptions in Craig-Gordon model calculations. Tree Physiology, 2015, 35, 16-26.	3.1	37
47	A new measurement technique reveals temporal variation in ?18O of leaf-respired CO2. Plant, Cell and Environment, 2007, 30, 456-468.	5.7	36
48	Rapid changes in Î´¹³C of ecosystemâ€respired CO₂after sunset are consistent with transient¹³C enrichment of leaf respired CO₂. New Phytologist, 2011, 190, 990-1002.	7.3	36
49	Leaf hydraulic conductance and mesophyll conductance are not closely related within a single species. Plant, Cell and Environment, 2017, 40, 203-215.	5.7	35
50	Spatial variation in photosynthetic CO₂ carbon and oxygen isotope discrimination along leaves of the monocot triticale (<i>Triticum</i>â€ƒÃ—â€ƒ<i>Secale</i>) relates to mesophyll conductance and the PÃ©clet effect. Plant, Cell and Environment, 2011, 34, 1548-1562.	5.7	34
51	Soil phosphorous and endogenous rhythms exert a larger impact than CO2 or temperature on nocturnal stomatal conductance in Eucalyptus tereticornis. Tree Physiology, 2013, 33, 1206-1215.	3.1	33
52	Declining foliar and litter Î´¹⁵N diverge from soil, epiphyte and input Î´¹⁵N along a 120â€ƒ000â€ƒyr temperate rainforest chronosequence. New Phytologist, 2011, 190, 941-952.	7.3	31
53	The response of mesophyll conductance to nitrogen and water availability differs between wheat genotypes. Plant Science, 2016, 251, 119-127.	3.6	31
54	The temperature response of mesophyll conductance, and its component conductances, varies between species and genotypes. Photosynthesis Research, 2019, 141, 65-82.	2.9	27

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55	Genetic control of mesophyll conductance in common wheat. New Phytologist, 2016, 209, 461-465.	7.3	26
56	Stable carbon isotopes reveal dynamics of respiratory metabolism. New Phytologist, 2009, 181, 243-245.	7.3	25
57	The ¹⁸O ecohydrology of a grassland ecosystem â€“ predictions and observations. Hydrology and Earth System Sciences, 2019, 23, 2581-2600.	4.9	25
58	The role of leaf water potential in the temperature response of mesophyll conductance. New Phytologist, 2020, 225, 1193-1205.	7.3	25
59	Modelling nonâ€steadyâ€state isotope enrichment of leaf water in a gasâ€exchange cuvette environment. Plant, Cell and Environment, 2015, 38, 2618-2628.	5.7	24
60	Temperature sensitivity of soil and root respiration in contrasting soils. Plant and Soil, 2014, 382, 253-267.	3.7	23
61	Mesophyll conductance exerts a significant limitation on photosynthesis during light induction. New Phytologist, 2022, 233, 360-372.	7.3	23
62	Factors Affecting the Oxygen Isotope Ratio of Plant Organic Material. , 2005, , 9-28.		22
63	Do tree-ring stable isotope compositions faithfully record tree carbon/water dynamics?. Tree Physiology, 2014, 34, 792-795.	3.1	22
64	<i>Î´</i>¹³C of leafâ€respired CO₂ reflects intrinsic waterâ€use efficiency in barley. Plant, Cell and Environment, 2011, 34, 792-799.	5.7	21
65	Understanding regulation of leaf internal carbon and water transport using online stable isotope techniques. New Phytologist, 2017, 213, 83-88.	7.3	21
66	A unique web resource for physiology, ecology and the environmental sciences: PrometheusWiki. Functional Plant Biology, 2010, 37, 687.	2.1	20
67	Leaf water stable isotopes and water transport outside the xylem. Plant, Cell and Environment, 2017, 40, 914-920.	5.7	20
68	Rising temperature may negate the stimulatory effect of rising CO2 on growth and physiology of Wollemi pine (Wollemia nobilis). Functional Plant Biology, 2015, 42, 836.	2.1	18
69	No evidence of homeostatic regulation of leaf temperature in <i>Eucalyptus parramattensis</i> trees: integration of CO₂ flux and oxygen isotope methodologies. New Phytologist, 2020, 228, 1511-1523.	7.3	18
70	Sucrose application, soil microbial respiration and evolved carbon dioxide isotope enrichment under contrasting land uses. Plant and Soil, 2005, 268, 233-242.	3.7	17
71	Understanding the Stable Isotope Composition of Biosphere-Atmosphere CO2Exchange. Eos, 2008, 89, 94.	0.1	16
72	Enhanced decomposition and nitrogen mineralization sustain rapid growth of Eucalyptus regnans after wildfire. Journal of Ecology, 2017, 105, 229-236.	4.0	16

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73	Soil properties and presence of plants affect the temperature sensitivity of carbon dioxide production by soils. Plant and Soil, 2010, 337, 375-387.	3.7	15
74	Can hydraulic design explain patterns of leaf water isotopic enrichment in <scp>C₃</scp> plants?. Plant, Cell and Environment, 2021, 44, 432-444.	5.7	15
75	High water availability in drought tolerant crops is driven by root engineering of the soil micro-habitat. Geoderma, 2021, 383, 114738.	5.1	15
76	Stable oxygen isotope signatures of early season wood in New Zealand kauri (Agathis australis) tree rings: Prospects for palaeoclimate reconstruction. Dendrochronologia, 2016, 40, 50-63.	2.2	14
77	Studying root water uptake of wheat genotypes in different soils using water Î´18O stable isotopes. Agriculture, Ecosystems and Environment, 2018, 264, 119-129.	5.3	14
78	The response of mesophyll conductance to short- and long-term environmental conditions in chickpea genotypes. AoB PLANTS, 2019, 11, ply073.	2.3	14
79	Leaf water oxygen isotope measurement by direct equilibration. New Phytologist, 2016, 211, 1120-1128.	7.3	13
80	Understanding airspace in leaves: <scp>3D</scp> anatomy and directional tortuosity. Plant, Cell and Environment, 2021, 44, 2455-2465.	5.7	13
81	Spatial and temporal scaling of intercellular CO2 concentration in a temperate rain forest dominated by Dacrydium cupressinum in New Zealand. Plant, Cell and Environment, 2006, 29, 497-510.	5.7	11
82	Respiratory Effects on the Carbon Isotope Discrimination Near the Compensation Point. Advances in Photosynthesis and Respiration, 2017, , 143-160.	1.0	10
83	Identification of quantitative trait loci for dynamic and steady-state photosynthetic traits in a barley mapping population. AoB PLANTS, 2020, 12, plaa063.	2.3	10
84	Expanding collaborative autoethnography into the world of natural science for transdisciplinary teams. One Earth, 2022, 5, 157-167.	6.8	10
85	Open source 3D phenotyping of chickpea plant architecture across plant development. Plant Methods, 2021, 17, 95.	4.3	9
86	Seasonal Frost Tolerance of Trees in the New Zealand Treeline Ecotone. Arctic, Antarctic, and Alpine Research, 2012, 44, 332-342.	1.1	8
87	Environmental, Physiological and Biochemical Processes Determining the Oxygen Isotope Ratio of Tree-Ring Cellulose. Tree Physiology, 2022, , 311-329.	2.5	8
88	Reconstruction of source water using the Î´18O of tree ring phenylglucosazone: A potential tool in paleoclimate studies. Dendrochronologia, 2013, 31, 153-158.	2.2	7
89	The effects on isotopic composition of leaf water and transpiration of adding a gasâ€exchange cuvette. Plant, Cell and Environment, 2021, 44, 2844-2857.	5.7	4