

Margaret M Barbour

List of Publications by Year in descending order

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Version: 2024-02-01

89
papers

6,818
citations

76326

40
h-index

62596

80
g-index

92
all docs

92
docs citations

92
times ranked

6964
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Mesophyll conductance exerts a significant limitation on photosynthesis during light induction. <i>New Phytologist</i> , 2022, 233, 360-372. | 7.3 | 23 |
| 2 | Expanding collaborative autoethnography into the world of natural science for transdisciplinary teams. <i>One Earth</i> , 2022, 5, 157-167. | 6.8 | 10 |
| 3 | Environmental, Physiological and Biochemical Processes Determining the Oxygen Isotope Ratio of Tree-Ring Cellulose. <i>Tree Physiology</i> , 2022, , 311-329. | 2.5 | 8 |
| 4 | Can hydraulic design explain patterns of leaf water isotopic enrichment in C_3 plants?. <i>Plant, Cell and Environment</i> , 2021, 44, 432-444. | 5.7 | 15 |
| 5 | High water availability in drought tolerant crops is driven by root engineering of the soil micro-habitat. <i>Geoderma</i> , 2021, 383, 114738. | 5.1 | 15 |
| 6 | Understanding airspace in leaves: 3D anatomy and directional tortuosity. <i>Plant, Cell and Environment</i> , 2021, 44, 2455-2465. | 5.7 | 13 |
| 7 | The effects on isotopic composition of leaf water and transpiration of adding a gas-exchange cuvette. <i>Plant, Cell and Environment</i> , 2021, 44, 2844-2857. | 5.7 | 4 |
| 8 | Open source 3D phenotyping of chickpea plant architecture across plant development. <i>Plant Methods</i> , 2021, 17, 95. | 4.3 | 9 |
| 9 | The role of leaf water potential in the temperature response of mesophyll conductance. <i>New Phytologist</i> , 2020, 225, 1193-1205. | 7.3 | 25 |
| 10 | Cell and chloroplast anatomical features are poorly estimated from 2D cross-sections. <i>New Phytologist</i> , 2020, 225, 2567-2578. | 7.3 | 44 |
| 11 | Identification of quantitative trait loci for dynamic and steady-state photosynthetic traits in a barley mapping population. <i>AoB PLANTS</i> , 2020, 12, plaa063. | 2.3 | 10 |
| 12 | No evidence of homeostatic regulation of leaf temperature in <i>Eucalyptus parramattensis</i> trees: integration of CO_2 flux and oxygen isotope methodologies. <i>New Phytologist</i> , 2020, 228, 1511-1523. | 7.3 | 18 |
| 13 | The $\delta^{18}O$ ecohydrology of a grassland ecosystem – predictions and observations. <i>Hydrology and Earth System Sciences</i> , 2019, 23, 2581-2600. | 4.9 | 25 |
| 14 | The response of mesophyll conductance to short- and long-term environmental conditions in chickpea genotypes. <i>AoB PLANTS</i> , 2019, 11, ply073. | 2.3 | 14 |
| 15 | The temperature response of mesophyll conductance, and its component conductances, varies between species and genotypes. <i>Photosynthesis Research</i> , 2019, 141, 65-82. | 2.9 | 27 |
| 16 | Embracing 3D Complexity in Leaf Carbon-Water Exchange. <i>Trends in Plant Science</i> , 2019, 24, 15-24. | 8.8 | 55 |
| 17 | Segmentation of lettuce in coloured 3D point clouds for fresh weight estimation. <i>Computers and Electronics in Agriculture</i> , 2018, 154, 373-381. | 7.7 | 43 |
| 18 | Climate and soils together regulate photosynthetic carbon isotope discrimination within C_3 plants worldwide. <i>Global Ecology and Biogeography</i> , 2018, 27, 1056-1067. | 5.8 | 85 |

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|----|--|-----|-----------|
| 19 | Studying root water uptake of wheat genotypes in different soils using water $\delta^{18}\text{O}$ stable isotopes. <i>Agriculture, Ecosystems and Environment</i> , 2018, 264, 119-129. | 5.3 | 14 |
| 20 | Tracking the origins of the Kok effect, 70 years after its discovery. <i>New Phytologist</i> , 2017, 214, 506-510. | 7.3 | 40 |
| 21 | Leaf day respiration: low $\delta^{13}\text{C}$ flux but high significance for metabolism and carbon balance. <i>New Phytologist</i> , 2017, 216, 986-1001. | 7.3 | 159 |
| 22 | Leaf water stable isotopes and water transport outside the xylem. <i>Plant, Cell and Environment</i> , 2017, 40, 914-920. | 5.7 | 20 |
| 23 | Leaf hydraulic conductance and mesophyll conductance are not closely related within a single species. <i>Plant, Cell and Environment</i> , 2017, 40, 203-215. | 5.7 | 35 |
| 24 | Enhanced decomposition and nitrogen mineralization sustain rapid growth of <i>Eucalyptus regnans</i> after wildfire. <i>Journal of Ecology</i> , 2017, 105, 229-236. | 4.0 | 16 |
| 25 | Understanding regulation of leaf internal carbon and water transport using online stable isotope techniques. <i>New Phytologist</i> , 2017, 213, 83-88. | 7.3 | 21 |
| 26 | Respiratory Effects on the Carbon Isotope Discrimination Near the Compensation Point. <i>Advances in Photosynthesis and Respiration</i> , 2017, , 143-160. | 1.0 | 10 |
| 27 | Stable isotopes in leaf water of terrestrial plants. <i>Plant, Cell and Environment</i> , 2016, 39, 1087-1102. | 5.7 | 256 |
| 28 | Leaf water oxygen isotope measurement by direct equilibration. <i>New Phytologist</i> , 2016, 211, 1120-1128. | 7.3 | 13 |
| 29 | Online $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ oxygen isotope fractionation allows estimation of mesophyll conductance in C_4 plants, and reveals that mesophyll conductance decreases as leaves age in both C_4 and C_3 plants. <i>New Phytologist</i> , 2016, 210, 875-889. | 7.3 | 95 |
| 30 | The response of mesophyll conductance to nitrogen and water availability differs between wheat genotypes. <i>Plant Science</i> , 2016, 251, 119-127. | 3.6 | 31 |
| 31 | Genetic control of mesophyll conductance in common wheat. <i>New Phytologist</i> , 2016, 209, 461-465. | 7.3 | 26 |
| 32 | Leaf vein fraction influences the Peclet effect and $\delta^{18}\text{O}$ enrichment in leaf water. <i>Plant, Cell and Environment</i> , 2016, 39, 2414-2427. | 5.7 | 41 |
| 33 | Stable oxygen isotope signatures of early season wood in New Zealand kauri (<i>Agathis australis</i>) tree rings: Prospects for palaeoclimate reconstruction. <i>Dendrochronologia</i> , 2016, 40, 50-63. | 2.2 | 14 |
| 34 | Modelling non-steady-state isotope enrichment of leaf water in a gas-exchange cuvette environment. <i>Plant, Cell and Environment</i> , 2015, 38, 2618-2628. | 5.7 | 24 |
| 35 | Observed relationships between leaf $\delta^{18}\text{O}$ Peclet effective length and leaf hydraulic conductance reflect assumptions in Craig-Gordon model calculations. <i>Tree Physiology</i> , 2015, 35, 16-26. | 3.1 | 37 |
| 36 | Increasing leaf hydraulic conductance with transpiration rate minimizes the water potential drawdown from stem to leaf. <i>Journal of Experimental Botany</i> , 2015, 66, 1303-1315. | 4.8 | 58 |

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|----|---|-----|-----------|
| 37 | Measurements of transpiration isotopologues and leaf water to assess enrichment models in cotton. <i>New Phytologist</i> , 2015, 206, 637-646. | 7.3 | 53 |
| 38 | Rising temperature may negate the stimulatory effect of rising CO ₂ on growth and physiology of Wollemi pine (<i>Wollemia nobilis</i>). <i>Functional Plant Biology</i> , 2015, 42, 836. | 2.1 | 18 |
| 39 | New constraints on atmospheric CO ₂ concentration for the Phanerozoic. <i>Geophysical Research Letters</i> , 2014, 41, 4685-4694. | 4.0 | 189 |
| 40 | Turnover time of the non-structural carbohydrate pool influences $\delta^{18}O$ of leaf cellulose. <i>Plant, Cell and Environment</i> , 2014, 37, 2500-2507. | 5.7 | 48 |
| 41 | Do tree-ring stable isotope compositions faithfully record tree carbon/water dynamics?. <i>Tree Physiology</i> , 2014, 34, 792-795. | 3.1 | 22 |
| 42 | Temperature sensitivity of soil and root respiration in contrasting soils. <i>Plant and Soil</i> , 2014, 382, 253-267. | 3.7 | 23 |
| 43 | Variation in mesophyll conductance among Australian wheat genotypes. <i>Functional Plant Biology</i> , 2014, 41, 568. | 2.1 | 64 |
| 44 | Diffusional conductances to CO ₂ as a target for increasing photosynthesis and photosynthetic water-use efficiency. <i>Photosynthesis Research</i> , 2013, 117, 45-59. | 2.9 | 305 |
| 45 | Reconstruction of source water using the $\delta^{18}O$ of tree ring phenylglucosazone: A potential tool in paleoclimate studies. <i>Dendrochronologia</i> , 2013, 31, 153-158. | 2.2 | 7 |
| 46 | Isotopic composition of transpiration and rates of change in leaf water isotopologue storage in response to environmental variables. <i>Plant, Cell and Environment</i> , 2013, 36, 2190-2206. | 5.7 | 57 |
| 47 | Soil phosphorous and endogenous rhythms exert a larger impact than CO ₂ or temperature on nocturnal stomatal conductance in <i>Eucalyptus tereticornis</i> . <i>Tree Physiology</i> , 2013, 33, 1206-1215. | 3.1 | 33 |
| 48 | Sensitivity of plants to changing atmospheric CO ₂ concentration: from the geological past to the next century. <i>New Phytologist</i> , 2013, 197, 1077-1094. | 7.3 | 336 |
| 49 | The oxygen isotope enrichment of leaf-exported assimilates "does it always reflect lamina leaf water enrichment?. <i>New Phytologist</i> , 2013, 200, 144-157. | 7.3 | 86 |
| 50 | Transpiration rate relates to within- and across-species variations in effective path length in a leaf water model of oxygen isotope enrichment. <i>Plant, Cell and Environment</i> , 2013, 36, 1338-1351. | 5.7 | 84 |
| 51 | Mesophyll diffusion conductance to CO ₂ : An unappreciated central player in photosynthesis. <i>Plant Science</i> , 2012, 193-194, 70-84. | 3.6 | 563 |
| 52 | Seasonal Frost Tolerance of Trees in the New Zealand Treeline Ecotone. <i>Arctic, Antarctic, and Alpine Research</i> , 2012, 44, 332-342. | 1.1 | 8 |
| 53 | Short-term effects of CO ₂ and O ₂ on citrate metabolism in illuminated leaves. <i>Plant, Cell and Environment</i> , 2012, 35, 2208-2220. | 5.7 | 53 |
| 54 | Effects of leaf age and tree size on stomatal and mesophyll limitations to photosynthesis in mountain beech (<i>Nothofagus solandrii</i> var. <i>cliffortioides</i>). <i>Tree Physiology</i> , 2011, 31, 985-996. | 3.1 | 37 |

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|----|--|-----|-----------|
| 55 | $\delta^{13}\text{C}$ of leaf-respired CO_2 reflects intrinsic water-use efficiency in barley. <i>Plant, Cell and Environment</i> , 2011, 34, 792-799. | 5.7 | 21 |
| 56 | Rapid changes in $\delta^{13}\text{C}$ of ecosystem-respired CO_2 after sunset are consistent with transient $\delta^{13}\text{C}$ enrichment of leaf respired CO_2 . <i>New Phytologist</i> , 2011, 190, 990-1002. | 7.3 | 36 |
| 57 | Ecosystem service and biodiversity trade-offs in two woody successions. <i>Journal of Applied Ecology</i> , 2011, 48, 926-934. | 4.0 | 96 |
| 58 | Spatial variation in photosynthetic CO_2 carbon and oxygen isotope discrimination along leaves of the monocot triticale (<i>Triticum</i> – <i>Secale</i>) relates to mesophyll conductance and the Péclet effect. <i>Plant, Cell and Environment</i> , 2011, 34, 1548-1562. | 5.7 | 34 |
| 59 | Declining foliar and litter $\delta^{15}\text{N}$ diverge from soil, epiphyte and input $\delta^{15}\text{N}$ along a 120-year temperate rainforest chronosequence. <i>New Phytologist</i> , 2011, 190, 941-952. | 7.3 | 31 |
| 60 | Examining the large-scale convergence of photosynthesis-weighted tree leaf temperatures through stable oxygen isotope analysis of multiple data sets. <i>New Phytologist</i> , 2011, 192, 912-924. | 7.3 | 45 |
| 61 | A unique web resource for physiology, ecology and the environmental sciences: PrometheusWiki. <i>Functional Plant Biology</i> , 2010, 37, 687. | 2.1 | 20 |
| 62 | Soil properties and presence of plants affect the temperature sensitivity of carbon dioxide production by soils. <i>Plant and Soil</i> , 2010, 337, 375-387. | 3.7 | 15 |
| 63 | Quantifying the contribution of soil organic matter turnover to forest soil respiration, using natural abundance $\delta^{13}\text{C}$. <i>Soil Biology and Biochemistry</i> , 2010, 42, 935-943. | 8.8 | 55 |
| 64 | Variability in mesophyll conductance between barley genotypes, and effects on transpiration efficiency and carbon isotope discrimination. <i>Plant, Cell and Environment</i> , 2010, 33, 1176-85. | 5.7 | 125 |
| 65 | The impact of soil microorganisms on the global budget of ^{18}O in atmospheric CO_2 . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 22411-22415. | 7.1 | 74 |
| 66 | A single-substrate model to interpret intra-annual stable isotope signals in tree-ring cellulose. <i>Plant, Cell and Environment</i> , 2009, 32, 1071-1090. | 5.7 | 100 |
| 67 | Stable carbon isotopes reveal dynamics of respiratory metabolism. <i>New Phytologist</i> , 2009, 181, 243-245. | 7.3 | 25 |
| 68 | Why are non-photosynthetic tissues generally ^{13}C enriched compared with leaves in C_3 plants? Review and synthesis of current hypotheses. <i>Functional Plant Biology</i> , 2009, 36, 199. | 2.1 | 348 |
| 69 | Understanding the Stable Isotope Composition of Biosphere-Atmosphere CO_2 Exchange. <i>Eos</i> , 2008, 89, 94. | 0.1 | 16 |
| 70 | Stable oxygen isotope composition of plant tissue: a review. <i>Functional Plant Biology</i> , 2007, 34, 83. | 2.1 | 526 |
| 71 | A new measurement technique reveals temporal variation in $\delta^{18}\text{O}$ of leaf-respired CO_2 . <i>Plant, Cell and Environment</i> , 2007, 30, 456-468. | 5.7 | 36 |
| 72 | A new measurement technique reveals rapid post-illumination changes in the carbon isotope composition of leaf-respired CO_2 . <i>Plant, Cell and Environment</i> , 2007, 30, 469-482. | 5.7 | 148 |

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|----|--|-----|-----------|
| 73 | The stomatal response to evaporative demand persists at night in <i>Ricinus communis</i> plants with high nocturnal conductance. <i>Plant, Cell and Environment</i> , 2007, 30, 711-721. | 5.7 | 77 |
| 74 | Spatial and temporal scaling of intercellular CO ₂ concentration in a temperate rain forest dominated by <i>Dacrydium cupressinum</i> in New Zealand. <i>Plant, Cell and Environment</i> , 2006, 29, 497-510. | 5.7 | 11 |
| 75 | Components of ecosystem evaporation in a temperate coniferous rainforest, with canopy transpiration scaled using sapwood density. <i>New Phytologist</i> , 2005, 165, 549-558. | 7.3 | 55 |
| 76 | Variation in the degree of coupling between $\delta^{13}\text{C}$ of phloem sap and ecosystem respiration in two mature <i>Nothofagus</i> forests. <i>New Phytologist</i> , 2005, 166, 497-512. | 7.3 | 68 |
| 77 | Sap flow rates and sapwood density are critical factors in within- and between-tree variation in CO ₂ efflux from stems of mature <i>Dacrydium cupressinum</i> trees. <i>New Phytologist</i> , 2005, 167, 815-828. | 7.3 | 83 |
| 78 | Photosynthesis and reflectance indices for rainforest species in ecosystems undergoing progression and retrogression along a soil fertility chronosequence in New Zealand. <i>Oecologia</i> , 2005, 144, 233-244. | 2.0 | 56 |
| 79 | Sucrose application, soil microbial respiration and evolved carbon dioxide isotope enrichment under contrasting land uses. <i>Plant and Soil</i> , 2005, 268, 233-242. | 3.7 | 17 |
| 80 | Nocturnal stomatal conductance and implications for modelling $\delta^{18}\text{O}$ of leaf-respired CO ₂ in temperate tree species. <i>Functional Plant Biology</i> , 2005, 32, 1107. | 2.1 | 67 |
| 81 | Factors Affecting the Oxygen Isotope Ratio of Plant Organic Material. , 2005, , 9-28. | | 22 |
| 82 | Expressing leaf water and cellulose oxygen isotope ratios as enrichment above source water reveals evidence of a Péclet effect. <i>Oecologia</i> , 2004, 138, 426-435. | 2.0 | 252 |
| 83 | Do pathways of water movement and leaf anatomical dimensions allow development of gradients in H ₂ ¹⁸ O between veins and the sites of evaporation within leaves?. <i>Plant, Cell and Environment</i> , 2004, 27, 107-121. | 5.7 | 86 |
| 84 | A demonstration of the theoretical prediction that sap velocity is related to wood density in the conifer <i>Dacrydium cupressinum</i> . <i>New Phytologist</i> , 2003, 158, 477-488. | 7.3 | 41 |
| 85 | Seasonal variation in $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ of cellulose from growth rings of <i>Pinus radiata</i> . <i>Plant, Cell and Environment</i> , 2002, 25, 1483-1499. | 5.7 | 239 |
| 86 | Correlations between oxygen isotope ratios of wood constituents of <i>Quercus</i> and <i>Pinus</i> samples from around the world. <i>Functional Plant Biology</i> , 2001, 28, 335. | 2.1 | 69 |
| 87 | Relative humidity- and ABA-induced variation in carbon and oxygen isotope ratios of cotton leaves. <i>Plant, Cell and Environment</i> , 2000, 23, 473-485. | 5.7 | 337 |
| 88 | Oxygen isotope ratio of leaf and grain material correlates with stomatal conductance and grain yield in irrigated wheat. <i>Functional Plant Biology</i> , 2000, 27, 625. | 2.1 | 83 |
| 89 | Variation in the Oxygen Isotope Ratio of Phloem Sap Sucrose from Castor Bean. Evidence in Support of the Péclet Effect. <i>Plant Physiology</i> , 2000, 123, 671-680. | 4.8 | 150 |