Thomas N Buckley

List of Publications by Year
in descending order

84 papers	6,662 citations	76326 40 h-index	66911 78 g-index
91 all docs	91 docs citations	91 times ranked	6947 citing authors

#	Article	IF	Citations
1	The threeâ€dimensional construction of leaves is coordinated with water use efficiency in conifers. New Phytologist, 2022, 233, 851-861.	7.3	9
2	Detecting short-term stress and recovery events in a vineyard using tower-based remote sensing of photochemical reflectance index (PRI). Irrigation Science, 2022, 40, 683-696.	2.8	10
3	Testing the association of relative growth rate and adaptation to climate across natural ecotypes of <i>Arabidopsis</i>. New Phytologist, 2022, 236, 413-432.	7.3	5
4	A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232.	5.2	22
5	Optimal carbon partitioning helps reconcile the apparent divergence between optimal and observed canopy profiles of photosynthetic capacity. New Phytologist, 2021, 230, 2246-2260.	7.3	11
6	A double-ratio method to measure fast, slow and reverse sap flows. Tree Physiology, 2021, 41, 2438-2453.	3.1	3
7	CO2, nitrogen deposition and a discontinuous climate response drive water use efficiency in global forests. Nature Communications, 2021, 12, 5194.	12.8	30
8	Importance of the legacy effect for assessing spatiotemporal correspondence between interannual tree-ring width and remote sensing products in the Sierra Nevada. Remote Sensing of Environment, 2021, 265, 112635.	11.0	14
9	Trait Multi-Functionality in Plant Stress Response. Integrative and Comparative Biology, 2020, 60, 98-112.	2.0	41
10	Wide variation in the suboptimal distribution of photosynthetic capacity in relation to light across genotypes of wheat. AoB PLANTS, 2020, 12, plaa039.	2.3	8
11	Plant responses to rising vapor pressure deficit. New Phytologist, 2020, 226, 1550-1566.	7.3	814
12	Diminishing CO2-driven gains in water-use efficiency of global forests. Nature Climate Change, 2020, 10, 466-471.	18.8	76
13	Coordinated decline of leaf hydraulic and stomatal conductances under drought is not linked to leaf xylem embolism for different grapevine cultivars. Journal of Experimental Botany, 2020, 71, 7286-7300.	4.8	18
14	Rainfall drives variation in rates of change in intrinsic water use efficiency of tropical forests. Nature Communications, 2019, 10, 3661.	12.8	17
15	PARbars: Cheap, Easy to Build Ceptometers for Continuous Measurement of Light Interception in Plant Canopies. Journal of Visualized Experiments, 2019, , .	0.3	2
16	The response of mesophyll conductance to short- and long-term environmental conditions in chickpea genotypes. AoB PLANTS, 2019, 11, ply073.	2.3	14
17	The humidity inside leaves and why you should care: implications of unsaturation of leaf intercellular airspaces. American Journal of Botany, 2019, 106, 618-621.	1.7	23
18	How do stomata respond to water status?. New Phytologist, 2019, 224, 21-36.	7.3	308

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19	Improvement of a simplified processâ€based model for estimating transpiration under waterâ€limited conditions. Hydrological Processes, 2019, 33, 1670-1685.	2.6	18
20	Rate of photosynthetic induction in fluctuating light varies widely among genotypes of wheat. Journal of Experimental Botany, 2019, 70, 2787-2796.	4.8	69
21	Embracing 3D Complexity in Leaf Carbonâ€“Water Exchange. Trends in Plant Science, 2019, 24, 15-24.	8.8	55
22	Tamm Review: Reforestation for resilience in dry western U.S. forests. Forest Ecology and Management, 2019, 432, 209-224.	3.2	109
23	Crops, Nitrogen, Water: Are Legumes Friend, Foe, or Misunderstood Ally?. Trends in Plant Science, 2018, 23, 539-550.	8.8	33
24	ABA Accumulation in Dehydrating Leaves Is Associated with Decline in Cell Volume, Not Turgor Pressure. Plant Physiology, 2018, 176, 489-495.	4.8	61
25	Contrasting responses of crop legumes and cereals to nitrogen availability. New Phytologist, 2018, 217, 1475-1483.	7.3	23
26	Timeâ€Dependent Bias in Instantaneous Ceptometry Caused by Row Orientation. The Plant Phenome Journal, 2018, 1, 1-10.	2.0	7
27	Leaf Water Transport: A Core System in the Evolution and Physiology of Photosynthesis. Advances in Photosynthesis and Respiration, 2018, , 81-96.	1.0	1
28	The Causes of Leaf Hydraulic Vulnerability and Its Influence on Gas Exchange in <i>Arabidopsis thaliana</i>. Plant Physiology, 2018, 178, 1584-1601.	4.8	50
29	A multiplexed gas exchange system for increased throughput of photosynthetic capacity measurements. Plant Methods, 2018, 14, 80.	4.3	11
30	Outside-Xylem Vulnerability, Not Xylem Embolism, Controls Leaf Hydraulic Decline during Dehydration. Plant Physiology, 2017, 173, 1197-1210.	4.8	195
31	Modeling Stomatal Conductance. Plant Physiology, 2017, 174, 572-582.	4.8	154
32	The Sites of Evaporation within Leaves. Plant Physiology, 2017, 173, 1763-1782.	4.8	105
33	The anatomical and compositional basis of leaf mass per area. Ecology Letters, 2017, 20, 412-425.	6.4	139
34	Tracking the origins of the Kok effect, 70 years after its discovery. New Phytologist, 2017, 214, 506-510.	7.3	40
35	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
36	The Kok effect in <i><scp>V</scp>icia faba</i> cannot be explained solely by changes in chloroplastic <scp>CO</scp>₂ concentration. New Phytologist, 2017, 216, 1064-1071.	7.3	28

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37	A Dynamic Hydro-Mechanical and Biochemical Model of Stomatal Conductance for C₄ Photosynthesis. Plant Physiology, 2017, 175, 104-119.	4.8	23
38	Leaf vein xylem conduit diameter influences susceptibility to embolism and hydraulic decline. New Phytologist, 2017, 213, 1076-1092.	7.3	102
39	Leaf water stable isotopes and water transport outside the xylem. Plant, Cell and Environment, 2017, 40, 914-920.	5.7	20
40	Optimal plant water economy. Plant, Cell and Environment, 2017, 40, 881-896.	5.7	93
41	Most stomatal closure in woody species under moderate drought can be explained by stomatal responses to leaf turgor. Plant, Cell and Environment, 2016, 39, 2014-2026.	5.7	133
42	Stomatal responses to humidity: has the â€˜black boxâ€™ finally been opened?. Plant, Cell and Environment, 2016, 39, 482-484.	5.7	39
43	The Developmental Basis of Stomatal Density and Flux Â. Plant Physiology, 2016, 171, 2358-2363.	4.8	86
44	Why are leaves hydraulically vulnerable?. Journal of Experimental Botany, 2016, 67, 4917-4919.	4.8	22
45	The Anatomical Determinants of Leaf Hydraulic Function. , 2015, , 255-271.		19
46	Partitioning changes in photosynthetic rate into contributions from different variables. Plant, Cell and Environment, 2015, 38, 1200-1211.	5.7	33
47	How Does Leaf Anatomy Influence Water Transport outside the Xylem?. Plant Physiology, 2015, 168, 1616-1635.	4.8	177
48	How does biomass distribution change with size and differ among species? An analysis for 1200 plant species from five continents. New Phytologist, 2015, 208, 736-749.	7.3	239
49	Reporting estimates of maximum potential electron transport rate. New Phytologist, 2015, 205, 14-17.	7.3	33
50	The contributions of apoplastic, symplastic and gas phase pathways for water transport outside the bundle sheath in leaves. Plant, Cell and Environment, 2015, 38, 7-22.	5.7	126
51	Stomatal optimisation in relation to atmospheric <scp>CO</scp>₂. New Phytologist, 2014, 201, 372-377.	7.3	67
52	The role of mesophyll conductance in the economics of nitrogen and water use in photosynthesis. Photosynthesis Research, 2014, 119, 77-88.	2.9	42
53	Is stomatal conductance optimized over both time and space in plant crowns? A field test in grapevine (V itis vinifera). Plant, Cell and Environment, 2014, 37, 2707-2721.	5.7	37
54	Anatomical and physiological regulation of post-fire carbon and water exchange in canopies of two resprouting Eucalyptus species. Oecologia, 2014, 176, 333-343.	2.0	5

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55	What does optimization theory actually predict about crown profiles of photosynthetic capacity when models incorporate greater realism?. Plant, Cell and Environment, 2013, 36, 1547-1563.	5.7	89
56	Modelling stomatal conductance in response to environmental factors. Plant, Cell and Environment, 2013, 36, 1691-1699.	5.7	158
57	Differences in water use between mature and post-fire regrowth stands of subalpine Eucalyptus delegatensis R. Baker. Forest Ecology and Management, 2012, 270, 1-10.	3.2	39
58	Steps toward an improvement in process-based models of water use by fruit trees: A case study in olive. Agricultural Water Management, 2012, 114, 37-49.	5.6	62
59	Simple models for stomatal conductance derived from a process model: crossâ€validation against sap flux data. Plant, Cell and Environment, 2012, 35, 1647-1662.	5.7	60
60	Siteâ€specific responses to shortâ€term environmental variation are reflected in leaf and phloemâ€sap carbon isotopic abundance of field grown <i>Eucalyptus globulus</i>. Physiologia Plantarum, 2012, 146, 448-459.	5.2	12
61	An analytical model of nonâ€photorespiratory CO₂ release in the light and dark in leaves of C₃ species based on stoichiometric flux balance. Plant, Cell and Environment, 2011, 34, 89-112.	5.7	52
62	Nocturnal water loss in mature subalpine <i>Eucalyptus delegatensis</i> tall open forests and adjacent <i>E. pauciflora</i> woodlands. Ecology and Evolution, 2011, 1, 435-450.	1.9	37
63	The Role of Bundle Sheath Extensions and Life Form in Stomatal Responses to Leaf Water Status Â Â. Plant Physiology, 2011, 156, 962-973.	4.8	96
64	Capacity of Old Trees to Respond to Environmental Change. Journal of Integrative Plant Biology, 2008, 50, 1355-1364.	8.5	42
65	The role of stomatal acclimation in modelling tree adaptation to high CO2. Journal of Experimental Botany, 2008, 59, 1951-1961.	4.8	31
66	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
67	DESPOT, a process-based tree growth model that allocates carbon to maximize carbon gain. Tree Physiology, 2006, 26, 129-144.	3.1	48
68	Dynamics of stomatal water relations following leaf excision. Plant, Cell and Environment, 2006, 29, 981-992.	5.7	40
69	Evidence for Involvement of Photosynthetic Processes in the Stomatal Response to CO2 Â. Plant Physiology, 2006, 140, 771-778.	4.8	208
70	How should leaf area, sapwood area and stomatal conductance vary with tree height to maximize growth?. Tree Physiology, 2006, 26, 145-157.	3.1	59
71	The control of stomata by water balance. New Phytologist, 2005, 168, 275-292.	7.3	558
72	What is NPP? Inconsistent accounting of respiratory fluxes in the definition of net primary production. Functional Ecology, 2005, 19, 378-382.	3.6	71

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73	A new analytical model for whole-leaf potential electron transport rate. Plant, Cell and Environment, 2004, 27, 1487-1502.	5.7	32
74	A hydromechanical and biochemical model of stomatal conductance. Plant, Cell and Environment, 2003, 26, 1767-1785.	5.7	277
75	Dynamics of stomatal water relations during the humidity response: implications of two hypothetical mechanisms. Plant, Cell and Environment, 2002, 25, 407-419.	5.7	42
76	Stomatal Water Relations and the Control of Hydraulic Supply and Demand. Progress in Botany Fortschritte Der Botanik, 2002, , 309-325.	0.3	46
77	Guard Cell Volume and Pressure Measured Concurrently by Confocal Microscopy and the Cell Pressure Probe. Plant Physiology, 2001, 125, 1577-1584.	4.8	113
78	Stomatal responses to nonâ€local changes in PFD: evidence for longâ€distance hydraulic interactions. Plant, Cell and Environment, 2000, 23, 301-309.	5.7	35
79	Patchy stomatal conductance: emergent collective behaviour of stomata. Trends in Plant Science, 2000, 5, 258-262.	8.8	155
80	Effects of humidity on light-induced stomatal opening: evidence for hydraulic coupling among stomata. Journal of Experimental Botany, 1999, 50, 1207-1213.	4.8	37
81	Carbon-water balance and patchy stomatal conductance. Oecologia, 1999, 118, 132-143.	2.0	40
82	Effects of humidity on light-induced stomatal opening: evidence for hydraulic coupling among stomata. Journal of Experimental Botany, 1999, 50, 1207-1213.	4.8	11
83	Qualitative effects of patchy stomatal conductance distribution features on gas-exchange calculations. Plant, Cell and Environment, 1997, 20, 867-880.	5.7	86
84	A spatially explicit model of patchy stomatal responses to humidity. Plant, Cell and Environment, 1997, 20, 1087-1097.	5.7	67