# Brendan Choat

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6752667/publications.pdf

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|---|---|---|---|
| 117 papers | 14,684 citations | 26610 56 h-index | 20343 116 g-index |
| 123 all docs | 123 docs citations | 123 times ranked | 10923 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Tapping into the physiological responses to mistletoe infection during heat and drought stress. Tree Physiology, 2022, 42, 523-536. | 1.4 | 8 |
| 2 | Testing the limits of plant drought stress and subsequent recovery in four provenances of a widely distributed subtropical tree species. Plant, Cell and Environment, 2022, 45, 1187-1203. | 2.8 | 13 |
| 3 | Mechanisms of xylem hydraulic recovery after drought in Eucalyptus saligna. Plant, Cell and Environment, 2022, 45, 1216-1228. | 2.8 | 19 |
| 4 | One Stomatal Model to Rule Them All? Toward Improved Representation of Carbon and Water Exchange in Global Models. Journal of Advances in Modeling Earth Systems, 2022, 14, . | 1.3 | 20 |
| 5 | Mechanisms of woody-plant mortality under rising drought, CO2 and vapour pressure deficit. Nature Reviews Earth & Environment, 2022, 3, 294-308. | 12.2 | 163 |
| 6 | High safety margins to droughtâ€induced hydraulic failure found in five pasture grasses. Plant, Cell and Environment, 2022, 45, 1631-1646. | 2.8 | 9 |
| 7 | Leaf water potential measurements using the pressure chamber: Synthetic testing of assumptions towards best practices for precision and accuracy. Plant, Cell and Environment, 2022, 45, 2037-2061. | 2.8 | 40 |
| 8 | Towards speciesâ€level forecasts of droughtâ€induced tree mortality risk. New Phytologist, 2022, 235, 94-110. | 3.5 | 12 |
| 9 | Unlocking Drought-Induced Tree Mortality: Physiological Mechanisms to Modeling. Frontiers in Plant Science, 2022, 13, 835921. | 1.7 | 6 |
| 10 | Drought-related leaf functional traits control spatial and temporal dynamics of live fuel moisture content. Agricultural and Forest Meteorology, 2022, 319, 108941. | 1.9 | 11 |
| 11 | Conduit position and connectivity affect the likelihood of xylem embolism during natural drought in evergreen woodland species. Annals of Botany, 2022, 130, 431-444. | 1.4 | 5 |
| 12 | The Role of Hydraulic Failure in a Massive Mangrove Die-Off Event. Frontiers in Plant Science, 2022, 13, 822136. | 1.7 | 3 |
| 13 | The carbon cost of the 2019â€“20 Australian fires varies with fire severity and forest type. Global Ecology and Biogeography, 2022, 31, 2131-2146. | 2.7 | 3 |
| 14 | Coordination of stem and leaf traits define different strategies to regulate water loss and tolerance ranges to aridity. New Phytologist, 2021, 230, 497-509. | 3.5 | 49 |
| 15 | Vulnerability to xylem cavitation of Hakea species (Proteaceae) from a range of biomes and life histories predicted by climatic niche. Annals of Botany, 2021, 127, 909-918. | 1.4 | 4 |
| 16 | Variation in Xylem Hydraulic Structure and Function of Two Mangrove Species across a Latitudinal Gradient in Eastern Australia. Water (Switzerland), 2021, 13, 850. | 1.2 | 7 |
| 17 | Hydraulic failure and tree size linked with canopy dieâ€back in eucalypt forest during extreme drought. New Phytologist, 2021, 230, 1354-1365. | 3.5 | 70 |
| 18 | Living on the edge: A continentalâ€scale assessment of forest vulnerability to drought. Global Change Biology, 2021, 27, 3620-3641. | 4.2 | 50 |

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|---|---|---|---|
| 19 | Hydraulic prediction of droughtâ€induced plant dieback and topâ€kill depends on leaf habit and growth form. Ecology Letters, 2021, 24, 2350-2363. | 3.0 | 31 |
| 20 | Stability of tropical forest tree carbonâ€water relations in a rainfall exclusion treatment through shifts in effective water uptake depth. Global Change Biology, 2021, 27, 6454-6466. | 4.2 | 17 |
| 21 | AusTraits, a curated plant trait database for the Australian flora. Scientific Data, 2021, 8, 254. | 2.4 | 73 |
| 22 | Drought resistance of cotton (Gossypium hirsutum) is promoted by early stomatal closure and leaf shedding. Functional Plant Biology, 2020, 47, 91. | 1.1 | 23 |
| 23 | TRY plant trait database â€“ enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188. | 4.2 | 1,038 |
| 24 | Linking Forest Flammability and Plant Vulnerability to Drought. Forests, 2020, 11, 779. | 0.9 | 64 |
| 25 | Temperature alters the response of hydraulic architecture to CO2 in cotton plants (Gossypium) Tj ETQq1 1 0.784314 rgBT /Overlock | 2.0 | 7 |
| 26 | Non-invasive imaging reveals convergence in root and stem vulnerability to cavitation across five tree species. Journal of Experimental Botany, 2020, 71, 6623-6637. | 2.4 | 19 |
| 27 | Non-invasive measurement of leaf water content and pressureâ€“volume curves using terahertz radiation. Scientific Reports, 2020, 10, 21028. | 1.6 | 9 |
| 28 | Warming Reduces Net Carbon Gain and Productivity in Medicago sativa L. and Festuca arundinacea. Agronomy, 2020, 10, 1601. | 1.3 | 8 |
| 29 | Visual and hydraulic techniques produce similar estimates of cavitation resistance in woody species. New Phytologist, 2020, 228, 884-897. | 3.5 | 37 |
| 30 | Identifying areas at risk of droughtâ€induced tree mortality across Southâ€Eastern Australia. Global Change Biology, 2020, 26, 5716-5733. | 4.2 | 79 |
| 31 | Xylem Embolism Spreads by Single-Conduit Events in Three Dry Forest Angiosperm Stems. Plant Physiology, 2020, 184, 212-222. | 2.3 | 33 |
| 32 | Lack of vulnerability segmentation in four angiosperm tree species: evidence from direct X-ray microtomography observation. Annals of Forest Science, 2020, 77, 1. | 0.8 | 26 |
| 33 | Hanging by a thread? Forests and drought. Science, 2020, 368, 261-266. | 6.0 | 431 |
| 34 | Mitigating the open vessel artefact in centrifuge-based measurement of embolism resistance. Tree Physiology, 2019, 39, 143-155. | 1.4 | 17 |
| 35 | Non-invasive imaging shows no evidence of embolism repair after drought in tree species of two genera. Tree Physiology, 2019, 39, 113-121. | 1.4 | 41 |
| 36 | Desiccation time during drought is highly predictable across species of Eucalyptus from contrasting climates. New Phytologist, 2019, 224, 632-643. | 3.5 | 65 |

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|---|---|---|---|
| 37 | Incorporating non-stomatal limitation improves the performance of leaf and canopy models at high vapour pressure deficit. Tree Physiology, 2019, 39, 1961-1974. | 1.4 | 24 |
| 38 | Leaf economics and plant hydraulics drive leaf : wood area ratios. New Phytologist, 2019, 224, 1544-1556. | 3.5 | 77 |
| 39 | Drought tolerance traits do not vary across sites differing in water availability in Banksia serrata (Proteaceae). Functional Plant Biology, 2019, 46, 624. | 1.1 | 7 |
| 40 | Drought response strategies and hydraulic traits contribute to mechanistic understanding of plant dry-down to hydraulic failure. Tree Physiology, 2019, 39, 910-924. | 1.4 | 96 |
| 41 | More than iso/anisohydry: Hydroscapes integrate plant water use and drought tolerance traits in 10 eucalypt species from contrasting climates. Functional Ecology, 2019, 33, 1035-1049. | 1.7 | 60 |
| 42 | Embracing 3D Complexity in Leaf Carbonâ€“Water Exchange. Trends in Plant Science, 2019, 24, 15-24. | 4.3 | 55 |
| 43 | CO2 availability influences hydraulic function of C3 and C4 grass leaves. Journal of Experimental Botany, 2018, 69, 2731-2741. | 2.4 | 21 |
| 44 | Woody plants optimise stomatal behaviour relative to hydraulic risk. Ecology Letters, 2018, 21, 968-977. | 3.0 | 109 |
| 45 | Tree hydraulic traits are coordinated and strongly linked to climateâ€ofâ€origin across a rainfall gradient. Plant, Cell and Environment, 2018, 41, 646-660. | 2.8 | 120 |
| 46 | Trees tolerate an extreme heatwave via sustained transpirational cooling and increased leaf thermal tolerance. Global Change Biology, 2018, 24, 2390-2402. | 4.2 | 242 |
| 47 | Is embolism resistance in plant xylem associated with quantity and characteristics of lignin?. Trees - Structure and Function, 2018, 32, 349-358. | 0.9 | 58 |
| 48 | An inconvenient truth about xylem resistance to embolism in the model species for refilling Laurus nobilis L.. Annals of Forest Science, 2018, 75, 1. | 0.8 | 53 |
| 49 | Is xylem of angiosperm leaves less resistant to embolism than branches? Insights from microCT, hydraulics, and anatomy. Journal of Experimental Botany, 2018, 69, 5611-5623. | 2.4 | 46 |
| 50 | Triggers of tree mortality under drought. Nature, 2018, 558, 531-539. | 13.7 | 957 |
| 51 | Maximum-likelihood estimation of xylem vessel length distributions. Journal of Theoretical Biology, 2018, 455, 329-341. | 0.8 | 6 |
| 52 | Xylem embolism measured retrospectively is linked to canopy dieback in natural populations of Eucalyptus piperita following drought. Tree Physiology, 2018, 38, 1193-1199. | 1.4 | 25 |
| 53 | Coordination between leaf, stem, and root hydraulics and gas exchange in three aridâ€zone angiosperms during severe drought and recovery. Plant, Cell and Environment, 2018, 41, 2869-2881. | 2.8 | 69 |
| 54 | Casting light on xylem vulnerability in an herbaceous species reveals a lack of segmentation. New Phytologist, 2017, 214, 561-569. | 3.5 | 119 |

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|---|---|---|---|
| 55 | Visualization of xylem embolism by Xâ€ray microtomography: a direct test against hydraulic measurements. New Phytologist, 2017, 214, 890-898. | 3.5 | 61 |
| 56 | An empirical method that separates irreversible stem radial growth from bark water content changes in trees: theory and case studies. Plant, Cell and Environment, 2017, 40, 290-303. | 2.8 | 86 |
| 57 | Xylem resistance to embolism: presenting a simple diagnostic test for the open vessel artefact. New Phytologist, 2017, 215, 489-499. | 3.5 | 56 |
| 58 | Species climate range influences hydraulic and stomatal traits in Eucalyptus species. Annals of Botany, 2017, 120, 123-133. | 1.4 | 60 |
| 59 | Stomatal and non-stomatal limitations of photosynthesis for four tree species under drought: A comparison of model formulations. Agricultural and Forest Meteorology, 2017, 247, 454-466. | 1.9 | 91 |
| 60 | Plant water potential improves prediction of empirical stomatal models. PLoS ONE, 2017, 12, e0185481. | 1.1 | 77 |
| 61 | Leaf gas exchange performance and the lethal water potential of five European species during drought. Tree Physiology, 2016, 36, tpv117. | 1.4 | 55 |
| 62 | Linking hydraulic traits to tropical forest function in a size-structured and trait-driven model (TFSÂv.1-Hydro). Geoscientific Model Development, 2016, 9, 4227-4255. | 1.3 | 211 |
| 63 | Plasticity in Vulnerability to Cavitation of Pinus canariensis Occurs Only at the Driest End of an Aridity Gradient. Frontiers in Plant Science, 2016, 7, 769. | 1.7 | 60 |
| 64 | Are needles of Pinus pinaster more vulnerable to xylem embolism than branches? New insights from Xâ€ray computed tomography. Plant, Cell and Environment, 2016, 39, 860-870. | 2.8 | 74 |
| 65 | Weak tradeoff between xylem safety and xylemâ€specific hydraulic efficiency across the world's woody plant species. New Phytologist, 2016, 209, 123-136. | 3.5 | 466 |
| 66 | Water, nitrogen and phosphorus use efficiencies of four tree species in response to variable water and nutrient supply. Plant and Soil, 2016, 406, 187-199. | 1.8 | 43 |
| 67 | Meta-analysis reveals that hydraulic traits explain cross-species patterns of drought-induced tree mortality across the globe. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5024-5029. | 3.3 | 554 |
| 68 | On research priorities to advance understanding of the safetyâ€“efficiency tradeoff in xylem. New Phytologist, 2016, 211, 1156-1158. | 3.5 | 21 |
| 69 | Evidence for Hydraulic Vulnerability Segmentation and Lack of Xylem Refilling under Tension. Plant Physiology, 2016, 172, 1657-1668. | 2.3 | 132 |
| 70 | The correlations and sequence of plant stomatal, hydraulic, and wilting responses to drought. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13098-13103. | 3.3 | 362 |
| 71 | Toward an index of desiccation time to tree mortality under drought. Plant, Cell and Environment, 2016, 39, 2342-2345. | 2.8 | 83 |
| 72 | Noninvasive Measurement of Vulnerability to Drought-Induced Embolism by X-Ray Microtomography. Plant Physiology, 2016, 170, 273-282. | 2.3 | 133 |

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|---|---|---|---|
| 73 | Synchrotron Xâ€ray microtomography of xylem embolism in Sequoia sempervirens saplings during cycles of drought and recovery. New Phytologist, 2015, 205, 1095-1105. | 3.5 | 127 |
| 74 | Stem and leaf hydraulic properties are finely coordinated in three tropical rain forest tree species. Plant, Cell and Environment, 2015, 38, 2652-2661. | 2.8 | 69 |
| 75 | Direct X-Ray Microtomography Observation Confirms the Induction of Embolism upon Xylem Cutting under Tension. Plant Physiology, 2015, 167, 40-43. | 2.3 | 156 |
| 76 | Drought responses of two gymnosperm species with contrasting stomatal regulation strategies under elevated [CO<sub>2</sub>] and temperature. Tree Physiology, 2015, 35, 756-770. | 1.4 | 66 |
| 77 | Increasing leaf hydraulic conductance with transpiration rate minimizes the water potential drawdown from stem to leaf. Journal of Experimental Botany, 2015, 66, 1303-1315. | 2.4 | 58 |
| 78 | Cavitation Resistance in Seedless Vascular Plants: The Structure and Function of Interconduit Pit Membranes Â Â. Plant Physiology, 2014, 165, 895-904. | 2.3 | 53 |
| 79 | How drought and deciduousness shape xylem plasticity in three Costa Rican woody plant species. IAWA Journal, 2014, 35, 337-355. | 2.7 | 17 |
| 80 | Rapid hydraulic recovery in <scp>E</scp>ucalyptus pauciflora after drought: linkages between stem hydraulics and leaf gas exchange. Plant, Cell and Environment, 2014, 37, 617-626. | 2.8 | 112 |
| 81 | Elevated [<scp><scp>CO</scp></scp><sub>2</sub>] does not ameliorate the negative effects of elevated temperature on droughtâ€induced mortality in <scp>E</scp>ucalyptus radiata seedlings. Plant, Cell and Environment, 2014, 37, 1598-1613. | 2.8 | 108 |
| 82 | Methods for measuring plant vulnerability to cavitation: a critical review. Journal of Experimental Botany, 2013, 64, 4779-4791. | 2.4 | 319 |
| 83 | Xylem vessel relays contribute to radial connectivity in grapevine stems (Vitis vinifera and V.) Tj ETQq1 1 0.784314 rgBT /Ov | 0.8 | 60 |
| 84 | In Vivo Visualizations of Drought-Induced Embolism Spread in Vitis vinifera Â Â Â. Plant Physiology, 2013, 161, 1820-1829. | 2.3 | 179 |
| 85 | Predicting thresholds of drought-induced mortality in woody plant species. Tree Physiology, 2013, 33, 669-671. | 1.4 | 71 |
| 86 | Carbon dynamics of eucalypt seedlings exposed to progressive drought in elevated [CO2] and elevated temperature. Tree Physiology, 2013, 33, 779-792. | 1.4 | 91 |
| 87 | PUTTING THE PUZZLE TOGETHER: INVESTIGATING HYDRAULIC FUNCTIONING AND WATER TRANSPORT AT HIGH SPATIAL RESOLUTION IN TALL TREES. Acta Horticulturae, 2013, , 245-251. | 0.1 | 1 |
| 88 | Using High Resolution Computed Tomography to Visualize the Three Dimensional Structure and Function of Plant Vasculature. Journal of Visualized Experiments, 2013, , . | 0.2 | 32 |
| 89 | Global convergence in the vulnerability of forests to drought. Nature, 2012, 491, 752-755. | 13.7 | 1,944 |
| 90 | Centrifuge technique consistently overestimates vulnerability to water stressâ€induced cavitation in grapevines as confirmed with highâ€resolution computed tomography. New Phytologist, 2012, 196, 661-665. | 3.5 | 50 |

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|---|---|---|---|
| 91 | Measurements of stem xylem hydraulic conductivity in the laboratory and field. Methods in Ecology and Evolution, 2012, 3, 685-694. | 2.2 | 110 |
| 92 | Testing hypotheses that link wood anatomy to cavitation resistance and hydraulic conductivity in the genus Acer. New Phytologist, 2011, 190, 709-723. | 3.5 | 393 |
| 93 | Automated analysis of threeâ€dimensional xylem networks using highâ€resolution computed tomography. New Phytologist, 2011, 191, 1168-1179. | 3.5 | 122 |
| 94 | Xylem traits mediate a tradeâ€off between resistance to freezeâ€“thawâ€induced embolism and photosynthetic capacity in overwintering evergreens. New Phytologist, 2011, 191, 996-1005. | 3.5 | 74 |
| 95 | In situ Turgor Stability in Grape Mesocarp Cells and Its Relation to Cell Dimensions and Microcapillary Tip Size and Geometry. Environmental Control in Biology, 2011, 49, 61-73. | 0.3 | 5 |
| 96 | A unique web resource for physiology, ecology and the environmental sciences: PrometheusWiki. Functional Plant Biology, 2010, 37, 687. | 1.1 | 20 |
| 97 | Measurement of vulnerability to water stress-induced cavitation in grapevine: a comparison of four techniques applied to a long-vesseled species. Plant, Cell and Environment, 2010, 33, no-no. | 2.8 | 175 |
| 98 | The Relationships between Xylem Safety and Hydraulic Efficiency in the Cupressaceae: The Evolution of Pit Membrane Form and Function Â Â. Plant Physiology, 2010, 153, 1919-1931. | 2.3 | 123 |
| 99 | The Dynamics of Embolism Repair in Xylem: In Vivo Visualizations Using High-Resolution Computed Tomography Â Â Â. Plant Physiology, 2010, 154, 1088-1095. | 2.3 | 335 |
| 100 | Morphological variation of intervessel pit membranes and implications to xylem function in angiosperms. American Journal of Botany, 2009, 96, 409-419. | 0.8 | 258 |
| 101 | Vascular Function in Grape Berries across Development and Its Relevance to Apparent Hydraulic Isolation. Plant Physiology, 2009, 151, 1677-1687. | 2.3 | 108 |
| 102 | The effects of Pierce's disease on leaf and petiole hydraulic conductance in Vitis vinifera cv. Chardonnay. Physiologia Plantarum, 2009, 136, 384-394. | 2.6 | 28 |
| 103 | New insights into bordered pit structure and cavitation resistance in angiosperms and conifers. New Phytologist, 2009, 182, 557-560. | 3.5 | 49 |
| 104 | Structure and function of bordered pits: new discoveries and impacts on wholeâ€plant hydraulic function. New Phytologist, 2008, 177, 608-626. | 3.5 | 486 |
| 105 | Pit membranes in tracheary elements of Rosaceae and related families: new records of tori and pseudotori. American Journal of Botany, 2007, 94, 503-514. | 0.8 | 27 |
| 106 | Dynamics of freezeâ€“thaw embolism in Smilax rotundifolia (Smilacaceae). American Journal of Botany, 2007, 94, 640-649. | 0.8 | 48 |
| 107 | The role of freezing in setting the latitudinal limits of mangrove forests. New Phytologist, 2007, 173, 576-583. | 3.5 | 208 |
| 108 | Diversity of hydraulic traits in nine Cordia species growing in tropical forests with contrasting precipitation. New Phytologist, 2007, 175, 686-698. | 3.5 | 184 |

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|---|---|---|---|
| 109 | Linking physiological processes with mangrove forest structure: phosphorus deficiency limits canopy development, hydraulic conductivity and photosynthetic carbon gain in dwarf Rhizophora mangle. Plant, Cell and Environment, 2006, 29, 793-802. | 2.8 | 102 |
| 110 | Seasonal patterns of leaf gas exchange and water relations in dry rain forest trees of contrasting leaf phenology. Tree Physiology, 2006, 26, 657-664. | 1.4 | 49 |
| 111 | Direct measurements of intervessel pit membrane hydraulic resistance in two angiosperm tree species. American Journal of Botany, 2006, 93, 993-1000. | 0.8 | 86 |
| 112 | The spatial pattern of air seeding thresholds in mature sugar maple trees. Plant, Cell and Environment, 2005, 28, 1082-1089. | 2.8 | 126 |
| 113 | Hydraulic architecture of deciduous and evergreen dry rainforest tree species from north-eastern Australia. Trees - Structure and Function, 2005, 19, 305-311. | 0.9 | 177 |
| 114 | Changes in pit membrane porosity due to deflection and stretching: the role of vestured pits. Journal of Experimental Botany, 2004, 55, 1569-1575. | 2.4 | 143 |
| 115 | Intervascular pit membranes with a torus in the wood of Ulmus (Ulmaceae) and related genera. New Phytologist, 2004, 163, 51-59. | 3.5 | 61 |
| 116 | Pit Membrane Porosity and Water Stress-Induced Cavitation in Four Co-Existing Dry Rainforest Tree Species. Plant Physiology, 2003, 131, 41-48. | 2.3 | 207 |
| 117 | fitplc - an R package to fit hydraulic vulnerability curves. The Journal of Plant Hydraulics, 0, 4, e002. | 1.0 | 125 |