

William Anderegg

List of Publications by Year in descending order

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Version: 2024-02-01

117
papers

15,517
citations

22153

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18130

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docs citations

125
times ranked

12701
citing authors

#	ARTICLE	IF	CITATIONS
1	Temperature memory and non-structural carbohydrates mediate legacies of a hot drought in trees across the southwestern USA. <i>Tree Physiology</i> , 2022, 42, 71-85.	3.1	17
2	Systematic over-crediting in California's forest carbon offsets program. <i>Global Change Biology</i> , 2022, 28, 1433-1445.	9.5	69
3	Opportunities, challenges and pitfalls in characterizing plant water-use strategies. <i>Functional Ecology</i> , 2022, 36, 24-37.	3.6	27
4	Turgor-driven tree growth: scaling-up sink limitations from the cell to the forest. <i>Tree Physiology</i> , 2022, 42, 225-228.	3.1	6
5	Heterogeneous isotope effects decouple conifer leaf and branch sugar $\delta^{18}O$ and $\delta^{13}C$. <i>Oecologia</i> , 2022, 198, 357-370.	2.0	2
6	Wood density and hydraulic traits influence species' growth response to drought across biomes. <i>Global Change Biology</i> , 2022, 28, 3871-3882.	9.5	34
7	Mechanisms of woody-plant mortality under rising drought, CO ₂ and vapour pressure deficit. <i>Nature Reviews Earth & Environment</i> , 2022, 3, 294-308.	29.7	163
8	Informing Nature-based Climate Solutions for the United States with the best available science. <i>Global Change Biology</i> , 2022, 28, 3778-3794.	9.5	28
9	Future climate risks from stress, insects and fire across US forests. <i>Ecology Letters</i> , 2022, 25, 1510-1520.	6.4	53
10	Cross-biome synthesis of source versus sink limits to tree growth. <i>Science</i> , 2022, 376, 758-761.	12.6	76
11	Drought-induced decoupling between carbon uptake and tree growth impacts forest carbon turnover time. <i>Agricultural and Forest Meteorology</i> , 2022, 322, 108996.	4.8	16
12	The NEON Daily Isotopic Composition of Environmental Exchanges Dataset. <i>Scientific Data</i> , 2022, 9, .	5.3	4
13	Temporal controls on crown nonstructural carbohydrates in southwestern US tree species. <i>Tree Physiology</i> , 2021, 41, 388-402.	3.1	12
14	Seasonal and diurnal trends in progressive isotope enrichment along needles in two pine species. <i>Plant, Cell and Environment</i> , 2021, 44, 143-155.	5.7	6
15	Understanding and predicting forest mortality in the western United States using long-term forest inventory data and modeled hydraulic damage. <i>New Phytologist</i> , 2021, 230, 1896-1910.	7.3	44
16	Rapid and surprising dieback of Utah juniper in the southwestern USA due to acute drought stress. <i>Forest Ecology and Management</i> , 2021, 480, 118639.	3.2	28
17	Testing the effects of species interactions and water limitation on tree seedling biomass allocation and physiology. <i>Tree Physiology</i> , 2021, 41, 1323-1335.	3.1	1
18	Reconciling carbon cycle processes from ecosystem to global scales. <i>Frontiers in Ecology and the Environment</i> , 2021, 19, 57-65.	4.0	12

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19	Genetic variation reveals individual-level climate tracking across the annual cycle of a migratory bird. <i>Ecology Letters</i> , 2021, 24, 819-828.	6.4	15
20	Anthropogenic climate change is worsening North American pollen seasons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	118
21	Optimization theory explains nighttime stomatal responses. <i>New Phytologist</i> , 2021, 230, 1550-1561.	7.3	19
22	Calibration Strategies for Detecting Macroscale Patterns in NEON Atmospheric Carbon Isotope Observations. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2021, 126, e2020JG005862.	3.0	4
23	Coupled whole-tree optimality and xylem hydraulics explain dynamic biomass partitioning. <i>New Phytologist</i> , 2021, 230, 2226-2245.	7.3	15
24	Climate and functional traits jointly mediate tree water-use strategies. <i>New Phytologist</i> , 2021, 231, 617-630.	7.3	53
25	Why is Tree Drought Mortality so Hard to Predict?. <i>Trends in Ecology and Evolution</i> , 2021, 36, 520-532.	8.7	130
26	Gambling With the Climate: How Risky of a Bet Are Natural Climate Solutions?. <i>AGU Advances</i> , 2021, 2, e2021AV000490.	5.4	7
27	Scaled biomass estimation in woodland ecosystems: Testing the individual and combined capacities of satellite multispectral and lidar data. <i>Remote Sensing of Environment</i> , 2021, 262, 112511.	11.0	33
28	Detecting forest response to droughts with global observations of vegetation water content. <i>Global Change Biology</i> , 2021, 27, 6005-6024.	9.5	73
29	Rapid increases in shrubland and forest intrinsic water-use efficiency during an ongoing megadrought. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	34
30	Forest and woodland replacement patterns following drought-related mortality. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 29720-29729.	7.1	99
31	Circadian Regulation Does Not Optimize Stomatal Behaviour. <i>Plants</i> , 2020, 9, 1091.	3.5	8
32	Hillslope Hydrology Influences the Spatial and Temporal Patterns of Remotely Sensed Ecosystem Productivity. <i>Water Resources Research</i> , 2020, 56, e2020WR027630.	4.2	21
33	Competition and Drought Alter Optimal Stomatal Strategy in Tree Seedlings. <i>Frontiers in Plant Science</i> , 2020, 11, 478.	3.6	15
34	Climate-driven risks to the climate mitigation potential of forests. <i>Science</i> , 2020, 368, .	12.6	346
35	Trait velocities reveal that mortality has driven widespread coordinated shifts in forest hydraulic trait composition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 8532-8538.	7.1	55
36	Ghosts of the past: how drought legacy effects shape forest functioning and carbon cycling. <i>Ecology Letters</i> , 2020, 23, 891-901.	6.4	168

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37	A multi-sensor, multi-scale approach to mapping tree mortality in woodland ecosystems. <i>Remote Sensing of Environment</i> , 2020, 245, 111853.	11.0	45
38	Plant hydraulics play a critical role in Earth system fluxes. <i>New Phytologist</i> , 2020, 226, 1535-1538.	7.3	31
39	A theoretical and empirical assessment of stomatal optimization modeling. <i>New Phytologist</i> , 2020, 227, 311-325.	7.3	69
40	Divergent forest sensitivity to repeated extreme droughts. <i>Nature Climate Change</i> , 2020, 10, 1091-1095.	18.8	160
41	Hot moments in ecosystem fluxes: High GPP anomalies exert outsized influence on the carbon cycle and are differentially driven by moisture availability across biomes. <i>Environmental Research Letters</i> , 2020, 15, 054004.	5.2	16
42	Widespread drought-induced tree mortality at dry range edges indicates that climate stress exceeds species' compensating mechanisms. <i>Global Change Biology</i> , 2019, 25, 3793-3802.	9.5	153
43	The stomatal response to rising CO ₂ concentration and drought is predicted by a hydraulic trait-based optimization model. <i>Tree Physiology</i> , 2019, 39, 1416-1427.	3.1	25
44	Plant Hydraulic Stress Explained Tree Mortality and Tree Size Explained Beetle Attack in a Mixed Conifer Forest. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019, 124, 3555-3568.	3.0	16
45	Leveraging plant hydraulics to yield predictive and dynamic plant leaf allocation in vegetation models with climate change. <i>Global Change Biology</i> , 2019, 25, 4008-4021.	9.5	38
46	Linking drought legacy effects across scales: From leaves to tree rings to ecosystems. <i>Global Change Biology</i> , 2019, 25, 2978-2992.	9.5	133
47	Plant functional traits and climate influence drought intensification and land-atmosphere feedbacks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 14071-14076.	7.1	70
48	Remote sensing of forest die-off in the Anthropocene: From plant ecophysiology to canopy structure. <i>Remote Sensing of Environment</i> , 2019, 231, 111233.	11.0	45
49	Plant water content integrates hydraulics and carbon depletion to predict drought-induced seedling mortality. <i>Tree Physiology</i> , 2019, 39, 1300-1312.	3.1	79
50	The competitive advantage of a constitutive CAM species over a C ₄ grass species under drought and CO ₂ enrichment. <i>Ecosphere</i> , 2019, 10, e02721.	2.2	13
51	Dead or dying? Quantifying the point of no return from hydraulic failure in drought-induced tree mortality. <i>New Phytologist</i> , 2019, 223, 1834-1843.	7.3	187
52	Climate and plant trait strategies determine tree carbon allocation to leaves and mediate future forest productivity. <i>Global Change Biology</i> , 2019, 25, 3395-3405.	9.5	53
53	Embolism recovery strategies and nocturnal water loss across species influenced by biogeographic origin. <i>Ecology and Evolution</i> , 2019, 9, 5348-5361.	1.9	25
54	Satellite-based vegetation optical depth as an indicator of drought-driven tree mortality. <i>Remote Sensing of Environment</i> , 2019, 227, 125-136.	11.0	79

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55	Testing early warning metrics for drought-induced tree physiological stress and mortality. <i>Global Change Biology</i> , 2019, 25, 2459-2469.	9.5	34
56	Phylogenetic and biogeographic controls of plant nighttime stomatal conductance. <i>New Phytologist</i> , 2019, 222, 1778-1788.	7.3	32
57	Pervasive decreases in living vegetation carbon turnover time across forest climate zones. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 24662-24667.	7.1	52
58	The impact of rising CO ₂ and acclimation on the response of US forests to global warming. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 25734-25744.	7.1	105
59	Greater focus on water pools may improve our ability to understand and anticipate drought-induced mortality in plants. <i>New Phytologist</i> , 2019, 223, 22-32.	7.3	134
60	Dependence of Aspen Stands on a Subsurface Water Subsidy: Implications for Climate Change Impacts. <i>Water Resources Research</i> , 2019, 55, 1833-1848.	4.2	36
61	Research frontiers for improving our understanding of drought-induced tree and forest mortality. <i>New Phytologist</i> , 2018, 218, 15-28.	7.3	334
62	Woody plants optimise stomatal behaviour relative to hydraulic risk. <i>Ecology Letters</i> , 2018, 21, 968-977.	6.4	109
63	Xylem embolism refilling and resilience against drought-induced mortality in woody plants: processes and trade-offs. <i>Ecological Research</i> , 2018, 33, 839-855.	1.5	116
64	Differential declines in Alaskan boreal forest vitality related to climate and competition. <i>Global Change Biology</i> , 2018, 24, 1097-1107.	9.5	37
65	Vegetation demographics in Earth System Models: A review of progress and priorities. <i>Global Change Biology</i> , 2018, 24, 35-54.	9.5	478
66	Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity. <i>Nature</i> , 2018, 553, 194-198.	27.8	325
67	Precipitation thresholds regulate net carbon exchange at the continental scale. <i>Nature Communications</i> , 2018, 9, 3596.	12.8	39
68	Hydraulic diversity of forests regulates ecosystem resilience during drought. <i>Nature</i> , 2018, 561, 538-541.	27.8	332
69	Distributed Plant Hydraulic and Hydrological Modeling to Understand the Susceptibility of Riparian Woodland Trees to Drought-Induced Mortality. <i>Water Resources Research</i> , 2018, 54, 4901-4915.	4.2	43
70	Soil Moisture Stress as a Major Driver of Carbon Cycle Uncertainty. <i>Geophysical Research Letters</i> , 2018, 45, 6495-6503.	4.0	119
71	A stomatal control model based on optimization of carbon gain versus hydraulic risk predicts aspen sapling responses to drought. <i>New Phytologist</i> , 2018, 220, 836-850.	7.3	93
72	Response of a facultative CAM plant and its competitive relationship with a grass to changes in rainfall regime. <i>Plant and Soil</i> , 2018, 427, 321-333.	3.7	5

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73	Tree carbon allocation explains forest drought kill and recovery patterns. <i>Ecology Letters</i> , 2018, 21, 1552-1560.	6.4	217
74	Accelerating net terrestrial carbon uptake during the warming hiatus due to reduced respiration. <i>Nature Climate Change</i> , 2017, 7, 148-152.	18.8	151
75	Convergence of bark investment according to fire and climate structures ecosystem vulnerability to future change. <i>Ecology Letters</i> , 2017, 20, 307-316.	6.4	90
76	Global patterns of drought recovery. <i>Nature</i> , 2017, 548, 202-205.	27.8	560
77	Predicting stomatal responses to the environment from the optimization of photosynthetic gain and hydraulic cost. <i>Plant, Cell and Environment</i> , 2017, 40, 816-830.	5.7	276
78	Impacts of droughts on the growth resilience of Northern Hemisphere forests. <i>Global Ecology and Biogeography</i> , 2017, 26, 166-176.	5.8	232
79	Plant hydraulics improves and topography mediates prediction of aspen mortality in southwestern USA. <i>New Phytologist</i> , 2017, 213, 113-127.	7.3	77
80	Estimating Global Ecosystem Isohydry/Anisohydry Using Active and Passive Microwave Satellite Data. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017, 122, 3306-3321.	3.0	34
81	Ecosystem dynamics and management after forest die-off: a global synthesis with conceptual state and transition models. <i>Ecosphere</i> , 2017, 8, e02034.	2.2	56
82	A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. <i>Nature Ecology and Evolution</i> , 2017, 1, 1285-1291.	7.8	739
83	Plant water potential improves prediction of empirical stomatal models. <i>PLoS ONE</i> , 2017, 12, e0185481.	2.5	77
84	Pragmatic hydraulic theory predicts stomatal responses to climatic water deficits. <i>New Phytologist</i> , 2016, 212, 577-589.	7.3	168
85	Meta-analysis reveals that hydraulic traits explain cross-species patterns of drought-induced tree mortality across the globe. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 5024-5029.	7.1	554
86	When a Tree Dies in the Forest: Scaling Climate-Driven Tree Mortality to Ecosystem Water and Carbon Fluxes. <i>Ecosystems</i> , 2016, 19, 1133-1147.	3.4	73
87	Optimal stomatal behavior with competition for water and risk of hydraulic impairment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E7222-E7230.	7.1	215
88	Large divergence of satellite and Earth system model estimates of global terrestrial CO ₂ fertilization. <i>Nature Climate Change</i> , 2016, 6, 306-310.	18.8	309
89	Altitudinal shifts of the native and introduced flora of California in the context of 20th century warming. <i>Global Ecology and Biogeography</i> , 2016, 25, 418-429.	5.8	51
90	Tree mortality from drought, insects, and their interactions in a changing climate. <i>New Phytologist</i> , 2015, 208, 674-683.	7.3	641

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91	Tropical nighttime warming as a dominant driver of variability in the terrestrial carbon sink. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 15591-15596.	7.1	92
92	Observed and projected climate trends and hotspots across the National Ecological Observatory Network regions. <i>Frontiers in Ecology and the Environment</i> , 2015, 13, 547-552.	4.0	17
93	Pervasive drought legacies in forest ecosystems and their implications for carbon cycle models. <i>Science</i> , 2015, 349, 528-532.	12.6	836
94	Tree mortality predicted from drought-induced vascular damage. <i>Nature Geoscience</i> , 2015, 8, 367-371.	12.9	317
95	Spatial and temporal variation in plant hydraulic traits and their relevance for climate change impacts on vegetation. <i>New Phytologist</i> , 2015, 205, 1008-1014.	7.3	264
96	Non-structural carbohydrates in woody plants compared among laboratories. <i>Tree Physiology</i> , 2015, 35, tpv073.	3.1	163
97	Awareness of Both Type 1 and 2 Errors in Climate Science and Assessment. <i>Bulletin of the American Meteorological Society</i> , 2014, 95, 1445-1451.	3.3	15
98	Loss of whole-tree hydraulic conductance during severe drought and multi-year forest die-off. <i>Oecologia</i> , 2014, 175, 11-23.	2.0	69
99	Vegetation, land surface brightness, and temperature dynamics after aspen forest die-off. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2014, 119, 1297-1308.	3.0	9
100	Consequences of widespread tree mortality triggered by drought and temperature stress. <i>Nature Climate Change</i> , 2013, 3, 30-36.	18.8	1,018
101	Drought characteristics' role in widespread aspen forest mortality across Colorado, USA. <i>Global Change Biology</i> , 2013, 19, 1526-1537.	9.5	98
102	Drought's legacy: multiyear hydraulic deterioration underlies widespread aspen forest die-off and portends increased future risk. <i>Global Change Biology</i> , 2013, 19, 1188-1196.	9.5	307
103	Hydraulic and carbohydrate changes in experimental drought-induced mortality of saplings in two conifer species. <i>Tree Physiology</i> , 2013, 33, 252-260.	3.1	96
104	Not all droughts are created equal: translating meteorological drought into woody plant mortality. <i>Tree Physiology</i> , 2013, 33, 672-683.	3.1	361
105	Infestation and Hydraulic Consequences of Induced Carbon Starvation. <i>Plant Physiology</i> , 2012, 159, 1866-1874.	4.8	65
106	The roles of hydraulic and carbon stress in a widespread climate-induced forest die-off. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 233-237.	7.1	539
107	Effects of Widespread Drought-Induced Aspen Mortality on Understory Plants. <i>Conservation Biology</i> , 2012, 26, 1082-1090.	4.7	42
108	Linking definitions, mechanisms, and modeling of drought-induced tree death. <i>Trends in Plant Science</i> , 2012, 17, 693-700.	8.8	186

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109	Large drought-induced aboveground live biomass losses in southern Rocky Mountain aspen forests. <i>Global Change Biology</i> , 2012, 18, 1016-1027.	9.5	93
110	Complex aspen forest carbon and root dynamics during drought. <i>Climatic Change</i> , 2012, 111, 983-991.	3.6	52
111	Robust detection of plant species distribution shifts under biased sampling regimes. <i>Ecosphere</i> , 2011, 2, art115.	2.2	10
112	Moving beyond scientific agreement. <i>Climatic Change</i> , 2010, 101, 331-337.	3.6	11
113	The Ivory Lighthouse: communicating climate change more effectively. <i>Climatic Change</i> , 2010, 101, 655-662.	3.6	13
114	Reply to Bodenstein: Contextual data about the relative scale of opposing scientific communities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, E189-E189.	7.1	0
115	Reply to Aarstad: Risk management versus "truth". <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, E177-E177.	7.1	1
116	Reply to Neill and Boykoff: Objective classification of climate experts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, .	7.1	6
117	Expert credibility in climate change. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 12107-12109.	7.1	554