Miguel A Zavala

List of Publications by Year
in descending order

126 papers	9,779 citations	44069 48 h-index	38395 95 g-index
131 all docs	131 docs citations	131 times ranked	12563 citing authors

#	Article	IF	Citations
1	The effects of phenotypic plasticity and local adaptation on forecasts of species range shifts under climate change. Ecology Letters, 2014, 17, 1351-1364.	6.4	802
2	Quantitative estimation of phenotypic plasticity: bridging the gap between the evolutionary concept and its ecological applications. Journal of Ecology, 2006, 94, 1103-1116.	4.0	711
3	Effects of climate extremes on the terrestrial carbon cycle: concepts, processes and potential future impacts. Global Change Biology, 2015, 21, 2861-2880.	9.5	683
4	Rate of tree carbon accumulation increases continuously with tree size. Nature, 2014, 507, 90-93.	27.8	663
5	Plant functional traits have globally consistent effects on competition. Nature, 2016, 529, 204-207.	27.8	655
6	Intra-specific variability and plasticity influence potential tree species distributions under climate change. Global Ecology and Biogeography, 2011, 20, 766-778.	5.8	249
7	Disentangling the relative importance of climate, size and competition on tree growth in Iberian forests: implications for forest management under global change. Global Change Biology, 2011, 17, 2400-2414.	9.5	244
8	Diversity increases carbon storage and tree productivity in <scp>S</scp>panish forests. Global Ecology and Biogeography, 2014, 23, 311-322.	5.8	237
9	Biotic homogenization can decrease landscape-scale forest multifunctionality. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3557-3562.	7.1	196
10	Predictable changes in aboveground allometry of trees along gradients of temperature, aridity and competition. Global Ecology and Biogeography, 2012, 21, 1017-1028.	5.8	185
11	Jack-of-all-trades effects drive biodiversityâ€“ecosystem multifunctionality relationships in European forests. Nature Communications, 2016, 7, 11109.	12.8	185
12	Constraints and trade-offs in Mediterranean plant communities: The case of holm oak-Aleppo pine forests. Botanical Review, The, 2000, 66, 119-149.	3.9	183
13	Shedding light on shade: ecological perspectives of understorey plant life. Plant Ecology and Diversity, 2016, 9, 237-251.	2.4	181
14	A novel comparative research platform designed to determine the functional significance of tree species diversity in European forests. Perspectives in Plant Ecology, Evolution and Systematics, 2013, 15, 281-291.	2.7	179
15	Patterns and Drivers of Tree Mortality in Iberian Forests: Climatic Effects Are Modified by Competition. PLoS ONE, 2013, 8, e56843.	2.5	172
16	Performance of seedlings of Mediterranean woody species under experimental gradients of irradiance and water availability: tradeâ€offs and evidence for niche differentiation. New Phytologist, 2006, 170, 795-806.	7.3	168
17	Are pine plantations valid tools for restoring Mediterranean forests? An assessment along abiotic and biotic gradients. Ecological Applications, 2009, 19, 2124-2141.	3.8	129
18	Animal Versus Wind Dispersal and the Robustness of Tree Species to Deforestation. Science, 2008, 320, 1502-1504.	12.6	125

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19	Effects of artificial shading and weed mowing in reforestation of Mediterranean abandoned cropland with contrasting Quercus species. Forest Ecology and Management, 2005, 212, 302-314.	3.2	117
20	Fluoride prevalence in groundwater around a fluorite mining area in the flood plain of the River Swat, Pakistan. Science of the Total Environment, 2018, 635, 203-215.	8.0	112
21	Contrasting vulnerability and resilience to drought-induced decline of densely planted vs. natural rear-edge Pinus nigra forests. Forest Ecology and Management, 2013, 310, 956-967.	3.2	97
22	Chasing a moving target: projecting climate changeâ€induced shifts in nonâ€equilibrial tree species distributions. Journal of Ecology, 2013, 101, 441-453.	4.0	96
23	Is drought the main decline factor at the rear edge of Europe? The case of southern Iberian pine plantations. Forest Ecology and Management, 2012, 271, 158-169.	3.2	93
24	Spatial pattern of Quercus ilex and Quercus pubescens recruitment in Pinus halepensis dominated woodlands. Journal of Vegetation Science, 2000, 11, 607-612.	2.2	90
25	Contemporary richness of holarctic trees and the historical pattern of glacial retreat. Ecography, 2007, 30, 173-182.	4.5	89
26	Soil water content and emergence time control seedling establishment in three co-occurring Mediterranean oak species. Canadian Journal of Forest Research, 2008, 38, 2382-2393.	1.7	88
27	Forests, savannas, and grasslands: bridging the knowledge gap between ecology and Dynamic Global Vegetation Models. Biogeosciences, 2015, 12, 1833-1848.	3.3	88
28	Human and nonâ€human determinants of forest composition in southern Spain: evidence of shifts towards cork oak dominance as a result of management over the past century. Journal of Biogeography, 2008, 35, 1688-1700.	3.0	85
29	Modes of functional biodiversity control on tree productivity across the European continent. Global Ecology and Biogeography, 2016, 25, 251-262.	5.8	83
30	Sustainability of forest management practices: Evaluation through a simulation model of nutrient cycling. Forest Ecology and Management, 2005, 213, 209-228.	3.2	82
31	Functional traits and plasticity in response to light in seedlings of four Iberian forest tree species. Tree Physiology, 2006, 26, 1425-1433.	3.1	78
32	Largeâ€scale assessment of regeneration and diversity in Mediterranean planted pine forests along ecological gradients. Diversity and Distributions, 2012, 18, 1092-1106.	4.1	77
33	ENVIRONMENTAL HETEROGENEITY, BIRD-MEDIATED DIRECTED DISPERSAL, AND OAK WOODLAND DYNAMICS IN MEDITERRANEAN SPAIN. Ecological Monographs, 2007, 77, 77-97.	5.4	75
34	Interspecific differences in tree growth and mortality responses to environmental drivers determine potential species distributional limits in <scp>I</scp>berian forests. Global Ecology and Biogeography, 2013, 22, 1141-1151.	5.8	74
35	Continental mapping of forest ecosystem functions reveals a high but unrealised potential for forest multifunctionality. Ecology Letters, 2018, 21, 31-42.	6.4	74
36	Mediterranean pine and oak distribution in southern Spain: Is there a mismatch between regeneration and adult distribution?. Journal of Vegetation Science, 2011, 22, 18-31.	2.2	73

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37	Evaluating the combined effects of climate and landâ€•use change on tree species distributions. Journal of Applied Ecology, 2015, 52, 902-912.	4.0	73
38	Recent land cover changes in Spain across biogeographical regions and protection levels: Implications for conservation policies. Land Use Policy, 2015, 44, 62-75.	5.6	73
39	Mechanisms maintaining biodiversity in Mediterranean pine-oak forests: insights from a spatial simulation model. Plant Ecology, 2004, 171, 197-207.	1.6	70
40	Architecture of Iberian canopy tree species in relation to wood density, shade tolerance and climate. Plant Ecology, 2012, 213, 707-722.	1.6	63
41	Drought impacts on tree growth of two pine species along an altitudinal gradient and their use as early-warning signals of potential shifts in tree species distributions. Forest Ecology and Management, 2016, 381, 157-167.	3.2	63
42	Climateâ€•and successionalâ€•related changes in functional composition of European forests are strongly driven by tree mortality. Global Change Biology, 2017, 23, 4162-4176.	9.5	62
43	Identifying the tree species compositions that maximize ecosystem functioning in European forests. Journal of Applied Ecology, 2019, 56, 733-744.	4.0	58
44	Available and missing data to model impact of climate change on European forests. Ecological Modelling, 2020, 416, 108870.	2.5	58
45	Seed removal in two coexisting oak species: ecological consequences of seed size, plant cover and seedâ€•drop timing. Oikos, 2008, 117, 1386-1396.	2.7	56
46	Functional diversity underlies demographic responses to environmental variation in European forests. Global Ecology and Biogeography, 2017, 26, 128-141.	5.8	56
47	Evidence of nonâ€•stationary relationships between climate and forest responses: Increased sensitivity to climate change in Iberian forests. Global Change Biology, 2020, 26, 5063-5076.	9.5	56
48	Dynamics of understorey herbaceous plant diversity following shrub clearing of cork oak forests: A five-year study. Forest Ecology and Management, 2008, 255, 3242-3253.	3.2	51
49	Interspecific differences in sapling performance with respect to light and aridity gradients in Mediterranean pineâ€“oak forests: implications for species coexistence. Canadian Journal of Forest Research, 2011, 41, 1432-1444.	1.7	51
50	Patterns and ecological consequences of abiotic heterogeneity in managed cork oak forests of Southern Spain. Ecological Research, 2008, 23, 127-139.	1.5	47
51	Stand Structure and Recent Climate Change Constrain Stand Basal Area Change in European Forests: A Comparison Across Boreal, Temperate, and Mediterranean Biomes. Ecosystems, 2014, 17, 1439-1454.	3.4	47
52	Inferring shifts in tree species distribution using asymmetric distribution curves: a case study in the Iberian mountains. Journal of Vegetation Science, 2014, 25, 147-159.	2.2	45
53	Competition and tree age modulated last century pine growth responses to high frequency of dry years in a water limited forest ecosystem. Agricultural and Forest Meteorology, 2014, 192-193, 18-26.	4.8	45
54	Structural diversity underpins carbon storage in Australian temperate forests. Global Ecology and Biogeography, 2020, 29, 789-802.	5.8	45

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55	An analytical model of stand dynamics as a function of tree growth, mortality and recruitment: The shade tolerance-stand structure hypothesis revisited. Journal of Theoretical Biology, 2007, 244, 440-450.	1.7	42
56	Traits fonctionnels et plasticitÃ© en relation avec les performances de semis de ligneux mÃ©diterranÃ©ens sous ombrage et en situation de sÃ©cheresse. Annals of Forest Science, 2008, 65, 311-311.	2.0	41
57	Ontogenetic conflicts and rank reversals in two Mediterranean oak species: implications for coexistence. Journal of Ecology, 2012, 100, 467-477.	4.0	40
58	Adaptation and plasticity in aboveground allometry variation of four pine species along environmental gradients. Ecology and Evolution, 2016, 6, 7561-7573.	1.9	40
59	A mechanistic model of tree competition and facilitation for Mediterranean forests: Scaling from leaf physiology to stand dynamics. Ecological Modelling, 2005, 188, 76-92.	2.5	39
60	Seedling survival responses toÂirradiance are differentially influenced byÂlow-water availability inÂfourÂtree species ofÂtheÂIberian cool temperateâ€“Mediterranean ecotone. Acta Oecologica, 2006, 30, 322-332.	1.1	39
61	Phenotypic correlates of potential range size and range filling in European trees. Perspectives in Plant Ecology, Evolution and Systematics, 2014, 16, 219-227.	2.7	39
62	Complementarity effects on tree growth are contingent on tree size and climatic conditions across Europe. Scientific Reports, 2016, 6, 32233.	3.3	38
63	Inter-specific tolerance to recurrent droughts of pine species revealed in saplings rather than adult trees. Forest Ecology and Management, 2020, 459, 117848.	3.2	36
64	The Role of Population Origin and Microenvironment in Seedling Emergence and Early Survival in Mediterranean Maritime Pine (Pinus pinaster Aiton). PLoS ONE, 2014, 9, e109132.	2.5	35
65	Targeted policy proposals for managing spontaneous forest expansion in the Mediterranean. Journal of Applied Ecology, 2020, 57, 2373-2380.	4.0	34
66	Forest productivity in southwestern Europe is controlled by coupled North Atlantic and Atlantic Multidecadal Oscillations. Nature Communications, 2017, 8, 2222.	12.8	33
67	Land use change in a Mediterranean metropolitan region and its periphery: assessment of conservation policies through CORINE Land Cover data and Markov models. Forest Systems, 2010, 19, 315.	0.3	33
68	Phylogeny and the prediction of tree functional diversity across novel continental settings. Global Ecology and Biogeography, 2017, 26, 553-562.	5.8	31
69	Similar patterns of background mortality across Europe are mostly driven by drought in European beech and a combination of drought and competition in Scots pine. Agricultural and Forest Meteorology, 2020, 280, 107772.	4.8	30
70	Resilience to drought in a dry forest: Insights from demographic rates. Forest Ecology and Management, 2017, 389, 167-175.	3.2	29
71	Application of ecological models to landscape planning: the case of the Mediterranean basin. Landscape and Urban Planning, 1997, 38, 213-227.	7.5	28
72	Climate and population origin shape pine tree height-diameter allometry. New Forests, 2017, 48, 363-379.	1.7	28

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73	Do adult trees increase conspecific juvenile resilience to recurrent droughts? Implications for forest regeneration. Ecosphere, 2018, 9, e02282.	2.2	28
74	Using spectral indices as early warning signals of forest dieback: The case of drought-prone Pinus pinaster forests. Science of the Total Environment, 2021, 793, 148578.	8.0	27
75	Rank reversals in tree growth along tree size, competition and climatic gradients for four forest canopy dominant species in Central Spain. Annals of Forest Science, 2008, 65, 605-605.	2.0	25
76	Distribution of pines in the Iberian Peninsula agrees with species differences in foliage frost tolerance, not with vulnerability to freezing-induced xylem embolism. Tree Physiology, 2018, 38, 507-516.	3.1	24
77	Tallo: A global tree allometry and crown architecture database. Global Change Biology, 2022, 28, 5254-5268.	9.5	24
78	Do species distribution models explain spatial structure within tree species ranges?. Global Ecology and Biogeography, 2009, 18, 662-673.	5.8	23
79	Evaluating restoration of manâ€made slopes: a threshold approach balancing vegetation and rill erosion. Earth Surface Processes and Landforms, 2011, 36, 1367-1377.	2.5	23
80	Disentangling the relative role of climate change on tree growth in an extreme Mediterranean environment. Science of the Total Environment, 2018, 642, 619-628.	8.0	23
81	Demographic performance of European tree species at their hot and cold climatic edges. Journal of Ecology, 2021, 109, 1041-1054.	4.0	23
82	Integration of drought tolerance mechanisms in Mediterranean sclerophylls: a functional interpretation of leaf gas exchange simulators. Ecological Modelling, 2004, 176, 211-226.	2.5	22
83	Lastâ€century forest productivity in a managed dryâ€edge Scots pine population: the two sides of climate warming. Ecological Applications, 2018, 28, 95-105.	3.8	22
84	Effects of climate, species interactions, and dispersal on decadal colonization and extinction rates of Iberian tree species. Ecological Modelling, 2015, 309-310, 118-127.	2.5	21
85	Climate reverses directionality in the richnessâ€“abundance relationship across the Worldâ€™s main forest biomes. Nature Communications, 2020, 11, 5635.	12.8	20
86	Evaluating tree-to-tree competition during stand development in a relict Scots pine forest: how much does climate matter?. Trees - Structure and Function, 2021, 35, 1207-1219.	1.9	18
87	GLOBAL MODELS FOR PREDICTING WOODY PLANT RICHNESS FROM CLIMATE: COMMENT. Ecology, 2007, 88, 255-259.	3.2	17
88	Forest Adaptation to Climate Change along Steep Ecological Gradients: The Case of the Mediterranean-Temperate Transition in South-Western Europe. Sustainability, 2018, 10, 3065.	3.2	17
89	Positive interactions, discontinuous transitions and species coexistence in plant communities. Theoretical Population Biology, 2010, 77, 131-144.	1.1	16
90	Competition and species coexistence in a metapopulation model: Can fast asymmetric migration reverse the outcome of competition in a homogeneous environment?. Journal of Theoretical Biology, 2010, 266, 256-263.	1.7	16

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91	Preserving biological diversity in managed forests: a meeting point for ecology and forestry. Landscape and Urban Planning, 1995, 31, 363-378.	7.5	15
92	Wood provisioning in Mediterranean forests: A bottom-up spatial valuation approach. Forest Policy and Economics, 2012, 20, 78-88.	3.4	13
93	Long-term Wood Production in Water-Limited Forests: Evaluating Potential CO2 Fertilization Along with Historical Confounding Factors. Ecosystems, 2015, 18, 1043-1055.	3.4	13
94	Occurrence but not intensity of mortality rises towards the climatic trailing edge of tree species ranges in European forests. Global Ecology and Biogeography, 2021, 30, 1356-1374.	5.8	13
95	Tree growth response to drought partially explains regionalâ€scale growth and mortality patterns in Iberian forests. Ecological Applications, 2022, 32, e2589.	3.8	13
96	Delayed effects of fire on habitat use by large herbivores in Acacia drepanolobium savanna. African Journal of Ecology, 2005, 43, 155-157.	0.9	12
97	Disruption of Juniperus thurifera woodland structure in its northwestern geographical range: potential drivers and limiting factors. European Journal of Forest Research, 2012, 131, 563-570.	2.5	11
98	Remaking a stand: Links between genetic diversity and tree growth in expanding Mountain pine populations. Forest Ecology and Management, 2020, 472, 118244.	3.2	11
99	Revealing patterns of local species richness along environmental gradients with a novel network tool. Scientific Reports, 2015, 5, 11561.	3.3	10
100	Identifying Forest Structural Types along an Aridity Gradient in Peninsular Spain: Integrating Low-Density LiDAR, Forest Inventory, and Aridity Index. Remote Sensing, 2022, 14, 235.	4.0	9
101	Shrub encroachment shifts the bioclimatic limit between marcescent and sclerophyllous oaks along an elevation gradient in westâ€central <scp>S</scp>pain. Journal of Vegetation Science, 2014, 25, 514-524.	2.2	8
102	How do trees respond to species mixing in experimental compared to observational studies?. Ecology and Evolution, 2019, 9, 11254-11265.	1.9	8
103	A Model of Stand Dynamics for Holm Oak-Aleppo Pine Forests. Ecological Studies, 1999, , 105-117.	1.2	8
104	Stand dynamics and tree coexistence in an analytical structured model: The role of recruitment. Journal of Theoretical Biology, 2013, 333, 91-101.	1.7	7
105	Disentangling the Legacies of Climate and Management on Tree Growth. Ecosystems, 2022, 25, 215-235.	3.4	7
106	Factors influencing the dispersion of <scp>A</scp>rceuthobium oxycedri in <scp>C</scp>entral <scp>S</scp>pain: evaluation with a new null model for marked point patterns. Forest Pathology, 2016, 46, 610-621.	1.1	6
107	A Multifactorial Approach to Value Supporting Ecosystem Services in Spanish Forests and Its Implications in a Warming World. Sustainability, 2019, 11, 358.	3.2	6
108	Informe de EvaluaciÃ³n sobre Impactos, Vulnerabilidad y AdaptaciÃ³n en los Bosques y la Biodiversidad de EspaÃ±a frente al Cambio ClimÃ¡tico. Ecosistemas, 2016, 25, 116.	0.4	6

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109	Competition Drives Oak Species Distribution and Functioning in Europe: Implications Under Global Change. Tree Physiology, 2017, , 513-538.	2.5	5
110	Colonization and extinction dynamics and their link to the distribution of European trees at the continental scale. Journal of Biogeography, 2022, 49, 117-129.	3.0	5
111	Global Positioning System as a tool for ecosystem studies at the landscape level: an application in the Spanish Mediterranean. Landscape and Urban Planning, 1993, 24, 95-104.	7.5	4
112	Forest stocks control longâ€term climatic mortality risks in Scots pine dryâ€edge forests. Ecosphere, 2020, 11, e03201.	2.2	4
113	Resilience as a Moving Target: An Evaluation of Last Century Management Strategies in a Dry-Edge Maritime Pine Ecosystem. Forests, 2021, 12, 1151.	2.1	4
114	Contemporary richness of holarctic trees and the historical pattern of glacial retreat. Ecography, 2007, 30, 173-182.	4.5	4
115	Divergent Last Century Tree Growth along An Altitudinal Gradient in A Pinus sylvestris Dry-edge Population. Forests, 2019, 10, 532.	2.1	3
116	Vulnerability of Spanish forests under climatic change: evaluation through models. Ecosistemas, 2013, 22, 21-28.	0.4	3
117	Ecological effects of harvesting biomass for energy in the Spanish Mediterranean. Landscape and Urban Planning, 1993, 24, 227-231.	7.5	2
118	Main biotic drivers of tree growth in a developing Juniperus thurifera stand in central Spain. European Journal of Forest Research, 2014, 133, 1109-1119.	2.5	2
119	Modelling Tree Growth in Monospecific Forests from Forest Inventory Data. Forests, 2021, 12, 753.	2.1	2
120	Mediterranean Pine Forest Distribution: Assessing Vulnerability and Resilience Under Climate Change. Managing Forest Ecosystems, 2021, , 251-277.	0.9	2
121	Challenges and opportunities in the use of National Forest Inventories for thestudy of the relationship between biodiversity and ecosystem services supply in forests. , 2016, 25, 60-69.		1
122	Probabilistic drought risk analysis for even-aged forests. , 2020, , 159-176.		0
123	Excess plant growth worsens droughts. Nature Ecology and Evolution, 2021, 5, 1474-1475.	7.8	0
124	AplicaciÃ³n de modelos ecolÃ³gicos para el anÃ¡lisis de la estructura y dinÃ¡mica de los bosques ibÃ©ricos en respuesta al cambio climÃ¡tico. , 2013, , 77-107.		0
125	Estudio, gestiÃ³n, conservaciÃ³n y restauraciÃ³n de ecosistemas ante el cambio global: 1Âª Jornadas FORECO en la Universidad de AlcalÃ¡. Ecosistemas, 2016, 25, 115.	0.4	0
126	Forest Management, Conflict and Socialâ€“Ecological Systems in a Changing World. Forests, 2021, 12, 1459.	2.1	0