Mathias Disney

List of Publications by Year
in descending order

112 papers	9,013 citations	61984 43 h-index	42399 92 g-index
126 all docs	126 docs citations	126 times ranked	8259 citing authors

#	Article	IF	Citations
1	Remote sensing and the UN Ocean Decade: high expectations, big opportunities. Remote Sensing in Ecology and Conservation, 2022, 8, 267-271.	4.3	4
2	An Effective Method for InSAR Mapping of Tropical Forest Degradation in Hilly Areas. Remote Sensing, 2022, 14, 452.	4.0	5
3	Quantifying tropical forest structure through terrestrial and UAV laser scanning fusion in Australian rainforests. Remote Sensing of Environment, 2022, 271, 112912.	11.0	38
4	Comparing Remote Sensing and Field-Based Approaches to Estimate Ladder Fuels and Predict Wildfire Burn Severity. Frontiers in Forests and Global Change, 2022, 5, .	2.3	7
5	Estimating forest aboveâ€ground biomass with terrestrial laser scanning: Current status and future directions. Methods in Ecology and Evolution, 2022, 13, 1628-1639.	5.2	31
6	Using terrestrial laser scanning to constrain forest ecosystem structure and functions in the Ecosystem Demography model (ED2.2). Geoscientific Model Development, 2022, 15, 4783-4803.	3.6	2
7	Implications of 3D Forest Stand Reconstruction Methods for Radiative Transfer Modeling: A Case Study in the Temperate Deciduous Forest. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	2
8	The mechanical stability of the worldâ€™s tallest broadleaf trees. Biotropica, 2021, 53, 110-120.	1.6	20
9	Canopy wetness in the Eastern Amazon. Agricultural and Forest Meteorology, 2021, 297, 108250.	4.8	15
10	New insights into large tropical tree mass and structure from direct harvest and terrestrial lidar. Royal Society Open Science, 2021, 8, 201458.	2.4	21
11	Amazon tree dominance across forest strata. Nature Ecology and Evolution, 2021, 5, 757-767.	7.8	27
12	How can we know what we donâ€™t know? A Commentary on: Sampling forests with terrestrial laser scanning. Annals of Botany, 2021, 128, 685-688.	2.9	3
13	Terrestrial laser scanning to reconstruct branch architecture from harvested branches. Methods in Ecology and Evolution, 2021, 12, 2487-2500.	5.2	10
14	Quantifying Tropical Forest Stand Structure Through Terrestrial and UAV Laser Scanning Fusion. , 2021, , .		2
15	To What Extent Can UAV Photogrammetry Replicate UAV LiDAR to Determine Forest Structure? A Test in Two Contrasting Tropical Forests. Journal of Geophysical Research G: Biogeosciences, 2021, 126, .	3.0	11
16	3D Imaging Insights into Forests and Coral Reefs. Trends in Ecology and Evolution, 2020, 35, 6-9.	8.7	36
17	Transpiration from subarctic deciduous woodlands: Environmental controls and contribution to ecosystem evapotranspiration. Ecohydrology, 2020, 13, e2190.	2.4	12
18	Terrestrial laser scanning in forest ecology: Expanding the horizon. Remote Sensing of Environment, 2020, 251, 112102.	11.0	208

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19	New 3D measurements of large redwood trees for biomass and structure. Scientific Reports, 2020, 10, 16721.	3.3	22
20	Old growth Afrotropical forests critical for maintaining forest carbon. Global Ecology and Biogeography, 2020, 29, 1785-1798.	5.8	19
21	Tree species classification using structural features derived from terrestrial laser scanning. ISPRS Journal of Photogrammetry and Remote Sensing, 2020, 168, 170-181.	11.1	41
22	Assessment of Bias in Pan-Tropical Biomass Predictions. Frontiers in Forests and Global Change, 2020, 3, .	2.3	36
23	Quantifying urban forest structure with open-access remote sensing data sets. Urban Forestry and Urban Greening, 2020, 50, 126653.	5.3	31
24	Extracting individual trees from lidar point clouds using treeseg. Methods in Ecology and Evolution, 2019, 10, 438-445.	5.2	113
25	The Importance of Consistent Global Forest Aboveground Biomass Product Validation. Surveys in Geophysics, 2019, 40, 979-999.	4.6	106
26	Tree height in tropical forest as measured by different ground, proximal, and remote sensing instruments, and impacts on above ground biomass estimates. International Journal of Applied Earth Observation and Geoinformation, 2019, 82, 101899.	2.8	30
27	The World's Tallest Tropical Tree in Three Dimensions. Frontiers in Forests and Global Change, 2019, 2, .	2.3	38
28	A New Architectural Perspective on Wind Damage in a Natural Forest. Frontiers in Forests and Global Change, 2019, 1, .	2.3	20
29	An architectural understanding of natural sway frequencies in trees. Journal of the Royal Society Interface, 2019, 16, 20190116.	3.4	32
30	Ground Data are Essential for Biomass Remote Sensing Missions. Surveys in Geophysics, 2019, 40, 863-880.	4.6	91
31	Performance of Laser-Based Electronic Devices for Structural Analysis of Amazonian Terra-Firme Forests. Remote Sensing, 2019, 11, 510.	4.0	7
32	Innovations in Ground and Airborne Technologies as Reference and for Training and Validation: Terrestrial Laser Scanning (TLS). Surveys in Geophysics, 2019, 40, 937-958.	4.6	38
33	Time for a Plant Structural Economics Spectrum. Frontiers in Forests and Global Change, 2019, 2, .	2.3	47
34	Theoretical uncertainties for global satellite-derived burned area estimates. Biogeosciences, 2019, 16, 3147-3164.	3.3	12
35	New estimates of leaf angle distribution from terrestrial LiDAR: Comparison with measured and modelled estimates from nine broadleaf tree species. Agricultural and Forest Meteorology, 2019, 264, 322-333.	4.8	55
36	Leaf and wood classification framework for terrestrial LiDAR point clouds. Methods in Ecology and Evolution, 2019, 10, 680-694.	5.2	98

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37	Finite element analysis of trees in the wind based on terrestrial laser scanning data. Agricultural and Forest Meteorology, 2019, 265, 137-144.	4.8	54
38	Terrestrial Li<scp>DAR</scp>: a threeâ€dimensional revolution in how we look at trees. New Phytologist, 2019, 222, 1736-1741.	7.3	95
39	Weighing trees with lasers: advances, challenges and opportunities. Interface Focus, 2018, 8, 20170048.	3.0	120
40	Non-intersecting leaf insertion algorithm for tree structure models. Interface Focus, 2018, 8, 20170045.	3.0	34
41	New perspectives on the ecology of tree structure and tree communities through terrestrial laser scanning. Interface Focus, 2018, 8, 20170052.	3.0	76
42	The terrestrial laser scanning revolution in forest ecology. Interface Focus, 2018, 8, 20180001.	3.0	13
43	Strong constraint on modelled global carbon uptake using solar-induced chlorophyll fluorescence data. Scientific Reports, 2018, 8, 1973.	3.3	69
44	Variability and bias in active and passive ground-based measurements of effective plant, wood and leaf area index. Agricultural and Forest Meteorology, 2018, 252, 231-240.	4.8	55
45	Estimation of aboveâ€ground biomass of large tropical trees with terrestrial LiDAR. Methods in Ecology and Evolution, 2018, 9, 223-234.	5.2	166
46	Decoupling Canopy Structure and Leaf Biochemistry: Testing the Utility of Directional Area Scattering Factor (DASF). Remote Sensing, 2018, 10, 1911.	4.0	7
47	Vegetation Structure (LiDAR). , 2018, , 104-116.		1
48	Detecting Human Presence and Influence on Neotropical Forests with Remote Sensing. Remote Sensing, 2018, 10, 1593.	4.0	10
49	Estimating urban above ground biomass with multi-scale LiDAR. Carbon Balance and Management, 2018, 13, 10.	3.2	60
50	Simulating arbitrary hyperspectral bandsets from multispectral observations via a generic Earth Observation-Land Data Assimilation System (EO-LDAS). Advances in Space Research, 2018, 62, 1654-1674.	2.6	2
51	Realistic Forest Stand Reconstruction from Terrestrial LiDAR for Radiative Transfer Modelling. Remote Sensing, 2018, 10, 933.	4.0	94
52	Influence of levelling technique on the retrieval of canopy structural parameters from digital hemispherical photography. Agricultural and Forest Meteorology, 2017, 237-238, 143-149.	4.8	21
53	Evaluation of the Range Accuracy and the Radiometric Calibration of Multiple Terrestrial Laser Scanning Instruments for Data Interoperability. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 2716-2724.	6.3	50
54	Data acquisition considerations for Terrestrial Laser Scanning of forest plots. Remote Sensing of Environment, 2017, 196, 140-153.	11.0	229

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55	Measurement of fine-spatial-resolution 3D vegetation structure with airborne waveform lidar: Calibration and validation with voxelised terrestrial lidar. Remote Sensing of Environment, 2017, 188, 37-50.	11.0	82
56	Validating canopy clumping retrieval methods using hemispherical photography in a simulated Eucalypt forest. Agricultural and Forest Meteorology, 2017, 247, 181-193.	4.8	16
57	Remote Sensing in Ecology and Conservation: three years on. Remote Sensing in Ecology and Conservation, 2017, 3, 53-56.	4.3	20
58	Plant Structure-Function Relationships and Woody Tissue Respiration: Upscaling to Forests from Laser-Derived Measurements. Advances in Photosynthesis and Respiration, 2017, , 89-105.	1.0	12
59	A New Global fAPAR and LAI Dataset Derived from Optimal Albedo Estimates: Comparison with MODIS Products. Remote Sensing, 2016, 8, 275.	4.0	34
60	Efficient Emulation of Radiative Transfer Codes Using Gaussian Processes and Application to Land Surface Parameter Inferences. Remote Sensing, 2016, 8, 119.	4.0	76
61	African Savanna-Forest Boundary Dynamics: A 20-Year Study. PLoS ONE, 2016, 11, e0156934.	2.5	44
62	Large-area virtual forests from terrestrial laser scanning data. , 2016, , .		6
63	Quantifying the impact of woody material on leaf area index estimation from hemispherical photography using 3D canopy simulations. Agricultural and Forest Meteorology, 2016, 226-227, 1-12.	4.8	42
64	Is waveform worth it? A comparison of Li<scp>DAR</scp> approaches for vegetation and landscape characterization. Remote Sensing in Ecology and Conservation, 2016, 2, 5-15.	4.3	43
65	Remote Sensing of Vegetation: Potentials, Limitations, Developments and Applications. Advances in Photosynthesis and Respiration, 2016, , 289-331.	1.0	8
66	Quantifying landscapeâ€level methane fluxes in subarctic Finland using a multiscale approach. Global Change Biology, 2015, 21, 3712-3725.	9.5	23
67	SimpleTree â€"An Efficient Open Source Tool to Build Tree Models from TLS Clouds. Forests, 2015, 6, 4245-4294.	2.1	226
68	Waveform lidar over vegetation: An evaluation of inversion methods for estimating return energy. Remote Sensing of Environment, 2015, 164, 208-224.	11.0	60
69	Terrestrial Laser Scanning for Plot-Scale Forest Measurement. Current Forestry Reports, 2015, 1, 239-251.	7.4	176
70	The fourth phase of the radiative transfer model intercomparison (RAMI) exercise: Actual canopy scenarios and conformity testing. Remote Sensing of Environment, 2015, 169, 418-437.	11.0	170
71	An improved theoretical model of canopy gap probability for Leaf Area Index estimation in woody ecosystems. Forest Ecology and Management, 2015, 358, 303-320.	3.2	37
72	Nondestructive estimates of aboveâ€ground biomass using terrestrial laser scanning. Methods in Ecology and Evolution, 2015, 6, 198-208.	5.2	449

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73	Highly Accurate Tree Models Derived from Terrestrial Laser Scan Data: A Method Description. Forests, 2014, 5, 1069-1105.	2.1	137
74	Developing a dual-wavelength full-waveform terrestrial laser scanner to characterize forest canopy structure. Agricultural and Forest Meteorology, 2014, 198-199, 7-14.	4.8	100
75	Sensitivity of direct canopy gap fraction retrieval from airborne waveform lidar to topography and survey characteristics. Remote Sensing of Environment, 2014, 143, 15-25.	11.0	24
76	Carbon storage in peatlands: A case study on the Isle of Man. Geoderma, 2013, 204-205, 111-119.	5.1	18
77	Investigating assumptions of crown archetypes for modelling LiDAR returns. Remote Sensing of Environment, 2013, 134, 39-49.	11.0	35
78	Direct retrieval of canopy gap probability using airborne waveform lidar. Remote Sensing of Environment, 2013, 134, 24-38.	11.0	102
79	Upscaling Tundra CO₂ Exchange from Chamber to Eddy Covariance Tower. Arctic, Antarctic, and Alpine Research, 2013, 45, 275-284.	1.1	22
80	The impact of sensor characteristics for obtaining accurate ground-based measurements of LAI. , 2013, , .		0
81	Hyperspectral remote sensing of foliar nitrogen content. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E185-92.	7.1	389
82	The fourth radiation transfer model intercomparison (RAMIâ€IV): Proficiency testing of canopy reflectance models with ISOâ€13528. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6869-6890.	3.3	102
83	Fast Automatic Precision Tree Models from Terrestrial Laser Scanner Data. Remote Sensing, 2013, 5, 491-520.	4.0	528
84	Effects of clumping on modelling LiDAR waveforms in forest canopies. , 2012, , .		0
85	Leaf area index for biomes of the Eastern Arc Mountains: Landsat and SPOT observations along precipitation and altitude gradients. Remote Sensing of Environment, 2012, 118, 103-115.	11.0	41
86	Measuring forests with dual wavelength lidar: A simulation study over topography. Agricultural and Forest Meteorology, 2012, 161, 123-133.	4.8	50
87	Terrestrial ecosystems from space: a review of earth observation products for macroecology applications. Global Ecology and Biogeography, 2012, 21, 603-624.	5.8	91
88	A threshold insensitive method for locating the forest canopy top with waveform lidar. Remote Sensing of Environment, 2011, 115, 3286-3297.	11.0	33
89	On canopy spectral invariants and hyperspectral ray tracing. , 2010, , .		0
90	Satellite monitoring of disturbances in Arctic ecosystems. , 2009, , .		0

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91	Quantifying Surface Reflectivity for Spaceborne Lidar via Two Independent Methods. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 3262-3271.	6.3	33
92	Upscaling as ecological information transfer: a simple framework with application to Arctic ecosystem carbon exchange. Landscape Ecology, 2009, 24, 971-986.	4.2	34
93	Modelling the impact of wildfire on spectral reflectance. , 2009, , .		0
94	Assimilating canopy reflectance data into an ecosystem model with an Ensemble Kalman Filter. Remote Sensing of Environment, 2008, 112, 1347-1364.	11.0	123
95	The RAMI On-line Model Checker (ROMC): A web-based benchmarking facility for canopy reflectance models. Remote Sensing of Environment, 2008, 112, 1144-1150.	11.0	85
96	Impact of land cover uncertainties on estimates of biospheric carbon fluxes. Global Biogeochemical Cycles, 2008, 22, .	4.9	68
97	Extracting Tree Heights over Topography with Multi-Spectral Spaceborne Waveform Lidar. , 2008, , .		0
98	Using Remote Sensing Data to Quantify Changes in Vegetation over Peatland Areas. , 2008, , .		0
99	Estimating the Spatial Exchange of Carbon through the Assimilation of Earth Observation Derived Products using an Ensemble Kalman Filter. , 2008, , .		0
100	Third Radiation Transfer Model Intercomparison (RAMI) exercise: Documenting progress in canopy reflectance models. Journal of Geophysical Research, 2007, 112, .	3.3	193
101	Canopy spectral invariants for remote sensing and model applications. Remote Sensing of Environment, 2007, 106, 106-122.	11.0	129
102	Spectral invariants and scattering across multiple scales from within-leaf to canopy. Remote Sensing of Environment, 2007, 109, 196-206.	11.0	124
103	Can we measure terrestrial photosynthesis from space directly, using spectral reflectance and fluorescence?. Global Change Biology, 2007, 13, 1484-1497.	9.5	224
104	FLuorescence EXplorer (FLEX): an optimised payload to map vegetation photosynthesis from space. , 2006, , .		9
105	3D modelling of forest canopy structure for remote sensing simulations in the optical and microwave domains. Remote Sensing of Environment, 2006, 100, 114-132.	11.0	144
106	Comparison of MODIS broadband albedo over an agricultural site with ground measurements and values derived from Earth observation data at a range of spatial scales. International Journal of Remote Sensing, 2004, 25, 5297-5317.	2.9	29
107	Radiation Transfer Model Intercomparison (RAMI) exercise: Results from the second phase. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	131
108	First operational BRDF, albedo nadir reflectance products from MODIS. Remote Sensing of Environment, 2002, 83, 135-148.	11.0	2,022

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109	Modelling the radiometric response of a dynamic, 3D structural model of wheat in the optical and microwave domains. , 0, , .		2
110	Inter-comparison of phenological measures derived from coarse resolution earth observation and implications for assimilation into dynamic vegetation models. , 0, , .		0
111	Coupling a canopy reflectance model with a global vegetation model. , 0, , .		0
112	The Moderate Resolution Imaging Spectroradiometer (MODIS) BRDF and albedo product: preliminary results. , 0, , .		1