Sassan S Saatchi

List of Publications by Year
in descending order

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Version: 2024-02-01

104 papers	11,056 citations	57758 44 h-index	30922 102 g-index
106 all docs	106 docs citations	106 times ranked	11879 citing authors

#	Article	IF	Citations
1	Benchmark map of forest carbon stocks in tropical regions across three continents. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9899-9904.	7.1	1,659
2	Global covariation of carbon turnover times with climate in terrestrial ecosystems. Nature, 2014, 514, 213-217.	27.8	648
3	Baseline Map of Carbon Emissions from Deforestation in Tropical Regions. Science, 2012, 336, 1573-1576.	12.6	575
4	21st Century drought-related fires counteract the decline of Amazon deforestation carbon emissions. Nature Communications, 2018, 9, 536.	12.8	485
5	Global maps of twenty-first century forest carbon fluxes. Nature Climate Change, 2021, 11, 234-240.	18.8	425
6	Spatial patterns and fire response of recent Amazonian droughts. Geophysical Research Letters, 2007, 34, .	4.0	399
7	Widespread decline of Congo rainforest greenness in the past decade. Nature, 2014, 509, 86-90.	27.8	351
8	Observing terrestrial ecosystems and the carbon cycle from space. Global Change Biology, 2015, 21, 1762-1776.	9.5	339
9	Persistent effects of a severe drought on Amazonian forest canopy. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 565-570.	7.1	334
10	Regional ecosystem structure and function: ecological insights from remote sensing of tropical forests. Trends in Ecology and Evolution, 2007, 22, 414-423.	8.7	295
11	Interactions between rainfall, deforestation and fires during recent years in the Brazilian Amazonia. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1779-1785.	4.0	290
12	Forest management in southern China generates short term extensive carbon sequestration. Nature Communications, 2020, 11, 129.	12.8	259
13	Forest productivity and water stress in Amazonia: observations from GOSAT chlorophyll fluorescence. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20130171.	2.6	245
14	Environmental change and the carbon balance of <scp>A</scp>mazonian forests. Biological Reviews, 2014, 89, 913-931.	10.4	208
15	Impact of spatial variability of tropical forest structure on radar estimation of aboveground biomass. Remote Sensing of Environment, 2011, 115, 2836-2849.	11.0	191
16	The European Space Agency BIOMASS mission: Measuring forest above-ground biomass from space. Remote Sensing of Environment, 2019, 227, 44-60.	11.0	172
17	Size and frequency of natural forest disturbances and the Amazon forest carbon balance. Nature Communications, 2014, 5, 3434.	12.8	169
18	Uncertainty in the spatial distribution of tropical forest biomass: a comparison of pan-tropical maps. Carbon Balance and Management, 2013, 8, 10.	3.2	162

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19	Estimation of Forest Fuel Load From Radar Remote Sensing. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1726-1740.	6.3	159
20	Estimating aboveground biomass in forest and oil palm plantation in Sabah, Malaysian Borneo using ALOS PALSAR data. Forest Ecology and Management, 2011, 262, 1786-1798.	3.2	155
21	Lidar detection of individual tree size in tropical forests. Remote Sensing of Environment, 2016, 183, 318-333.	11.0	152
22	Satellite-observed pantropical carbon dynamics. Nature Plants, 2019, 5, 944-951.	9.3	141
23	Changes in global terrestrial live biomass over the 21st century. Science Advances, 2021, 7, eabe9829.	10.3	136
24	Tropical forests did not recover from the strong 2015â€“2016 El NiÃ±o event. Science Advances, 2020, 6, eaay4603.	10.3	127
25	Aboveground biomass variability across intact and degraded forests in the Brazilian Amazon. Global Biogeochemical Cycles, 2016, 30, 1639-1660.	4.9	109
26	Aboveground biomass density models for NASAâ€™s Global Ecosystem Dynamics Investigation (GEDI) lidar mission. Remote Sensing of Environment, 2022, 270, 112845.	11.0	108
27	Sensitivity of L-Band SAR Backscatter to Aboveground Biomass of Global Forests. Remote Sensing, 2016, 8, 522.	4.0	106
28	A Recent Systematic Increase in Vapor Pressure Deficit over Tropical South America. Scientific Reports, 2019, 9, 15331.	3.3	106
29	Estimation of forest aboveground biomass in California using canopy height and leaf area index estimated from satellite data. Remote Sensing of Environment, 2014, 151, 44-56.	11.0	103
30	Post-drought decline of the Amazon carbon sink. Nature Communications, 2018, 9, 3172.	12.8	95
31	Ground Data are Essential for Biomass Remote Sensing Missions. Surveys in Geophysics, 2019, 40, 863-880.	4.6	91
32	Magnitude, spatial distribution and uncertainty of forest biomass stocks in Mexico. Remote Sensing of Environment, 2016, 183, 265-281.	11.0	83
33	Persistent collapse of biomass in Amazonian forest edges following deforestation leads to unaccounted carbon losses. Science Advances, 2020, 6, .	10.3	82
34	Modeling the spatial and temporal heterogeneity of deforestationâ€driven carbon emissions: the <scp>INPE</scp>â€<scp>EM</scp> framework applied to the Brazilian Amazon. Global Change Biology, 2012, 18, 3346-3366.	9.5	81
35	Response of African humid tropical forests to recent rainfall anomalies. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120306.	4.0	75
36	Coverage of high biomass forests by the ESA BIOMASS mission under defense restrictions. Remote Sensing of Environment, 2017, 196, 154-162.	11.0	75

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37	Detecting forest response to droughts with global observations of vegetation water content. Global Change Biology, 2021, 27, 6005-6024.	9.5	73
38	Disentangling the contribution of multiple land covers to fireâ€mediated carbon emissions in Amazonia during the 2010 drought. Global Biogeochemical Cycles, 2015, 29, 1739-1753.	4.9	63
39	Modelling forest canopy height by integrating airborne LiDAR samples with satellite Radar and multispectral imagery. International Journal of Applied Earth Observation and Geoinformation, 2018, 66, 159-173.	2.8	61
40	Upscaling Forest Biomass from Field to Satellite Measurements: Sources of Errors and Ways to Reduce Them. Surveys in Geophysics, 2019, 40, 881-911.	4.6	61
41	Comparison of Small- and Large-Footprint Lidar Characterization of Tropical Forest Aboveground Structure and Biomass: A Case Study From Central Gabon. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2018, 11, 3512-3526.	4.9	60
42	Land-use and land-cover change carbon emissions between 1901 and 2012 constrained by biomass observations. Biogeosciences, 2017, 14, 5053-5067.	3.3	58
43	Seeing the forest beyond the trees. Global Ecology and Biogeography, 2015, 24, 606-610.	5.8	56
44	Recent Amplified Global Gross Primary Productivity Due to Temperature Increase Is Offset by Reduced Productivity Due to Water Constraints. AGU Advances, 2020, 1, e2020AV000180.	5.4	50
45	<i>In Situ</i> Reference Datasets From the TropiSAR and AfriSAR Campaigns in Support of Upcoming Spaceborne Biomass Missions. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2018, 11, 3617-3627.	4.9	49
46	Active microwave observations of diurnal and seasonal variations of canopy water content across the humid African tropical forests. Geophysical Research Letters, 2017, 44, 2290-2299.	4.0	48
47	Satellite observation of tropical forest seasonality: spatial patterns of carbon exchange in Amazonia. Environmental Research Letters, 2015, 10, 084005.	5.2	47
48	Annual Carbon Emissions from Deforestation in the Amazon Basin between 2000 and 2010. PLoS ONE, 2015, 10, e0126754.	2.5	46
49	Impacts of Airborne Lidar Pulse Density on Estimating Biomass Stocks and Changes in a Selectively Logged Tropical Forest. Remote Sensing, 2017, 9, 1068.	4.0	45
50	Spatial Distribution of Carbon Stored in Forests of theÂDemocratic Republic of Congo. Scientific Reports, 2017, 7, 15030.	3.3	44
51	Airborne Lidar Estimation of Aboveground Forest Biomass in the Absence of Field Inventory. Remote Sensing, 2016, 8, 653.	4.0	43
52	Quantifying biomass consumption and carbon release from the California Rim fire by integrating airborne LiDAR and Landsat OLI data. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 340-353.	3.0	43
53	Aboveground biomass and leaf area index (LAI) mapping for Niassa Reserve, northern Mozambique. Journal of Geophysical Research, 2008, 113, .	3.3	42
54	Detecting vulnerability of humid tropical forests to multiple stressors. One Earth, 2021, 4, 988-1003.	6.8	41

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55	Performance of non-parametric algorithms for spatial mapping of tropical forest structure. Carbon Balance and Management, 2016, 11, 18.	3.2	35
56	Extrapolating Forest Canopy Fuel Properties in the California Rim Fire by Combining Airborne LiDAR and Landsat OLI Data. Remote Sensing, 2017, 9, 394.	4.0	34
57	Predicting spatial variations of tree species richness in tropical forests from highâ€resolution remote sensing. Ecological Applications, 2015, 25, 1776-1789.	3.8	33
58	The NASA AfriSAR campaign: Airborne SAR and lidar measurements of tropical forest structure and biomass in support of current and future space missions. Remote Sensing of Environment, 2021, 264, 112533.	11.0	33
59	Canopy area of large trees explains aboveground biomass variations across neotropical forest landscapes. Biogeosciences, 2018, 15, 3377-3390.	3.3	32
60	Amazonian forest degradation must be incorporated into the COP26 agenda. Nature Geoscience, 2021, 14, 634-635.	12.9	32
61	Predicting alpha diversity of African rain forests: models based on climate and satellite-derived data do not perform better than a purely spatial model. Journal of Biogeography, 2011, 38, 1164-1176.	3.0	30
62	Impact of data model and point density on aboveground forest biomass estimation from airborne LiDAR. Carbon Balance and Management, 2017, 12, 4.	3.2	30
63	Fire decline in dry tropical ecosystems enhances decadal land carbon sink. Nature Communications, 2020, 11, 1900.	12.8	30
64	Leaf surface water, not plant water stress, drives diurnal variation in tropical forest canopy water content. New Phytologist, 2021, 231, 122-136.	7.3	30
65	Sensitivity of global terrestrial carbon cycle dynamics to variability in satelliteâ€observed burned area. Global Biogeochemical Cycles, 2015, 29, 207-222.	4.9	29
66	Interannual Variations of Vegetation Optical Depth are Due to Both Water Stress and Biomass Changes. Geophysical Research Letters, 2021, 48, e2021GL095267.	4.0	29
67	A novel application of satellite radar data: measuring carbon sequestration and detecting degradation in a community forestry project in Mozambique. Plant Ecology and Diversity, 2013, 6, 159-170.	2.4	27
68	Mature Andean forests as globally important carbon sinks and future carbon refuges. Nature Communications, 2021, 12, 2138.	12.8	26
69	Lagged effects regulate the inter-annual variability of the tropical carbon balance. Biogeosciences, 2020, 17, 6393-6422.	3.3	26
70	A sample design for globally consistent biomass estimation using lidar data from the Geoscience Laser Altimeter System (GLAS). Carbon Balance and Management, 2012, 7, 10.	3.2	25
71	Evaluation of the Sensitivity of SMOS L-VOD to Forest Above-Ground Biomass at Global Scale. Remote Sensing, 2020, 12, 1450.	4.0	24
72	Carbon storage potential in degraded forests of Kalimantan, Indonesia. Environmental Research Letters, 2018, 13, 095001.	5.2	23

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73	Forest degradation and biomass loss along the ChocÃ³ region of Colombia. Carbon Balance and Management, 2019, 14, 2.	3.2	23
74	Human and Climate Effects on the Hamoun Wetlands. Weather, Climate, and Society, 2019, 11, 609-622.	1.1	22
75	Remote Sensing Assessment of Forest Disturbance across Complex Mountainous Terrain: The Pattern and Severity of Impacts of Tropical Cyclone Yasi on Australian Rainforests. Remote Sensing, 2014, 6, 5633-5649.	4.0	21
76	Tropical tree sizeâ€“frequency distributions from airborne lidar. Ecological Applications, 2020, 30, e02154.	3.8	20
77	Beyond mean functional traits: Influence of functional trait profiles on forest structure, production, and mortality across the eastern US. Forest Ecology and Management, 2014, 328, 1-9.	3.2	19
78	Old growth Afrotropical forests critical for maintaining forest carbon. Global Ecology and Biogeography, 2020, 29, 1785-1798.	5.8	19
79	Forest biomass and the science of inventory from space. Nature Climate Change, 2012, 2, 826-827.	18.8	18
80	Allometric Scaling and Resource Limitations Model of Tree Heights: Part 1. Model Optimization and Testing over Continental USA. Remote Sensing, 2013, 5, 284-306.	4.0	18
81	Below-surface water mediates the response of African forests to reduced rainfall. Environmental Research Letters, 2020, 15, 034063.	5.2	18
82	Diversity, distribution and dynamics of large trees across an old-growth lowland tropical rain forest landscape. PLoS ONE, 2019, 14, e0224896.	2.5	17
83	Structure and allometry in tropical forests of ChocÃ³, Colombia. Forest Ecology and Management, 2017, 405, 309-318.	3.2	16
84	Allometric Scaling and Resource Limitations Model of Tree Heights: Part 2. Site Based Testing of the Model. Remote Sensing, 2013, 5, 202-223.	4.0	15
85	Local validation of global biomass maps. International Journal of Applied Earth Observation and Geoinformation, 2019, 83, 101931.	2.8	15
86	Using a Finer Resolution Biomass Map to Assess the Accuracy of a Regional, Map-Based Estimate of Forest Biomass. Surveys in Geophysics, 2019, 40, 1001-1015.	4.6	14
87	Satellite Observations of the Tropical Terrestrial Carbon Balance and Interactions With the Water Cycle During the 21st Century. Reviews of Geophysics, 2021, 59, e2020RG000711.	23.0	13
88	The Impacts of Climate and Wildfire on Ecosystem Gross Primary Productivity in Alaska. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006078.	3.0	12
89	Gap models across micro- to mega-scales of time and space: examples of Tansleyâ€™s ecosystem concept. Forest Ecosystems, 2020, 7, .	3.1	12
90	Abiotic Controls on Macroscale Variations of Humid Tropical Forest Height. Remote Sensing, 2016, 8, 494.	4.0	11

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91	Topography and Three-Dimensional Structure Can Estimate Tree Diversity along a Tropical Elevational Gradient in Costa Rica. Remote Sensing, 2018, 10, 629.	4.0	11
92	Bamboo phenology and life cycle drive seasonal and longâ€term functioning of Amazonian bambooâ€dominated forests. Journal of Ecology, 2021, 109, 860-876.	4.0	11
93	A Systems Engineering Approach to Estimating Uncertainty in Aboveâ€Ground Biomass (<scp>AGB</scp>) Derived from Remoteâ€Sensing Data. Systems Engineering, 2014, 17, 361-373.	2.7	10
94	Mapping tree diversity in the tropical forest region of ChocÃ³-Colombia. Environmental Research Letters, 2021, 16, 054024.	5.2	10
95	New Forest Aboveground Biomass Maps of China Integrating Multiple Datasets. Remote Sensing, 2021, 13, 2892.	4.0	10
96	Interannual Variability of Carbon Uptake of Secondary Forests in the Brazilian Amazon (2004â€2014). Global Biogeochemical Cycles, 2020, 34, e2019GB006396.	4.9	9
97	Application of Semi-Automated Filter to Improve Waveform Lidar Sub-Canopy Elevation Model. Remote Sensing, 2012, 4, 1494-1518.	4.0	8
98	Making the US national forest inventory spatially contiguous and temporally consistent. Environmental Research Letters, 2022, 17, 065002.	5.2	8
99	Use of local and global maps of forest canopy height and aboveground biomass to enhance local estimates of biomass in miombo woodlands in Tanzania. International Journal of Applied Earth Observation and Geoinformation, 2020, 89, 102109.	2.8	5
100	Amazonian terrestrial water balance inferred from satellite-observed water vapor isotopes. Nature Communications, 2022, 13, 2686.	12.8	5
101	Global correlation and uncertainty accounting. Dependence Modeling, 2016, 4, .	0.5	2
102	Mechanistic Processes Controlling Persistent Changes of Forest Canopy Structure After 2005 Amazon Drought. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 3378-3390.	3.0	2
103	Chapter 10. Trees have Already been Invented: Carbon in Woodlands. Collabra, 2016, 2, .	1.3	1
104	The Role of the Biomass Mission in Carbon Cycle Science and Politics. , 2021, , .		0