Hans Verbeeck

List of Publications by Year
in descending order

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114 papers	8,252 citations	76326 40 h-index	51608 86 g-index

150 all docs	150 docs citations	150 times ranked	12112 citing authors

#	Article	IF	Citations
1	TRY plant trait database â€“ enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	9.5	1,038
2	Terrestrial biosphere models need better representation of vegetation phenology: results from the <scp>N</scp>orth <scp>A</scp>merican <scp>C</scp>arbon <scp>P</scp>rogram <scp>S</scp>ite <scp>S</scp>ynthesis. Global Change Biology, 2012, 18, 566-584.	9.5	583
3	Vegetation demographics in Earth System Models: A review of progress and priorities. Global Change Biology, 2018, 24, 35-54.	9.5	478
4	An integrated panâ€tropical biomass map using multiple reference datasets. Global Change Biology, 2016, 22, 1406-1420.	9.5	469
5	Asynchronous carbon sink saturation in African and Amazonian tropical forests. Nature, 2020, 579, 80-87.	27.8	439
6	Air temperature optima of vegetation productivity across global biomes. Nature Ecology and Evolution, 2019, 3, 772-779.	7.8	316
7	A modelâ€data comparison of gross primary productivity: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	274
8	Above-ground biomass and structure of 260 African tropical forests. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120295.	4.0	264
9	A modelâ€data intercomparison of CO₂ exchange across North America: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2010, 115, .	3.3	247
10	Terrestrial biosphere model performance for interâ€annual variability of landâ€atmosphere <scp><scp>CO₂</scp></scp> exchange. Global Change Biology, 2012, 18, 1971-1987.	9.5	232
11	Forest resilience and tipping points at different spatioâ€temporal scales: approaches and challenges. Journal of Ecology, 2015, 103, 5-15.	4.0	224
12	Terrestrial laser scanning in forest ecology: Expanding the horizon. Remote Sensing of Environment, 2020, 251, 112102.	11.0	208
13	Long-term thermal sensitivity of Earthâ€™s tropical forests. Science, 2020, 368, 869-874.	12.6	198
14	Phylogenetic classification of the worldâ€™s tropical forests. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1837-1842.	7.1	144
15	The global forest above-ground biomass pool for 2010 estimated from high-resolution satellite observations. Earth System Science Data, 2021, 13, 3927-3950.	9.9	123
16	Variation in stem mortality rates determines patterns of aboveâ€ground biomass in <scp>A</scp>mazonian forests: implications for dynamic global vegetation models. Global Change Biology, 2016, 22, 3996-4013.	9.5	116
17	Aboveground biomass density models for NASAâ€™s Global Ecosystem Dynamics Investigation (GEDI) lidar mission. Remote Sensing of Environment, 2022, 270, 112845.	11.0	108
18	Mechanisms of water supply and vegetation demand govern the seasonality and magnitude of evapotranspiration in Amazonia and Cerrado. Agricultural and Forest Meteorology, 2014, 191, 33-50.	4.8	105

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19	Conventional tree heightâ€“diameter relationships significantly overestimate aboveground carbon stocks in the Central Congo Basin. Nature Communications, 2013, 4, 2269.	12.8	103
20	Parameter sensitivity and uncertainty of the forest carbon flux model FORUG: a Monte Carlo analysis. Tree Physiology, 2006, 26, 807-817.	3.1	94
21	Carbon stock changes and carbon sequestration potential of Flemish cropland soils. Global Change Biology, 2003, 9, 1193-1203.	9.5	80
22	Panâ€tropical prediction of forest structure from the largest trees. Global Ecology and Biogeography, 2018, 27, 1366-1383.	5.8	78
23	Seasonal patterns of CO₂fluxes in Amazon forests: Fusion of eddy covariance data and the ORCHIDEE model. Journal of Geophysical Research, 2011, 116, .	3.3	75
24	Evaluation of continental carbon cycle simulations with North American flux tower observations. Ecological Monographs, 2013, 83, 531-556.	5.4	75
25	Characterizing the performance of ecosystem models across time scales: A spectral analysis of the North American Carbon Program site-level synthesis. Journal of Geophysical Research, 2011, 116, .	3.3	72
26	Improved Supervised Learning-Based Approach for Leaf and Wood Classification From LiDAR Point Clouds of Forests. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 3057-3070.	6.3	72
27	Taking the pulse of Earth's tropical forests using networks of highly distributed plots. Biological Conservation, 2021, 260, 108849.	4.1	71
28	Characterizing the diurnal patterns of errors in the prediction of evapotranspiration by several landâ€surface models: An NACP analysis. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1458-1473.	3.0	69
29	Impacts of future deforestation and climate change on the hydrology of the Amazon Basin: a multi-model analysis with a new set of land-cover change scenarios. Hydrology and Earth System Sciences, 2017, 21, 1455-1475.	4.9	69
30	High aboveground carbon stock of African tropical montane forests. Nature, 2021, 596, 536-542.	27.8	65
31	Liana and tree below-ground water competitionâ€”evidence for water resource partitioning during the dry season. Tree Physiology, 2018, 38, 1071-1083.	3.1	58
32	Overview of the Large-Scale Biosphereâ€“Atmosphere Experiment in Amazonia Data Model Intercomparison Project (LBA-DMIP). Agricultural and Forest Meteorology, 2013, 182-183, 111-127.	4.8	55
33	Stored water use and transpiration in Scots pine: a modeling analysis with ANAFORE. Tree Physiology, 2007, 27, 1671-1685.	3.1	51
34	Impact of hydrological variations on modeling of peatland CO₂ fluxes: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	50
35	Testing conceptual and physically based soil hydrology schemes against observations for the Amazon Basin. Geoscientific Model Development, 2014, 7, 1115-1136.	3.6	49
36	A comprehensive framework for assessing the accuracy and uncertainty of global above-ground biomass maps. Remote Sensing of Environment, 2022, 272, 112917.	11.0	48

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37	Time for a Plant Structural Economics Spectrum. Frontiers in Forests and Global Change, 2019, 2, .	2.3	47
38	High fire-derived nitrogen deposition on central African forests. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 549-554.	7.1	46
39	Spatial Distribution of Carbon Stored in Forests of theÂDemocratic Republic of Congo. Scientific Reports, 2017, 7, 15030.	3.3	44
40	Model performance of tree height-diameter relationships in the central Congo Basin. Annals of Forest Science, 2017, 74, 1.	2.0	43
41	Reconciling biodiversity and carbon stock conservation in an Afrotropical forest landscape. Science Advances, 2018, 4, eaar6603.	10.3	40
42	Contrasting nitrogen fluxes in African tropical forests of the Congo Basin. Ecological Monographs, 2019, 89, e01342.	5.4	39
43	Assessing the role of megafauna in tropical forest ecosystems and biogeochemical cycles â€“ the potential of vegetation models. Ecography, 2018, 41, 1934-1954.	4.5	38
44	Microclimatic edge-to-interior gradients of European deciduous forests. Agricultural and Forest Meteorology, 2021, 311, 108699.	4.8	38
45	Quantifying tropical forest structure through terrestrial and UAV laser scanning fusion in Australian rainforests. Remote Sensing of Environment, 2022, 271, 112912.	11.0	38
46	Functional community structure of African monodominant Gilbertiodendron dewevrei forest influenced by local environmental filtering. Ecology and Evolution, 2017, 7, 295-304.	1.9	37
47	Resistance of African tropical forests to an extreme climate anomaly. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	37
48	The importance of including lianas in global vegetation models. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4.	7.1	35
49	Structural variation of forest edges across Europe. Forest Ecology and Management, 2020, 462, 117929.	3.2	35
50	Improving the ISBA_{CC} land surface model simulation of water and carbon fluxes and stocks over the Amazon forest. Geoscientific Model Development, 2015, 8, 1709-1727.	3.6	33
51	Modeling the impact of liana infestation on the demography and carbon cycle of tropical forests. Global Change Biology, 2019, 25, 3767-3780.	9.5	33
52	Causes and consequences of pronounced variation in the isotope composition of plant xylem water. Biogeosciences, 2020, 17, 4853-4870.	3.3	33
53	Evaluating the potential of fullâ€waveform lidar for mapping panâ€tropical tree species richness. Global Ecology and Biogeography, 2020, 29, 1799-1816.	5.8	31
54	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

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55	Inter-annual variability of carbon and water fluxes in Amazonian forest, Cerrado and pasture sites, as simulated by terrestrial biosphere models. Agricultural and Forest Meteorology, 2013, 182-183, 145-155.	4.8	30
56	Environmental impact assessment and monetary ecosystem service valuation of an ecosystem under different future environmental change and management scenarios; a case study of a Scots pine forest. Journal of Environmental Management, 2016, 173, 79-94.	7.8	28
57	Taxonomic, phylogenetic and functional diversity of understorey plants respond differently to environmental conditions in European forest edges. Journal of Ecology, 2021, 109, 2629-2648.	4.0	28
58	Inventory-based carbon stock of Flemish forests: a comparison of European biomass expansion factors. Annals of Forest Science, 2004, 61, 677-682.	2.0	27
59	Multi-year model analysis of GPP in a temperate beech forest in France. Ecological Modelling, 2008, 210, 85-103.	2.5	25
60	Drivers of carbon stocks in forest edges across Europe. Science of the Total Environment, 2021, 759, 143497.	8.0	25
61	Aboveground vs. Belowground Carbon Stocks in African Tropical Lowland Rainforest: Drivers and Implications. PLoS ONE, 2015, 10, e0143209.	2.5	25
62	Carbon and energy fluxes in cropland ecosystems: a model-data comparison. Biogeochemistry, 2016, 129, 53-76.	3.5	24
63	Unraveling the relative role of light and water competition between lianas and trees in tropical forests: A vegetation model analysis. Journal of Ecology, 2021, 109, 519-540.	4.0	24
64	Does canopy mean nitrogen concentration explain variation in canopy light use efficiency across 14 contrasting forest sites?. Tree Physiology, 2012, 32, 200-218.	3.1	23
65	Longâ€term recovery of the functional community assembly and carbon pools in an African tropical forest succession. Biotropica, 2019, 51, 319-329.	1.6	23
66	Semi-automatic extraction of liana stems from terrestrial LiDAR point clouds of tropical rainforests. ISPRS Journal of Photogrammetry and Remote Sensing, 2019, 154, 114-126.	11.1	22
67	Centuryâ€long apparent decrease in intrinsic waterâ€use efficiency with no evidence of progressive nutrient limitation in African tropical forests. Global Change Biology, 2020, 26, 4449-4461.	9.5	20
68	Understanding 3D structural complexity of individual Scots pine trees with different management history. Ecology and Evolution, 2021, 11, 2561-2572.	1.9	20
69	Tropical forests: Include Congo basin. Nature, 2011, 479, 179-179.	27.8	17
70	Can decision rules simulate carbon allocation for years with contrasting and extreme weather conditions? A case study for three temperate beech forests. Ecological Modelling, 2013, 263, 42-55.	2.5	17
71	Effects of Tree Trunks on Estimation of Clumping Index and LAI from HemiView and Terrestrial LiDAR. Forests, 2018, 9, 144.	2.1	17
72	Consequences of vertical basic wood density variation on the estimation of aboveground biomass with terrestrial laser scanning. Trees - Structure and Function, 2021, 35, 671-684.	1.9	17

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73	Thirty Years of Land Cover and Fraction Cover Changes over the Sudano-Sahel Using Landsat Time Series. Remote Sensing, 2020, 12, 3817.	4.0	16
74	Functional identity explains carbon sequestration in a 77-year-old experimental tropical plantation. Ecosphere, 2015, 6, art198.	2.2	15
75	Functional Composition of Tree Communities Changed Topsoil Properties in an Old Experimental Tropical Plantation. Ecosystems, 2017, 20, 861-871.	3.4	15
76	Parallel functional and stoichiometric trait shifts in South American and African forest communities with elevation. Biogeosciences, 2017, 14, 5313-5321.	3.3	15
77	Small scale environmental variation modulates plant defence syndromes of understorey plants in deciduous forests of Europe. Global Ecology and Biogeography, 2021, 30, 205-219.	5.8	15
78	Terrestrial laser scanning for non-destructive estimates of liana stem biomass. Forest Ecology and Management, 2020, 456, 117751.	3.2	14
79	Refining Species Traits in a Dynamic Vegetation Model to Project the Impacts of Climate Change on Tropical Trees in Central Africa. Forests, 2018, 9, 722.	2.1	13
80	Largeâ€sized rare tree species contribute disproportionately to functional diversity in resource acquisition in African tropical forest. Ecology and Evolution, 2019, 9, 4349-4361.	1.9	13
81	Disentangling how management affects biomass stock and productivity of tropical secondary forests fallows. Science of the Total Environment, 2019, 659, 101-114.	8.0	13
82	Increasing liana frequency in temperate European forest understories is driven by ivy. Frontiers in Ecology and the Environment, 2020, 18, 550-557.	4.0	13
83	Forest above-ground volume assessments with terrestrial laser scanning: a ground-truth validation experiment in temperate, managed forests. Annals of Botany, 2021, 128, 805-819.	2.9	13
84	The ecology of Maesopsis eminii Engl. in tropical Africa. African Journal of Ecology, 2017, 55, 679-692.	0.9	12
85	Terrestrial Laser Scanning to Detect Liana Impact on Forest Structure. Remote Sensing, 2018, 10, 810.	4.0	12
86	High photosynthetic capacity of Sahelian C3 and C4 plants. Photosynthesis Research, 2021, 147, 161-175.	2.9	12
87	Historical Aerial Surveys Map Long-Term Changes of Forest Cover and Structure in the Central Congo Basin. Remote Sensing, 2020, 12, 638.	4.0	11
88	Contrasting responses of woody and herbaceous vegetation to altered rainfall characteristics in the Sahel. Biogeosciences, 2021, 18, 77-93.	3.3	11
89	Plant measurements on African tropical Maesopsis eminii seedlings contradict pioneering water use behaviour. Environmental and Experimental Botany, 2017, 135, 27-37.	4.2	10
90	Comparable canopy and soil free-living nitrogen fixation rates in a lowland tropical forest. Science of the Total Environment, 2021, 754, 142202.	8.0	10

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91	Fire-derived phosphorus fertilization of African tropical forests. Nature Communications, 2021, 12, 5129.	12.8	10
92	Characterising Termite Mounds in a Tropical Savanna with UAV Laser Scanning. Remote Sensing, 2021, 13, 476.	4.0	10
93	Liana optical traits increase tropical forest albedo and reduce ecosystem productivity. Global Change Biology, 2022, 28, 227-244.	9.5	10
94	Long-term scenarios of the invasive black cherry in pine-oak forest: Impact of regeneration success. Acta Oecologica, 2011, 37, 203-211.	1.1	9
95	Lianas and trees exhibit divergent intrinsic waterâ€use efficiency along elevational gradients in South American and African tropical forests. Global Ecology and Biogeography, 2021, 30, 2259-2272.	5.8	7
96	A generic pixel-to-point comparison for simulated large-scale ecosystem properties and ground-based observations: an example from the Amazon region. Geoscientific Model Development, 2018, 11, 5203-5215.	3.6	6
97	Within-Site Variability of Liana Wood Anatomical Traits: A Case Study in Laussat, French Guiana. Forests, 2020, 11, 523.	2.1	6
98	Biomass Expansion Factors for Hedgerow-Grown Trees Derived from Terrestrial LiDAR. Bioenergy Research, 2021, 14, 561-574.	3.9	6
99	Aboveground carbon stocks, woody and litter productivity along an elevational gradient in the Rwenzori Mountains, Uganda. Biotropica, 2022, 54, 906-920.	1.6	6
100	Ideas and perspectives: patterns of soil CO₂, CH₄, and N₂O fluxes along an altitudinal gradient â€“ a pilot study from an Ecuadorian neotropical montane forest. Biogeosciences, 2021, 18, 413-421.	3.3	4
101	Lianas Significantly Reduce Aboveground and Belowground Carbon Storage: A Virtual Removal Experiment. Frontiers in Forests and Global Change, 2021, 4, .	2.3	4
102	Modelling Amazonian Carbon Budgets and Vegetation Dynamics in a Changing Climate. Ecological Studies, 2016, , 331-366.	1.2	3
103	Liana communities exhibit different species composition, diversity and community structure across forest types in the Congo Basin. Biotropica, 2020, 52, 651-663.	1.6	3
104	Towards Extraction of LIANAS from Terrestrial LIDAR Scans of Tropical Forests. , 2018, , .		2
105	Lianas in silico, ecological insights from a model of structural parasitism. Ecological Modelling, 2020, 431, 109159.	2.5	2
106	Robust Estimation of Absorbing Root Surface Distributions From Xylem Water Isotope Compositions With an Inverse Plant Hydraulic Model. Frontiers in Forests and Global Change, 2021, 4, .	2.3	2
107	â€œLianificationâ€•or liana invasion â€“ is there a difference?. Frontiers in Ecology and the Environment, 2021, 19, 377-378.	4.0	2
108	Quantifying Tropical Forest Stand Structure Through Terrestrial and UAV Laser Scanning Fusion. , 2021, , .		2

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109	Mapping Sahelian Ecosystem Vulnerability to Vegetation Collapse: Vegetation Model Optimization. , 2021, , .		2
110	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
111	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
112	Two Co-occurring Liana Species Strongly Differ in Their Hydraulic Traits in a Water-Limited Neotropical Forest. Frontiers in Forests and Global Change, 2022, 5, .	2.3	1
113	CongoFlux â€“ The First Eddy Covariance Flux Tower in the Congo Basin. Frontiers in Soil Science, 0, 2, .	2.2	1
114	Thirty Years of Land Cover and Fraction Cover Changes Over the Sudano-Sahel Using Landsat Time Series. , 2021, , .		0