Miska Luoto

List of Publications by Year
in descending order

146 papers	12,135 citations	44042 48 h-index	29127 104 g-index
160 all docs	160 docs citations	160 times ranked	14997 citing authors

#	Article	IF	Citations
1	The role of biotic interactions in shaping distributions and realised assemblages of species: implications for species distribution modelling. Biological Reviews, 2013, 88, 15-30.	4.7	1,224
2	Evaluation of consensus methods in predictive species distribution modelling. Diversity and Distributions, 2009, 15, 59-69.	1.9	990
3	The importance of biotic interactions for modelling species distributions under climate change. Global Ecology and Biogeography, 2007, 16, 743-753.	2.7	953
4	Methods and uncertainties in bioclimatic envelope modelling under climate change. Progress in Physical Geography, 2006, 30, 751-777.	1.4	787
5	Global buffering of temperatures under forest canopies. Nature Ecology and Evolution, 2019, 3, 744-749.	3.4	374
6	Forest microclimates and climate change: Importance, drivers and future research agenda. Global Change Biology, 2021, 27, 2279-2297.	4.2	330
7	Degrading permafrost puts Arctic infrastructure at risk by mid-century. Nature Communications, 2018, 9, 5147.	5.8	327
8	A comprehensive evaluation of predictive performance of 33 species distribution models at species and community levels. Ecological Monographs, 2019, 89, e01370.	2.4	290
9	Distance decay of similarity in freshwater communities: do macroâ€•and microorganisms follow the same rules?. Global Ecology and Biogeography, 2012, 21, 365-375.	2.7	281
10	Species traits explain recent range shifts of Finnish butterflies. Global Change Biology, 2009, 15, 732-743.	4.2	254
11	Does the interpolation accuracy of species distribution models come at the expense of transferability?. Ecography, 2012, 35, 276-288.	2.1	200
12	Local temperatures inferred from plant communities suggest strong spatial buffering of climate warming across <scp>N</scp>orthern <scp>E</scp>urope. Global Change Biology, 2013, 19, 1470-1481.	4.2	200
13	Uncertainty of bioclimate envelope models based on the geographical distribution of species. Global Ecology and Biogeography, 2005, 14, 575-584.	2.7	180
14	What we use is not what we know: environmental predictors in plant distribution models. Journal of Vegetation Science, 2016, 27, 1308-1322.	1.1	165
15	The performance of state-of-the-art modelling techniques depends on geographical distribution of species. Ecological Modelling, 2009, 220, 3512-3520.	1.2	150
16	Impacts of permafrost degradation on infrastructure. Nature Reviews Earth & Environment, 2022, 3, 24-38.	12.2	150
17	Monitoring biodiversity in the Anthropocene using remote sensing in species distribution models. Remote Sensing of Environment, 2020, 239, 111626.	4.6	142
18	Human population dynamics in Europe over the Last Glacial Maximum. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8232-8237.	3.3	140

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19	Disregarding topographical heterogeneity biases species turnover assessments based on bioclimatic models. Global Change Biology, 2008, 14, 483-494.	4.2	135
20	SoilTemp: A global database of nearâ€surface temperature. Global Change Biology, 2020, 26, 6616-6629.	4.2	122
21	Recent vegetation changes at the highâ€latitude tree line ecotone are controlled by geomorphological disturbance, productivity and diversity. Global Ecology and Biogeography, 2010, 19, 810-821.	2.7	118
22	Testing species distribution models across space and time: high latitude butterflies and recent warming. Global Ecology and Biogeography, 2013, 22, 1293-1303.	2.7	113
23	Global maps of soil temperature. Global Change Biology, 2022, 28, 3110-3144.	4.2	113
24	Determinants of the biogeographical distribution of butterflies in boreal regions. Journal of Biogeography, 2006, 33, 1764-1778.	1.4	111
25	Soil moisture's underestimated role in climate change impact modelling in lowâ€energy systems. Global Change Biology, 2013, 19, 2965-2975.	4.2	110
26	Estimating fractional cover of tundra vegetation at multiple scales using unmanned aerial systems and optical satellite data. Remote Sensing of Environment, 2019, 224, 119-132.	4.6	100
27	Snow cover is a neglected driver of Arctic biodiversity loss. Nature Climate Change, 2018, 8, 997-1001.	8.1	94
28	Inclusion of explicit measures of geodiversity improve biodiversity models in a boreal landscape. Biodiversity and Conservation, 2012, 21, 3487-3506.	1.2	87
29	Productivity, biodiversity, and pathogens influence the global hunter-gatherer population density. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1232-1237.	3.3	86
30	Monthly microclimate models in a managed boreal forest landscape. Agricultural and Forest Meteorology, 2018, 250-251, 147-158.	1.9	84
31	Statistical Forecasting of Current and Future Circumâ€Arctic Ground Temperatures and Active Layer Thickness. Geophysical Research Letters, 2018, 45, 4889-4898.	1.5	83
32	Statistical upscaling of ecosystem CO₂ fluxes across the terrestrial tundra and boreal domain: Regional patterns and uncertainties. Global Change Biology, 2021, 27, 4040-4059.	4.2	83
33	Climate change and the future distributions of aquatic macrophytes across boreal catchments. Journal of Biogeography, 2011, 38, 383-393.	1.4	81
34	The mossy north: an inverse latitudinal diversity gradient in European bryophytes. Scientific Reports, 2016, 6, 25546.	1.6	74
35	Assessing the vulnerability of European butterflies to climate change using multiple criteria. Biodiversity and Conservation, 2010, 19, 695-723.	1.2	71
36	The importance of snow in species distribution models of arctic vegetation. Ecography, 2018, 41, 1024-1037.	2.1	71

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37	Vegetation Mediates Soil Temperature and Moisture in Arctic-Alpine Environments. Arctic, Antarctic, and Alpine Research, 2013, 45, 429-439.	0.4	70
38	New high-resolution estimates of the permafrost thermal state and hydrothermal conditions over the Northern Hemisphere. Earth System Science Data, 2022, 14, 865-884.	3.7	68
39	From white to green: Snow cover loss and increased vegetation productivity in the European Alps. Science, 2022, 376, 1119-1122.	6.0	64
40	Incorporating dominant species as proxies for biotic interactions strengthens plant community models. Journal of Ecology, 2014, 102, 767-775.	1.9	63
41	Biotic interactions boost spatial models of species richness. Ecography, 2015, 38, 913-921.	2.1	63
42	Carnivore-livestock conflicts: determinants of wolf (Canis lupus) depredation on sheep farms in Finland. Biodiversity and Conservation, 2009, 18, 3503-3517.	1.2	60
43	Applying probabilistic projections of climate change with impact models: a case study for sub-arctic palsa mires in Fennoscandia. Climatic Change, 2010, 99, 515-534.	1.7	59
44	Tundra Trait Team: A database of plant traits spanning the tundra biome. Global Ecology and Biogeography, 2018, 27, 1402-1411.	2.7	57
45	ForestTemp â€" Subâ€canopy microclimate temperatures of European forests. Global Change Biology, 2021, 27, 6307-6319.	4.2	57
46	Outcomes of biotic interactions are dependent on multiple environmental variables. Journal of Vegetation Science, 2014, 25, 1024-1032.	1.1	54
47	Fine-scale tundra vegetation patterns are strongly related to winter thermal conditions. Nature Climate Change, 2020, 10, 1143-1148.	8.1	52
48	Horizontal, but not vertical, biotic interactions affect fineâ€scale plant distribution patterns in a lowâ€energy system. Ecology, 2013, 94, 671-682.	1.5	51
49	Circumpolar permafrost maps and geohazard indices for near-future infrastructure risk assessments. Scientific Data, 2019, 6, 190037.	2.4	51
50	Earth surface processes drive the richness, composition and occurrence of plant species in an arcticâ€"alpine environment. Journal of Vegetation Science, 2014, 25, 45-54.	1.1	50
51	Predicted insect diversity declines under climate change in an already impoverished region. Journal of Insect Conservation, 2010, 14, 485-498.	0.8	49
52	A comparison of predictive methods in modelling the distribution of periglacial landforms in Finnish Lapland. Earth Surface Processes and Landforms, 2008, 33, 2241-2254.	1.2	48
53	Past climateâ€driven range shifts and population genetic diversity in arctic plants. Journal of Biogeography, 2016, 43, 461-470.	1.4	48
54	Modelling soil moisture in a highâ€latitude landscape using LiDAR and soil data. Earth Surface Processes and Landforms, 2018, 43, 1019-1031.	1.2	48

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55	Statistical consensus methods for improving predictive geomorphology maps. Computers and Geosciences, 2009, 35, 615-625.	2.0	47
56	Interaction of geomorphic and ecologic features across altitudinal zones in a subarctic landscape. Geomorphology, 2009, 112, 324-333.	1.1	47
57	A North European pollenâ€“climate calibration set: analysing the climatic responses of a biological proxy using novel regression tree methods. Quaternary Science Reviews, 2012, 45, 95-110.	1.4	47
58	Revealing topoclimatic heterogeneity using meteorological station data. International Journal of Climatology, 2017, 37, 544-556.	1.5	47
59	Decreasing snow cover alters functional composition and diversity of Arctic tundra. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21480-21487.	3.3	47
60	The regional species richness and genetic diversity of <scp>A</scp>rctic vegetation reflect both past glaciations and current climate. Global Ecology and Biogeography, 2016, 25, 430-442.	2.7	44
61	Primary succession, disturbance and productivity drive complex species richness patterns on land uplift beaches. Journal of Vegetation Science, 2015, 26, 267-277.	1.1	42
62	Holocene fenâ€“bog transitions, current status in Finland and future perspectives. Holocene, 2017, 27, 752-764.	0.9	42
63	The effect of topography on arctic-alpine aboveground biomass and NDVI patterns. International Journal of Applied Earth Observation and Geoinformation, 2017, 56, 44-53.	1.4	42
64	Dispersal ability links to crossâ€scale species diversity patterns across the Eurasian Arctic tundra. Global Ecology and Biogeography, 2012, 21, 851-860.	2.7	41
65	The current state of CO₂ flux chamber studies in the Arctic tundra. Progress in Physical Geography, 2018, 42, 162-184.	1.4	41
66	Abrupt high-latitude climate events and decoupled seasonal trends during the Eemian. Nature Communications, 2018, 9, 2851.	5.8	41
67	Biogeophysical controls on soil-atmosphere thermal differences: implications on warming Arctic ecosystems. Environmental Research Letters, 2018, 13, 074003.	2.2	41
68	Distance decay 2.0 â€“ A global synthesis of taxonomic and functional turnover in ecological communities. Global Ecology and Biogeography, 2022, 31, 1399-1421.	2.7	40
69	Disjunct populations of <scp>E</scp>uropean vascular plant species keep the same climatic niches. Global Ecology and Biogeography, 2015, 24, 1401-1412.	2.7	39
70	Geomorphological factors predict water quality in boreal rivers. Earth Surface Processes and Landforms, 2015, 40, 1989-1999.	1.2	39
71	Climate is an important driver for stream diatom distributions. Global Ecology and Biogeography, 2016, 25, 198-206.	2.7	39
72	Influence of microclimate and geomorphological factors on alpine vegetation in the Western Swiss Alps. Earth Surface Processes and Landforms, 2019, 44, 3093-3107.	1.2	39

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73	Maintaining forest cover to enhance temperature buffering under future climate change. Science of the Total Environment, 2022, 810, 151338.	3.9	39
74	Inclusion of soil data improves the performance of bioclimatic envelope models for insect species distributions in temperate Europe. Journal of Biogeography, 2009, 36, 1459-1473.	1.4	38
75	Geomorphological disturbance is necessary for predicting fineâ€scale species distributions. Ecography, 2013, 36, 800-808.	2.1	38
76	Lost at high latitudes: Arctic and endemic plants under threat as climate warms. Diversity and Distributions, 2019, 25, 809-821.	1.9	38
77	Modelling the occurrence of threatened plant species in taiga landscapes: methodological and ecological perspectives. Journal of Biogeography, 2008, 35, 1888-1905.	1.4	37
78	Biotic interactions drive species occurrence and richness in dynamic beach environments. Plant Ecology, 2013, 214, 1455-1466.	0.7	37
79	Reconstructing palaeoclimatic variables from fossil pollen using boosted regression trees: comparison and synthesis with other quantitative reconstruction methods. Quaternary Science Reviews, 2014, 88, 69-81.	1.4	36
80	Climate limitation at the cold edge: contrasting perspectives from species distribution modelling and a transplant experiment. Ecography, 2020, 43, 637-647.	2.1	35
81	ENVIRONMENTAL DETERMINANTS OF WATER QUALITY IN BOREAL RIVERS BASED ON PARTITIONING METHODS. River Research and Applications, 2012, 28, 1034-1046.	0.7	34
82	New insights into the environmental factors controlling the ground thermal regime across the Northern Hemisphere: a comparison between permafrost and non-permafrost areas. Cryosphere, 2019, 13, 693-707.	1.5	34
83	Water as a resource, stress and disturbance shaping tundra vegetation. Oikos, 2019, 128, 811-822.	1.2	34
84	The need for largeâ€scale distribution data to estimate regional changes in species richness under future climate change. Diversity and Distributions, 2017, 23, 1393-1407.	1.9	32
85	Landscape scale determinants of periglacial features in subarctic Finland: a grid-based modelling approach. Permafrost and Periglacial Processes, 2007, 18, 115-127.	1.5	31
86	Statistical modelling predicts almost complete loss of major periglacial processes in Northern Europe by 2100. Nature Communications, 2017, 8, 515.	5.8	31
87	The effect of summer drought on the predictability of local extinctions in a butterfly metapopulation. Conservation Biology, 2020, 34, 1503-1511.	2.4	31
88	Scale mattersâ€"A multi-resolution study of the determinants of patterned ground activity in subarctic Finland. Geomorphology, 2006, 80, 282-294.	1.1	30
89	Arctic shrubification mediates the impacts of warming climate on changes to tundra vegetation. Environmental Research Letters, 2016, 11, 124028.	2.2	28
90	Machine-learning based reconstructions of primary and secondary climate variables from North American and European fossil pollen data. Scientific Reports, 2019, 9, 15805.	1.6	28

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91	High potential for loss of permafrost landforms in a changing climate. Environmental Research Letters, 2020, 15, 104065.	2.2	28
92	Some like it hot: microclimatic variation affects the abundance and movements of a critically endangered dung beetle. Insect Conservation and Diversity, 2009, 2, 232-241.	1.4	27
93	Successful translocation of the threatened Clouded Apollo butterfly (Parnassius mnemosyne) and metapopulation establishment in southern Finland. Biological Conservation, 2015, 190, 51-59.	1.9	27
94	Integrating climate and local factors for geomorphological distribution models. Earth Surface Processes and Landforms, 2014, 39, 1729-1740.	1.2	26
95	Selection of den sites by wolves in boreal forests in Finland. Journal of Zoology, 2010, 281, 99-104.	0.8	25
96	Predictability in species distributions: a global analysis across organisms and ecosystems. Global Ecology and Biogeography, 2014, 23, 1264-1274.	2.7	25
97	Potential for extreme loss in high-latitude Earth surface processes due to climate change. Geophysical Research Letters, 2014, 41, 3914-3924.	1.5	25
98	Consistent traitâ€“environment relationships within and across tundra plant communities. Nature Ecology and Evolution, 2021, 5, 458-467.	3.4	25
99	In-depth characterization of denitrifier communities across different soil ecosystems in the tundra. Environmental Microbiomes, 2022, 17, .	2.2	25
100	Inclusion of local environmental conditions alters high-latitude vegetation change predictions based on bioclimatic models. Polar Biology, 2011, 34, 883-897.	0.5	24
101	Topographic Wetness Index as a Proxy for Soil Moisture: The Importance of Flowâ€Routing Algorithm and Grid Resolution. Water Resources Research, 2021, 57, e2021WR029871.	1.7	24
102	The meso-scale drivers of temperature extremes in high-latitude Fennoscandia. Climate Dynamics, 2014, 42, 237-252.	1.7	23
103	Contrasting effects of biotic interactions on richness and distribution of vascular plants, bryophytes and lichens in an arcticâ€“alpine landscape. Polar Biology, 2016, 39, 649-657.	0.5	23
104	The direct and indirect effects of watershed land use and soil type on stream water metal concentrations. Water Resources Research, 2016, 52, 7711-7725.	1.7	23
105	Dwarf Shrubs Impact Tundra Soils: Drier, Colder, and Less Organic Carbon. Ecosystems, 2021, 24, 1378-1392.	1.6	23
106	Using unclassified continuous remote sensing data to improve distribution models of red-listed plant species. Biodiversity and Conservation, 2013, 22, 1731-1754.	1.2	22
107	2.6 Statistical Methods for Geomorphic Distribution Modeling. , 2013, , 59-73.		21
108	Impact of biotic interactions on biodiversity varies across a landscape. Journal of Biogeography, 2016, 43, 2412-2423.	1.4	21

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109	Unravelling direct and indirect effects of hierarchical factors driving microbial stream communities. Journal of Biogeography, 2017, 44, 2376-2385.	1.4	21
110	Identifying multidisciplinary research gaps across Arctic terrestrial gradients. Environmental Research Letters, 2019, 14, 124061.	2.2	21
111	Fine-grained climate velocities reveal vulnerability of protected areas to climate change. Scientific Reports, 2020, 10, 1678.	1.6	21
112	Scale dependence of ecological assembly rules: Insights from empirical datasets and joint species distribution modelling. Journal of Ecology, 2020, 108, 1967-1977.	1.9	21
113	Relationships between aboveâ€ground plant traits and carbon cycling in tundra plant communities. Journal of Ecology, 2022, 110, 700-716.	1.9	21
114	Novel theoretical insights into geomorphic processâ€“environment relationships using simulated response curves. Earth Surface Processes and Landforms, 2011, 36, 363-371.	1.2	19
115	Relative importance of habitat area, connectivity, management and local factors for vascular plants: spring ephemerals in boreal semi-natural grasslands. Biodiversity and Conservation, 2009, 18, 1067-1085.	1.2	18
116	Assessing spatial uncertainty in predictive geomorphological mapping: A multi-modelling approach. Computers and Geosciences, 2010, 36, 355-361.	2.0	18
117	The effects of local, buffer zone and geographical variables on lake plankton metacommunities. Hydrobiologia, 2015, 743, 175-188.	1.0	15
118	Drivers of high-latitude plant diversity hotspots and their congruence. Biological Conservation, 2017, 212, 288-299.	1.9	15
119	Snow is an important control of plant community functional composition in oroarctic tundra. Oecologia, 2019, 191, 601-608.	0.9	15
120	Threat spots and environmental determinants of red-listed plant, butterfly and bird species in boreal agricultural environments. Biodiversity and Conservation, 2008, 17, 3289-3305.	1.2	14
121	Significant shallowâ€“depth soil warming over Russia during the past 40Âyears. Global and Planetary Change, 2021, 197, 103394.	1.6	13
122	Environmental Controls of InSARâ€Based Periglacial Ground Dynamics in a Subâ€Arctic Landscape. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2021JF006175.	1.0	12
123	Assessing sampling coverage of species distribution in biodiversity databases. Journal of Vegetation Science, 2019, 30, 620-632.	1.1	11
124	Exposing wind stress as a driver of fineâ€scale variation in plant communities. Journal of Ecology, 2021, 109, 2121-2136.	1.9	11
125	Calibrating aquatic microfossil proxies with regression-tree ensembles: Cross-validation with modern chironomid and diatom data. Holocene, 2016, 26, 1040-1048.	0.9	10
126	Warm range margin of boreal bryophytes and lichens not directly limited by temperatures. Journal of Ecology, 2021, 109, 3724-3736.	1.9	10

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127	Microclimate temperature variations from boreal forests to the tundra. Agricultural and Forest Meteorology, 2022, 323, 109037.	1.9	10
128	Arctic-alpine vegetation biomass is driven by fine-scale abiotic heterogeneity. Geografiska Annaler, Series A: Physical Geography, 2014, 96, n/a-n/a.	0.6	9
129	Stream diatom assemblages as predictors of climate. Freshwater Biology, 2016, 61, 876-886.	1.2	9
130	Models of Arctic-alpine refugia highlight importance of climate and local topography. Polar Biology, 2017, 40, 489-502.	0.5	9
131	Determinants of sediment properties and organic matter in beach and dune environments based on boosted regression trees. Earth Surface Processes and Landforms, 2015, 40, 1137-1145.	1.2	8
132	Can Topographic Variation in Climate Buffer against Climate Change-Induced Population Declines in Northern Forest Birds?. Diversity, 2020, 12, 56.	0.7	8
133	Snow information is required in subcontinental scale predictions of mountain plant distributions. Global Ecology and Biogeography, 2021, 30, 1502-1513.	2.7	8
134	Cryogenic land surface processes shape vegetation biomass patterns in northern European tundra. Communications Earth & Environment, 2021, 2, .	2.6	8
135	The activity and functions of soil microbial communities in the Finnish sub-Arctic vary across vegetation types. FEMS Microbiology Ecology, 2022, 98, .	1.3	8
136	Improving forecasts of arctic-alpine refugia persistence with landscape-scale variables. Geografiska Annaler, Series A: Physical Geography, 2017, 99, 2-14.	0.6	7
137	Geomorphological processes shape plant community traits in the Arctic. Global Ecology and Biogeography, 2022, 31, 1381-1398.	2.7	7
138	Decadal Changes in Soil and Atmosphere Temperature Differences Linked With Environment Shifts Over Northern Eurasia. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF005865.	1.0	6
139	Competition mediates understorey species range shifts under climate change. Journal of Ecology, 2022, 110, 1813-1825.	1.9	6
140	Spatial modelling of stream water quality along an urbanâ€“rural gradient. Geografiska Annaler, Series A: Physical Geography, 2015, 97, 819-834.	0.6	5
141	Are drivers of microbial diatom distributions context dependent in humanâ€impacted and pristine environments?. Ecological Applications, 2019, 29, e01917.	1.8	5
142	Modelling spatioâ€temporal soil moisture dynamics in mountain tundra. Hydrological Processes, 2022, 36, .	1.1	5
143	Species differ in their responses to wind: the underexplored link between species fineâ€scale occurrences and variation in wind stress. Journal of Vegetation Science, 2021, 32, e13093.	1.1	4
144	Influence of patch size and connectivity on beach and dune species in land-uplift coasts. Plant Ecology and Diversity, 2016, 9, 35-44.	1.0	3

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145	Observed Decrease in Soil and Atmosphere Temperature Coupling in Recent Decades Over Northern Eurasia. Geophysical Research Letters, 2021, 48, e2021GL092500.	1.5	1
146	A stable, genetically determined colour dimorphism in the dung beetle <i><scp>A</scp>phodius depressus</i>: patterns and mechanisms. Ecological Entomology, 2015, 40, 575-584.	1.1	0