David C Frank

List of Publications by Year
in descending order

156 papers	20,513 citations	7568 77 h-index	10445 139 g-index
156 all docs	156 docs citations	156 times ranked	15474 citing authors

#	Article	IF	Citations
1	Adding Tree Rings to North America's National Forest Inventories: An Essential Tool to Guide Drawdown of Atmospheric CO2. BioScience, 2022, 72, 233-246.	4.9	18
2	Dendrochronology: Fundamentals and Innovations. Tree Physiology, 2022, , 21-59.	2.5	5
3	Predicting spatiotemporal variability in radial tree growth at the continental scale with machine learning. , 2022, 1, .		4
4	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂. New Phytologist, 2021, 229, 2413-2445.	7.3	286
5	Turgor â€“ a limiting factor for radial growth in mature conifers along an elevational gradient. New Phytologist, 2021, 229, 213-229.	7.3	94
6	Stable isotopes of tree rings reveal seasonal-to-decadal patterns during the emergence of a megadrought in the Southwestern US. Oecologia, 2021, 197, 1079-1094.	2.0	15
7	High-frequency stable isotope signals in uneven-aged forests as proxy for physiological responses to climate in Central Europe. Tree Physiology, 2021, 41, 2046-2062.	3.1	12
8	Scientific Merits and Analytical Challenges of Treeâ€Ring Densitometry. Reviews of Geophysics, 2019, 57, 1224-1264.	23.0	98
9	Spatioâ€temporal patterns of tree growth as related to carbon isotope fractionation in European forests under changing climate. Global Ecology and Biogeography, 2019, 28, 1295-1309.	5.8	35
10	Twentieth century redistribution in climatic drivers of global tree growth. Science Advances, 2019, 5, eaat4313.	10.3	282
11	Couplings in cell differentiation kinetics mitigate air temperature influence on conifer wood anatomy. Plant, Cell and Environment, 2019, 42, 1222-1232.	5.7	80
12	An interdecadal climate dipole between Northeast Asia and Antarctica over the past five centuries. Climate Dynamics, 2019, 52, 765-775.	3.8	4
13	Intramolecular 13C analysis of tree rings provides multiple plant ecophysiology signals covering decades. Scientific Reports, 2018, 8, 5048.	3.3	26
14	An empirical perspective for understanding climate change impacts in Switzerland. Regional Environmental Change, 2018, 18, 205-221.	2.9	23
15	Time-varying relationships among oceanic and atmospheric modes: A turning point at around 1940. Quaternary International, 2018, 487, 12-25.	1.5	6
16	RAPTOR: Row and position tracheid organizer in R. Dendrochronologia, 2018, 47, 10-16.	2.2	34
17	The climatic drivers of normalized difference vegetation index and treeâ€ringâ€based estimates of forest productivity are spatially coherent but temporally decoupled in Northern Hemispheric forests. Global Ecology and Biogeography, 2018, 27, 1352-1365.	5.8	47
18	A Wood Biology Agenda to Support Global Vegetation Modelling. Trends in Plant Science, 2018, 23, 1006-1015.	8.8	42

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19	A Combined Tree Ring and Vegetation Model Assessment of European Forest Growth Sensitivity to Interannual Climate Variability. Global Biogeochemical Cycles, 2018, 32, 1226-1240.	4.9	54
20	Oxygen isotopes in tree rings are less sensitive to changes in tree size and relative canopy position than carbon isotopes. Plant, Cell and Environment, 2018, 41, 2899-2914.	5.7	30
21	When tree rings go global: Challenges and opportunities for retro- and prospective insight. Quaternary Science Reviews, 2018, 197, 1-20.	3.0	131
22	Quantification of uncertainties in conifer sap flow measured with the thermal dissipation method. New Phytologist, 2018, 219, 1283-1299.	7.3	81
23	Converging Climate Sensitivities of European Forests Between Observed Radial Tree Growth and Vegetation Models. Ecosystems, 2018, 21, 410-425.	3.4	32
24	An intensive tree-ring experience: Connecting education and research during the 25th European Dendroecological Fieldweek (Asturias, Spain). Dendrochronologia, 2017, 42, 80-93.	2.2	5
25	Last millennium Northern Hemisphere summer temperatures from tree rings: Part II, spatially resolved reconstructions. Quaternary Science Reviews, 2017, 163, 1-22.	3.0	165
26	Improved tree-ring archives will support earth-system science. Nature Ecology and Evolution, 2017, 1, 8.	7.8	68
27	Responses of sapwood ray parenchyma and nonâ€structural carbohydrates of <i>Pinus sylvestris</i> to drought and longâ€term irrigation. Functional Ecology, 2017, 31, 1371-1382.	3.6	70
28	Cell size and wall dimensions drive distinct variability of earlywood and latewood density in Northern Hemisphere conifers. New Phytologist, 2017, 216, 728-740.	7.3	141
29	Ecosystem functioning is enveloped by hydrometeorological variability. Nature Ecology and Evolution, 2017, 1, 1263-1270.	7.8	25
30	Contribution of climate vs. larch budmoth outbreaks in regulating biomass accumulation in high-elevation forests. Forest Ecology and Management, 2017, 401, 147-158.	3.2	28
31	Forest diversity promotes individual tree growth in central European forest stands. Journal of Applied Ecology, 2017, 54, 71-79.	4.0	51
32	Dendroecological reconstruction of disturbance history of an oldâ€growth mixed sessile oakâ€“beech forest. Journal of Vegetation Science, 2017, 28, 117-127.	2.2	29
33	20thÂcentury changes in carbon isotopes and water-use efficiency: tree-ring-based evaluation of the CLM4.5 and LPX-Bern models. Biogeosciences, 2017, 14, 2641-2673.	3.3	81
34	The value of crossdating to retain highâ€frequency variability, climate signals, and extreme events in environmental proxies. Global Change Biology, 2016, 22, 2582-2595.	9.5	86
35	No growth stimulation of Canadaâ€™s boreal forest under half-century of combined warming and CO ₂ fertilization. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8406-E8414.	7.1	233
36	Northern Hemisphere hydroclimate variability over the past twelve centuries. Nature, 2016, 532, 94-98.	27.8	164

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37	Observed forest sensitivity to climate implies large changes in 21st century North American forest growth. Ecology Letters, 2016, 19, 1119-1128.	6.4	148
38	Pattern of xylem phenology in conifers of cold ecosystems at the Northern Hemisphere. Global Change Biology, 2016, 22, 3804-3813.	9.5	174
39	The legacy of disturbance on individual tree and stand-level aboveground biomass accumulation and stocks in primary mountain Picea abies forests. Forest Ecology and Management, 2016, 373, 108-115.	3.2	30
40	Last millennium northern hemisphere summer temperatures from tree rings: Part I: The long term context. Quaternary Science Reviews, 2016, 134, 1-18.	3.0	314
41	Woody biomass production lags stem-girth increase by over one month in coniferous forests. Nature Plants, 2015, 1, 15160.	9.3	294
42	Climate sensitivity of Mediterranean pine growth reveals distinct east-west dipole. International Journal of Climatology, 2015, 35, 2503-2513.	3.5	34
43	Coincidences of climate extremes and anomalous vegetation responses: comparing tree ring patterns to simulated productivity. Biogeosciences, 2015, 12, 373-385.	3.3	75
44	Moisture stress of a hydrological year on tree growth in the Tibetan Plateau and surroundings. Environmental Research Letters, 2015, 10, 034010.	5.2	41
45	Tree rings track climate trade-offs. Nature, 2015, 523, 531-531.	27.8	6
46	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
47	Water-use efficiency and transpiration across European forests during the Anthropocene. Nature Climate Change, 2015, 5, 579-583.	18.8	357
48	Old World megadroughts and pluvials during the Common Era. Science Advances, 2015, 1, e1500561.	10.3	403
49	Synoptic drivers of 400Âyears of summer temperature and precipitation variability on Mt. Olympus, Greece. Climate Dynamics, 2015, 45, 807-824.	3.8	37
50	Forward modelling of tree-ring width and comparison with a global network of tree-ring chronologies. Climate of the Past, 2014, 10, 437-449.	3.4	86
51	Climate-mediated spatiotemporal variability in terrestrial productivity across Europe. Biogeosciences, 2014, 11, 3057-3068.	3.3	10
52	Spatial variability and temporal trends in waterâ€use efficiency of European forests. Global Change Biology, 2014, 20, 3700-3712.	9.5	175
53	Six centuries of variability and extremes in a coupled marine-terrestrial ecosystem. Science, 2014, 345, 1498-1502.	12.6	65
54	Seasonal transfer of oxygen isotopes from precipitation and soil to the tree ring: source water versus needle water enrichment. New Phytologist, 2014, 202, 772-783.	7.3	171

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55	Kinetics of tracheid development explain conifer treeâ€ring structure. New Phytologist, 2014, 203, 1231-1241.	7.3	226
56	Surface air temperature variability reconstructed with tree rings for the Gulf of Alaska over the past 1200 years. Holocene, 2014, 24, 198-208.	1.7	61
57	Toward consistent measurements of carbon accumulation: A multi-site assessment of biomass and basal area increment across Europe. Dendrochronologia, 2014, 32, 153-161.	2.2	80
58	Aboveâ€ground woody carbon sequestration measured from tree rings is coherent with net ecosystem productivity at five eddyâ€covariance sites. New Phytologist, 2014, 201, 1289-1303.	7.3	152
59	Swiss tree rings reveal warm and wet summers during medieval times. Geophysical Research Letters, 2014, 41, 1732-1737.	4.0	30
60	Contribution of semi-arid ecosystems to interannual variability of the global carbon cycle. Nature, 2014, 509, 600-603.	27.8	1,054
61	The influence of sampling design on treeâ€ringâ€based quantification of forest growth. Global Change Biology, 2014, 20, 2867-2885.	9.5	225
62	A tree-ring perspective on the terrestrial carbon cycle. Oecologia, 2014, 176, 307-322.	2.0	131
63	Inter-hemispheric temperature variability over the past millennium. Nature Climate Change, 2014, 4, 362-367.	18.8	240
64	Assessing the influence of climateâ€"water table interactions on jack pine and black spruce productivity in western central Canada. Ecoscience, 2014, 21, 315-326.	1.4	5
65	Recent trends in Inner Asian forest dynamics to temperature and precipitation indicate high sensitivity to climate change. Agricultural and Forest Meteorology, 2013, 178-179, 31-45.	4.8	108
66	Tree growth response along an elevational gradient: climate or genetics?. Oecologia, 2013, 173, 1587-1600.	2.0	109
67	Climate extremes and the carbon cycle. Nature, 2013, 500, 287-295.	27.8	1,357
68	A meta-analysis of cambium phenology and growth: linear and non-linear patterns in conifers of the northern hemisphere. Annals of Botany, 2013, 112, 1911-1920.	2.9	119
69	Site- and species-specific responses of forest growth to climate across the European continent. Global Ecology and Biogeography, 2013, 22, 706-717.	5.8	297
70	Spectral biases in tree-ring climate proxies. Nature Climate Change, 2013, 3, 360-364.	18.8	125
71	Precipitation over the past four centuries in the Dieshan Mountains as inferred from tree rings: An introduction to an HHT-based method. Global and Planetary Change, 2013, 107, 109-118.	3.5	22
72	Climatic drivers of hourly to yearly tree radius variations along a 6Â°C natural warming gradient. Agricultural and Forest Meteorology, 2013, 168, 36-46.	4.8	127

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73	Tree-Ring-Reconstructed Summer Temperatures from Northwestern North America during the Last Nine Centuries*. Journal of Climate, 2013, 26, 3001-3012.	3.2	82
74	Intra-annual dynamics of non-structural carbohydrates in the cambium of mature conifer trees reflects radial growth demands. Tree Physiology, 2013, 33, 913-923.	3.1	88
75	A pan-European summer teleconnection mode recorded by a new temperature reconstruction from the northeastern Mediterranean (<scp>ad</scp> 1768â€"2008). Holocene, 2012, 22, 887-898.	1.7	50
76	500 years of regional forest growth variability and links to climatic extreme events in Europe. Environmental Research Letters, 2012, 7, 045705.	5.2	61
77	Orbital forcing of tree-ring data. Nature Climate Change, 2012, 2, 862-866.	18.8	232
78	Fading temperature sensitivity of Alpine tree growth at its Mediterranean margin and associated effects on large-scale climate reconstructions. Climatic Change, 2012, 114, 651-666.	3.6	37
79	Multi-archive summer temperature reconstruction for the European Alps, ADÂ1053â€"1996. Quaternary Science Reviews, 2012, 46, 66-79.	3.0	59
80	Solar and volcanic fingerprints in tree-ring chronologies over the past 2000years. Palaeogeography, Palaeoclimatology, Palaeoecology, 2012, 313-314, 127-139.	2.3	45
81	Precipitation variability during the past 400Âyears in the Xiaolong Mountain (central China) inferred from tree rings. Climate Dynamics, 2012, 39, 1697-1707.	3.8	47
82	Methods to merge overlapping tree-ring isotope series to generate multi-centennial chronologies. Chemical Geology, 2012, 294-295, 127-134.	3.3	25
83	Variability and extremes of northern Scandinavian summer temperatures over the past two millennia. Global and Planetary Change, 2012, 88-89, 1-9.	3.5	67
84	A Review of 2000 Years of Paleoclimatic Evidence in the Mediterranean. , 2012, , 87-185.		86
85	Tree rings and volcanic cooling. Nature Geoscience, 2012, 5, 836-837.	12.9	137
86	2500 Years of European Climate Variability and Human Susceptibility. Science, 2011, 331, 578-582.	12.6	1,154
87	Impacts of land cover and climate data selection on understanding terrestrial carbon dynamics and the CO₂ airborne fraction. Biogeosciences, 2011, 8, 2027-2036.	3.3	75
88	Multiproxy summer and winter surface air temperature field reconstructions for southern South America covering the past centuries. Climate Dynamics, 2011, 37, 35-51.	3.8	135
89	200Âyears of European temperature variability: insights from and tests of the proxy surrogate reconstruction analog method. Climate Dynamics, 2011, 37, 133-150.	3.8	38
90	Varying boreal forest response to Arctic environmental change at the Firth River, Alaska. Environmental Research Letters, 2011, 6, 045503.	5.2	65

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91	Varying boreal forest response to Arctic environmental change at the Firth River, Alaska. Environmental Research Letters, 2011, 6, 049502.	5.2	12
92	History matters: ecometrics and integrative climate change biology. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 1131-1140.	2.6	81
93	Causes and Consequences of Past and Projected Scandinavian Summer Temperatures, 500â€“2100 AD. PLoS ONE, 2011, 6, e25133.	2.5	39
94	Three centuries of Slovakian drought dynamics. Climate Dynamics, 2010, 35, 315-329.	3.8	51
95	Inner Alpine conifer response to 20th century drought swings. European Journal of Forest Research, 2010, 129, 289-298.	2.5	40
96	Diverse climate sensitivity of Mediterranean tree-ring width and density. Trees - Structure and Function, 2010, 24, 261-273.	1.9	95
97	The early instrumental warm-bias: a solution for long central European temperature series 1760â€“2007. Climatic Change, 2010, 101, 41-67.	3.6	174
98	Ecometrics: The traits that bind the past and present together. Integrative Zoology, 2010, 5, 88-101.	2.6	83
99	A noodle, hockey stick, and spaghetti plate: a perspective on highâ€resolution paleoclimatology. Wiley Interdisciplinary Reviews: Climate Change, 2010, 1, 507-516.	8.1	68
100	Trends and uncertainties in Siberian indicators of 20th century warming. Global Change Biology, 2010, 16, 386-398.	9.5	103
101	Ensemble reconstruction constraints on the global carbon cycle sensitivity to climate. Nature, 2010, 463, 527-530.	27.8	256
102	Timing and duration of European larch growing season along altitudinal gradients in the Swiss Alps. Tree Physiology, 2010, 30, 225-233.	3.1	233
103	Climatic warming disrupts recurrent Alpine insect outbreaks. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20576-20581.	7.1	125
104	Lowâ€frequency noise in <i>Î´</i>¹³C and <i>Î´</i>¹⁸O tree ring data: A case study of <i>Pinus uncinata</i> in the Spanish Pyrenees. Global Biogeochemical Cycles, 2010, 24, .	4.9	91
105	Five centuries of Central European temperature extremes reconstructed from tree-ring density and documentary evidence. Global and Planetary Change, 2010, 72, 182-191.	3.5	43
106	Tree-ring indicators of German summer drought over the last millennium. Quaternary Science Reviews, 2010, 29, 1005-1016.	3.0	103
107	A 350 year drought reconstruction from Alpine tree ring stable isotopes. Global Biogeochemical Cycles, 2010, 24, .	4.9	108
108	Assessing the spatial signature of European climate reconstructions. Climate Research, 2010, 41, 125-130.	1.1	47

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109	Species-specific climate sensitivity of tree growth in Central-West Germany. Trees - Structure and Function, 2009, 23, 729-739.	1.9	125
110	The IPCC on a heterogeneous Medieval Warm Period. Climatic Change, 2009, 94, 267-273.	3.6	48
111	Divergence pitfalls in tree-ring research. Climatic Change, 2009, 94, 261-266.	3.6	95
112	Three centuries of insect outbreaks across the European Alps. New Phytologist, 2009, 182, 929-941.	7.3	97
113	Persistent Positive North Atlantic Oscillation Mode Dominated the Medieval Climate Anomaly. Science, 2009, 324, 78-80.	12.6	885
114	Exploration of long-term growth changes using the tree-ring detrending program â€œSpottyâ€• Dendrochronologia, 2009, 27, 75-82.	2.2	22
115	Comment on â€œLate 20th century growth acceleration in Greek firs (Abies cephalonica) from Cephalonica Island, Greece: A CO2 fertilization effect?â€• Dendrochronologia, 2009, 27, 223-227.	2.2	11
116	Impact of climate and CO2 on a millennium-long tree-ring carbon isotope record. Geochimica Et Cosmochimica Acta, 2009, 73, 4635-4647.	3.9	126
117	Tree growth and inferred temperature variability at the North American Arctic treeline. Global and Planetary Change, 2009, 65, 71-82.	3.5	57
118	Frequency-dependent signals in multi-centennial oak vessel data. Palaeogeography, Palaeoclimatology, Palaeoecology, 2009, 275, 92-99.	2.3	32
119	Multi-proxy reconstructions of northeastern Pacific sea surface temperature data from trees and Pacific geoduck. Palaeogeography, Palaeoclimatology, Palaeoecology, 2009, 278, 40-47.	2.3	80
120	Long-term summer temperature variations in the Pyrenees. Climate Dynamics, 2008, 31, 615-631.	3.8	140
121	Environmental change during the AllerÃ¸d and Younger Dryas reconstructed from Swiss treeâ€ring data. Boreas, 2008, 37, 74-86.	2.4	30
122	Testing for treeâ€ring divergence in the European Alps. Global Change Biology, 2008, 14, 2443-2453.	9.5	141
123	Swiss spring plant phenology 2007: Extremes, a multiâ€century perspective, and changes in temperature sensitivity. Geophysical Research Letters, 2008, 35, .	4.0	64
124	The influence of the de Vries (â^¼200-year) solar cycle on climate variations: Results from the Central Asian Mountains and their global link. Palaeogeography, Palaeoclimatology, Palaeoecology, 2008, 259, 6-16.	2.3	77
125	Climate signal age effectsâ€"Evidence from young and old trees in the Swiss Engadin. Forest Ecology and Management, 2008, 255, 3783-3789.	3.2	117
126	Complex climate controls on 20th century oak growth in Central-West Germany. Tree Physiology, 2008, 29, 39-51.	3.1	134

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127	Growth responses to climate in a multi-species tree-ring network in the Western Carpathian Tatra Mountains, Poland and Slovakia. Tree Physiology, 2007, 27, 689-702.	3.1	163
128	Thousand-year-long Chinese time series reveals climatic forcing of decadal locust dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 16188-16193.	7.1	114
129	Warmer early instrumental measurements versus colder reconstructed temperatures: shooting at a moving target. Quaternary Science Reviews, 2007, 26, 3298-3310.	3.0	165
130	1200 years of regular outbreaks in alpine insects. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 671-679.	2.6	173
131	Adjustment for proxy number and coherence in a largeâ€scale temperature reconstruction. Geophysical Research Letters, 2007, 34, .	4.0	150
132	Longâ€term drought severity variations in Morocco. Geophysical Research Letters, 2007, 34, .	4.0	313
133	Uniform growth trends among central Asian low- and high-elevation juniper tree sites. Trees - Structure and Function, 2007, 21, 141-150.	1.9	76
134	On Selected Issues and Challenges in Dendroclimatology. Landscape Series, 2007, , 113-132.	0.2	10
135	The twentieth century was the wettest period in northern Pakistan over the past millennium. Nature, 2006, 440, 1179-1182.	27.8	574
136	Climate Variability-Observations, Reconstructions, and Model Simulations for the Atlantic-European and Alpine Region from 1500-2100 AD. Climatic Change, 2006, 79, 9-29.	3.6	74
137	Growth/climate response shift in a long subalpine spruce chronology. Trees - Structure and Function, 2006, 20, 99-110.	1.9	106
138	Summer Temperature Variations in the European Alps, a.d. 755â€"2004. Journal of Climate, 2006, 19, 5606-5623.	3.2	372
139	Climate variability â€" observations, reconstructions, and model simulations for the Atlantic-European and Alpine region from 1500â€"2100 AD. , 2006, , 9-29.		3
140	Spatial reconstruction of summer temperatures in Central Europe for the last 500 years using annually resolved proxy records: problems and opportunities. Boreas, 2005, 34, 490-497.	2.4	17
141	Synchronous variability changes in Alpine temperature and tree-ring data over the past two centuries. Boreas, 2005, 34, 498-505.	2.4	24
142	Temperature reconstructions and comparisons with instrumental data from a tree-ring network for the European Alps. International Journal of Climatology, 2005, 25, 1437-1454.	3.5	120
143	Temperature variability over the past millennium inferred from Northwestern Alaska tree rings. Climate Dynamics, 2005, 24, 227-236.	3.8	75
144	A 1052-year tree-ring proxy for Alpine summer temperatures. Climate Dynamics, 2005, 25, 141-153.	3.8	215

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145	Climate: past ranges and future changes. Quaternary Science Reviews, 2005, 24, 2164-2166.	3.0	95
146	Characterization and climate response patterns of a high-elevation, multi-species tree-ring network in the European Alps. Dendrochronologia, 2005, 22, 107-121.	2.2	202
147	Effect of scaling and regression on reconstructed temperature amplitude for the past millennium. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	188
148	Climate reconstructions: Low-frequency ambition and high-frequency ratification. Eos, 2004, 85, 113.	0.1	119
149	Reconstructed warm season temperatures for Nome, Seward Peninsula, Alaska. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	21
150	Kunashir (Kuriles) Oak 400-year reconstruction of temperature and relation to the Pacific Decadal Oscillation. Palaeogeography, Palaeoclimatology, Palaeoecology, 2004, 209, 303-311.	2.3	36
151	Dendroclimatological evidence for major volcanic events of the past two millennia. Geophysical Monograph Series, 2003, , 255-261.	0.1	2
152	1738 years of Mongolian temperature variability inferred from a tree-ring width chronology of Siberian pine. Geophysical Research Letters, 2001, 28, 543-546.	4.0	166
153	Title is missing!. Climatic Change, 2001, 49, 239-246.	3.6	77
154	Long-Term Temperature Trends and Tree Growth in the Taymir Region of Northern Siberia. Quaternary Research, 2000, 53, 312-318.	1.7	109
155	Mongolian tree-rings, temperature sensitivity and reconstructions of Northern Hemisphere temperature. Holocene, 2000, 10, 669-672.	1.7	79
156	Evidence of Environmental Change from Annually Resolved Proxies with Particular Reference to Dendrochronology and the Last Millennium. , 0, , 320-344.		3