Markus Reichstein

List of Publications by Citations

327 papers	45,515 citations	96 h-index	211 g-index
365 ext. papers	53,651 ext. citations	9.2 avg, IF	7.16 L-index

#	Paper	IF	Citations
327	Europe-wide reduction in primary productivity caused by the heat and drought in 2003. *Nature*, **2005**, 437, 529-33	50.4	2643
326	On the separation of net ecosystem exchange into assimilation and ecosystem respiration: review and improved algorithm. *Global Change Biology*, **2005**, 11, 1424-1439	11.4	2253
325	Terrestrial gross carbon dioxide uptake: global distribution and covariation with climate. *Science*, **2010**, 329, 834-8	33.3	1638
324	TRY a global database of plant traits. *Global Change Biology*, **2011**, 17, 2905-2935	11.4	1623
323	Recent decline in the global land evapotranspiration trend due to limited moisture supply. *Nature*, **2010**, 467, 951-4	50.4	1382
322	Terrestrial ecosystem carbon dynamics and climate feedbacks. *Nature*, **2008**, 451, 289-92	50.4	1011
321	Towards a standardized processing of Net Ecosystem Exchange measured with eddy covariance technique: algorithms and uncertainty estimation. *Biogeosciences*, **2006**, 3, 571-583	4.6	994
320	Reduction of forest soil respiration in response to nitrogen deposition. *Nature Geoscience*, **2010**, 3, 315-322	12.3	988
319	Climate extremes and the carbon cycle. *Nature*, **2013**, 500, 287-95	50.4	974
318	Deep learning and process understanding for data-driven Earth system science. *Nature*, **2019**, 566, 195-204	50.4	974
317	Modelling the role of agriculture for the 20th century global terrestrial carbon balance. *Global Change Biology*, **2007**, 13, 679-706	11.4	959
316	Consequences of More Extreme Precipitation Regimes for Terrestrial Ecosystems. *BioScience*, **2008**, 58, 811-821	5.7	776
315	Global patterns of land-atmosphere fluxes of carbon dioxide, latent heat, and sensible heat derived from eddy covariance, satellite, and meteorological observations. *Journal of Geophysical Research*, **2011**, 116,		765
314	Net carbon dioxide losses of northern ecosystems in response to autumn warming. *Nature*, **2008**, 451, 49-52	50.4	759
313	CO2 balance of boreal, temperate, and tropical forests derived from a global database. *Global Change Biology*, **2007**, 13, 2509-2537	11.4	744
312	Changes in Climate Extremes and their Impacts on the Natural Physical Environment109-230		709
311	Carbon cycle. The dominant role of semi-arid ecosystems in the trend and variability of the land CO sink. *Science*, **2015**, 348, 895-9	33.3	684

310	Comprehensive comparison of gap-filling techniques for eddy covariance net carbon fluxes. *Agricultural and Forest Meteorology*, **2007**, 147, 209-232	5.8	645
309	Influence of spring and autumn phenological transitions on forest ecosystem productivity. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2010**, 365, 3227-46	5.8	594
308	Separation of net ecosystem exchange into assimilation and respiration using a light response curve approach: critical issues and global evaluation. *Global Change Biology*, **2010**, 16, 187-208	11.4	584
307	Land use/land cover changes and climate: modeling analysis and observational evidence. *Wiley Interdisciplinary Reviews: Climate Change*, **2011**, 2, 828-850	8.4	471
306	Towards global empirical upscaling of FLUXNET eddy covariance observations: validation of a model tree ensemble approach using a biosphere model. *Biogeosciences*, **2009**, 6, 2001-2013	4.6	461
305	Effects of climate extremes on the terrestrial carbon cycle: concepts, processes and potential future impacts. *Global Change Biology*, **2015**, 21, 2861-80	11.4	454
304	Global assessment of trends in wetting and drying over land. *Nature Geoscience*, **2014**, 7, 716-721	18.3	448
303	Global covariation of carbon turnover times with climate in terrestrial ecosystems. *Nature*, **2014**, 514, 213-7	50.4	446
302	Improving canopy processes in the Community Land Model version 4 (CLM4) using global flux fields empirically inferred from FLUXNET data. *Journal of Geophysical Research*, **2011**, 116,		440
301	Modeling temporal and large-scale spatial variability of soil respiration from soil water availability, temperature and vegetation productivity indices. *Global Biogeochemical Cycles*, **2003**, 17, n/a-n/a	5.9	431
300	Evidence for soil water control on carbon and water dynamics in European forests during the extremely dry year: 2003. *Agricultural and Forest Meteorology*, **2007**, 143, 123-145	5.8	427
299	Reduction of ecosystem productivity and respiration during the European summer 2003 climate anomaly: a joint flux tower, remote sensing and modelling analysis. *Global Change Biology*, **2007**, 13, 634-651	11.4	423
298	Severe drought effects on ecosystem CO2 and H2O fluxes at three Mediterranean evergreen sites: revision of current hypotheses?. *Global Change Biology*, **2002**, 8, 999-1017	11.4	400
297	TRY plant trait database - enhanced coverage and open access. *Global Change Biology*, **2020**, 26, 119-188	11.4	399
296	Contrasting response of European forest and grassland energy exchange to heatwaves. *Nature Geoscience*, **2010**, 3, 722-727	18.3	380
295	Drought and ecosystem carbon cycling. *Agricultural and Forest Meteorology*, **2011**, 151, 765-773	5.8	359
294	Global convergence in the temperature sensitivity of respiration at ecosystem level. *Science*, **2010**, 329, 838-40	33.3	358
293	A data-driven analysis of energy balance closure across FLUXNET research sites: The role of landscape scale heterogeneity. *Agricultural and Forest Meteorology*, **2013**, 171-172, 137-152	5.8	342

292	Compensatory water effects link yearly global land CO sink changes to temperature. *Nature*, **2017**, 541, 516-520	50.4	341
291	Temperature dependence of organic matter decomposition: a critical review using literature data analyzed with different models. *Biology and Fertility of Soils*, **1998**, 27, 258-262	6.1	335
290	Physiological and physicochemical controls on foliar volatile organic compound emissions. *Trends in Plant Science*, **2004**, 9, 180-6	13.1	317
289	Temporal and among-site variability of inherent water use efficiency at the ecosystem level. *Global Biogeochemical Cycles*, **2009**, 23, n/a-n/a	5.9	304
288	Predicting carbon dioxide and energy fluxes across global FLUXNET sites with regression algorithms. *Biogeosciences*, **2016**, 13, 4291-4313	4.6	291
287	Trend Change Detection in NDVI Time Series: Effects of Inter-Annual Variability and Methodology. *Remote Sensing*, **2013**, 5, 2113-2144	5	275
286	Global intercomparison of 12 land surface heat flux estimates. *Journal of Geophysical Research*, **2011**, 116,		271
285	Nutrient availability as the key regulator of global forest carbon balance. *Nature Climate Change*, **2014**, 4, 471-476	21.4	269
284	Evaluation of global observations-based evapotranspiration datasets and IPCC AR4 simulations. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	267
283	Basic and extensible post-processing of eddy covariance flux data with REddyProc. *Biogeosciences*, **2018**, 15, 5015-5030	4.6	263
282	Improving land surface models with FLUXNET data. *Biogeosciences*, **2009**, 6, 1341-1359	4.6	260
281	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. *Scientific Data*, **2020**, 7, 225	8.2	256
280	Benchmark products for land evapotranspiration: LandFlux-EVAL multi-data set synthesis. *Hydrology and Earth System Sciences*, **2013**, 17, 3707-3720	5.5	253
279	Enhanced seasonal CO2 exchange caused by amplified plant productivity in northern ecosystems. *Science*, **2016**, 351, 696-9	33.3	240
278	A framework for benchmarking land models. *Biogeosciences*, **2012**, 9, 3857-3874	4.6	238
277	Ecosystem respiration in two Mediterranean evergreen Holm Oak forests: drought effects and decomposition dynamics. *Functional Ecology*, **2002**, 16, 27-39	5.6	223
276	A regional perspective on trends in continental evaporation. *Geophysical Research Letters*, **2009**, 36, n/a-n/a	4.9	221
275	Cross-site evaluation of eddy covariance GPP and RE decomposition techniques. *Agricultural and Forest Meteorology*, **2008**, 148, 821-838	5.8	221

274	An analysis of soil respiration across northern hemisphere temperate ecosystems. *Biogeochemistry*, **2005**, 73, 29-70	3.8	213
273	Fertile forests produce biomass more efficiently. *Ecology Letters*, **2012**, 15, 520-6	10	211
272	The European carbon balance. Part 3: forests. *Global Change Biology*, **2010**, 16, 1429-1450	11.4	206
271	Assimilation exceeds respiration sensitivity to drought: A FLUXNET synthesis. *Global Change Biology*, **2010**, 16, 657-670	11.4	203
270	Climate and vegetation controls on the surface water balance: Synthesis of evapotranspiration measured across a global network of flux towers. *Water Resources Research*, **2012**, 48,	5.4	202
269	Determinants of terrestrial ecosystem carbon balance inferred from European eddy covariance flux sites. *Geophysical Research Letters*, **2007**, 34,	4.9	195
268	Linking plant and ecosystem functional biogeography. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13697-702	11.5	188
267	The moisture response of soil heterotrophic respiration: interaction with soil properties. *Biogeosciences*, **2012**, 9, 1173-1182	4.6	176
266	Does the temperature sensitivity of decomposition of soil organic matter depend upon water content, soil horizon, or incubation time?. *Global Change Biology*, **2005**, 11, 1754-1767	11.4	176
265	Drought controls over conductance and assimilation of a Mediterranean evergreen ecosystem: scaling from leaf to canopy. *Global Change Biology*, **2003**, 9, 1813-1824	11.4	167
264	Inter-annual variability of net and gross ecosystem carbon fluxes: A review. *Agricultural and Forest Meteorology*, **2018**, 249, 520-533	5.8	165
263	Soil respiration across scales: The importance of a model□data integration framework for data interpretation. *Journal of Plant Nutrition and Soil Science*, **2008**, 171, 344-354	2.3	165
262	Explaining temporal variation in soil CO2 efflux in a mature spruce forest in Southern Germany. *Soil Biology and Biochemistry*, **2003**, 35, 1467-1483	7.5	154
261	Inferring causation from time series in Earth system sciences. *Nature Communications*, **2019**, 10, 2553	17.4	153
260	The FLUXCOM ensemble of global land-atmosphere energy fluxes. *Scientific Data*, **2019**, 6, 74	8.2	152
259	Reconciling leaf physiological traits and canopy flux data: Use of the TRY and FLUXNET databases in the Community Land Model version 4. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		147
258	Soil water repellency and its implications for organic matter decomposition □s there a link to extreme climatic events?. *Global Change Biology*, **2011**, 17, 2640-2656	11.4	145
257	Divergent vegetation growth responses to the 2003 heat wave in the Swiss Alps. *Geophysical Research Letters*, **2005**, 32, n/a-n/a	4.9	143

256	The effect of soil water content, soil temperature, soil pH-value and the root mass on soil CO 2 efflux □A modified model. *Plant and Soil*, **2005**, 268, 21-33	4.2	138
255	Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. *Biogeosciences*, **2014**, 11, 3547-3602	4.6	136
254	Scaling carbon fluxes from eddy covariance sites to globe: synthesis and evaluation of the FLUXCOM approach. *Biogeosciences*, **2020**, 17, 1343-1365	4.6	134
253	A few extreme events dominate global interannual variability in gross primary production. *Environmental Research Letters*, **2014**, 9, 035001	6.2	134
252	Uncertainties of modeling gross primary productivity over Europe: A systematic study on the effects of using different drivers and terrestrial biosphere models. *Global Biogeochemical Cycles*, **2007**, 21, n/a-n/a	5.9	132
251	Persistence of soil organic carbon caused by functional complexity. *Nature Geoscience*, **2020**, 13, 529-534	18.3	131
250	Inverse modeling of seasonal drought effects on canopy CO2/H2O exchange in three Mediterranean ecosystems. *Journal of Geophysical Research*, **2003**, 108,		129
249	Temperature dependence of carbon mineralisation: conclusions from a long-term incubation of subalpine soil samples. *Soil Biology and Biochemistry*, **2000**, 32, 947-958	7.5	129
248	Global spatiotemporal distribution of soil respiration modeled using a global database. *Biogeosciences*, **2015**, 12, 4121-4132	4.6	126
247	The REFLEX project: Comparing different algorithms and implementations for the inversion of a terrestrial ecosystem model against eddy covariance data. *Agricultural and Forest Meteorology*, **2009**, 149, 1597-1615	5.8	124
246	Controls on the emission of plant volatiles through stomata: Differential sensitivity of emission rates to stomatal closure explained. *Journal of Geophysical Research*, **2003**, 108,		123
245	Both priming and temperature sensitivity of soil organic matter decomposition depend on microbial biomass □An incubation study. *Soil Biology and Biochemistry*, **2013**, 57, 739-748	7.5	122
244	Analyzing the causes and spatial pattern of the European 2003 carbon flux anomaly using seven models. *Biogeosciences*, **2008**, 5, 561-583	4.6	122
243	Codominant water control on global interannual variability and trends in land surface phenology and greenness. *Global Change Biology*, **2015**, 21, 3414-35	11.4	121
242	Earlier springs decrease peak summer productivity in North American boreal forests. *Environmental Research Letters*, **2013**, 8, 024027	6.2	119
241	Productivity, Respiration, and Light-Response Parameters of World Grassland and Agroecosystems Derived From Flux-Tower Measurements. *Rangeland Ecology and Management*, **2010**, 63, 16-39	2.2	117
240	Statistical properties of random CO2 flux measurement uncertainty inferred from model residuals. *Agricultural and Forest Meteorology*, **2008**, 148, 38-50	5.8	117
239	Plant functional traits and canopy structure control the relationship between photosynthetic CO uptake and far-red sun-induced fluorescence in a Mediterranean grassland under different nutrient availability. *New Phytologist*, **2017**, 214, 1078-1091	9.8	116

238	Frontiers and challenges in soil respiration research: from measurements to model-data integration. *Biogeochemistry*, **2011**, 102, 1-13	3.8	116
237	Biosphere-atmosphere exchange of CO₂ in relation to climate: a cross-biome analysis across multiple time scales. *Biogeosciences*, **2009**, 6, 2297-2312	4.6	115
236	Impact of large-scale climate extremes on biospheric carbon fluxes: An intercomparison based on MsTMIP data. *Global Biogeochemical Cycles*, **2014**, 28, 585-600	5.9	112
235	Semiempirical modeling of abiotic and biotic factors controlling ecosystem respiration across eddy covariance sites. *Global Change Biology*, **2011**, 17, 390-409	11.4	102
234	Implications of the carbon cycle steady state assumption for biogeochemical modeling performance and inverse parameter retrieval. *Global Biogeochemical Cycles*, **2008**, 22, n/a-n/a	5.9	99
233	Influences of observation errors in eddy flux data on inverse model parameter estimation. *Biogeosciences*, **2008**, 5, 1311-1324	4.6	98
232	Similarities in ground- and satellite-based NDVI time series and their relationship to physiological activity of a Scots pine forest in Finland. *Remote Sensing of Environment*, **2004**, 93, 225-237	13.2	98
231	Temperature sensitivity of decomposition in relation to soil organic matter pools: critique and outlook. *Biogeosciences*, **2005**, 2, 317-321	4.6	96
230	Contribution of sorption, DOC transport and microbial interactions to the 14C age of a soil organic carbon profile: Insights from a calibrated process model. *Soil Biology and Biochemistry*, **2015**, 88, 390-402	7.5	91
229	The model-data fusion pitfall: assuming certainty in an uncertain world. *Oecologia*, **2011**, 167, 587-97	2.9	91
228	On the temporal upscaling of evapotranspiration from instantaneous remote sensing measurements to 8-day mean daily-sums. *Agricultural and Forest Meteorology*, **2012**, 152, 212-222	5.8	90
227	Evapotranspiration and soil water content in a scrub-oak woodland under carbon dioxide enrichment. *Global Change Biology*, **2002**, 8, 289-298	11.4	90
226	The COVID-19 lockdowns: a window into the Earth System. *Nature Reviews Earth & Environment*, **2020**, 1, 470-481	30.2	90
225	Soil respiration at mean annual temperature predicts annual total across vegetation types and biomes. *Biogeosciences*, **2010**, 7, 2147-2157	4.6	87
224	Are ecological gradients in seasonal Q10 of soil respiration explained by climate or by vegetation seasonality?. *Soil Biology and Biochemistry*, **2010**, 42, 1728-1734	7.5	87
223	Soils apart from equilibrium consequences for soil carbon balance modelling. *Biogeosciences*, **2007**, 4, 125-136	4.6	87
222	Direct and seasonal legacy effects of the 2018 heat wave and drought on European ecosystem productivity. *Science Advances*, **2020**, 6, eaba2724	14.3	85
221	Tracking seasonal drought effects on ecosystem light use efficiency with satellite-based PRI in a Mediterranean forest. *Remote Sensing of Environment*, **2009**, 113, 1101-1111	13.2	85

220	Mean annual GPP of Europe derived from its water balance. *Geophysical Research Letters*, **2007**, 34,	4.9	85
219	Stomatal constraints may affect emission of oxygenated monoterpenoids from the foliage of Pinus pinea. *Plant Physiology*, **2002**, 130, 1371-85	6.6	85
218	BHPMF – a hierarchical Bayesian approach to gap-filling and trait prediction for macroecology and functional biogeography. *Global Ecology and Biogeography*, **2015**, 24, 1510-1521	6.1	83
217	Historical and future perspectives of global soil carbon response to climate and land-use changes. *Tellus, Series B: Chemical and Physical Meteorology*, **2010**, 62, 700-718	3.3	82
216	Detection and attribution of large spatiotemporal extreme events in Earth observation data. *Ecological Informatics*, **2013**, 15, 66-73	4.2	80
215	Impacts of droughts and extreme-temperature events on gross primary production and ecosystem respiration: a systematic assessment across ecosystems and climate zones. *Biogeosciences*, **2018**, 15, 1293-1318	4.6	79
214	On the assignment of prior errors in Bayesian inversions of CO2 surface fluxes. *Geophysical Research Letters*, **2006**, 33,	4.9	78
213	Recent shift in Eurasian boreal forest greening response may be associated with warmer and drier summers. *Geophysical Research Letters*, **2014**, 41, 1995-2002	4.9	77
212	Fluxes all of the time? A primer on the temporal representativeness of FLUXNET. *Journal of Geophysical Research G: Biogeosciences*, **2017**, 122, 289-307	3.7	76
211	Reviews and syntheses: Turning the challenges of partitioning ecosystem evaporation and transpiration into opportunities. *Biogeosciences*, **2019**, 16, 3747-3775	4.6	75
210	Diagnostic assessment of European gross primary production. *Global Change Biology*, **2008**, 14, 2349-2364	11.4	74
209	Colimitation of decomposition by substrate and decomposers – a comparison of model formulations. *Biogeosciences*, **2008**, 5, 749-759	4.6	74
208	OptIC project: An intercomparison of optimization techniques for parameter estimation in terrestrial biogeochemical models. *Journal of Geophysical Research*, **2007**, 112,		74
207	Linking flux network measurements to continental scale simulations: ecosystem carbon dioxide exchange capacity under non-water-stressed conditions. *Global Change Biology*, **2007**, 13, 734-760	11.4	74
206	Drought, Heat, and the Carbon Cycle: a Review. *Current Climate Change Reports*, **2018**, 4, 266-286	9	73
205	Controls on the emission of plant volatiles through stomata: A sensitivity analysis. *Journal of Geophysical Research*, **2003**, 108,		73
204	Towards physiologically meaningful water-use efficiency estimates from eddy covariance data. *Global Change Biology*, **2018**, 24, 694-710	11.4	72
203	Identification of vegetation and soil carbon pools out of equilibrium in a process model via eddy covariance and biometric constraints. *Global Change Biology*, **2010**, 16, 2813-2829	11.4	67

202	Extreme events in gross primary production: a characterization across continents. *Biogeosciences*, **2014**, 11, 2909-2924	4.6	66
201	Characterisation of ecosystem water-use efficiency of european forests from eddy covariance measurements		66
200	Assessing the ability of three land ecosystem models to simulate gross carbon uptake of forests from boreal to Mediterranean climate in Europe. *Biogeosciences*, **2007**, 4, 647-656	4.6	65
199	Evaluating the convergence between eddy-covariance and biometric methods for assessing carbon budgets of forests. *Nature Communications*, **2016**, 7, 13717	17.4	64
198	Soil moisture-atmosphere feedback dominates land carbon uptake variability. *Nature*, **2021**, 592, 65-69	50.4	61
197	Stand age and species richness dampen interannual variation of ecosystem-level photosynthetic capacity. *Nature Ecology and Evolution*, **2017**, 1, 48	12.3	60
196	Widespread inhibition of daytime ecosystem respiration. *Nature Ecology and Evolution*, **2019**, 3, 407-415	12.3	60
195	SOMPROF: A vertically explicit soil organic matter model. *Ecological Modelling*, **2011**, 222, 1712-1730	3	60
194	An outlook on the Sub-Saharan Africa carbon balance. *Biogeosciences*, **2009**, 6, 2193-2205	4.6	60
193	Uncertainty Quantification **2012**, 173-209		59
192	Comparing observations and process-based simulations of biosphere-atmosphere exchanges on multiple timescales. *Journal of Geophysical Research*, **2010**, 115, n/a-n/a		59
191	Photosynthesis drives anomalies in net carbon-exchange of pine forests at different latitudes. *Global Change Biology*, **2007**, 13, 2110-2127	11.4	59
190	Web-based modelling of energy, water and matter fluxes to support decision making in mesoscale catchments the integrative perspective of GLOWA-Danube. *Physics and Chemistry of the Earth*, **2003**, 28, 621-634	3	58
189	Evaluation of seasonal variation of MODIS derived leaf area index at two European deciduous broadleaf forest sites. *Remote Sensing of Environment*, **2005**, 96, 475-484	13.2	58
188	A methodology to derive global maps of leaf traits using remote sensing and climate data. *Remote Sensing of Environment*, **2018**, 218, 69-88	13.2	58
187	The response of ecosystem water-use efficiency to rising atmospheric CO concentrations: sensitivity and large-scale biogeochemical implications. *New Phytologist*, **2017**, 213, 1654-1666	9.8	57
186	Remote sensing of ecosystem light use efficiency with MODIS-based PRI. *Biogeosciences*, **2011**, 8, 189-202	4.6	57
185	A novel bias correction methodology for climate impact simulations. *Earth System Dynamics*, **2016**, 7, 71-88	4.8	56

184	Coverage of high biomass forests by the ESA BIOMASS mission under defense restrictions. *Remote Sensing of Environment*, **2017**, 196, 154-162	13.2	53
183	Advances in upscaling of eddy covariance measurements of carbon and water fluxes. *Journal of Geophysical Research*, **2012**, 117,		53
182	Upscaled diurnal cycles of land–atmosphere fluxes: a new global half-hourly data product. *Earth System Science Data*, **2018**, 10, 1327-1365	10.5	52
181	Effect of spatial sampling from European flux towers for estimating carbon and water fluxes with artificial neural networks. *Journal of Geophysical Research G: Biogeosciences*, **2015**, 120, 1941-1957	3.7	51
180	Toward a consistency cross-check of eddy covariance flux–based and biometric estimates of ecosystem carbon balance. *Global Biogeochemical Cycles*, **2009**, 23, n/a-n/a	5.9	51
179	Sun-induced chlorophyll fluorescence and photochemical reflectance index improve remote-sensing gross primary production estimates under varying nutrient availability in a typical Mediterranean savanna ecosystem. *Biogeosciences*, **2015**, 12, 6351-6367	4.6	49
178	Evaluation of eddy covariance latent heat fluxes with independent lysimeter and sapflow estimates in a Mediterranean savannah ecosystem. *Agricultural and Forest Meteorology*, **2017**, 236, 87-99	5.8	48
177	Cultivation of a perennial grass for bioenergy on a boreal organic soil – carbon sink or source?. *GCB Bioenergy*, **2009**, 1, 35-50	5.6	48
176	Physics-Constrained Machine Learning of Evapotranspiration. *Geophysical Research Letters*, **2019**, 46, 14496-14507	4.9	48
175	Priming and substrate quality interactions in soil organic matter models. *Biogeosciences*, **2013**, 10, 2089-2103	4.6	47
174	The interannual variability of Africa's ecosystem productivity: a multi-model analysis. *Biogeosciences*, **2009**, 6, 285-295	4.6	47
173	A model analysis of the effects of nonspecific monoterpenoid storage in leaf tissues on emission kinetics and composition in Mediterranean sclerophyllous Quercus species. *Global Biogeochemical Cycles*, **2002**, 16, 57-1-57-26	5.9	47
172	Global distribution of groundwater-vegetation spatial covariation. *Geophysical Research Letters*, **2017**, 44, 4134-4142	4.9	46
171	Estimation of forest aboveground biomass and uncertainties by integration of field measurements, airborne LiDAR, and SAR and optical satellite data in Mexico. *Carbon Balance and Management*, **2018**, 13, 5	3.6	46
170	Climate-biosphere interactions in a more extreme world. *New Phytologist*, **2014**, 202, 356-359	9.8	45
169	Modeling the vertical soil organic matter profile using Bayesian parameter estimation. *Biogeosciences*, **2013**, 10, 399-420	4.6	44
168	Using Near-Infrared-Enabled Digital Repeat Photography to Track Structural and Physiological Phenology in Mediterranean Tree–Grass Ecosystems. *Remote Sensing*, **2018**, 10, 1293	5	43
167	Influence of physiological phenology on the seasonal pattern of ecosystem respiration in deciduous forests. *Global Change Biology*, **2015**, 21, 363-76	11.4	41

166	Quantifying the effect of forest age in annual net forest carbon balance. *Environmental Research Letters*, **2018**, 13, 124018	6.2	41
165	Characterizing ecosystem-atmosphere interactions from short to interannual time scales. *Biogeosciences*, **2007**, 4, 743-758	4.6	39
164	Refining multi-model projections of temperature extremes by evaluation against land–atmosphere coupling diagnostics. *Earth System Dynamics*, **2017**, 8, 387-403	4.8	38
163	Reviews and syntheses: An empirical spatiotemporal description of the global surface–atmosphere carbon fluxes: opportunities and data limitations. *Biogeosciences*, **2017**, 14, 3685-3703	4.6	37
162	Harmonized European Long-Term Climate Data for Assessing the Effect of Changing Temporal Variability on Land–Atmosphere CO2 Fluxes. *Journal of Climate*, **2014**, 27, 4815-4834	4.4	36
161	On the choice of the driving temperature for eddy-covariance carbon dioxide flux partitioning. *Biogeosciences*, **2012**, 9, 5243-5259	4.6	35
160	A unified vegetation index for quantifying the terrestrial biosphere. *Science Advances*, **2021**, 7,	14.3	35
159	Footprint of temperature changes in the temperate and boreal forest carbon balance. *Geophysical Research Letters*, **2009**, 36, n/a-n/a	4.9	34
158	Contrasting biosphere responses to hydrometeorological extremes: revisiting the 2010 western Russian heatwave. *Biogeosciences*, **2018**, 15, 6067-6085	4.6	34
157	Partitioning net ecosystem carbon exchange and the carbon isotopic disequilibrium in a subalpine forest. *Global Change Biology*, **2008**, 14, 1785-1800	11.4	33
156	Carbon cycle extremes during the 21st century in CMIP5 models: Future evolution and attribution to climatic drivers. *Geophysical Research Letters*, **2014**, 41, 8853-8861	4.9	32
155	Carbon dioxide uptake of a forested region in southwest France derived from airborne CO2 and CO measurements in a quasi-Lagrangian experiment. *Journal of Geophysical Research*, **2004**, 109,		32
154	Inferring plant functional diversity from space: the potential of Sentinel-2. *Remote Sensing of Environment*, **2019**, 233, 111368	13.2	31
153	The imprint of plants on ecosystem functioning: A data-driven approach. *International Journal of Applied Earth Observation and Geoinformation*, **2015**, 43, 119-131	7.3	31
152	Drivers of spatio-temporal variability of carbon dioxide and energy fluxes in a Mediterranean savanna ecosystem. *Agricultural and Forest Meteorology*, **2018**, 262, 258-278	5.8	31
151	Ecosystem transpiration and evaporation: Insights from three water flux partitioning methods across FLUXNET sites. *Global Change Biology*, **2020**, 26, 6916-6930	11.4	31
150	A perspective on Gaussian processes for Earth observation. *National Science Review*, **2019**, 6, 616-618	10.8	28
149	PIXGRO: A model for simulating the ecosystem CO2 exchange and growth of spring barley. *Ecological Modelling*, **2006**, 190, 260-276	3	28

148	Partitioning Eddy Covariance Water Flux Components Using Physiological and Micrometeorological Approaches. *Journal of Geophysical Research G: Biogeosciences*, **2018**, 123, 3353-3370	3.7	28
147	Carbon balance assessment of a natural steppe of southern Siberia by multiple constraint approach. *Biogeosciences*, **2007**, 4, 581-595	4.6	27
146	Humus Forms in the Forest-Alpine Tundra Ecotone at Stillberg (Dischmatal, Switzerland): Spatial Heterogeneity and Classification. *Arctic, Antarctic, and Alpine Research*, **2000**, 32, 21	1.8	27
145	Contrasting and interacting changes in simulated spring and summer carbon cycle extremes in European ecosystems. *Environmental Research Letters*, **2017**, 12, 075006	6.2	26
144	A novel probabilistic risk analysis to determine the vulnerability of ecosystems to extreme climatic events. *Environmental Research Letters*, **2013**, 8, 015032	6.2	26
143	Sustained stimulation of soil respiration after 10 years of experimental warming. *Environmental Research Letters*, **2009**, 4, 024005	6.2	26
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