Petr Havlik

List of Publications by Citations

141 papers	13,606 citations	57 h-index	116 g-index
153 ext. papers	17,599 ext. citations	10.1 avg, IF	6.07 L-index

#	Paper	IF	Citations
141	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. *Global Environmental Change*, **2017**, 42, 153-168	10.1	1479
140	Biomass use, production, feed efficiencies, and greenhouse gas emissions from global livestock systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 20888-93	11.5	626
139	Global land-use implications of first and second generation biofuel targets. *Energy Policy*, **2011**, 39, 5690-5702	7.2	475
138	Scenarios towards limiting global mean temperature increase below 1.5 °C. *Nature Climate Change*, **2018**, 8, 325-332	21.4	456
137	Climate change effects on agriculture: economic responses to biophysical shocks. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 3274-9	11.5	436
136	A low energy demand scenario for meeting the 1.5 °C target and sustainable development goals without negative emission technologies. *Nature Energy*, **2018**, 3, 515-527	62.3	428
135	Land-use futures in the shared socio-economic pathways. *Global Environmental Change*, **2017**, 42, 331-345	10.1	399
134	Greenhouse gas mitigation potentials in the livestock sector. *Nature Climate Change*, **2016**, 6, 452-461	21.4	376
133	The marker quantification of the Shared Socioeconomic Pathway 2: A middle-of-the-road scenario for the 21st century. *Global Environmental Change*, **2017**, 42, 251-267	10.1	349
132	Climate change. Fixing a critical climate accounting error. *Science*, **2009**, 326, 527-8	33.3	344
131	Mapping global cropland and field size. *Global Change Biology*, **2015**, 21, 1980-92	11.4	312
130	Climate change mitigation through livestock system transitions. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 3709-14	11.5	305
129	Competition for land. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2010**, 365, 2941-57	5.8	304
128	The future of food demand: understanding differences in global economic models. *Agricultural Economics (United Kingdom)*, **2014**, 45, 51-67	2.8	258
127	Greenhouse gas emissions intensity of global croplands. *Nature Climate Change*, **2017**, 7, 63-68	21.4	229
126	Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century. *Geoscientific Model Development* , **2019**, 12, 1443-1475	6.3	224
125	Residual fossil CO2 emissions in 1.5–2 °C pathways. *Nature Climate Change*, **2018**, 8, 626-633	21.4	219

124	Reducing emissions from agriculture to meet the 2 °C target. *Global Change Biology*, **2016**, 22, 3859-3864	11.4	203
123	Woody biomass energy potential in 2050. *Energy Policy*, **2014**, 66, 19-31	7.2	190
122	Farming and the geography of nutrient production for human use: a transdisciplinary analysis. *Lancet Planetary Health, The*, **2017**, 1, e33-e42	9.8	188
121	Land-use change trajectories up to 2050: insights from a global agro-economic model comparison. *Agricultural Economics (United Kingdom)*, **2014**, 45, 69-84	2.8	176
120	Future air pollution in the Shared Socio-economic Pathways. *Global Environmental Change*, **2017**, 42, 346-358	10.1	175
119	Risk of increased food insecurity under stringent global climate change mitigation policy. *Nature Climate Change*, **2018**, 8, 699-703	21.4	172
118	Impacts of population growth, economic development, and technical change on global food production and consumption. *Agricultural Systems*, **2011**, 104, 204-215	6.1	169
117	Shared Socio-Economic Pathways of the Energy Sector – Quantifying the Narratives. *Global Environmental Change*, **2017**, 42, 316-330	10.1	165
116	Contribution of the land sector to a 1.5 °C world. *Nature Climate Change*, **2019**, 9, 817-828	21.4	150
115	Bending the curve of terrestrial biodiversity needs an integrated strategy. *Nature*, **2020**, 585, 551-556	50.4	149
114	Agriculture and climate change in global scenarios: why don't the models agree. *Agricultural Economics (United Kingdom)*, **2014**, 45, 85-101	2.8	146
113	Livestock and the Environment: What Have We Learned in the Past Decade?. *Annual Review of Environment and Resources*, **2015**, 40, 177-202	17.2	145
112	What are the limits to oil palm expansion?. *Global Environmental Change*, **2016**, 40, 73-81	10.1	145
111	Cattle ranching intensification in Brazil can reduce global greenhouse gas emissions by sparing land from deforestation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 7236-41	11.5	144
110	Why do global long-term scenarios for agriculture differ? An overview of the AgMIP Global Economic Model Intercomparison. *Agricultural Economics (United Kingdom)*, **2014**, 45, 3-20	2.8	143
109	Highlighting continued uncertainty in global land cover maps for the user community. *Environmental Research Letters*, **2011**, 6, 044005	6.2	140
108	Challenges to scenario-guided adaptive action on food security under climate change. *Global Environmental Change*, **2014**, 28, 383-394	10.1	139
107	China's livestock transition: Driving forces, impacts, and consequences. *Science Advances*, **2018**, 4, eaar8534	14.3	137

106	Matching policy and science: Rationale for the 4 per 1000 - soils for food security and climate initiative. *Soil and Tillage Research*, **2019**, 188, 3-15	6.5	131
105	Hotspots of uncertainty in land-use and land-cover change projections: a global-scale model comparison. *Global Change Biology*, **2016**, 22, 3967-3983	11.4	128
104	Innovation can accelerate the transition towards a sustainable food system. *Nature Food*, **2020**, 1, 266-272	14.4	121
103	Assessing the land resource-food price nexus of the Sustainable Development Goals. *Science Advances*, **2016**, 2, e1501499	14.3	116
102	Reducing greenhouse gas emissions in agriculture without compromising food security?. *Environmental Research Letters*, **2017**, 12, 105004	6.2	112
101	Global exposure and vulnerability to multi-sector development and climate change hotspots. *Environmental Research Letters*, **2018**, 13, 055012	6.2	100
100	Evaluating agricultural trade-offs in the age of sustainable development. *Agricultural Systems*, **2018** , 163, 73-88	6.1	99
99	Global bioenergy scenarios Future forest development, land-use implications, and trade-offs. *Biomass and Bioenergy*, **2013**, 57, 86-96	5.3	93
98	Agriculture and resource availability in a changing world: The role of irrigation. *Water Resources Research*, **2010**, 46,	5.4	90
97	Crop Productivity and the Global Livestock Sector: Implications for Land Use Change and Greenhouse Gas Emissions. *American Journal of Agricultural Economics*, **2013**, 95, 442-448	3.1	81
96	Spatially explicit estimates of N2 O emissions from croplands suggest climate mitigation opportunities from improved fertilizer management. *Global Change Biology*, **2016**, 22, 3383-94	11.4	77
95	Assessing uncertainties in land cover projections. *Global Change Biology*, **2017**, 23, 767-781	11.4	76
94	Impacts of increased bioenergy demand on global food markets: an AgMIP economic model intercomparison. *Agricultural Economics (United Kingdom)*, **2014**, 45, 103-116	2.8	73
93	Linking regional stakeholder scenarios and shared socioeconomic pathways: Quantified West African food and climate futures in a global context. *Global Environmental Change*, **2017**, 45, 227-242	10.1	71
92	Key determinants of global land-use projections. *Nature Communications*, **2019**, 10, 2166	17.4	71
91	A multi-model assessment of food security implications of climate change mitigation. *Nature Sustainability*, **2019**, 2, 386-396	22.1	71
90	Projection of the future EU forest CO2 sink as affected by recent bioenergy policies using two advanced forest management models. *GCB Bioenergy*, **2012**, 4, 773-783	5.6	66
89	Agricultural non-CO2 emission reduction potential in the context of the 1.5 °C target. *Nature Climate Change*, **2019**, 9, 66-72	21.4	66

88	Livestock in a changing climate: production system transitions as an adaptation strategy for agriculture. *Environmental Research Letters*, **2015**, 10, 094021	6.2	64
87	Assessing global resource use and greenhouse emissions to 2050, with ambitious resource efficiency and climate mitigation policies. *Journal of Cleaner Production*, **2017**, 144, 403-414	10.3	61
86	Comparing impacts of climate change and mitigation on global agriculture by 2050. *Environmental Research Letters*, **2018**, 13, 064021	6.2	57
85	Assessing the INDCs' land use, land use change, and forest emission projections. *Carbon Balance and Management*, **2016**, 11, 26	3.6	56
84	Spatial distribution of arable and abandoned land across former Soviet Union countries. *Scientific Data*, **2018**, 5, 180056	8.2	53
83	Effect of climate change, CO2 trends, nitrogen addition, and land-cover and management intensity changes on the carbon balance of European grasslands. *Global Change Biology*, **2016**, 22, 338-50	11.4	53
82	Comparing supply-side specifications in models of global agriculture and the food system. *Agricultural Economics (United Kingdom)*, **2014**, 45, 21-35	2.8	52
81	Global hunger and climate change adaptation through international trade. *Nature Climate Change*, **2020**, 10, 829-835	21.4	51
80	Mitigation efforts will not fully alleviate the increase in water scarcity occurrence probability in wheat-producing areas. *Science Advances*, **2019**, 5, eaau2406	14.3	50
79	A protocol for an intercomparison of biodiversity and ecosystem services models using harmonized land-use and climate scenarios. *Geoscientific Model Development*, **2018**, 11, 4537-4562	6.3	42
78	The role of trade in the greenhouse gas footprints of EU diets. *Global Food Security*, **2018**, 19, 48-55	8.3	41
77	Revisiting enteric methane emissions from domestic ruminants and their □ source signature. *Nature Communications*, **2019**, 10, 3420	17.4	40
76	Climate extremes, land-climate feedbacks and land-use forcing at 1.5□C. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	38
75	On fair, effective and efficient REDD mechanism design. *Carbon Balance and Management*, **2009**, 4, 11	3.6	38
74	Intensification pathways for beef and dairy cattle production systems: Impacts on GHG emissions, land occupation and land use change. *Agriculture, Ecosystems and Environment*, **2017**, 240, 135-147	5.7	37
73	Multi-factor, multi-state, multi-model scenarios: Exploring food and climate futures for Southeast Asia. *Environmental Modelling and Software*, **2016**, 83, 255-270	5.2	37
72	Assessing the Feasibility of Global Long-Term Mitigation Scenarios. *Energies*, **2017**, 10, 89	3.1	37
71	Farming system modelling for agri-environmental policy design: The case of a spatially non-aggregated allocation of conservation measures. *Ecological Economics*, **2011**, 70, 891-899	5.6	37

70	Coordinating AgMIP data and models across global and regional scales for 1.5°C and 2.0°C assessments. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	34
69	Climate warming from managed grasslands cancels the cooling effect of carbon sinks in sparsely grazed and natural grasslands. *Nature Communications*, **2021**, 12, 118	17.4	34
68	Seasonality constraints to livestock grazing intensity. *Global Change Biology*, **2017**, 23, 1636-1647	11.4	33
67	Future environmental and agricultural impacts of Brazil's Forest Code. *Environmental Research Letters*, **2018**, 13, 074021	6.2	33
66	Historical trade-offs of livestock's environmental impacts. *Environmental Research Letters*, **2015**, 10, 125013	6.2	33
65	Global environmental costs of China's thirst for milk. *Global Change Biology*, **2018**, 24, 2198-2211	11.4	32
64	Assessing Sustainable Food and Nutrition Security of the EU Food System—An Integrated Approach. *Sustainability*, **2018**, 10, 4271	3.6	29
63	The impact of climate change on Brazil's agriculture. *Science of the Total Environment*, **2020**, 740, 139384	10.2	27
62	Metrics, models and foresight for European sustainable food and nutrition security: The vision of the SUSFANS project. *Agricultural Systems*, **2018**, 163, 45-57	6.1	27
61	How effective are the sustainability criteria accompanying the European Union 2020 biofuel targets?. *GCB Bioenergy*, **2013**, 5, 306-314	5.6	27
60	Inclusive climate change mitigation and food security policy under 1.5 °C climate goal. *Environmental Research Letters*, **2018**, 13, 074033	6.2	26
59	Global food security & adaptation under crop yield volatility. *Technological Forecasting and Social Change*, **2015**, 98, 223-233	9.5	25
58	Structural change as a key component for agricultural non-CO mitigation efforts. *Nature Communications*, **2018**, 9, 1060	17.4	25
57	Impact of the 2 °C target on global woody biomass use. *Forest Policy and Economics*, **2017**, 83, 121-130	3.6	24
56	Tackling food consumption inequality to fight hunger without pressuring the environment. *Nature Sustainability*, **2019**, 2, 826-833	22.1	23
55	Combining livestock production information in a process-based vegetation model to reconstruct the history of grassland management. *Biogeosciences*, **2016**, 13, 3757-3776	4.6	23
54	The dynamic soil organic carbon mitigation potential of European cropland. *Global Environmental Change*, **2015**, 35, 269-278	10.1	22
53	Increasing crop production in Russia and Ukraine—regional and global impacts from intensification and recultivation. *Environmental Research Letters*, **2018**, 13, 025008	6.2	22

52	Dynamics of the land use, land use change, and forestry sink in the European Union: the impacts of energy and climate targets for 2030. *Climatic Change*, **2016**, 138, 253-266	4.5	22
51	Climate Change Impacts and Mitigation in the Developing World: An Integrated Assessment of the Agriculture and Forestry Sectors. *Policy Research Working Papers*, **2015**,	2.1	22
50	Global food markets, trade and the cost of climate change adaptation. *Food Security*, **2014**, 6, 29-44	6.7	20
49	Evaluating the effects of climate change on US agricultural systems: sensitivity to regional impact and trade expansion scenarios. *Environmental Research Letters*, **2018**, 13,	6.2	20
48	Integrating livestock feeds and production systems into agricultural multi-market models: The example of IMPACT. *Food Policy*, **2014**, 49, 365-377	5	19
47	Quantification of global and national nitrogen budgets for crop production. *Nature Food*,	14.4	19
46	Future GHG emissions more efficiently controlled by land-use policies than by bioenergy sustainability criteria. *Biofuels, Bioproducts and Biorefining*, **2013**, 7, 115-125	5.3	18
45	A Global-Level Model of the Potential Impacts of Climate Change on Child Stunting via Income and Food Price in 2030. *Environmental Health Perspectives*, **2018**, 126, 97007	8.4	18
44	Land-based measures to mitigate climate change: Potential and feasibility by country. *Global Change Biology*, **2021**, 27, 6025-6058	11.4	17
43	Critical adjustment of land mitigation pathways for assessing countries climate progress. *Nature Climate Change*, **2021**, 11, 425-434	21.4	16
42	Impacts of global climate change mitigation scenarios on forests and harvesting in Sweden. *Canadian Journal of Forest Research*, **2016**, 46, 1427-1438	1.9	15
41	Integrated Solutions for the Water-Energy-Land Nexus: Are Global Models Rising to the Challenge?. *Water (Switzerland)*, **2019**, 11, 2223	3	14
40	Modelling alternative futures of global food security: Insights from FOODSECURE. *Global Food Security*, **2020**, 25, 100358	8.3	14
39	Integrated Management of Land Use Systems under Systemic Risks and Security Targets: A Stochastic Global Biosphere Management Model. *Journal of Agricultural Economics*, **2016**, 67, 584-601	3.7	14
38	Increasing nitrogen export to sea: A scenario analysis for the Indus River. *Science of the Total Environment*, **2019**, 694, 133629	10.2	12
37	Water Use in Global Livestock Production Opportunities and Constraints for Increasing Water Productivity. *Water Resources Research*, **2020**, 56, e2019WR026995	5.4	12
36	The market impacts of shortening feed supply chains in Europe. *Food Security*, **2018**, 10, 1401-1410	6.7	11
35	Global Woody Biomass Harvest Volumes and Forest Area Use Under Different SSP-RCP Scenarios. *Journal of Forest Economics*, **2019**, 34, 285-309	1.1	10

34	Greenhouse gas abatement strategies and costs in French dairy production. *Journal of Cleaner Production*, **2019**, 236, 117589	10.3	9
33	Mapping the yields of lignocellulosic bioenergy crops from observations at the global scale. *Earth System Science Data*, **2020**, 12, 789-804	10.5	9
32	Comparing the impact of future cropland expansion on global biodiversity and carbon storage across models and scenarios. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190189	5.8	8
31	Impact of modelling choices on setting the reference levels for the EU forest carbon sinks: how do different assumptions affect the country-specific forest reference levels?. *Carbon Balance and Management*, **2019**, 14, 10	3.6	8
30	Forest Resource Projection Tools at the European Level. *Managing Forest Ecosystems*, **2017**, 49-68	0.7	8
29	The Key Role of Production Efficiency Changes in Livestock Methane Emission Mitigation. *AGU Advances*, **2021**, 2, e2021AV000391	5.4	8
28	Bioenergy: Counting on Incentives--Response. *Science*, **2010**, 327, 1200-1201	33.3	7
27	China□ future food demand and its implications for trade and environment. *Nature Sustainability*,	22.1	7
26	Paying the price for environmentally sustainable and healthy EU diets. *Global Food Security*, **2021**, 28, 100437	8.3	7
25	Sensitivity of Global Pasturelands to Climate Variation. *Earth's Future*, **2019**, 7, 1353-1366	7.9	7
24	Land-based climate change mitigation potentials within the agenda for sustainable development. *Environmental Research Letters*, **2021**, 16, 024006	6.2	7
23	The sensitivity of the costs of reducing emissions from deforestation and degradation (REDD) to future socioeconomic drivers and its implications for mitigation policy design. *Mitigation and Adaptation Strategies for Global Change*, **2019**, 24, 1123-1141	3.9	6
22	Are scenario projections overly optimistic about future yield progress?. *Global Environmental Change*, **2020**, 64, 102120	10.1	6
21	Reconciling regional nitrogen boundaries with global food security. *Nature Food*, **2021**, 2, 700-711	14.4	6
20	Carbon Calculations to Consider--Response. *Science*, **2010**, 327, 781-781	33.3	5
19	Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century **2018**,		5
18	Land-based implications of early climate actions without global net-negative emissions. *Nature Sustainability*,	22.1	4
17	Land-based climate change mitigation measures can affect agricultural markets and food security. *Nature Food*, **2022**, 3, 110-121	14.4	4

16	Competition for Land-Based Ecosystem Services: Trade-Offs and Synergies **2016**, 127-147		3
15	Global trends in biodiversity and ecosystem services from 1900 to 2050		3
14	Price trends and volatility scenarios for designing forest sector transformation. *Energy Economics*, **2016**, 57, 184-191	8.3	3
13	Robust Management of Systemic Risks and Food-Water-Energy-Environmental Security: Two-Stage Strategic-Adaptive GLOBIOM Model. *Sustainability*, **2021**, 13, 857	3.6	3
12	Material substitution between coniferous, non-coniferous and recycled biomass Impacts on forest industry raw material use and regional competitiveness. *Forest Policy and Economics*, **2021**, 132, 102588	3.6	3
11	Linking Distributed Optimization Models for Food, Water, and Energy Security Nexus Management. *Sustainability*, **2022**, 14, 1255	3.6	2
10	Short- and long-term warming effects of methane may affect the cost-effectiveness of mitigation policies and benefits of low-meat diets.. *Nature Food*, **2021**, 2, 970-980	14.4	2
9	A Risk-Informed Decision-Making Framework for Climate Change Adaptation through Robust Land Use and Irrigation Planning. *Sustainability*, **2022**, 14, 1430	3.6	1
8	Reply to Comment by Rigolot on Narratives Behind Livestock Methane Mitigation Studies Matter *AGU Advances*, **2021**, 2, e2021AV000549	5.4	1
7	A protocol for an intercomparison of biodiversity and ecosystem services models using harmonized land-use and climate scenarios		1
6	Multiple rotations of Gaussian quadratures: An efficient method for uncertainty analyses in large-scale simulation models. *Environmental Modelling and Software*, **2021**, 136, 104929	5.2	1
5	Global biomass supply modeling for long-run management of the climate system. *Climatic Change*, **2022**, 172,	4.5	1
4	Reply to: An appeal to cost undermines food security risks of delayed mitigation. *Nature Climate Change*, **2020**, 10, 420-421	21.4	0
3	How much multilateralism do we need? Effectiveness of unilateral agricultural mitigation efforts in the global context. *Environmental Research Letters*, **2021**, 16, 104038	6.2	0
2	The Value of Determining Global Land Cover for Assessing Climate Change Mitigation Options **2012**, 193-230		
1	The Possibility of Consensus Regarding Climate Change Adaptation Policies in Agriculture and Forestry among Stakeholder Groups in the Czech Republic. *Environmental Management*, **2021**, 1	3.1	