Petr Havlik

List of Publications by Year
in descending order

143 papers	22,028 citations	13854 67 h-index	9579 142 g-index
153 all docs	153 docs citations	153 times ranked	20733 citing authors

#	Article	IF	Citations
1	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. Global Environmental Change, 2017, 42, 153-168.	3.6	2,966
2	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, 20888-20893.	3.3	867
3	Scenarios towards limiting global mean temperature increase below 1.5 Â°C. Nature Climate Change, 2018, 8, 325-332.	8.1	795
4	A low energy demand scenario for meeting the 1.5â€‰Â°C target and sustainable development goals without negative emission technologies. Nature Energy, 2018, 3, 515-527.	19.8	733
5	Land-use futures in the shared socio-economic pathways. Global Environmental Change, 2017, 42, 331-345.	3.6	645
6	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.	3.6	590
7	Greenhouse gas mitigation potentials in the livestock sector. Nature Climate Change, 2016, 6, 452-461.	8.1	588
8	Global land-use implications of first and second generation biofuel targets. Energy Policy, 2011, 39, 5690-5702.	4.2	586
9	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, 3274-3279.	3.3	568
10	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.	1.3	496
11	Greenhouse gas emissions intensity of globalÂcroplands. Nature Climate Change, 2017, 7, 63-68.	8.1	414
12	Bending the curve of terrestrial biodiversity needs an integrated strategy. Nature, 2020, 585, 551-556.	13.7	413
13	Climate change mitigation through livestock system transitions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3709-3714.	3.3	407
14	Mapping global cropland and field size. Global Change Biology, 2015, 21, 1980-1992.	4.2	404
15	Fixing a Critical Climate Accounting Error. Science, 2009, 326, 527-528.	6.0	399
16	Residual fossil CO2 emissions in 1.5â€“2â€‰Â°C pathways. Nature Climate Change, 2018, 8, 626-633.	8.1	380
17	Competition for land. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 2941-2957.	1.8	365
18	The future of food demand: understanding differences in global economic models. Agricultural Economics (United Kingdom), 2014, 45, 51-67.	2.0	357

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19	Risk of increased food insecurity under stringent global climate change mitigation policy. Nature Climate Change, 2018, 8, 699-703.	8.1	319
20	Contribution of the land sector to a 1.5 Â°C world. Nature Climate Change, 2019, 9, 817-828.	8.1	301
21	Innovation can accelerate the transition towards a sustainable food system. Nature Food, 2020, 1, 266-272.	6.2	285
22	Future air pollution in the Shared Socio-economic Pathways. Global Environmental Change, 2017, 42, 346-358.	3.6	277
23	Farming and the geography of nutrient production for human use: a transdisciplinary analysis. Lancet Planetary Health, The, 2017, 1, e33-e42.	5.1	268
24	Reducing emissions from agriculture to meet the 2ÂÂ°C target. Global Change Biology, 2016, 22, 3859-3864.	4.2	267
25	Woody biomass energy potential in 2050. Energy Policy, 2014, 66, 19-31.	4.2	262
26	Chinaâ€™s livestock transition: Driving forces, impacts, and consequences. Science Advances, 2018, 4, eaar8534.	4.7	253
27	Shared Socio-Economic Pathways of the Energy Sector â€" Quantifying the Narratives. Global Environmental Change, 2017, 42, 316-330.	3.6	247
28	Impacts of population growth, economic development, and technical change on global food production and consumption. Agricultural Systems, 2011, 104, 204-215.	3.2	226
29	What are the limits to oil palm expansion?. Global Environmental Change, 2016, 40, 73-81.	3.6	224
30	Livestock and the Environment: What Have We Learned in the Past Decade?. Annual Review of Environment and Resources, 2015, 40, 177-202.	5.6	223
31	Land-use change trajectories up to 2050: insights from a global agro-economic model comparison. Agricultural Economics (United Kingdom), 2014, 45, 69-84.	2.0	220
32	Matching policy and science: Rationale for the â€˜4 per 1000 - soils for food security and climateâ€™ initiative. Soil and Tillage Research, 2019, 188, 3-15.	2.6	208
33	Evaluating agricultural trade-offs in the age of sustainable development. Agricultural Systems, 2018, 163, 73-88.	3.2	184
34	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.	2.0	183
35	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, 7236-7241.	3.3	182
36	Agriculture and climate change in global scenarios: why don't the models agree. Agricultural Economics (United Kingdom), 2014, 45, 85-101.	2.0	172

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37	Reducing greenhouse gas emissions in agriculture without compromising food security?. Environmental Research Letters, 2017, 12, 105004.	2.2	172
38	Hotspots of uncertainty in landâ€use and landâ€cover change projections: a globalâ€scale model comparison. Global Change Biology, 2016, 22, 3967-3983.	4.2	171
39	Challenges to scenario-guided adaptive action on food security under climate change. Global Environmental Change, 2014, 28, 383-394.	3.6	167
40	Assessing the land resourceâ€"food price nexus of the Sustainable Development Goals. Science Advances, 2016, 2, e1501499.	4.7	162
41	Global exposure and vulnerability to multi-sector development and climate change hotspots. Environmental Research Letters, 2018, 13, 055012.	2.2	162
42	Highlighting continued uncertainty in global land cover maps for the user community. Environmental Research Letters, 2011, 6, 044005.	2.2	161
43	A multi-model assessment of food security implications of climate change mitigation. Nature Sustainability, 2019, 2, 386-396.	11.5	152
44	Agricultural non-CO2 emission reduction potential in the context of the 1.5â€‰Â°C target. Nature Climate Change, 2019, 9, 66-72.	8.1	139
45	Agriculture and resource availability in a changing world: The role of irrigation. Water Resources Research, 2010, 46, .	1.7	124
46	Key determinants of global land-use projections. Nature Communications, 2019, 10, 2166.	5.8	123
47	How to spend a dwindling greenhouse gas budget. Nature Climate Change, 2018, 8, 7-10.	8.1	119
48	Global hunger and climate change adaptation through international trade. Nature Climate Change, 2020, 10, 829-835.	8.1	117
49	Landâ€based measures to mitigate climate change: Potential and feasibility by country. Global Change Biology, 2021, 27, 6025-6058.	4.2	114
50	Spatially explicit estimates of N₂O emissions from croplands suggest climate mitigation opportunities from improved fertilizer management. Global Change Biology, 2016, 22, 3383-3394.	4.2	112
51	Chinaâ€™s future food demand and its implications for trade and environment. Nature Sustainability, 2021, 4, 1042-1051.	11.5	112
52	Global bioenergy scenarios â€" Future forest development, land-use implications, and trade-offs. Biomass and Bioenergy, 2013, 57, 86-96.	2.9	110
53	Quantification of global and national nitrogen budgets for crop production. Nature Food, 2021, 2, 529-540.	6.2	108
54	Climate warming from managed grasslands cancels the cooling effect of carbon sinks in sparsely grazed and natural grasslands. Nature Communications, 2021, 12, 118.	5.8	106

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55	Mitigation efforts will not fully alleviate the increase in water scarcity occurrence probability in wheat-producing areas. Science Advances, 2019, 5, eaau2406.	4.7	104
56	Assessing uncertainties in land cover projections. Global Change Biology, 2017, 23, 767-781.	4.2	103
57	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.	2.4	102
58	Comparing impacts of climate change and mitigation on global agriculture by 2050. Environmental Research Letters, 2018, 13, 064021.	2.2	93
59	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.	3.6	92
60	The role of trade in the greenhouse gas footprints of EU diets. Global Food Security, 2018, 19, 48-55.	4.0	89
61	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.	4.6	87
62	Impacts of increased bioenergy demand on global food markets: an AgMIP economic model intercomparison. Agricultural Economics (United Kingdom), 2014, 45, 103-116.	2.0	85
63	Livestock in a changing climate: production system transitions as an adaptation strategy for agriculture. Environmental Research Letters, 2015, 10, 094021.	2.2	84
64	Spatial distribution of arable and abandoned land across former Soviet Union countries. Scientific Data, 2018, 5, 180056.	2.4	81
65	Assessing the INDCsâ€™ land use, land use change, and forest emission projections. Carbon Balance and Management, 2016, 11, 26.	1.4	78
66	Projection of the future <scp>EU</scp> forest <scp>CO</scp>₂ sink as affected by recent bioenergy policies using two advanced forest management models. GCB Bioenergy, 2012, 4, 773-783.	2.5	75
67	Revisiting enteric methane emissions from domestic ruminants and their Î´13CCH4 source signature. Nature Communications, 2019, 10, 3420.	5.8	75
68	Comparing supply-side specifications in models of global agriculture and the food system. Agricultural Economics (United Kingdom), 2014, 45, 21-35.	2.0	68
69	The impact of climate change on Brazil's agriculture. Science of the Total Environment, 2020, 740, 139384.	3.9	67
70	Water Use in Global Livestock Productionâ€”Opportunities and Constraints for Increasing Water Productivity. Water Resources Research, 2020, 56, e2019WR026995.	1.7	66
71	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.	2.5	62
72	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.	1.3	61

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73	Critical adjustment of land mitigation pathways for assessing countriesâ€™ climate progress. Nature Climate Change, 2021, 11, 425-434.	8.1	61
74	Land-based climate change mitigation measures can affect agricultural markets and food security. Nature Food, 2022, 3, 110-121.	6.2	61
75	Effect of climate change, CO₂ trends, nitrogen addition, and landâ€cover and management intensity changes on the carbon balance of European grasslands. Global Change Biology, 2016, 22, 338-350.	4.2	60
76	Global environmental costs of China's thirst for milk. Global Change Biology, 2018, 24, 2198-2211.	4.2	56
77	Assessing Sustainable Food and Nutrition Security of the EU Food Systemâ€"An Integrated Approach. Sustainability, 2018, 10, 4271.	1.6	53
78	Structural change as a key component for agricultural non-CO2 mitigation efforts. Nature Communications, 2018, 9, 1060.	5.8	52
79	Seasonality constraints to livestock grazing intensity. Global Change Biology, 2017, 23, 1636-1647.	4.2	51
80	Assessing the Feasibility of Global Long-Term Mitigation Scenarios. Energies, 2017, 10, 89.	1.6	51
81	Future environmental and agricultural impacts of Brazilâ€™s Forest Code. Environmental Research Letters, 2018, 13, 074021.	2.2	51
82	Reconciling regional nitrogen boundaries with global food security. Nature Food, 2021, 2, 700-711.	6.2	51
83	Multi-factor, multi-state, multi-model scenarios: Exploring food and climate futures for Southeast Asia. Environmental Modelling and Software, 2016, 83, 255-270.	1.9	49
84	Tackling food consumption inequality to fight hunger without pressuring the environment. Nature Sustainability, 2019, 2, 826-833.	11.5	49
85	Coordinating AgMIP data and models across global and regional scales for 1.5Â°C and 2.0Â°C assessments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20160455.	1.6	48
86	On fair, effective and efficient REDD mechanism design. Carbon Balance and Management, 2009, 4, 11.	1.4	47
87	Climate extremes, landâ€"climate feedbacks and land-use forcing at 1.5Â°C. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20160450.	1.6	46
88	Historical trade-offs of livestockâ€™s environmental impacts. Environmental Research Letters, 2015, 10, 125013.	2.2	41
89	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.	2.9	39
90	The Key Role of Production Efficiency Changes in Livestock Methane Emission Mitigation. AGU Advances, 2021, 2, e2021AV000391.	2.3	39

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91	Impact of the 2 Â°C target on global woody biomass use. Forest Policy and Economics, 2017, 83, 121-130.	1.5	37
92	Inclusive climate change mitigation and food security policy under 1.5â€‰Â°C climate goal. Environmental Research Letters, 2018, 13, 074033.	2.2	37
93	Metrics, models and foresight for European sustainable food and nutrition security: The vision of the SUSFANS project. Agricultural Systems, 2018, 163, 45-57.	3.2	35
94	Modelling alternative futures of global food security: Insights from FOODSECURE. Global Food Security, 2020, 25, 100358.	4.0	35
95	The dynamic soil organic carbon mitigation potential of European cropland. Global Environmental Change, 2015, 35, 269-278.	3.6	34
96	Combining livestock production information in a process-based vegetation model to reconstruct the history of grassland management. Biogeosciences, 2016, 13, 3757-3776.	1.3	34
97	Global food security & adaptation under crop yield volatility. Technological Forecasting and Social Change, 2015, 98, 223-233.	6.2	33
98	Land-based climate change mitigation potentials within the agenda for sustainable development. Environmental Research Letters, 2021, 16, 024006.	2.2	32
99	How effective are the sustainability criteria accompanying the European Union 2020 biofuel targets?. GCB Bioenergy, 2013, 5, 306-314.	2.5	31
100	Increasing crop production in Russia and Ukraineâ€"regional and global impacts from intensification and recultivation. Environmental Research Letters, 2018, 13, 025008.	2.2	31
101	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.	1.7	29
102	Evaluating the effects of climate change on US agricultural systems: sensitivity to regional impact and trade expansion scenarios. Environmental Research Letters, 2018, 13, 064019.	2.2	27
103	Land-based implications of early climate actions without global net-negative emissions. Nature Sustainability, 2021, 4, 1052-1059.	11.5	27
104	Global food markets, trade and the cost of climate change adaptation. Food Security, 2014, 6, 29-44.	2.4	26
105	Mapping the yields of lignocellulosic bioenergy crops from observations at the global scale. Earth System Science Data, 2020, 12, 789-804.	3.7	26
106	Integrated Solutions for the Water-Energy-Land Nexus: Are Global Models Rising to the Challenge?. Water (Switzerland), 2019, 11, 2223.	1.2	24
107	Paying the price for environmentally sustainable and healthy EU diets. Global Food Security, 2021, 28, 100437.	4.0	24
108	Integrating livestock feeds and production systems into agricultural multi-market models: The example of IMPACT. Food Policy, 2014, 49, 365-377.	2.8	23

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109	Sensitivity of Global Pasturelands to Climate Variation. Earth's Future, 2019, 7, 1353-1366.	2.4	23
110	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.	2.8	22
111	Global Woody Biomass Harvest Volumes and Forest Area Use Under Different SSP-RCP Scenarios. Journal of Forest Economics, 2019, 34, 285-309.	0.1	22
112	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.	1.8	21
113	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.	6.2	21
114	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.	1.6	20
115	The market impacts of shortening feed supply chains in Europe. Food Security, 2018, 10, 1401-1410.	2.4	20
116	Future GHG emissions more efficiently controlled by land-use policies than by bioenergy sustainability criteria. Biofuels, Bioproducts and Biorefining, 2013, 7, 115-125.	1.9	19
117	Impacts of global climate change mitigation scenarios on forests and harvesting in Sweden. Canadian Journal of Forest Research, 2016, 46, 1427-1438.	0.8	19
118	Increasing nitrogen export to sea: A scenario analysis for the Indus River. Science of the Total Environment, 2019, 694, 133629.	3.9	18
119	Greenhouse gas abatement strategies and costs in French dairy production. Journal of Cleaner Production, 2019, 236, 117589.	4.6	17
120	Forest Resource Projection Tools at the European Level. Managing Forest Ecosystems, 2017, , 49-68.	0.4	12
121	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.	1.4	11
122	Are scenario projections overly optimistic about future yield progress?. Global Environmental Change, 2020, 64, 102120.	3.6	11
123	Material substitution between coniferous, non-coniferous and recycled biomass â€“ Impacts on forest industry raw material use and regional competitiveness. Forest Policy and Economics, 2021, 132, 102588.	1.5	10
124	Carbon Calculations to Considerâ€"Response. Science, 2010, 327, 781-781.	6.0	8
125	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.	1.0	8
126	Linking Distributed Optimization Models for Food, Water, and Energy Security Nexus Management. Sustainability, 2022, 14, 1255.	1.6	8

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127	Global biomass supply modeling for long-run management of the climate system. Climatic Change, 2022, 172, .	1.7	8
128	Bioenergy: Counting on Incentivesâ€"Response. Science, 2010, 327, 1200-1201.	6.0	7
129	Price trends and volatility scenarios for designing forest sector transformation. Energy Economics, 2016, 57, 184-191.	5.6	7
130	International trade is a key component of climate change adaptation. Nature Climate Change, 2021, 11, 915-916.	8.1	7
131	An overview of the Energy Modeling Forum 33rd study: assessing large-scale global bioenergy deployment for managing climate change. Climatic Change, 2020, 163, 1539-1551.	1.7	5
132	A Risk-Informed Decision-Making Framework for Climate Change Adaptation through Robust Land Use and Irrigation Planning. Sustainability, 2022, 14, 1430.	1.6	5
133	Robust Management of Systemic Risks and Food-Water-Energy-Environmental Security: Two-Stage Strategic-Adaptive GLOBIOM Model. Sustainability, 2021, 13, 857.	1.6	4
134	How much multilateralism do we need? Effectiveness of unilateral agricultural mitigation efforts in the global context. Environmental Research Letters, 2021, 16, 104038.	2.2	4
135	Competition for Land-Based Ecosystem Services: Trade-Offs and Synergies. , 2016, , 127-147.		3
136	Reply to: An appeal to cost undermines food security risks of delayed mitigation. Nature Climate Change, 2020, 10, 420-421.	8.1	2
137	The Possibility of Consensus Regarding Climate Change Adaptation Policies in Agriculture and Forestry among Stakeholder Groups in the Czech Republic. Environmental Management, 2021, , 1.	1.2	2
138	Addressing climate change adaptation with a stochastic integrated assessment model: Analysis of common agricultural policy measures. Financial Statistical Journal, 2018, 1, .	0.0	2
139	Reply to Comment by Rigolot on â€œNarratives Behind Livestock Methane Mitigation Studies Matterâ€• AGU Advances, 2021, 2, e2021AV000549.	2.3	2
140	GHG mitigation through bioenergy production versus carbon sinks enhancement: A quantitative analysis. IOP Conference Series: Earth and Environmental Science, 2009, 6, 162004.	0.2	1
141	Multiple rotations of Gaussian quadratures: An efficient method for uncertainty analyses in large-scale simulation models. Environmental Modelling and Software, 2021, 136, 104929.	1.9	1
142	The Value of Determining Global Land Cover for Assessing Climate Change Mitigation Options. , 2012, , 193-230.		0
143	Linear optimization of forest management for dynamic recursive model. Eastern-European Journal of Enterprise Technologies, 2015, 5, 12.	0.3	0