Petr Havlik

List of Publications by Year
in descending order

143 papers	22,028 citations	13865 67 h-index	9589 142 g-index
153 all docs	153 docs citations	153 times ranked	20733 citing authors

#	Article	IF	Citations
1	A Risk-Informed Decision-Making Framework for Climate Change Adaptation through Robust Land Use and Irrigation Planning. Sustainability, 2022, 14, 1430.	3.2	5
2	Linking Distributed Optimization Models for Food, Water, and Energy Security Nexus Management. Sustainability, 2022, 14, 1255.	3.2	8
3	Land-based climate change mitigation measures can affect agricultural markets and food security. Nature Food, 2022, 3, 110-121.	14.0	61
4	Global biomass supply modeling for long-run management of the climate system. Climatic Change, 2022, 172, .	3.6	8
5	Multiple rotations of Gaussian quadratures: An efficient method for uncertainty analyses in large-scale simulation models. Environmental Modelling and Software, 2021, 136, 104929.	4.5	1
6	Climate warming from managed grasslands cancels the cooling effect of carbon sinks in sparsely grazed and natural grasslands. Nature Communications, 2021, 12, 118.	12.8	106
7	Robust Management of Systemic Risks and Food-Water-Energy-Environmental Security: Two-Stage Strategic-Adaptive GLOBIOM Model. Sustainability, 2021, 13, 857.	3.2	4
8	Land-based climate change mitigation potentials within the agenda for sustainable development. Environmental Research Letters, 2021, 16, 024006.	5.2	32
9	Paying the price for environmentally sustainable and healthy EU diets. Global Food Security, 2021, 28, 100437.	8.1	24
10	Critical adjustment of land mitigation pathways for assessing countriesâ€™ climate progress. Nature Climate Change, 2021, 11, 425-434.	18.8	61
11	The Key Role of Production Efficiency Changes in Livestock Methane Emission Mitigation. AGU Advances, 2021, 2, e2021AV000391.	5.4	39
12	Quantification of global and national nitrogen budgets for crop production. Nature Food, 2021, 2, 529-540.	14.0	108
13	The Possibility of Consensus Regarding Climate Change Adaptation Policies in Agriculture and Forestry among Stakeholder Groups in the Czech Republic. Environmental Management, 2021, , 1.	2.7	2
14	Reconciling regional nitrogen boundaries with global food security. Nature Food, 2021, 2, 700-711.	14.0	51
15	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.	3.4	10
16	How much multilateralism do we need? Effectiveness of unilateral agricultural mitigation efforts in the global context. Environmental Research Letters, 2021, 16, 104038.	5.2	4
17	Chinaâ€™s future food demand and its implications for trade and environment. Nature Sustainability, 2021, 4, 1042-1051.	23.7	112
18	Land-based implications of early climate actions without global net-negative emissions. Nature Sustainability, 2021, 4, 1052-1059.	23.7	27

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19	Landâ€based measures to mitigate climate change: Potential and feasibility by country. Global Change Biology, 2021, 27, 6025-6058.	9.5	114
20	International trade is a key component of climate change adaptation. Nature Climate Change, 2021, 11, 915-916.	18.8	7
21	Reply to Comment by Rigolot on â€œNarratives Behind Livestock Methane Mitigation Studies Matterâ€. AGU Advances, 2021, 2, e2021AV000549.	5.4	2
22	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.	14.0	21
23	Global hunger and climate change adaptation through international trade. Nature Climate Change, 2020, 10, 829-835.	18.8	117
24	Water Use in Global Livestock Productionâ€"Opportunities and Constraints for Increasing Water Productivity. Water Resources Research, 2020, 56, e2019WR026995.	4.2	66
25	Are scenario projections overly optimistic about future yield progress?. Global Environmental Change, 2020, 64, 102120.	7.8	11
26	Bending the curve of terrestrial biodiversity needs an integrated strategy. Nature, 2020, 585, 551-556.	27.8	413
27	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.	3.6	5
28	Reply to: An appeal to cost undermines food security risks of delayed mitigation. Nature Climate Change, 2020, 10, 420-421.	18.8	2
29	Innovation can accelerate the transition towards a sustainable food system. Nature Food, 2020, 1, 266-272.	14.0	285
30	The impact of climate change on Brazil's agriculture. Science of the Total Environment, 2020, 740, 139384.	8.0	67
31	Modelling alternative futures of global food security: Insights from FOODSECURE. Global Food Security, 2020, 25, 100358.	8.1	35
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.	4.0	21
33	Mapping the yields of lignocellulosic bioenergy crops from observations at the global scale. Earth System Science Data, 2020, 12, 789-804.	9.9	26
34	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.	2.1	8
35	Greenhouse gas abatement strategies and costs in French dairy production. Journal of Cleaner Production, 2019, 236, 117589.	9.3	17
36	Revisiting enteric methane emissions from domestic ruminants and their Î´13CCH4 source signature. Nature Communications, 2019, 10, 3420.	12.8	75

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37	Mitigation efforts will not fully alleviate the increase in water scarcity occurrence probability in wheat-producing areas. Science Advances, 2019, 5, eaau2406.	10.3	104
38	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.	3.2	11
39	Integrated Solutions for the Water-Energy-Land Nexus: Are Global Models Rising to the Challenge?. Water (Switzerland), 2019, 11, 2223.	2.7	24
40	Increasing nitrogen export to sea: A scenario analysis for the Indus River. Science of the Total Environment, 2019, 694, 133629.	8.0	18
41	Tackling food consumption inequality to fight hunger without pressuring the environment. Nature Sustainability, 2019, 2, 826-833.	23.7	49
42	Key determinants of global land-use projections. Nature Communications, 2019, 10, 2166.	12.8	123
43	A multi-model assessment of food security implications of climate change mitigation. Nature Sustainability, 2019, 2, 386-396.	23.7	152
44	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.	3.6	496
45	Sensitivity of Global Pasturelands to Climate Variation. Earth's Future, 2019, 7, 1353-1366.	6.3	23
46	Contribution of the land sector to a 1.5 Â°C world. Nature Climate Change, 2019, 9, 817-828.	18.8	301
47	Agricultural non-CO2 emission reduction potential in the context of the 1.5â€‰Â°C target. Nature Climate Change, 2019, 9, 66-72.	18.8	139
48	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.	5.6	208
49	Global Woody Biomass Harvest Volumes and Forest Area Use Under Different SSP-RCP Scenarios. Journal of Forest Economics, 2019, 34, 285-309.	0.2	22
50	Scenarios towards limiting global mean temperature increase below 1.5 Â°C. Nature Climate Change, 2018, 8, 325-332.	18.8	795
51	Increasing crop production in Russia and Ukraineâ€"regional and global impacts from intensification and recultivation. Environmental Research Letters, 2018, 13, 025008.	5.2	31
52	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.	3.4	48
53	Spatial distribution of arable and abandoned land across former Soviet Union countries. Scientific Data, 2018, 5, 180056.	5.3	81
54	Global environmental costs of China's thirst for milk. Global Change Biology, 2018, 24, 2198-2211.	9.5	56

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55	How to spend a dwindling greenhouse gas budget. Nature Climate Change, 2018, 8, 7-10.	18.8	119
56	Structural change as a key component for agricultural non-CO2 mitigation efforts. Nature Communications, 2018, 9, 1060.	12.8	52
57	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	35
58	Evaluating agricultural trade-offs in the age of sustainable development. Agricultural Systems, 2018, 163, 73-88.	6.1	184
59	Evaluating the effects of climate change on US agricultural systems: sensitivity to regional impact and trade expansion scenarios. Environmental Research Letters, 2018, 13, 064019.	5.2	27
60	The market impacts of shortening feed supply chains in Europe. Food Security, 2018, 10, 1401-1410.	5.3	20
61	Assessing Sustainable Food and Nutrition Security of the EU Food Systemâ€"An Integrated Approach. Sustainability, 2018, 10, 4271.	3.2	53
62	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.	3.6	61
63	The role of trade in the greenhouse gas footprints of EU diets. Global Food Security, 2018, 19, 48-55.	8.1	89
64	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.	6.0	22
65	Comparing impacts of climate change and mitigation on global agriculture by 2050. Environmental Research Letters, 2018, 13, 064021.	5.2	93
66	Risk of increased food insecurity under stringent global climate change mitigation policy. Nature Climate Change, 2018, 8, 699-703.	18.8	319
67	Chinaâ€™s livestock transition: Driving forces, impacts, and consequences. Science Advances, 2018, 4, eaar8534.	10.3	253
68	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.	3.4	46
69	Residual fossil CO2 emissions in 1.5â€"2â€‰Â°C pathways. Nature Climate Change, 2018, 8, 626-633.	18.8	380
70	Inclusive climate change mitigation and food security policy under 1.5â€‰Â°C climate goal. Environmental Research Letters, 2018, 13, 074033.	5.2	37
71	Future environmental and agricultural impacts of Brazilâ€™s Forest Code. Environmental Research Letters, 2018, 13, 074021.	5.2	51
72	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.	39.5	733

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73	Global exposure and vulnerability to multi-sector development and climate change hotspots. Environmental Research Letters, 2018, 13, 055012.	5.2	162
74	Addressing climate change adaptation with a stochastic integrated assessment model: Analysis of common agricultural policy measures. Financial Statistical Journal, 2018, 1, .	0.0	2
75	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.	9.3	87
76	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.	5.3	62
77	Farming and the geography of nutrient production for human use: a transdisciplinary analysis. Lancet Planetary Health, The, 2017, 1, e33-e42.	11.4	268
78	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.	7.8	92
79	Seasonality constraints to livestock grazing intensity. Global Change Biology, 2017, 23, 1636-1647.	9.5	51
80	Reducing greenhouse gas emissions in agriculture without compromising food security?. Environmental Research Letters, 2017, 12, 105004.	5.2	172
81	Impact of the 2 Â°C target on global woody biomass use. Forest Policy and Economics, 2017, 83, 121-130.	3.4	37
82	Land-use futures in the shared socio-economic pathways. Global Environmental Change, 2017, 42, 331-345.	7.8	645
83	Future air pollution in the Shared Socio-economic Pathways. Global Environmental Change, 2017, 42, 346-358.	7.8	277
84	Assessing uncertainties in land cover projections. Global Change Biology, 2017, 23, 767-781.	9.5	103
85	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.	7.8	590
86	Shared Socio-Economic Pathways of the Energy Sector â€" Quantifying the Narratives. Global Environmental Change, 2017, 42, 316-330.	7.8	247
87	Greenhouse gas emissions intensity of globalÂcroplands. Nature Climate Change, 2017, 7, 63-68.	18.8	414
88	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. Global Environmental Change, 2017, 42, 153-168.	7.8	2,966
89	Assessing the Feasibility of Global Long-Term Mitigation Scenarios. Energies, 2017, 10, 89.	3.1	51
90	Forest Resource Projection Tools at the European Level. Managing Forest Ecosystems, 2017, , 49-68.	0.9	12

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91	Combining livestock production information in a process-based vegetation model to reconstruct the history of grassland management. Biogeosciences, 2016, 13, 3757-3776.	3.3	34
92	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.	3.5	20
93	Spatially explicit estimates of N₂O emissions from croplands suggest climate mitigation opportunities from improved fertilizer management. Global Change Biology, 2016, 22, 3383-3394.	9.5	112
94	Hotspots of uncertainty in landâ€use and landâ€cover change projections: a globalâ€scale model comparison. Global Change Biology, 2016, 22, 3967-3983.	9.5	171
95	Assessing the INDCsâ€™ land use, land use change, and forest emission projections. Carbon Balance and Management, 2016, 11, 26.	3.2	78
96	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.	9.5	60
97	Price trends and volatility scenarios for designing forest sector transformation. Energy Economics, 2016, 57, 184-191.	12.1	7
98	Competition for Land-Based Ecosystem Services: Trade-Offs and Synergies. , 2016, , 127-147.		3
99	Multi-factor, multi-state, multi-model scenarios: Exploring food and climate futures for Southeast Asia. Environmental Modelling and Software, 2016, 83, 255-270.	4.5	49
100	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.	3.6	29
101	What are the limits to oil palm expansion?. Global Environmental Change, 2016, 40, 73-81.	7.8	224
102	Impacts of global climate change mitigation scenarios on forests and harvesting in Sweden. Canadian Journal of Forest Research, 2016, 46, 1427-1438.	1.7	19
103	Assessing the land resourceâ€“food price nexus of the Sustainable Development Goals. Science Advances, 2016, 2, e1501499.	10.3	162
104	Reducing emissions from agriculture to meet the 2ÂÂ°C target. Global Change Biology, 2016, 22, 3859-3864.	9.5	267
105	Greenhouse gas mitigation potentials in the livestock sector. Nature Climate Change, 2016, 6, 452-461.	18.8	588
106	Historical trade-offs of livestockâ€™s environmental impacts. Environmental Research Letters, 2015, 10, 125013.	5.2	41
107	Livestock in a changing climate: production system transitions as an adaptation strategy for agriculture. Environmental Research Letters, 2015, 10, 094021.	5.2	84
108	Mapping global cropland and field size. Global Change Biology, 2015, 21, 1980-1992.	9.5	404

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109	Global food security & adaptation under crop yield volatility. Technological Forecasting and Social Change, 2015, 98, 223-233.	11.6	33
110	The dynamic soil organic carbon mitigation potential of European cropland. Global Environmental Change, 2015, 35, 269-278.	7.8	34
111	Livestock and the Environment: What Have We Learned in the Past Decade?. Annual Review of Environment and Resources, 2015, 40, 177-202.	13.4	223
112	Linear optimization of forest management for dynamic recursive model. Eastern-European Journal of Enterprise Technologies, 2015, 5, 12.	0.5	0
113	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.	7.1	568
114	Integrating livestock feeds and production systems into agricultural multi-market models: The example of IMPACT. Food Policy, 2014, 49, 365-377.	6.0	23
115	The future of food demand: understanding differences in global economic models. Agricultural Economics (United Kingdom), 2014, 45, 51-67.	3.9	357
116	Climate change mitigation through livestock system transitions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3709-3714.	7.1	407
117	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.	3.9	183
118	Impacts of increased bioenergy demand on global food markets: an AgMIP economic model intercomparison. Agricultural Economics (United Kingdom), 2014, 45, 103-116.	3.9	85
119	Land-use change trajectories up to 2050: insights from a global agro-economic model comparison. Agricultural Economics (United Kingdom), 2014, 45, 69-84.	3.9	220
120	Woody biomass energy potential in 2050. Energy Policy, 2014, 66, 19-31.	8.8	262
121	Comparing supply-side specifications in models of global agriculture and the food system. Agricultural Economics (United Kingdom), 2014, 45, 21-35.	3.9	68
122	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.	7.1	182
123	Agriculture and climate change in global scenarios: why don't the models agree. Agricultural Economics (United Kingdom), 2014, 45, 85-101.	3.9	172
124	Challenges to scenario-guided adaptive action on food security under climate change. Global Environmental Change, 2014, 28, 383-394.	7.8	167
125	Global food markets, trade and the cost of climate change adaptation. Food Security, 2014, 6, 29-44.	5.3	26
126	How effective are the sustainability criteria accompanying the European Union 2020 biofuel targets?. GCB Bioenergy, 2013, 5, 306-314.	5.6	31

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127	Global bioenergy scenarios â€" Future forest development, land-use implications, and trade-offs. Biomass and Bioenergy, 2013, 57, 86-96.	5.7	110
128	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.	4.3	102
129	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.	7.1	867
130	Future GHG emissions more efficiently controlled by land-use policies than by bioenergy sustainability criteria. Biofuels, Bioproducts and Biorefining, 2013, 7, 115-125.	3.7	19
131	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.	5.6	75
132	The Value of Determining Global Land Cover for Assessing Climate Change Mitigation Options. , 2012, , 193-230.		0
133	Impacts of population growth, economic development, and technical change on global food production and consumption. Agricultural Systems, 2011, 104, 204-215.	6.1	226
134	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.	5.7	39
135	Global land-use implications of first and second generation biofuel targets. Energy Policy, 2011, 39, 5690-5702.	8.8	586
136	Highlighting continued uncertainty in global land cover maps for the user community. Environmental Research Letters, 2011, 6, 044005.	5.2	161
137	Competition for land. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 2941-2957.	4.0	365
138	Carbon Calculations to Considerâ€"Response. Science, 2010, 327, 781-781.	12.6	8
139	Bioenergy: Counting on Incentivesâ€"Response. Science, 2010, 327, 1200-1201.	12.6	7
140	Agriculture and resource availability in a changing world: The role of irrigation. Water Resources Research, 2010, 46, .	4.2	124
141	Fixing a Critical Climate Accounting Error. Science, 2009, 326, 527-528.	12.6	399
142	On fair, effective and efficient REDD mechanism design. Carbon Balance and Management, 2009, 4, 11.	3.2	47
143	GHG mitigation through bioenergy production versus carbon sinks enhancement: A quantitative analysis. IOP Conference Series: Earth and Environmental Science, 2009, 6, 162004.	0.3	1