Klaus Keller

List of Publications by Year
in descending order

118 papers	4,570 citations	109137 35 h-index	133063 59 g-index
128 all docs	128 docs citations	128 times ranked	4857 citing authors

#	Article	IF	Citations
1	Uncertain climate thresholds and optimal economic growth. Journal of Environmental Economics and Management, 2004, 48, 723-741.	2.1	236
2	Robust Climate Policies Under Uncertainty: A Comparison of Robust Decision Making and Infoâ€Gap Methods. Risk Analysis, 2012, 32, 1657-1672.	1.5	221
3	A Model for Metal Adsorption on Montmorillonite. Journal of Colloid and Interface Science, 1999, 210, 43-54.	5.0	208
4	Evidence for sharp increase in the economic damages of extreme natural disasters. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21450-21455.	3.3	168
5	The economics (or lack thereof) of aerosol geoengineering. Climatic Change, 2011, 109, 719-744.	1.7	130
6	Sources and Variations of Mercury in Tuna. Environmental Science & Technology, 2003, 37, 5551-5558.	4.6	127
7	An open source framework for many-objective robust decision making. Environmental Modelling and Software, 2015, 74, 114-129.	1.9	114
8	On the Acidâ^'Base Chemistry of Permanently Charged Minerals. Environmental Science & Technology, 1998, 32, 2829-2838.	4.6	109
9	What are robust strategies in the face of uncertain climate threshold responses?. Climatic Change, 2012, 112, 547-568.	1.7	104
10	Modeling the statistical distributions of cosmogenic exposure dates from moraines. Geoscientific Model Development, 2010, 3, 293-307.	1.3	93
11	Improved moraine age interpretations through explicit matching of geomorphic process models to cosmogenic nuclide measurements from single landforms. Quaternary Research, 2012, 77, 293-304.	1.0	91
12	A model of carbon isotopic fractionation and active carbon uptake in phytoplankton. Marine Ecology - Progress Series, 1999, 182, 295-298.	0.9	89
13	Preserving the Ocean Circulation: Implications for Climate Policy. Climatic Change, 2000, 47, 17-43.	1.7	83
14	An assessment of key model parametric uncertainties in projections of Greenland Ice Sheet behavior. Cryosphere, 2012, 6, 589-606.	1.5	76
15	Impacts of Antarctic fast dynamics on sea-level projections and coastal flood defense. Climatic Change, 2017, 144, 347-364.	1.7	73
16	Many-objective robust decision making for managing an ecosystem with a deeply uncertain threshold response. Ecology and Society, 2015, 20, .	1.0	68
17	Managing the risks of climate thresholds: uncertainties and information needs. Climatic Change, 2008, 91, 5-10.	1.7	67
18	A Bayesian calibration of a simple carbon cycle model: The role of observations in estimating and reducing uncertainty. Global Biogeochemical Cycles, 2008, 22, .	1.9	63

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19	Avoiding Dangerous Anthropogenic Interference with the Climate System. Climatic Change, 2005, 73, 227-238.	1.7	62
20	A climate sensitivity estimate using Bayesian fusion of instrumental observations and an Earth System model. Journal of Geophysical Research, 2012, 117, .	3.3	62
21	Predicting root zone soil moisture with soil properties and satellite near-surface moisture data across the conterminous United States. Journal of Hydrology, 2017, 546, 393-404.	2.3	61
22	Sea-level projections representing the deeply uncertain contribution of the West Antarctic ice sheet. Scientific Reports, 2017, 7, 3880.	1.6	61
23	Priority for the worse-off and the social cost ofÂcarbon. Nature Climate Change, 2017, 7, 443-449.	8.1	60
24	Direct policy search for robust multi-objective management of deeply uncertain socio-ecological tipping points. Environmental Modelling and Software, 2017, 92, 125-141.	1.9	59
25	Identifying parametric controls and dependencies in integrated assessment models using global sensitivity analysis. Environmental Modelling and Software, 2014, 59, 10-29.	1.9	58
26	Tension between reducing sea-level rise and global warming through solar-radiation management. Nature Climate Change, 2012, 2, 97-100.	8.1	57
27	Sources and implications of deep uncertainties surrounding sea-level projections. Climatic Change, 2017, 140, 339-347.	1.7	55
28	Probabilistic hindcasts and projections of the coupled climate, carbon cycle and Atlantic meridional overturning circulation system: a Bayesian fusion of century-scale observations with a simple model. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 62, 737.	0.8	53
29	Toward a physically plausible upper bound of sea-level rise projections. Climatic Change, 2012, 115, 893-902.	1.7	51
30	Neglecting uncertainties biases house-elevation decisions to manage riverine flood risks. Nature Communications, 2020, 11, 5361.	5.8	48
31	Multisector Dynamics: Advancing the Science of Complex Adaptive Humanâ€Earth Systems. Earth's Future, 2022, 10, .	2.4	47
32	Economically optimal risk reduction strategies in the face of uncertain climate thresholds. Climatic Change, 2008, 91, 29-41.	1.7	44
33	BRICK v0.2, aÂsimple, accessible, and transparent model framework for climate and regional sea-level projections. Geoscientific Model Development, 2017, 10, 2741-2760.	1.3	43
34	Characterizing uncertain sea-level rise projections to support investment decisions. PLoS ONE, 2018, 13, e0190641.	1.1	43
35	Effects of initial conditions uncertainty on regional climate variability: An analysis using a lowâ€resolution CESM ensemble. Geophysical Research Letters, 2015, 42, 5468-5476.	1.5	42
36	Deep Uncertainties in Seaâ€Level Rise and Storm Surge Projections: Implications for Coastal Flood Risk Management. Risk Analysis, 2020, 40, 153-168.	1.5	42

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37	Robust abatement pathways to tolerable climate futures require immediate global action. Nature Climate Change, 2019, 9, 290-294.	8.1	41
38	Detecting potential changes in the meridional overturning circulation at 26ËšN in the Atlantic. Climatic Change, 2008, 91, 11-27.	1.7	40
39	Deep Uncertainty Surrounding Coastal Flood Risk Projections: A Case Study for New Orleans. Earth's Future, 2017, 5, 1015-1026.	2.4	40
40	Carbon dioxide sequestration: how much and when?. Climatic Change, 2008, 88, 267-291.	1.7	39
41	The dynamics of learning about a climate threshold. Climate Dynamics, 2008, 30, 321-332.	1.7	37
42	Climate Projections Using Bayesian Model Averaging and Spaceâ€"Time Dependence. Journal of Agricultural, Biological, and Environmental Statistics, 2011, 16, 606-628.	0.7	36
43	Towards Integrated Ethical and Scientific Analysis of Geoengineering: A Research Agenda. Ethics, Policy and Environment, 2012, 15, 136-157.	0.8	36
44	Intrinsic Ethics Regarding Integrated Assessment Models for Climate Management. Science and Engineering Ethics, 2011, 17, 503-523.	1.7	35
45	Building a Valuesâ€Informed Mental Model for New Orleans Climate Risk Management. Risk Analysis, 2017, 37, 1993-2004.	1.5	34
46	Possible biological or physical explanations for decadal scale trends in North Pacific nutrient concentrations and oxygen utilization. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 49, 345-362.	0.6	33
47	Solving nonconvex climate control problems: pitfalls and algorithm performances. Applied Soft Computing Journal, 2004, 5, 35-44.	4.1	33
48	Complementary observational constraints on climate sensitivity. Geophysical Research Letters, 2009, 36, .	1.5	33
49	Historical and future learning about climate sensitivity. Geophysical Research Letters, 2014, 41, 2543-2552.	1.5	32
50	Climate risk management requires explicit representation of societal trade-offs. Climatic Change, 2016, 134, 713-723.	1.7	32
51	Understanding the detectability of potential changes to the 100-year peak storm surge. Climatic Change, 2017, 145, 221-235.	1.7	31
52	Confronting tipping points: Can multi-objective evolutionary algorithms discover pollution control tradeoffs given environmental thresholds?. Environmental Modelling and Software, 2015, 73, 27-43.	1.9	30
53	Not all carbon dioxide emission scenarios are equally likely: a subjective expert assessment. Climatic Change, 2019, 155, 545-561.	1.7	30
54	Probabilistic projections of agroâ€climate indices in North America. Journal of Geophysical Research, 2012, 117, .	3.3	29

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55	A Potential Disintegration of the West Antarctic Ice Sheet: Implications for Economic Analyses of Climate Policy. American Economic Review, 2016, 106, 607-611.	4.0	29
56	Assessing the Impact of Retreat Mechanisms in a Simple Antarctic Ice Sheet Model Using Bayesian Calibration. PLoS ONE, 2017, 12, e0170052.	1.1	29
57	Early Detection of Changes in the North Atlantic Meridional Overturning Circulation: Implications for the Design of Ocean Observation Systems. Journal of Climate, 2007, 20, 145-157.	1.2	27
58	The Role of the National Science Foundation Broader Impacts Criterion in Enhancing Research Ethics Pedagogy. Social Epistemology, 2009, 23, 317-336.	0.7	26
59	Epistemic and ethical trade-offs in decision analytical modelling. Climatic Change, 2018, 147, 1-10.	1.7	26
60	Seasonal Characteristics of Model Uncertainties From Biogenic Fluxes, Transport, and Largeâ€Scale Boundary Inflow in Atmospheric CO₂ Simulations Over North America. Journal of Geophysical Research D: Atmospheres, 2019, 124, 14325-14346.	1.2	26
61	Equity is more important for the social cost of methane than climate uncertainty. Nature, 2021, 592, 564-570.	13.7	26
62	Evaluating terrestrial CO₂ flux diagnoses and uncertainties from a simple land surface model and its residuals. Biogeosciences, 2014, 11, 217-235.	1.3	25
63	Observed and Modeled Twentieth-Century Spatial and Temporal Patterns of Selected Agro-Climate Indices in North America. Journal of Climate, 2012, 25, 473-490.	1.2	24
64	Inferring likelihoods and climate system characteristics from climate models and multiple tracers. Environmetrics, 2012, 23, 345-362.	0.6	24
65	Multidecadal Scale Detection Time for Potentially Increasing Atlantic Storm Surges in a Warming Climate. Geophysical Research Letters, 2017, 44, 10,617.	1.5	24
66	Using direct policy search to identify robust strategies in adapting to uncertain sea-level rise and storm surge. Environmental Modelling and Software, 2018, 107, 96-104.	1.9	24
67	A Road Map for Improving the Treatment of Uncertainties in Highâ€Resolution Regional Carbon Flux Inverse Estimates. Geophysical Research Letters, 2019, 46, 13461-13469.	1.5	23
68	Optimization of an Observing System Design for the North Atlantic Meridional Overturning Circulation. Journal of Atmospheric and Oceanic Technology, 2008, 25, 625-634.	0.5	22
69	Neglecting model structural uncertainty underestimates upper tails of flood hazard. Environmental Research Letters, 2018, 13, 074019.	2.2	22
70	Understanding scientistsâ€™ computational modeling decisions about climate risk management strategies using values-informed mental models. Global Environmental Change, 2017, 42, 107-116.	3.6	21
71	Improving North American terrestrial CO₂ flux diagnosis using spatial structure in land surface model residuals. Biogeosciences, 2013, 10, 4607-4625.	1.3	21
72	Increasing temperature forcing reduces the Greenland Ice Sheetâ€™s response time scale. Climate Dynamics, 2015, 45, 2001-2011.	1.7	20

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73	Why Simpler Computer Simulation Models Can Be Epistemically Better for Informing Decisions. Philosophy of Science, 2021, 88, 213-233.	0.5	20
74	Projected impacts of climate change on habitat availability for an endangered parakeet. PLoS ONE, 2018, 13, e0191773.	1.1	20
75	What is the effect of unresolved internal climate variability on climate sensitivity estimates?. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4348-4358.	1.2	18
76	Probabilistic calibration of a Greenland Ice Sheet model using spatially resolved synthetic observations: toward projections of ice mass loss with uncertainties. Geoscientific Model Development, 2014, 7, 1933-1943.	1.3	17
77	Impacts of Observational Constraints Related to Sea Level on Estimates of Climate Sensitivity. Earth's Future, 2019, 7, 677-690.	2.4	17
78	Climate Risk Management. Annual Review of Earth and Planetary Sciences, 2021, 49, 95-116.	4.6	17
79	The Atmospheric Carbon and Transport (ACT)-America Mission. Bulletin of the American Meteorological Society, 2021, 102, E1714-E1734.	1.7	17
80	Indicators and metrics for the assessment of climate engineering. Earth's Future, 2017, 5, 49-58.	2.4	16
81	Identifying decision-relevant uncertainties for dynamic adaptive forest management under climate change. Climatic Change, 2020, 163, 891-911.	1.7	16
82	A fast particle-based approach for calibrating a 3-D model of the Antarctic ice sheet. Annals of Applied Statistics, 2020, 14, .	0.5	16
83	Inaction and climate stabilization uncertainties lead to severe economic risks. Climatic Change, 2014, 127, 463-474.	1.7	15
84	Small increases in agent-based model complexity can result in large increases in required calibration data. Environmental Modelling and Software, 2021, 138, 104978.	1.9	14
85	A simple, physically motivated model of sea-level contributions from the Greenland ice sheet in response to temperature changes. Environmental Modelling and Software, 2016, 83, 27-35.	1.9	12
86	Characterizing the deep uncertainties surrounding coastal flood hazard projections: A case study for Norfolk, VA. Scientific Reports, 2019, 9, 11373.	1.6	12
87	Reviewing the performance of adaptive forest management strategies with robustness analysis. Forest Policy and Economics, 2020, 119, 102289.	1.5	12
88	What Story Is Told by Oceanic Tracer Concentrations?. Science, 2000, 290, 455-456.	6.0	10
89	Reducing Biases in XBT Measurements by Including Discrete Information from Pressure Switches. Journal of Atmospheric and Oceanic Technology, 2013, 30, 810-824.	0.5	10
90	Improved Representation of Tropical Pacific Oceanâ€"Atmosphere Dynamics in an Intermediate Complexity Climate Model. Journal of Climate, 2014, 27, 168-185.	1.2	10

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91	Aided and unaided decisions with imprecise probabilities in the domain of losses. EURO Journal on Decision Processes, 2014, 2, 31-62.	1.8	10
92	Impacts of representing sea-level rise uncertainty on future flood risks: An example from San Francisco Bay. PLoS ONE, 2017, 12, e0174666.	1.1	10
93	A multi-objective decision-making approach to the journal submission problem. PLoS ONE, 2017, 12, e0178874.	1.1	10
94	Probabilistic inversion of expert assessments to inform projections about Antarctic ice sheet responses. PLoS ONE, 2017, 12, e0190115.	1.1	10
95	Evaluation of CarbonTracker's Inverse Estimates of North American Net Ecosystem Exchange of CO₂ From Different Observing Systems Using ACTâ€America Airborne Observations. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034406.	1.2	10
96	Probabilistic projections of baseline twenty-first century CO2 emissions using a simple calibrated integrated assessment model. Climatic Change, 2022, 170, 37.	1.7	10
97	Optimization of multiple storm surge risk mitigation strategies for an island City On a Wedge. Environmental Modelling and Software, 2019, 119, 341-353.	1.9	9
98	Immersive storm surge flooding: Scale and risk perception in virtual reality. Journal of Environmental Psychology, 2022, 80, 101764.	2.3	9
99	Statistics and the Future of the Antarctic Ice Sheet. Chance, 2017, 30, 37-44.	0.1	8
100	Skill (or lack thereof) of data-model fusion techniques to provide an early warning signal for an approaching tipping point. PLoS ONE, 2018, 13, e0191768.	1.1	8
101	Abrupt climate change near the poles. Climatic Change, 2008, 91, 1-4.	1.7	7
102	The Probable Datum Method (PDM): a technique for estimating the age of origination or extinction of nannoplankton. Paleobiology, 2014, 40, 541-559.	1.3	7
103	The effects of time-varying observation errors on semi-empirical sea-level projections. Climatic Change, 2017, 140, 349-360.	1.7	7
104	The Role of Climate Sensitivity in Upperâ€Tail Sea Level Rise Projections. Geophysical Research Letters, 2020, 47, e2019GL085792.	1.5	6
105	Source decomposition of eddy-covariance CO₂ flux measurements for evaluating a high-resolution urban CO₂ emissions inventory. Environmental Research Letters, 2022, 17, 074035.	2.2	6
106	Representation of U.S. Warm Temperature Extremes in Global Climate Model Ensembles. Journal of Climate, 2019, 32, 2591-2603.	1.2	5
107	Errors in Estimated Temporal Tracer Trends Due to Changes in the Historical Observation Network: A Case Study of Oxygen Trends in the Southern Ocean. Ocean and Polar Research, 2005, 27, 189-195.	0.3	5
108	Tradeâ€offs and synergies in managing coastal flood risk: A case study for New York City. Journal of Flood Risk Management, 2022, 15, e12771.	1.6	5

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109	Adaptive mitigation strategies hedge against extreme climate futures. Climatic Change, 2021, 166, 1.	1.7	4
110	Examining CO₂ Model Observation Residuals Using ACTâ€•America Data. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034481.	1.2	4
111	Improving Climate Projections to Better Inform Climate Risk Management. , 2015, , .		4
112	The FLOod Probability Interpolation Tool (FLOPIT): A Simple Tool to Improve Spatial Flood Probability Quantification and Communication. Water (Switzerland), 2021, 13, 666.	1.2	2
113	A safety factor approach to designing urban infrastructure for dynamic conditions. Earth's Future, 0, , e2021EF002118.	2.4	2
114	Attention to values helps shape convergence research. Climatic Change, 2022, 170, 1.	1.7	2
115	Bayesian Decision Theory and Climate Change. , 2013, , 1-4.		1
116	Considering uncertainties expands the lower tail of maize yield projections. PLoS ONE, 2021, 16, e0259180.	1.1	1
117	Response to Comment on â€œSources and Variations of Mercury in Tunaâ€• Environmental Science & Technology, 2004, 38, 4048-4048.	4.6	0
118	Reply to Geiger and Stomper: On capital intensity and observed increases in the economic damages of extreme natural disasters. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6314-6315.	3.3	0