Maximilian Kotz

Email: maxkotz@pik-potsdam.de

Phone: +49 1590 6792721

Website

OrcidID

Profile

Post-doctoral researcher with expertise in both environmental economics and physical climate science, with strong statistical and modelling skills. Track record of high-impact inter-disciplinary publications and extensive outreach experience including consultancy for the European Central Bank.

Education

Potsdam Institute for Climate Impact Research — Potsdam, Germany
PhD in climate physics/environmental economics — *summa cum laude*
Supervisors: Prof. Anders Levermann and Dr. Leonie Wenz — 2019 – 2023

University of Cambridge — Cambridge, United Kingdom
MSci in theoretical physics, minor in earth sciences — *First Class Honours.*
Supervisor: Professor Alpha Lee — 2017 – 2018

University of Cambridge — Cambridge, United Kingdom
BA in physics, minor in earth sciences — *First Class Honours.*
2014 – 2017

Publications

*indicates supervisee

DOSE - Global data set of reported sub-national economic output
L. Wenz, R. Carr*, N. Kögel*, **M. Kotz**, M. Kalkuhl *Nature Scientific Data, 2023.*

The effect of rainfall changes on economic production
M. Kotz, A. Levermann, L. Wenz — *Nature, 2022.*

Footprint of greenhouse forcing in daily temperature variability
M. Kotz, L. Wenz, A. Levermann — *PNAS, 2021.*

Day-to-day temperature variability reduces economic growth
M. Kotz, et al. — *Nature Climate Change, 2021.*

Strong increase in racist tweets outside of climate comfort zone in Europe
A. Stechemesser, L. Wenz, **M. Kotz**, A. Levermann — *ERL, 2021.*

Working papers

The impact of global warming on inflation: averages, seasonality, and extremes
M. Kotz, F. Kuik, E. Lis, C. Nickel — *ECB Working paper series, 2023.*

Changes in mean and extreme precipitation scale universally with global mean temperature across and within climate models
M. Kotz, S. Lange, L. Wenz, A. Levermann — *Pre-print.*

Positions

Post-doctoral researcher @ PIK — 2023 – Present
Projection of future climate damages using climate models and empirical impact models, estimation of Social Cost of Carbon using Integrated Assessment Models, supervision of junior researchers (PhD and Masters students).

Climate impact consultant @ European Central Bank 06.2022 – 12.2022
Project lead applying statistical and modelling tools to quantify historical and future impacts of climate change on inflation. Results submitted to academic journal and presented to the ECB climate change centre and governing board.

Scientific expedition in the Antarctic Ocean 2019
Field research on US GO-SHIP IO6S cruise to deploy two autonomous underwater vehicles (AUVs) and monitor Southern Ocean carbon uptake.

Caltech Undergraduate Research Fellow in Environmental Science 2017
Remote sensing to assess inter-annual sea-level variability along the Eastern Seaboard and its relation to large-scale climatic oscillations.

National Environmental Research Council Summer Researcher 2016
Development of an agent-based numerical model for the spatial population dynamics of sea bass in UK waters at the University of Reading.

Honors and scholarships		
Young Talent Prize of The Society of Friends and Promoters of PIK		2022
Robinson College Prize and Scholarship (University of Cambridge)		2017, 2018
Summer Undergraduate Research Fellowship (CalTech)		2017
National Environmental Research Council undergraduate fellowship		2016

Talks/outreach

Gender, inequality and climate change 2023.04
Discussion panelist for German Embassy in Prague

The impact of global warming on inflation 2022.12
Climate Change Centre @ European Central Bank

Climate Change The Physical Basis: A beginner's guide to the IPCC
Ringvorlesung Klimawandel @ University of Mannheim 2022.09

Resolving the locality of climate impacts in time and space 2022.07
Invited speaker @EMbeDS workshop of Sant'Anna, Pisa

Resolving the locality of climate impacts in time and space 2022.06
Invited seminar for CMCC @Ca'Foscari, Venice

Near-term climate damages under flexible adaptation times 2022.03
Online Summer Workshop in Environmental Energy and Transport Economics

Resolving the locality of climate impacts in time and space 2022.01
University of Reading Meteorology Department seminar series

Day-to-day temperature variability reduces economic growth 2021.05
ClimateExp0: Adaptation and Resilience, COP26 Universities Network

Day-to-day temperature variability reduces economic growth 2021.04
Sustainable development doctoral society, Columbia University

Living on a warming planet 2021.03
Sommerschule Klimawissen. Museum für Naturkunde, Berlin.

Technical skills

Programming: high proficiency in Python and R, working knowledge of Stata and Julia.

Data analysis: strong experience in geospatial analysis of large socio-economic and climate data, econometrics, pattern-recognition, detection attribution.

Modelling: strong understanding of and experience using IPCC climate models and integrated assessment models, experience developing agent-based models.

Teaching

Dynamics of the climate system: teaching assistant   2021.03
University of Potsdam