

CONTACT &  
PERSONAL DETAILS

**Dr. Kai Kornhuber**  
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CURRENT POSITIONS

**International Institute of Applied Systems Analysis, (IIASA), Vienna, Austria**  
 Senior Theme Lead: Weather Extremes and Climate Dynamics since 05/2024

**Columbia University, New York, USA**  
 Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory since 03/2022

Adjunct Professor and lecturer at Columbia Climate School since 2022  
*Climate & Society MA Program: An Introduction to Complex Climate Risks*

Chair of Compound Extremes Working Group within *Knowledge Action* since 09/2019  
*Network on Emergent Risks and Extremes* (joint initiative of *Future Earth*, *WCRP*, *IRDR*)

Founding Member of Columbia Earth Network: *Sustainable Living in an* since 07/2021  
*Era of Increasing Disasters*

**German Council on Foreign Relations (DGAP), Berlin, Germany** since 01/2023  
 Associate Fellow, Centre for Climate and Foreign Policy

**Potsdam Institute for Climate Impact Research**  
 PI of *PERSEVERE* within the BMBF *ClimXtreme* Consortium since 10/2019

FORMER POSITIONS

**Climate Analytics, Berlin, Germany** 04/2023 - 05/2024  
 Senior Climate Scientist, Group lead *Climate Extremes and Climate Modelling*

**German Council on Foreign Relations (DGAP), Berlin, Germany** 03/2022 - 12/2023  
 Senior Research Fellow, Centre for Climate and Foreign Policy

**Columbia University, New York, USA** 06/2019 - 03/2022  
 Earth Institute Postdoctoral Researcher, Earth Institute: *Global food security risks due to simultaneous weather extremes in teleconnected regions*  
 (Mentors: R. Horton, M. Ting, P. Gentile)

**University of Oxford, Oxford, UK** 07/2018 - 06/2019  
 Postdoctoral Researcher, Dep. of Atmospheric, Oceanic and Planetary Physics  
 (Mentors: S. Osprey, L. Grey)

**Climate Analytics, Berlin, Germany** 02/2018 - 06/2018  
 Research Associate, Science Team

**Potsdam Institute for Climate Impact Research** 01/2013 - 06/2018  
 Research Associate, Project: *Extreme weather damage for ISIMIP2b-Impact Projections* 02/2018 - 06/2018

PhD Candidate, BMBF-Project: *Atmospheric Circulation and its relation to Extreme weather* 05/2014 - 02/2018

Research Assistant: RDI: Earth System Analysis 09/2013 - 05/2014

Research Assistant: RDII: Climate Impacts and Vulnerabilities 01/2013 - 09/2014

**Helmholtz Zentrum für Materialien und Energie Berlin** 01/2011 - 06/2012  
 Student Research Assistant, Department: *Heterogeneous Materials System*

**Konrad – Zuse Zentrum** 06/2005 - 07/2005  
 Intern for *Visualization and Data-analysis*

EDUCATION	<p><b>University of Potsdam</b> 05/2014 - 06/2018            PhD in Climate Physics            Thesis: <i>Rossby Wave Dynamics and Changes in Summertime Weather Extremes</i></p> <ul style="list-style-type: none"> <li>▪ Supervision: D. Coumou and S. Rahmstorf</li> <li>▪ Date of Defense: 25.05.2018</li> <li>▪ Final Grade: <b>Summa Cum Laude</b> (with distinction)</li> </ul> <p><b>Freie Universität Berlin</b> 10/2005 - 07/2012            Diplom in Physics (major) &amp; Computer Science (minor)            Thesis: <i>Electrophoretic Deposition of Cu<sub>2</sub>ZnSnS<sub>4</sub> Nanocrystal Thin Films: Structural and Compositional Analysis</i> (BMBF-Project: <i>Nano-PV</i>)</p> <p><b>Civilian Service</b> (Cook &amp; handyman in a Berlin Kindergarten) 08/2004 - 05/2005  <b>Hermann Hesse Gymnasium</b> (Kreuzberg, Berlin, Germany) 08/1997 - 06/2004</p>
VISITING RESEARCH FELLOWSHIPS & RESIDENCIES	<p><b>VU Amsterdam</b> (Faculty of Science, Water and Climate Risk) 05/2017 - 06/2017            Invited by Prof. D. Coumou</p> <p><b>University of Oxford</b> (Environmental Change Institute) 03/2016 - 04/2016            Supervised by: Prof. M. Allen, Dr. D. Mitchell</p> <p><b>University of Melbourne</b> (Climate &amp; Energy College) 03/2015 - 06/2015            Supervised by: D. Karoly, M. Meinshausen</p> <p><b>UNICAN</b>, Santander, Spain 09/2008 - 06/2009            Academic exchange year</p>
RESEARCH & TRAVEL GRANTS	<p><b>BMBF Research Grant</b> (Co-PI, €1M) 09/2019 - 2022  <i>Persistent Summer Extremes over Europe due to Wave Resonance Events</i>            PERSEVERE, part of the BMBF - Consortium <i>ClimXtreme</i></p> <p><b>BMBF Research Grant</b> (PI, €500K) since 11/2023            PERSEVERE, 2nd phase</p> <p><b>US Department of Energy Research Grant</b> (PI, \$900K, in review) 01/2022            Co-PIs: R. Seager, M. Ting, <i>Understanding extreme-extremes under current and future climate conditions</i></p> <p><b>Ochoa Mobility Grant</b> (€10.000) 04/2020            research stay at (Climate Prediction group) at Barcelona Super Computing Centre</p> <p><b>DynVarMip</b>, Madrid (\$2000) 10/2019            Workshop, Presentation: “Recurrent Rossby Waves in Observations and Models”</p> <p><b>Risk Analysis for Extremes in the Earth System</b>, Berkeley (\$1100) 07/2019            Workshop, Presentation: “Circumglobal Rossby Waves and Simultaneous Heat Extremes”</p> <p><b>DAAD Travel Grant</b> (€2.000) 12/2016            To participate in the Fall meeting of the AGU, San Francisco, USA</p> <p><b>DAAD Research Stipend</b> (\$5000). 03/2015 - 06/2015            Research stay at the Climate &amp; Energy College, University of Melbourne, Australia</p>
AWARDS	<p><b>Carl-Ramsauer-Award</b> 2019            PhD-Thesis-Award granted by the Physical Society of Berlin (PGzB)</p> <p><b>Best Presentation Award</b>, Workshop on Correlated Extreme Events 05/2019            Best oral presentation, Columbia U, New York</p> <p><b>Falling Walls Lab scholarship</b> 11/2014            Falling Walls Foundation &amp; A.T. Kearney</p> <p><b>Science Hack Days Berlin</b> 11/2013, 10/2014            Winner in categories <i>Best Data Hack</i>, <i>Best Science Hack</i> respectively</p>

TEACHING &  
LECTURES

**Columbia University**, Climate School, Climate & Society MA Program since 2022  
Lecturer: *An introduction to Complex Climate Risks*

**Summer-School on Compound Extremes**, Lake Como, Italy Fall 2022, 2024  
Co-organizer and Lecturer (with J. Zscheischler, B. v. d. Hurk, C. Raymond and others)

**Hamburg University**, School of integrated Climate and Earth System Science 2021/2023  
*Rosby Waves & Weather Extremes in: Weather and Climate Extremes in Changing Climate*

**Humboldt University Berlin** 09/2016  
Lecturer in SLE training course, talk: *Climate Change: the physical Science Basis*

**WWF 2°Campus** (summer school for distinguished high school students) 04/2017  
Lecturer: *Gegen die Wissenschaft – Das Phänomen der Klimaleugner*

**University of Potsdam** 04/2016 - 09/2016  
Lecture assistant and Tutor: *Theory of the Global Ocean Circulation*

**WWF-Mint-EC-Schülerforum** 09/2015  
Lecturer, *Der Klimawandel-Ursachen-Wirkung-Perspektiven*

**Potsdam Institute for Climate Impact Research** 03/2013 - 08/2013  
Instructor for Math and Statistics, PIK administration Trainees

**Freie Universität Berlin** 04/2008 - 01/2011  
Teaching Instructor at physical lab course for medical, meteorology and physics students

**Freie Universität Berlin** 08/2008  
Teaching Instructor at the Student's Summer School for Natural Sci. and Tech.

INVITED WORKSHOP  
& CONFERENCE  
TALKS (SELECTED)

**EGU General Assembly**, Vienna 04/2024  
Session: Compound weather and climate events  
Title: *Usable Compound Event Research* (invited talk)

Workshop on Rosby waves, heatwaves and compound extreme events, Bologna 11/2023  
Title: *Persistent and concurrent weather extremes in present & future climates* (invited talk)

**DAMOCLES** science-policy-practice workshop for improved management of 11/2022  
compound events and multi-hazard risks, Glasgow  
Title: *A Knowledge action network on extreme events and emergent risks* (invited talk)

**AGU Fall Meeting**, Chicago 12/2022  
Session: Implications of climate change, extreme events, and adaptation potentials for global agriculture *Jetstream driven risks of synchronized low harvests in current and future climates* (invited talk)

**Society for Risk analysis (SRA) Meeting**, Tampa 12/2022  
Panel on Systemic Risk (invited)

**US CLIVAR Predictability, Predictions, and Applications Interface Panel** 09/2022  
Presentation on Connected Extremes at annual Panel Meeting

**EGU General Assembly**, Vienna 05/2022  
Session: Extremes in geophysical sciences: drivers, methods and impacts quantification  
*Preferred Rosby waves and risks of synchronized heatwaves and harvest failures in observations and model projections* (invited talk)

**Expert Workshop on Systemic Risks** (UNDRR, GIZ, UNU-EHS) 05/2022

**Expert Meeting on Ukraine Crisis** (UNDRR) 03/2022

**Sustainability Research & Innovation Congress 2021**, Brisbane 06/2021  
Session: Understanding Systemic Risks: *Climate Change as a Systemic Risk* (keynote talk)

**Weather & Climate Extremes, WCDIAI Workshop** 09/2020  
*Drivers and trends in yield co-variability across major bread-basket regions* (inv. talk)

**Uppsala University, Workshop on Mid-Latitude Compound Clim. Extremes** 09/2020  
*Simultaneous Heatwaves and their impacts on food security* (invited talk)

**Inter-Sectoral Impact Model Intercomparison Project (ISIMIP) Workshop** 06/2020  
*Yield Co-Variability Across Major Bread-Basket Regions* (invited talk)

**Columbia University Workshop on Correlated Extremes**, NYC 05/2019  
*Recurrent Rosby Waves & Simultaneous Weather Extremes* (invited, best pres. award)

INVITED UNIVERSITY & SEMINAR TALKS (SELECTED)	<b>GFDL Princeton</b> , NOAA/GFDL Formal Seminar series	03/2024
	Title: TBA (invited)	
	<b>Universität Leipzig</b> , Institut für Meteorologie, LIM Colloquium.	11/2023
	<b>Lamont-Doherty Earth Observatory</b> , Ocean Climate Physics Seminar	07/2023
	Globally increasing climate risks and their quantification for finance sector stress testing	
	<b>University of Mainz</b> , Institute for Atmospheric Physics Seminar	04/2023
	<i>Physical Understanding of Extreme Weather Events under Current and Future Climate Conditions</i> (invited lecture)	
	<b>Weizmann Institute of Science</b> , Earth and Planetary Sciences Seminar	01/2023
	<i>Recurrent circulation modes and concurrent extremes in Summer and Winter</i> (invited)	
	<b>UCSB</b> , Climate Meeting Seminar	05/2022
	<i>Persistent and concurrent weather extremes in present and future climates</i> (invited)	
	<b>Lamont-Doherty Earth Observatory</b> , Ocean and Climate Physics Seminar	11/2021
	<i>Dyn. Drivers of Pers. and Concurrent Weather Extremes and their Projected Changes in CMIP5/6 High Emission Scenarios</i> (invited lecture)	
	<b>University of Arizona</b> , Trouet Tree Ring Research lab seminar	06/2021
	<i>Rossby Wave Dynamics &amp; Simultaneous Weather Extremes</i> (invited by V. Trouet)	
	<b>Imperial College London</b> , Atmosphere & Ocean Seminar	05/2021
	<i>Rossby Waves and concurrent weather extremes</i> (invited lecture)	
	<b>MPI-Jena</b> , Biogeochemistry Group Seminar	03/2021
	<i>Hemispheric Rossby wave regimes and concurrent weather extremes</i> (invited lecture)	
	<b>PNNL – Dynamics Group Seminar</b>	11/2020
<i>Rossby Wave dynamics and simultaneous weather extremes</i> (invited by H. Teng & J. Lu)		
<b>Columbia University</b> , App. Physics and Mathematics (APAM) Seminar	11/2019	
<i>Rossby Wave Dynamics &amp; Simultaneous Weather Extremes</i>		
<b>Columbia University</b> , Earth Institute Symposium	11/2019	
<i>Recurrent Rossby Waves &amp; Simultaneous Weather Extremes</i>		
<b>Columbia University</b> , Lamont-Doherty Earth Obs. Postdoc Symposium	09/2019	
<i>Drivers and Impacts of Simultaneous Weather Extremes</i>		
<b>University of Bern</b> , Coll. in Climatology, Clim. Impact and Remote Sensing	04/2019	
<i>Circumglobal Rossby waves and simultaneous weather extremes</i> (invited by O. Martius)		
<b>University of Reading</b> , NCAS Seminar	02/2019	
<i>Rossby Wave Dynamics and Summertime Weather Extremes</i> (invited by T. Shepherd)		
<b>University of Oxford</b> , Atmosphere, Ocean & Climate Physics Seminar	02/2019	
<i>Rossby Wave Dynamics and Summertime Weather Extremes</i> (invited lecture)		
<b>University of Oxford</b> , Atmosphere, Ocean & Climate Physics Seminar	03/2016	
<i>Resonant Amplification of Planetary Waves</i> (invited by D. Mitchell)		

CONVENER ACTIVITY	<p><b>Workshop on Compound Extremes</b>, KIT Karlsruhe 11/2023 Organising Committee, designated lead author of joint perspective paper,</p> <p><b>Summer School on Compound Extremes</b> Fall 2022 Organising Committee and Lecturer, Lake Como</p> <p><b>EGU General Assembly</b> (Session (co-)convener) -<i>Future Changes in Weather and Climate Hazards around the World.</i> 2024 -<i>Advances in physical climate risk assessment for the financial and insurance sectors</i> 2024 -<i>Atmospheric Rossby waves and Jet Dynamics, and their Impacts on Weather and Climate events</i> 2020-2023 -<i>Climate extremes, biosphere and society: impacts, cascades, feedbacks, and resil.</i> 2022 -<i>Extremes in Geophysical Sciences: Dynamics, Thermodynamics and Impacts</i> 2020</p> <p><b>AGU Fall Meeting</b> (Session (co-)convener) -<i>Compounding Climate Extremes: Mechanisms, Diagnostics, and Current and Future Impacts</i> 2021 - <i>Atmospheric Rossby waves and Jet Dynamics, and their Impacts on Weather and Climate events</i> 2021-2023 -<i>Networking event of Multi-Risk and Compound Extreme Convener (sponsored by NASEM-GRP, Risk-KAN)</i> 2021 -<i>Correlated Climate Extremes: Drivers, Mechanisms, and Risks.</i> 2019-2020</p> <p><b>RISK- KAN Webinar on Compound Extremes</b> bimonthly since 06/2020 Host and curator of 14 individual webinars since June 2020 feat. two high-level speakers respectively (sponsored by <i>Risk-KAN, WCRP, Future-Earth, WWRP, IRDR</i>)</p> <p><b>Lamont-Doherty Earth Observatory Ocean and Climate Physics Seminar</b> 2020 - 2021 Coordinator, host and curator of weekly departmental seminar</p> <p><b>Complexity and Dynamics of Weather Extremes</b>, PIK Potsdam 2019 Workshop co-organized with N. Boers</p> <p><b>ESS - Conference on Earth System Science</b>, MPI-Mainz (conference co-organizer) 2015</p>
OUTREACH ACTIVITY (SELECTED)	<p>Published and featured in major international and national media outlets such as the <i>New York Times</i>, <i>Washington Post</i>, <i>The Guardian</i>, <i>The Hill</i>, <i>National Geographics</i>, <i>The Independent</i>, <i>Der Spiegel</i>, <i>SpiegelOnline</i>, <i>Tagesspiegel</i>, <i>Spektrum der Wissenschaft</i>, <i>Tagesssthemen</i>, <i>Heute Journal</i>, <i>Deutschlandfunk</i>, <i>Bayrischer Rundfunk</i> and others.</p> <p><b>Climate Change and Extreme Weather</b>, Nyack, New York 08/2020 Invited talk for American Association of Retired Persons (AARP)</p> <p><b>Member NYC Climate Collective</b>, <a href="https://climatecollective.nyc">https://climatecollective.nyc</a> 09/2019 - 2021 e.g. <i>Climate Clinic</i> during NYC Climate Week 2019</p> <p><b>Wichtiges Windsystem: Extremlage</b>, documentary feature 09/2019 Interview in documentary on jet stream changes, <i>Spektrum der Wissenschaft</i></p> <p><b>Welche Zukunft?!</b> (Participatory Research and Theatre Project) 09/2017 Deutsches Theater, Berlin, coordinated by Jutta Doberstein &amp; Andres Veiel</p> <p><b>Der Klimawandel Ursachen, Wirkung, Perspektiven</b>, Potsdam 06/2017 Invited talk for delegation of <i>Die Linke</i></p> <p><b>Klimawandel – Ein Extremereignis</b>, Weißbach 10/2016 Talk in Weißbach Community center after the flood disaster 2016 (invited by Green Party)</p> <p><b>Rossby Waves and Extreme Weather</b> (educational short film) 04/2016 In collaboration with <i>Climate Media Factory</i>, YouTube, &gt; 70.000 views</p> <p><b>Anthropocene Curriculum Campus</b> (Interdisciplinary Workshop) 04/2016 Haus der Kulturen der Welt, Berlin</p> <p><b>Falling Walls Lab</b> 11/2014 <i>Breaking the Wall of Extreme Weather early Warning</i> (oral presentation)</p> <p><b>Lange Nacht der Wissenschaften</b> 2005 - 2018 Volunteer, multiple times for Freie Universität Berlin and Potsdam Institute</p>
REVIEWER ACTIVITY	<p>Numerous manuscripts for i.e., PNAS, Nature Communications, Science Advances, Journal of Climate, NPJ Atmosphere, Climatic Change, Natural Hazards and Earth System Sciences (NHES), Geophysical Research Letters (GRL), Weather and Climate Dynamics (WCD), Quarterly Journal of the Royal Meteorological Society (QRMS), IPCC 6<sup>th</sup> Assessment report - WG I and others</p>

PUBLICATIONS  
(SELECTED)

Status Jan. 2024, full list available on [ORCID/ResearchGate/Google Scholar](#)  
(Non-peer reviewed articles, reports, book chapters, Op-Eds etc. marked with \*)

2024

S. Perkins-Kirkpatrick, D. Barriopedro, R. Jha, L. Wang, A. Mondal, R. Libonati, **K. Kornhuber**: *Extreme Terrestrial heat in 2023*, *Nature Revs. Earth Env.* 5, 244–246 (2024)

**K. Kornhuber**, S. Bartusek, R. Seager, H. J. Schellnhuber, M. Ting: *Global emergence of regional heatwave hotspots outpaces climate model projections*, *PNAS* (submitted)

R. Hamed, C. B. Steinmann, Q. Ma, D. Balanzategui, E. Broadman, C. Lesk, **K. Kornhuber**: *Amplified agricultural impacts from increasingly sequential heat extremes*, *Nature Climate Change* (in revision)

M. Reichstein, V. Benson, G. Camps-Valls, H. Boran, C. Fearnley, **K. Kornhuber**, N. Rahaman, B. Schöllkopf, J. M. Tárraga, Ricardo Vinuesa, Jan Blunk, Karen Dall, Joachim Denzler, Dorothea Frank, Giulia Martini, Naomi Nganga, D.M. Robinson: *Early warning of complex climate risk with integrated artificial intelligence*, *Nature Communications* (in review)

X. Lian, J. Liu, **K. Kornhuber**, P. Gentine: *Amplified ecological response to compound spatiotemporal stressors due to Rossby waves* *Nature Climate Change* (submitted)

S. Johnson, ..., **K. Kornhuber** et al.: *On the Relationship between Humid Heat and Extreme Precipitation*, *Environmental Research Letters* (in review)

E. Broadman, **K. Kornhuber**, et al: *Summertime Rossby wavenumber-5 enhanced by ENSO events over the past millennium*, *Nature Communications* (in review)

A. Ceglar, N. Ranger, M. Dolk, O. Mahul, **K. Kornhuber**: *Financial risk management needs to integrate compound events in physical climate risk assessment*, (in prep. to be submitted to *One Earth*)

**K. Kornhuber** et al.: *Usable Compound Event Research*, (in prep.)

2023

S. Loriani, Y. Aksenov, D. Armstrong McKay, G. Bala, A. Born, Cristiano Mazur Chiessi, H. Dijkstra, J. F. Donges, S. Drijfhout, M. H. England, A. V. Fedorov, Laura Jackson, **K. Kornhuber**, G. Messori, F. Pausata, S. Rynders, J.-B. Sallée, B. Sinha, S. Sherwood, D. Swingedouw, T. Tharammal: *Tipping points in ocean and atmosphere circulations*, preprint under discussion, *EGUsphere*, Volume:2023, Pages 1-62 (2023)

M. Dolk, O. Mahul, N. Ranger, A. Ceglar, **K. Kornhuber**: *Compound Risks: Implications for Physical Climate Scenario Analysis*, *NGFS Policy Brief* (2023)\*

**K. Kornhuber**, C. Lesk, C. F. Schleussner, J. Jägermeyr, P. Pfleiderer, R. Horton: *Risks of synchronized harvest failures underestimated in model projections*. *Nature Communications*, 14, 3528 (2023)

**K. Kornhuber** & G. Messori: *Recent increase in a recurrent pan-Atlantic wave-pattern driving concurrent wintertime extremes*. *Bulletin of the American Meteorological Society* 1E1694–E1708 (2023)

E. Rousi, A. H. Fink, ..., **K. Kornhuber** et al.: *The extremely hot and dry 2018 summer in central and northern Europe from a multi-faceted weather and climate perspective*. *Nat. Hazards Earth Syst. Sci.*, 23, 1699–1718, <https://doi.org/10.5194/nhess-23-1699-2023>, (2023)

## 2022

S. Bartusek, **K. Kornhuber**, M. Ting: *2021 North American Heatwave Fuelled by Climate-Change-Driven Nonlinear Interactions*. *Nature Climate Change*, 12, 1143–1150 (2022)

E. Rousi, **K. Kornhuber**, G. Beobide, F. Luo, D. Coumou: *Accelerated western European heatwave trends linked to more-persistent double jets over Eurasia*. *Nature Communications*, 13, 3851 (2022)

B. Jiménez-Esteve, **K. Kornhuber**, D.I.V. Domeisen: *Amplification of phase-locked circumglobal waves forced by localized topography drive heat extremes in an idealized model simulation*. *Geophysical Research Letters*, Volume 49, Issue 21 e2021GL096337 (2022)

M. Ali, M. Röthlisberger, T. Parker, **K. Kornhuber**, O. Martius: *Recurrent Rossby waves during Southeast Australian heatwaves and links to quasi-resonant amplification and atmospheric blocks*. *Weather Clim. Dynam.*, 3, 1139–1156, (2022)

F. Luo, F. Selten, K. Wehrli, **K. Kornhuber**, P. Le Sager, W. May, T. Reerink, S. I. Seneviratne, H. Shiogama, D. Tokuda, H. Kim, D. Coumou: *Summertime circumglobal Rossby waves in climate models: small biases in upper-level circulation create substantial biases in surface imprint*. *Weather Clim. Dynam.*, 3, 905–935, <https://doi.org/10.5194/wcd-3-905-2022> (2022)

C. Lesk & **K. Kornhuber**: *Effective net-zero transition plans must anticipate growing climate disruptions*. *Commentary, Environmental Research: Climate*, 1 013002 (2022)

*Briefing note on Systemic Risk to the UN (Risk-KAN, UNDRR, GRAF, ISC)*, J. Sillmann, S. Hochrainer-Stigler, T. Huang-Lachmann, S. Juhola, **K. Kornhuber**, M. Mahecha, R. Mechler, M. Reichstein, A. Ruane, P.-J. Schweizer, S. Williams, International Science Council, UNDRR (2022)

C. Raymond, L. Suarez-Gutierrez, **K. Kornhuber**, M. Pascolini-Campbell, J. Sillmann, D. E. Waliser: *Increasing spatiotemporal proximity of heat and precipitation extremes in a warming world quantified by a large model ensemble*. *Environmental Research Letters*, 17 035005 (2022)

M. Hemmati, **K. Kornhuber**, A. Kruczkiewicz: *Increased adaptation efforts needed to counter rising extreme rainfall risks for urban sustainability programs in a warming climate*. *npj Urban Sustainability* 2, Article number: 16 (2022)

## 2021

**K. Kornhuber** & T. Tamarin-Brodsky: *Future changes in Northern Hemisphere summer weather persistence linked to projected Arctic warming*. *Geophysical Research Letters* 48 (4) (2021). doi: 10.1029/2020GL091603

**K. Kornhuber**: *Runaway Climate Risks in a warming world.*, Op-Ed, The Hill (2021)\*

C. D.W. Rogers, **K. Kornhuber**, S. E. Perkins-Kirkpatrick, P. C. Loikith, D. Singh: *Six-fold increase in historical Northern Hemisphere concurrent large heatwaves driven by warming and changing atmospheric circulations*. Journal of Climate (2021). doi: 10.1175/JCLI-D-21-0200.1

R. H. White, **K. Kornhuber**, O. Martius, V. Wirth: *From Atmospheric Waves to Heatwaves: A Waveguide Perspective for Understanding and Predicting Concurrent, Persistent and Extreme Extratropical Weather*. Bulletin of the American Meteorological Society (2021). doi: 10.1175/BAMS-D-21-0170.1

**K. Kornhuber**, M. Hemmati, A. Kruczkiewicz, *When record breaking is the Norm: Mitigating the Impacts of Extreme Rainfall Events in a Changing Climate*. State of the Planet (2021)\*

G. Di Capua, S. Sparrow, **K. Kornhuber**, E. Rousi, S. Osprey, D. Wallom, B. v. d. Hurk, and D. Coumou: *Drivers behind the recurrent atmospheric wave train leading to the summer 2010 Russian heat wave and Pakistan flooding*. npj Clim. Atmos. Sci. **4**, 55 (2021). doi: 10.1038/s41612-021-00211-9

C. D.W. Rogers, M. Ting, C. Li, **K. Kornhuber**, E. D. Coffel, R. M. Horton, C. Raymond, D. Singh: *Recent increases in exposure to extreme humid-heat events disproportionately affect populated regions*, Geophysical Research Letters doi: 10.1029/2021GL094183

G. Messori, E. Bevacqua, R. Caballero, D. Coumou, P. De Luca, D. Faranda, **K. Kornhuber**, O. Martius, F. Pons, C. Raymond, K. Ye, P. Yiou, and J. Zscheischler: *Compound Climate Events and Extremes in the Midlatitudes: Dynamics, Simulation, and Statistical Characterization*. Bulletin of the American Meteorological Society **102** (4) (2021) doi: 10.1175/BAMS-D-20-0289.1

## 2020

**K. Kornhuber**, D. Coumou, L. Vogel, C. Lesk, J. F. Donges, J. Lehmann and R. Horton: *Circumglobal Rossby waves enhance risk of simultaneous heat extremes in major breadbasket regions*. Nature Climate Change **10**, 48–53 (2020) doi: 10.1038/s41558-019-0637-z

C. Raymond, R. M. Horton, J. Zscheischler, O. Martius, A. AghaKouchak, J. Balch, S. G. Bowen, S. J. Camargo, J. Hess, **K. Kornhuber**, M. Oppenheimer, A. C. Ruane, T. Wahl, K. White: *Understanding and Managing Connected Extreme Events*. Nature Climate Change **10**, 611–621 (2020) doi:10.1038/s41558-020-0790-4.

## 2019

**K. Kornhuber**: *Wetter im Wandel. Wie der Klimawandel unser Wetter der Zukunft beeinflusst*, Aus Politik und Zeitgeschichte (APuZ), Bundeszentrale für politische Bildung (2019)\*

**K. Kornhuber**, S. Osprey, D. Coumou, S. Petri, V. Petoukhov, S. Rahmstorf and Lesley Grey: *Extreme weather events in early Summer 2018 connected by a recurrent hemispheric wave-7 pattern*. Environmental Research Letters **14**, 054002 (2019). doi: 10.1088/1748-9326/ab13bf

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