

EGU24-3151, updated on 20 May 2024

<https://doi.org/10.5194/egusphere-egu24-3151>

EGU General Assembly 2024

© Author(s) 2024. This work is distributed under the Creative Commons Attribution 4.0 License.



Usable Compound Event Research

Kai Kornhuber

Climate Analytics, Berlin, Germany

High impact events are often compound events with relevance for a wide range of societal sectors: Infrastructure and Urban Resilience, Agricultural Adaptation and Food Security, Public Health and Healthcare Preparedness, Insurance and Financial Risk Management, Energy Systems, Natural Systems, Globally interconnected Networks: Food Networks, Supply chains, transport systems.

Consequently, compound events and associated physical risks have been prominently acknowledged in recent high-level reports such as the sixth assessment report of the IPCC, fifth US National Climate Assessment, numerous UNDRR briefing notes and the Risk report of the world economic forum among others.

Driven by the need to enhance our physical and statistical understanding of high impact climate events, compound event research has made substantial progress and has emerged as a new inter/trans/multi-disciplinary field of study over the past decade, bridging climate, environmental science as well as statistics and data science. To be fully usable for solving real world problems substantial challenges remain, these include lack of high-resolution data, model biases in tail risks, and impact relevant event definition. This talk will provide an overview of current challenges in accurately projecting and predicting risks from compound events for various societal sectors and points towards potential solutions to address these.