Meeting Report: First Risk-KAN Symposium

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Participants of the first Risk-KAN Symposium at IIASA. On April 28th 2025, the kick-off meeting of the new working group structure and leadership team gathered over 30 experts from academia, the private and humanitarian sector at IIASA, Laxenburg to discuss inter- and transdisciplinary approaches in climate and environmental risk assessment, management and mitigation.

The first Risk-KAN Symposium, convened at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg at April 28th 2025, brought together researchers, practitioners, and stakeholders to chart the future direction of the **Knowledge-Action Network on Emergent Risks** and Extreme Events (Risk-KAN). Next to serving as the official kick-off of the new working group and leadership structure, the gathering focused on discussing how to advance transdisciplinary

risk research and fostering actionable insights to support societal preparedness, resilience, and adaptation to compound and systemic risks in a changing climate.

A central theme throughout the symposium was the growing demand for science that meaningfully connects with decision-makers in policy, industry, humanitarian response, and community settings. Participants reaffirmed Risk-KAN's commitment to producing actionable results by codesigning research with those directly affected by or responding to risks and serving as a interand transdisciplinary hub for scientists, experts, and communities focusing on multi-hazard risks, disaster risk reduction.



Risk-KAN working Groups and leadership teams. Working groups were selected based on discussions held at a Risk-KAN meeting in Amsterdam in 2024 and an online survey sent to the Steering Committee.

Risk-KAN has in the past contributed to open science practices, such as ongoing webinars and active participation in conferences like EGU and AGU, which will continue to be important activities of the new working groups and working group leads (see diagram below) have laid the groundwork for knowledge sharing. However, discussions emphasized the need for more durable structures, such as co-supervised PhDs and postdoctoral fellowships that enable collaboration across working groups—an initiative that holds promise and could be the starting point of a funding proposal.

Additionally, some selected working groups provided thematic inputs. One newly established working group led by Martha Vogel (R and others will explore the intersection of *Climate Change, Disasters, Health, and Well-being*. This initiative seeks to quantify and attribute health outcomes to climate drivers, improve projections, and develop mitigation strategies. The group aims to

tackle data gaps through novel methodological approaches and establish regular collaboration, including a dedicated session at EGU 2025.

Working group co-lead and former Risk-KAN co-chair Prof. Jana Sillmann highlighted how current practices in banking and insurance often operate independently from climate science. Despite increasing interest, integration remains limited due to incompatible terminologies, modeling frameworks, and regulatory priorities. The working group on *Climate Risk Modelling for the Financial Sector* is developing strategies to bridge this divide by creating scientific outputs, such as journal special issues, and fostering direct dialogue through workshops with industry representatives.

Another new working group on *Nature-based and Community-led Disaster Risk Management and Climate Adaptation*, co-lead by Nicole van Maanen is exploring the effectiveness and limitations of Nature-based Solutions (NbS) and community-led adaptation approaches. Their work aims to facilitate knowledge exchange between disaster risk management and climate change adaptation communities. With plans for regular online seminars, contributions to international conferences like EGU 2026, and engagement through blogs and journal articles, the group is particularly interested in understanding how regional contexts shape the success and transferability of NbS.

The second part of the meeting featured a panel discussion led by Robert Sakic Trogrlic on the topic of *Multi-hazards and risks in a changing world: A conversation on science, policy, and practice* with invited guests Michael Michael Szönyi (Zurich Foundation), Mark van den Homberg (Red Cross 510), Narelle van der Well (WCRP) and Risk-KAN co-chair Marleen de Ruiter (VU Amsterdam).

The panel highlighted the growing urgency of shifting from siloed, single-hazard approaches to integrated multi-hazard risk management reflecting complex and systemic risks, particularly in humanitarian and community resilience contexts. Marc van den Homberg emphasized the need to adapt early action protocols to account for compounding and cascading events, which are becoming more frequent and complex. He noted challenges like static vulnerability maps, insufficient real-time data, and a lack of dynamic modeling capabilities that hinder impact-based forecasting. Michael Szönyi, presented work of the Climate Resilience Alliance, a science-practice partnership supporting the implementation of climate resilience-led efforts in more than 500 communities worldwide. He emphasized a stepwise transition—from addressing individual hazards with co-benefits, to managing multiple and finally truly multi-hazard risks—underscoring the importance of clearly defining resilience in terms of what, to what, and for what purpose.

Panelists agreed that integrating vulnerability into multi-hazard models remains a challenge, as it requires capturing dynamic, locally grounded knowledge. Marleen de Ruiter and Narelle van der Well stressed the need for interdisciplinary and transdisciplinary research and education to bridge gaps between science and society. Data alone is insufficient; it must be understood, contextualized, and co-produced with communities. The discussion identified a disconnect between available data and its practical application, highlighting a need for training, simplicity in model communication, and respect for local perspectives on vulnerability. Tools like the Climate Resilience Measurement for Communities were mentioned as promising in combining qualitative

and quantitative data. Furthermore, concerns were raised about over-reliance on complex models and AI without understanding their limitations and biases and what this means for communities at risk.

In conclusion, the panel called for smarter coordination and long-term partnerships, particularly with actors from the Global South and local authorities. International collaboration networks like Risk-KAN could play a key role and must evolve to include deeper stakeholder engagement, especially from the Global South. The group stressed the importance of humility in scientific claims, the need and value of true engagement around local case explorations, and the power of storytelling to make multi-hazard complexity more relatable and actionable.

Moving forward the new working groups, through their leads and members will allow RiskKANs to respond to newly emerging risks from a broad range of perspectives. Future effort will go into strengthening the connections bridges between the collected expertise and perspectives of the 10 working groups by establishing cross-cutting initiatives and themes that could serve as the basis for the organization of summer schools, workshops and joint scientific research projects. IIASA will provide its share and is excited to make this Risk-KAN Symposium a permanent annual event.