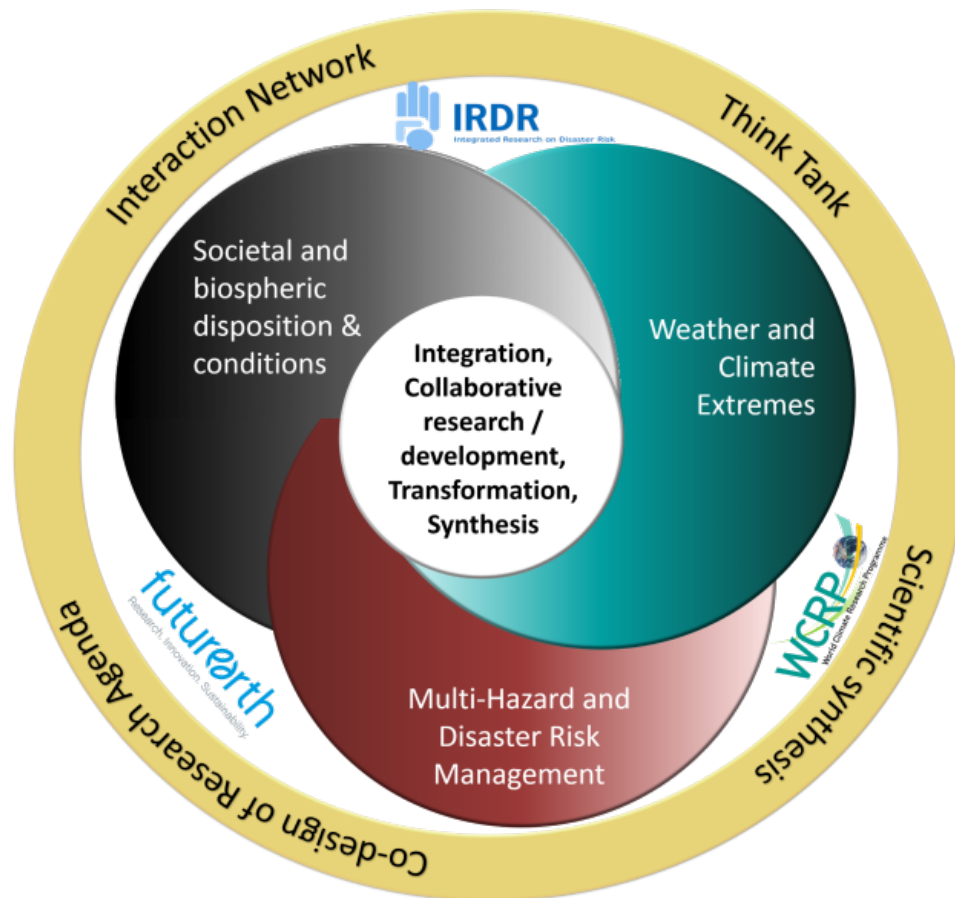


Knowledge Action Network on : Emergent Risks and Extreme Events



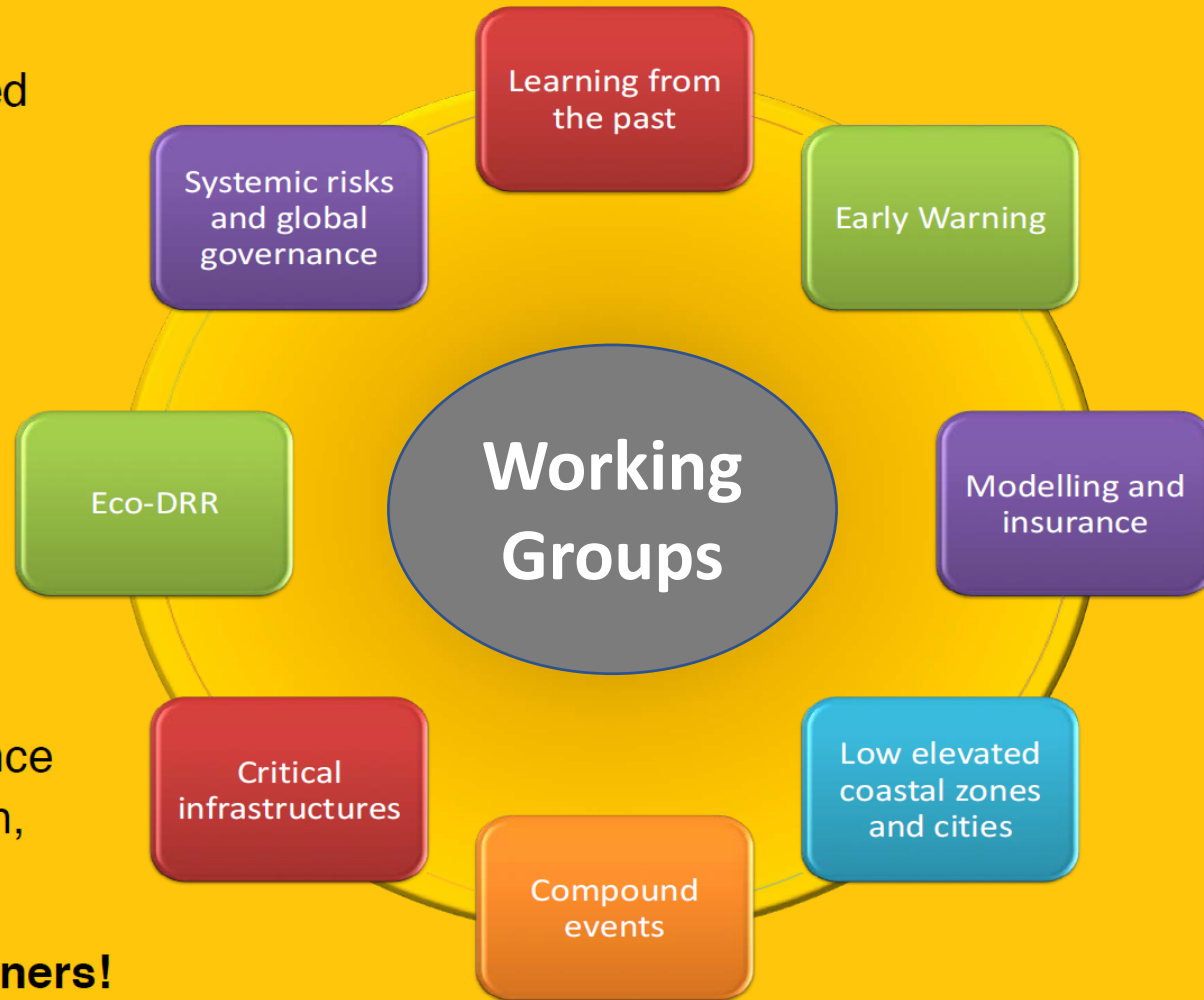
The Risk KAN, a joint initiative of the Future Earth, IRDR and WCRP programs, aims to:

- provide an **open platform for scientific communities** from across science disciplines working on extreme events, disaster risk reduction and governance **to exchange information, knowledge and data**
- **build an interdisciplinary network to address systemic, complex and cascading risks** to act for scientific synthesis , foresight and co-design of relevant research agendas

Continuous Development

The Risk KAN is initiated jointly by the Future Earth, IRDR and WCRP, to become an **open platform for scientific communities** from across disciplines working on extreme events, disaster risk reduction and governance to exchange information, knowledge and data.

We welcome new partners!



Input for 22nd IRDR meeting

1. Progress/update of the development of Risk KAN, including IRDR contributions
2. Further development of Risk KAN and priority actions in 2020

Progress/update of the development of Risk KAN

Risk KAN's current actions:

- **Risk KAN Development Team** is in place since 2019
- **Webpage** (<http://www.risk-kan.org>) is in place since 2019
- **Working groups** are being established (some initial “living” documents are produced, see following slides)

Progress/update of the development of Risk KAN

Risk KAN

Development Team:

Name	Affiliations	
Marta Alfaro	INIA, Chile	
Kalpana Chaudhari	ISDR, Mumbai, INDIA	
Z. Narcisse Gahi	Université Felix Houphoeut-Boigny, Abidjan, Côte D'Ivoire	
Brian Golding	Co-Chair WMO/WWRP HIWeather project, Exeter, UK	
Jo-Ting Huang-Lachmann	GERICS, Hamburg, Germany	
Sirkku Juhola	University of Helsinki, Finland	
Emma Liwenga	University of Dar es Salaam, Dar es Salaam, Tanzania	
Gordon McBean	Western University London, ON, Canada	
Reinhard Mechler	IIASA, Laxenburg, Austria	
Ilan Noy	Victoria University Wellington, New Zealand	
Mark Pelling	King's College, London, UK	
Markus Reichstein	MPI Biogeochemistry, Jena, Germany	Chair
Felix Riede	Aarhus University Moesgård, Højbjerg, Denmark	Co-chair
Patricia Romero-Lankao	NREL, Golden, Colorado, USA	
Jana Sillmann	CICERO, Oslo, Norway	Co-chair
Qian Ye	Beijing Normal University, Beijing, China	
Takehito Yoshida	RIHN & University of Tokyo, Japan	

Progress/update of the development of Risk KAN

Working Groups (incl. contacts):

currently the following Working Groups are in formation process

Compound events	Markus Reichstein mreichstein@bgc-jena.mpg.de
Critical infrastructures	Patricia Romero-Lankao Patricia.RomeroLankao@nrel.gov
Early warning	Brian Golding brian.golding@metoffice.gov.uk
Ecosystem-based approaches to DRR	Takehito Yoshida ty@chikyu.ac.jp
Learning from the past	Felix Riede f.riede@cas.au.dk
Low elevated coastal zones and cities	Qian Ye 11112011026@bnu.edu.cn
Modelling and insurance	Reinhard Mechler mechler@iiasa.ac.at
Systemic risks and global governance	Sirkku Juhola sirkku.juhola@helsinki.fi , Gordon McBean gmcbean@uwo.ca

WG: Ecosystem-based approaches to disaster risk reduction

The goals of our working group include:

- 1) Identifying the state-of-the-art understanding of effectiveness and multi-functionality of Eco-DRR and the research gaps to be filled
- 2) Deepening the understanding of Eco-DRR by the general public and implementing Eco-DRR at local, national and global scales

To achieve the goals, the following approaches will be taken:

- 1) Networking relevant and motivated researchers, practitioners, etc.
- 2) Reviewing existing knowledge (scientific, local and traditional ones) and practices of Eco-DRR
- 3) Collaborating with managers, policy makers, etc. to implement Eco-DRR at local, national to global scales

WG: Past 4 Future

Aims to

- Align available palaeo-perspectives terminologically – within and between disciplines – and in terms of time scales with recent and contemporary examples of extreme events
- Derive more standardized and case-transferable methods that can be used to study past human-environment relations
- Integrate archaeological, historical and environmental history perspectives in an environmental-interdisciplinary meta-laboratory
- Explore multi-scalar approaches to extreme events, moving beyond the contingencies of ‘now’ and ‘episodic’ to reach more fully develop a temporal perspective that can contextualize anomalies and trends
- Create effective outreach and dissemination strategies that include, for instance, museum stakeholders and science communicators.

WG: Compound Events and Impacts

Aims at exploring solutions to directly **address compound risks under climate and socio-economic changes, whether by adaptation and/or risk management techniques**. This is an obvious research gap that needs urgent attention if we want to link our understanding of compound risks to the solutions space. A broad conceptual and methodological question concerns **how to detect, quantify, and understand changes in compound impacts** when the signal of many variables has *not* yet emerged as particularly extreme. In other words, are there ways in which the **impacts structure has changed in the past several decades so as to amplify risk** beyond what would be expected from conducting a traditional univariate risk analysis.

WG: Early Warnings

Closely linked to **WMO High Impact Weather Project (HIWeather)** and has a similar aim: “To promote cooperative international research to achieve a **dramatic increase in resilience to high impact weather, worldwide**, through improving forecasts for timescales of minutes to two weeks and enhancing their communication and utility in social, economic and environmental applications”

Risk KAN WG will have a **special focus on indirect impacts**, and in **warnings associated with complex and systemic risk**. It will seek to achieve this aim by bringing together people working in the same areas, facilitating joint bids for research funding, promoting topics for funding calls.

Risk KAN WG will work in partnership with HIWeather; new areas of interest that cannot be accommodated within HIWeather, will be pursued directly under the WG umbrella, exchanging information with both HIWeather and the other Risk-KAN WGs as appropriate.

Progress/update of the development of Risk KAN

Risk KAN's current actions (continued):

Scientific synthesis

Sillmann, J.; Sippel, S.; Russo, S. 2019 *Climate Extremes and Their Implications for Impact and Risk Assessment*. 1.ed. Elsevier, 360pp. (Published Date: 1st November 2019)

Co design of research agendas

Belmont forum scoping process on topic of Extreme events and disaster risk reduction started in 2016, and led to the Belmont Forum's [*Disaster Risk, Reduction and Resilience \(DR³\) call*](#) in 2019

Progress/update of the development of Risk KAN

Risk KAN's current actions (continued):

Hazard Assessment Report

Chair of Risk KAN in advisory committee

DT members invited to participate in the review survey (link sent around by ISC)

Events

2019 WCRP summer school [Climate Extremes and Risk Management](#), Nanjing, China

2019 October: Herrenhausen conference [Extreme Events - Building Climate Resilient Societies](#)

IRDR contributions

Bapon SHM Fakhruddin et al.

Chapter 12. Assessing Vulnerability and Risk of Climate Change, in Sillmann, J.; Sippel, S.; Russo, S. 2019 Climate Extremes and Their Implications for Impact and Risk Assessment. 1.ed. (<https://www.elsevier.com/books/climate-extremes-and-their-implications-for-impact-and-risk-assessment/sillmann/978-0-12-814895-2>)

Jana Sillmann participating in Herrenhausen conference on Extreme Events - Building Climate Resilient Societies (October 9-11), Session 5: Response to Compound Events

IRDR contributions

WCRP summer school [Climate Extremes and Risk Management](#),
Nanjing, China (October 21 – November 1, 2019)

- 2 IRDR early career scientists (young scientist network) participating and their travel is supported by IRDR office.
- Feng Lian from IRDR will spend two weeks there
- IRDR IPO office director will give a short talk in the first day about the IRDR program

Further development of Risk KAN and priority actions in 2020

- Establish more links to IRDR working groups and activities (e.g., co-organize events (at EGU/AGU?), joint publications)
- Improved mutual information flow
- Get members of ICoEs involved in Risk KAN WGs
- Contribute to multi-hazard and systemic risk report (as planned by ISC)
- Join and co-organize side event or session in the IRDR conference planned for 2020

Knowledge Action Network on : **Emergent Risks and Extreme Events**

<https://www.risk-kan.org/>

Further information available via

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