International Society for Integrated Disaster Risk Management

IDRiM Newsletter

Issue 17, March 2019

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1. IDRIM NEWS

IDRiM Conference 2019
16-18 OCTOBER, NICE, FRANCE

KNOWLEDGE-BASED DISASTER RISK MANAGEMENT
BROADENING THE SCOPE BY "SMART TERRITORIES" FOR SUSTAINABLE AND RESILIENT CITIES AND ORGANIZATIONS

Call for individual paper abstracts and special session/workshop proposals

The International Society for Integrated Disaster Risk Management (IDRiM) was officially launched on October 15, 2009 in Kyoto, Japan, at the 9th IIASA-DPRI Forum on Integrated Disaster Risk Management (IDRiM Forum). The 3 last annual conferences were held in:

- *Isfahan, Iran in October 2016 "Disaster and Development: Towards a Risk Aware Society".*
- *Reykjavik, Iceland in August, 2017 "Dimensions of Disaster Risk Reduction and Societal Resilience in a Complex World".*
- *Sydney, Australia in October 2018 "Data-Driven Approaches to Integrated Disaster Management".*

The next IDRIM Conference will take place in Nice, France on October 16 - 18, 2018. The 2019 annual event for researchers and practitioners in integrated disaster risk management (IDRiM) will focus on the issues of "**Knowledge-based Disaster Risk Management: Broadening the scope by "Smart Territories" for Sustainable and Resilient Cities and Organizations"**.

The main themes of “Smart” are related to integrating the “knowledge society and knowledge economy, sustainable development, and social inclusion”, with complexity theory, such as, for example, the important role of interconnectivity of networks and feedback effects. How and when this connectivity becomes positive or negative is both a challenge for “hard” sciences (e.g. what are the formal methods that provide valid tools to assess the efficiency of networks, as in see graph theory) and “soft” sciences in the field of risk, resilience and disasters (e.g. participative and deliberative governance frameworks).

The denomination “Smart City” is commonly given to an urban area that incorporates information and communication technologies to enhance the quality and performance of services such as, for example, energy, transportation and utilities in order to reduce resource consumption, waste and overall costs. A Smart City could contribute to enhancing the quality of living for its citizens through smart technologies. The main focus is on physical networks connectivity.

A territory is an organization that includes a set of sub-component organizations. These organizations can be regions, cities, villages, hamlets… They can be companies (e.g. industries, pipelines). They can be physical entities or legal entities. They can be visible or invisible (e.g. social networks).

To understand how a territory can be “Smart”, we have to look both at the whole territorial organization and the interaction between these organizations at the broader level.

One of the distinctions made by geographers and regional scientists is that “Smart Territories” examine themes such as economic, social activity, and governance at different scales (large heterogeneous areas versus smaller, primarily urban, areas). Another aspect is the relationship between cities and their hinterlands.

The IDRiM2019 conference brings together researchers and scientists, regulators, risk and insurance, safety and security practitioners, media and NGOs to share expertise and practices on these two challenges:

- How to improve the common understanding of major extreme risks, man-made and natural disasters;

- How to foster individual, organizational and territorial abilities to manage and govern known and emerging risks and resiliencies.

The local organizers are CNRS-University of Nice (UMR ESPACE) and AFPCN (French Society for the Prevention of Natural Disasters) and their national/local partners.
The location of the conference was carefully selected. The Alpes-Cote-d'Azur region is exposed to several natural risks (e. g. flooding), industrial risks (e. g. industry, transport of dangerous goods) and societal risks (e. g. terrorism). It is also an attractive conference venue.
IDRiM2019 encourages the submission of abstracts from all realms of engineering, human and social, natural, risk in safety-security-health-environment, and other fields and sciences, to address the two challenges listed above to contribute to smart territories for sustainable and resilient cities and organizations in the face of disasters. Interdisciplinary and cross-sectoral approaches are needed to cope with such complex challenges.

The IDRiM2019 program includes plenary keynote speeches and expert panel interviews and discussions, as well as a wide selection of oral and poster presentations, including “young scientist” sessions and an award for the best young scientist paper and/or oral presentation of a poster. It will also include tutorials on core concepts, methods and tools that have been developed by the IDRiM community.

Disaster risk management presents unique challenges that require truly multi-disciplinary, and hence multi-sectoral perspectives and contributions emphasizing such aspects are most welcome.
A suggested list of relevant topics that will be discussed at the conference is provided below.

AREAS

- ***Natural hazards***
  - *Seismic*
  - *Flooding*
  - *Subsidence*
  - *Hurricanes*
  - *Landslides*
  - *Volcanic eruption*
  - *Wildfire*

- ***Technological and manmade hazards***
  - *Chemical and petrochemical industry*
  - *Nuclear industry*
  - *New and emergent technologies*
  - *Transportation*
  - *Natech*
  - *Critical infrastructures*
  - *Cyber attacks*
  - *Terrorism*

- ***Complex hazard interactions and systemic risks***
  - *Climate change and its impact*
  - *Natech*
  - *Epidemics / pandemics*
  - *Critical infrastructures*

TOPICS

- ***Learning from experience***
  - *Organizations, territories and experience feedback*
  - *Expertise and knowledge management*
  - *Weak signals*
  - *Early warning systems*
- ***Social and human sciences for risk and disaster management***
  - *Human, organizational and societal factors*
  - *Risk perception, communication and governance*
  - *Systemic approaches*
  - *Risk and safety culture*
  - *Resilience, vulnerability and sustainability: concepts and applications*
  - *History and learning from major accidents and disasters*
  - *Territorial and geographical approaches to major accidents and disasters*
  - *Social and behavioral aspects*
- ***Cross-disciplinary challenges for integrated disaster risk management***
  - *Compound/cascading disasters (simultaneous and/or co-located) and Mega-disasters*

- *Connecting observed data and disaster risk management decision-making*
- *Practical applications of Integrated Disaster Risk Management*
- *Development and disasters*
- *Build Back Better (than Before)*
- *Disaster-driven innovation and transformation*
- *STGs and disaster governance*

- ***Complex systems***
  - *Complexity Modeling*
  - *System of Systems / Distributed Systems*
  - *Critical Infrastructures*
  - *Probabilistic Networks*
- ***Economics and Insurance***
  - *Disaster impacts and economic loss estimation*
  - *Cost-benefit approaches*
  - *Insurance and reinsurance*
- ***Decision, risk and uncertainty***
  - *Decision aiding and decision analysis.*
  - *Disaster risk communication*
  - *Ethics.*
  - *Gender*
  - *Responsibility*
  - *Governance, citizen participation and deliberation*
  - *Community engagement and communication*
  - *Scientific evidence-based decision-making, modelling and analytics*
  - *Policy analysis*
  - *Uncertainty and ambiguity*
  - *Multi-criteria decision aid and analysis*
  - *Operational research*
- ***Artificial intelligence, big data and text data mining***
  - *Disaster informatics, big data, etc.*
  - *Deep learning*
  - *Neural networks*
  - *Experts systems*
  - *Text data mining*
- ***Engineering Models***

- *Numerical modelling & functional numerical modeling*
- *Formal models / formal proofs*
- *Model-based approach*
- *Safe and resilient design and management.*

- ***Legislation, standardization and implementation***
  - *Certification and standardization.*
  - *Regulation and legislation.*
  - *Legal issues (scientific expertise, liability, etc.).*
  - *Precautionary principle and risk control and mitigation.*

SIGNIFICANCE TO THE FIELD

- ***Demonstrates current theory or practice***
- ***Employs established methods to a new question***
- ***Presents new data***
- ***Presents new analysis***
- ***Presents a new model***
- ***Groundbreaking***
- ***Assesses developments in the field, in one or more countries***
- ***Other (Please specify)***

EXPECTED CONTRIBUTIONS

- ***Theoretical***
- ***Applied***
- ***Theoretical and Applied***
- ***Review***
- ***Perspective***
- ***Other (Please specify, e.g. success/failure practices, lessons learned, and other implementation evidence)***

SPECIAL SESSION AND WORKSHOP PROPOSALS

Special Session Proposals (SSP) or Workshop Proposals (WP) are most welcome, as soon as they are submitted by a group of proponents who have already established a joint proposal.

Special session or workshop proposal submission deadline: 15 April 2019.

CALL FOR INDIVIDUAL PAPER ABSTRACTS AND SPECIAL SESSION/WORKSHOP PROPOSALS

Abstracts, symposiums and roundtables are welcome.
An author may co-author any number of submissions but, as presenting author, may submit a maximum of 2 abstracts.

MEETING FORMAT

We welcome abstracts and presentations in one of the following formats:

- ***Poster Presentation****/Poster Platform Presentations Poster sessions will be grouped by "areas"* ***and "topics".***
- ***Oral Presentation*** *will be grouped by "areas" and "topics" and assigned a session chair by the Scientific Committee. Each oral presentation should take 15 minutes, followed by 5 minutes for audience questions and comments.*

For posters and oral presentations, submit an abstract and choose between the areas and topics. You will have to give additional precisions on the significance of your contribution to the IDRIM field and on the nature of expected contributions.

- ***Symposia*** *address a particular subject of interest through a multidisciplinary format. Symposium proposals are submitted as such, and are not organized by the scientific Committee. Generally, symposia follow the same format as the oral presentations and should be limited to one 1½-hour session to the extent possible. Preference will be given by the Scientific Committee to symposium proposals that truly reflect several Disaster risks-related disciplines.*
- ***Roundtable*** *addresses a high-visibility topic of special interest in a 90-minute panel discussion format. The organizer submits an abstract that describes the topic and what the audience should expect to gain from the discussion. The organizer also lists the moderator and panelists, and their emails.*

INSTRUCTION FOR SUBMITTING ABSTRACTS AND PAPERS:

- *Abstract submission deadline: 27 March 2019.*
- *SSP or WP special submission deadline : 15 April 2019*
- *Notification of abstract approval: 30 April 2019.*

- *Paper submission (special issues of IDRiM-affiliated journals): 30 June 2019.*
- *Notification of paper approval: 15 August 2019.*

Abstracts are to be no more than 400 words. They should identify the Presentation's Expected Contribution(s) and Significance to the Field of Integrated Disaster Risk Management and identify related areas and fields.

Website: https://idrim2019.com/

https://idrim2019.com/call-for-abstracts/

IDRiM Book Series

The Editors of the IDRiM Book Series invite submissions. Please send a one-page prospectus to Professors Norio Okada (kyotookanori@gmail.com) or Adam Rose (adam.rose@usc.edu)

More information about the Series can be found at: https://www.springer.com/series/13465

2. Other NEWS

UN 20-year review: Economic losses, poverty & disasters: 1998-2017

From the press release (https://www.unisdr.org/archive/61121): “The last twenty years have seen a dramatic rise of 151% in direct economic losses from climate-related disasters, according to a report released today by the UN Office for Disaster Risk Reduction in advance of International Day for Disaster Reduction on October 13.

In the period 1998-2017, disaster-hit countries reported direct economic losses of US$2,908 billion of which climate-related disasters accounted for US$ 2,245 billion or 77% of the total.

This compares with total reported losses for the period 1978-1997 of US$ 1,313 billion of which climate-related disasters accounted for US$895 billion or 68%.

In terms of occurrences, climate-related disasters also dominate the picture, accounting for 91% of all 7,255 major recorded events between 1998 and 2017. Floods, 43.4%, and storms, 28.2%, are the two most frequently occurring disasters.

The greatest economic losses have been experienced by the USA, US$ 944.8 billion; China, US$ 492.2 billion; Japan, US$ 376.3 billion; India, US$ 79.5 billion; and Puerto Rico, US$ 71.7 billion. Storms, floods and earthquakes place three European countries in the top ten for economic losses: France, US$ 48.3 billion; Germany, US$ 57.9 billion; and Italy, US$ 56.6 billion. Thailand, US$ 52.4 billion, and Mexico, US$ 46.5 billion, complete the list.

During this period, 1.3 million people lost their lives and 4.4 billion people were injured, rendered homeless, displaced or in need of emergency assistance. 563 earthquakes, including related tsunamis, accounted for 56% of total deaths or 747,234 lives lost.

The report “Economic Losses, Poverty and Disasters 1998-2017” drills down into the Emergency Events Database (EM-DAT) maintained by the Centre for Research on the Epidemiology of Disasters (CRED) at the Catholic University of Louvain, Belgium.

A key target of the global plan to reduce disaster losses, the Sendai Framework for Disaster Risk Reduction, is to reduce economic losses from disasters and the report highlights the fact that 63% of disaster reports contain no economic data.

Another key highlight is the disproportionate impact of disaster events on low and middle-income countries even if high-income countries bear the brunt of absolute economic losses.

Only one high-income territory ranked among the “top ten” in terms of annual average percentage losses relative to GDP, Puerto Rico, 12.2%. Moving across the globe, the others are Haiti, 17.5%; Honduras, 7%; Cuba, 4.6%; El Salvador, 4.2%; Nicaragua, 3.6%; Georgia, 3.5%; Mongolia, 2.8%; Tajikistan, 2.7%; and DPR Korea, 7.4%.

The UN Secretary-General’s Special Representative for Disaster Reduction, Mami Mizutori, said: “This report highlights key trends over the last 40 years. Much needs to be done to address the high number of deaths in seismic zones. The death and suffering caused by this month’s earthquake and tsunami in Indonesia brings home the need to raise public awareness and to apply high standards for construction in seismic zones.

“The report’s analysis makes it clear that economic losses from extreme weather events are unsustainable and a major brake on eradicating poverty in hazard exposed parts of the world.

“We have to do a much better job of capturing economic loss data if we are to have a fuller understanding of what works when it comes to reducing economic losses, saving lives and livelihoods, and managing disaster risk.”

While high-income countries recorded losses for 53% of reported disasters between 1998 and 2017, low-income countries only recorded them for 13% of disasters.

Professor Debarati Guha-Sapir, head of CRED, commented: “This report highlights the protection gap between rich and poor. Those who are suffering the most from climate change are those who are contributing least to greenhouse gas emissions. The economic losses suffered by low and lower-middle income countries have drastic consequences for their future development.

“Clearly there is great room for improvement in data collection on economic losses but we know from our analysis of the available data using georeferencing that people in low-income countries are six times more likely to lose all their worldly possessions or suffer injury in a disaster than people in high-income countries.”

The report concludes that climate change is increasing the frequency and severity of extreme weather events, and that disasters will continue to be major impediments to sustainable development so long as the economic incentives to build and develop hazard-prone locations outweigh the perceived disaster risks.

“Integrating disaster risk reduction into investment decisions is the most cost-effective way to reduce these risks; investing in disaster risk reduction is therefore a pre-condition for developing sustainable in a changing climate,” the report states”.

Website: https://www.unisdr.org/we/inform/publications/61119

World Risk Report 2018

Focus Child Protection and Children's Rights

From the Press Release:
(https://reliefweb.int/report/world/world-risk-report-2018-focus-child-protection-and-childrens-rights):

“Children are particularly at risk of physical injury and death during disaster resulting from extreme natural events such as earthquakes and cyclones. That’s one of the key findings of the WorldRiskReport 2018 with a focus on “Child Protection and Children’s Rights.” The report was released today, one day before Universal Children’s Day, by Bündnis Entwicklung Hilft and the Institute for International Law of Peace and Armed Conflict (IFHV) of Ruhr University Bochum.

“In the chaos following natural disasters, the rights of young people guaranteed in the Convention on the Rights of the Child are often neglected to the point of criminality,” says Peter Mucke, project head of the WorldRiskReport and Executive Director of Bündnis Entwicklung Hilft. “In extreme situations like these, children require better support, for instance, in the form of child protection centers, where they receive food, care, and education.” Angelika Böhling, Chairwoman of the Board of Directors of Bündnis Entwicklung Hilft, emphasizes: “Children should play an active role not only in overcoming crises, but also in preventing them.”

A key part of the report is dedicated to the WorldRiskIndex 2018, which indicates the risk for 172 countries where an extreme natural event may lead to a disaster. The calculation formula takes into account a country’s exposure towards natural hazards and its societal vulnerability.

“Of the 15 countries with the highest risk, nine are island nations,” says Katrin Radtke, Professor at IFHV and scientific director of the report. “Of the 15 countries with the highest societal vulnerability, 13 are on the African continent.” The IFHV calculated and methodically updated the WorldRiskIndex this year for

the first time. Pierre Thielbörger, Executive Director of IFHV, points to the importance of comparing disaster risks on a global level: “The drought in Europe this summer showed once again that societies’ preparation for extreme natural events is key.”

The WorldRiskReport has been published annually by Bündnis Entwicklung Hilft since 2011. The WorldRiskIndex was developed in collaboration with United Nation University’s Institute for Environment and Human Security (UNU-EHS).”

Website: www.WorldRiskReport.org

Follow-up Report 2018 to the World Bank Unbreakable Report published
Building back better

From the press release:
Source: https://www.worldbank.org/en/news/press-release/2018/06/18/building-back-better-how-to-cut-natural-disaster-losses-by-a-third

"When countries rebuild stronger, faster and more inclusively after natural disasters they can reduce the impact on people's livelihoods and well-being by as much as 31%, potentially cutting global average losses from US$ 555 billion to US$ 382 billion per year. That's the conclusion of a new report from the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR), released today.

The report, Building Back Better: Achieving resilience through stronger, faster and more inclusive post-disaster reconstruction, assesses socioeconomic resilience and the impact of disasters on people's well-being. It covers 149 countries, including 17 small island states, representing 95.5% of the world's population.

It finds that in small island states particularly, better post-disaster recovery and reconstruction efforts can reduce annual losses by an average of 59%.In 10 countries with a high level of risk – Antigua and Barbuda, Dominica, Guatemala, Trinidad and Tobago, Zimbabwe, Myanmar, Belize, Vanuatu, Peru and Angola – better reconstruction would reduce overall losses due to natural disasters by more than 60%.

The report looks at the potential benefits of improving reconstruction so that it minimizes the overall impact of disasters on affected populations, reduces future risks, and boosts resilience. Building on the recent Unbreakable report and its methodology to factor in the higher vulnerability of people living in poverty, the report looks at three dimensions:

- Building back stronger could reduce future well-being losses by ensuring that reconstructed infrastructure and homes resist more intense events. If all

post-disaster assets were designed to resist frequent disasters, annual disaster losses would be reduced by 12 % in 20 years, delivering $65 billion in annual benefits.

- Building back faster after natural disasters could reduce well-being losses by 14 % – equivalent to a US$75 billion gain. These savings are especially important to poor countries facing more frequent shocks, such as small island states and Sub-Saharan African countries.

- Building back more inclusively ensures that post-disaster support reaches all affected people and that no-one is left behind, unable to recover. This would help reduce disaster losses by 9 % – equivalent to a US$ 52 billion gain.

If implemented together – rebuilding stronger, faster, and more inclusively – major benefits totaling US$173 billion per year are possible. While the report largely focuses on stronger, faster, and more inclusive recovery processes, it also stresses that preparation is key to the principle of building back better.

The report reviews many examples of countries – from China to Dominica – that have strengthened their ability to withstand the next natural shock, providing lessons that can be replicated elsewhere to contribute toward a more resilient future."

Report available at:
https://openknowledge.worldbank.org/bitstream/handle/10986/29867/127215.pdf

Unbreakable report available at:
http://documents.worldbank.org/curated/en/512241480487839624/Unbreakable-building-the-resilience-of-the-poor-in-the-face-of-natural-disasters

Global Risks Report 2018 **Published**

From the Press Release:
(Source: http://reports.weforum.org/global-risks-2018/press-release/)

"World Enters Critical Period of Intensified Risks in 2018"

- Structural and interconnected nature of risks in 2018 threaten the very system on which societies, economies and international relations are based, according to *The Global Risks Report 2018*
- The positive economic outlook gives leaders the opportunity to tackle systemic fragility affecting societies, economies, international relations and the environment, according to the report
- Environmental risks dominate the Global Risk Perception Survey for the second year running; when we asked about risk trajectories in the coming year, 59% of answers pointed to increasing risks

The report – which every January shares the perspectives of global experts and decision-makers on the most significant risks that face the world – cautions that we are struggling to keep up with the accelerating pace of change. It highlights numerous areas where we are pushing systems to the brink, from extinction-level rates of biodiversity loss to mounting concerns about the possibility of new wars.

The annual Global Risks Perception Survey (GRPS) suggests that experts are preparing for another year of heightened risk. When we asked nearly 1,000 respondents for their views about the trajectory of risks in 2018, 59% of their answers pointed to an intensification of risks, compared with 7% pointing to declining risks.

A deteriorating geopolitical landscape is partly to blame for the pessimistic outlook in 2018, with 93% of respondents saying they expect political or economic confrontations between major powers to worsen and nearly 80% expecting an increase in risks associated with war involving major powers.

However, as in 2017, the environment was by far the greatest concern raised by experts. Among the 30 global risks the experts were asked to prioritize in terms of likelihood and impact, all five environmental risks – *extreme weather; biodiversity loss and ecosystem collapse; major natural disasters; man-made environmental disasters;* and *failure of climate-change mitigation and adaptation*

– were ranked highly on both dimensions. Extreme weather events were seen as the single most prominent risk.

According to the GRPS, *cyber threats* are growing in prominence, with *large-scale cyberattacks* now ranked third in terms of likelihood, while *rising cyber-dependency* is ranked as the second most significant driver shaping the global risks landscape over the next 10 years.

Economic risks, on the other hand, feature less prominently this year, leading some experts to worry that the improvement in global GDP growth rates may lead to complacency about persistent structural risks in the global economic and financial systems. Even so, inequality is ranked third among the underlying risk drivers, and the most frequently cited interconnection of risks is that between *adverse consequences of technological advances* and *high structural unemployment or under-employment*.

“Future Shocks”

The growing complexity and interconnectedness of our global systems can lead to feedback loops, threshold effects and cascading disruptions. Sudden and dramatic breakdowns – future shocks – become more likely. In this year’s *Global Risks Report* we present 10 short “what-if” scenarios, not as predictions but as food for thought to encourage world leaders to assess the potential future shocks that might rapidly and radically disrupt their worlds:

- **Grim reaping**: Simultaneous breadbasket failures threaten sufficiency of global food supply
- **A tangled web**: Artificial intelligence “weeds” proliferate, choking performance of the internet
- **The death of trade**: Trade wars cascade and multilateral institutions are too weak to respond
- **Democracy buckles**: New waves of populism threaten social order in one or more mature democracies
- **Precision extinction**: AI-piloted drone ships take illegal fishing to new – and even more unsustainable – levels
- **Into the abyss**: Another financial crisis overwhelms policy responses and triggers period of chaos
- **Inequality ingested**: Bioengineering and cognition-enhancing drugs entrench gulf between haves and have-nots
- **War without rules**: State-on-state conflict escalates unpredictably in the absence of agreed cyberwarfare rules
- **Identity geopolitics**: Amid geopolitical flux, national identity becomes a growing source of tension around contested borders

- **Walled off:** Cyberattacks, protectionism and regulatory divergence leads to balkanization of the internet

The Global Risks Report 2018 has been developed with the support throughout the past year of the World Economic Forum's Global Risks Advisory Board. It also benefits from ongoing collaboration with its Strategic Partners Marsh & McLennan Companies and Zurich Insurance Group and its academic advisers at the Oxford Martin School (University of Oxford), the National University of Singapore and the Wharton Risk Management and Decision Processes Center (University of Pennsylvania)."

Report available at:
http://reports.weforum.org/global-risks-2018

3. Book Review

Loss and Damage from Climate Change: Concepts, Methods and Policy Options.

Editors: Mechler, R., Bouwer, L., Schinko, T., Surminski, S., Linnerooth-Bayer, J.
Springer, 2018

There has been a long history of formal and informal deliberations regarding climate justice with reference to sharing the burdens associated with responses to climate change. The focus has predominantly been on climate mitigation responses, yet, over the last few years impact, adaptation and risk issues have moved into the spotlight, to some extent owing to the fact that evidence is mounting that climate change is already having an impact, particularly in terms of affecting extreme events and vulnerable countries. In 2013, the *Warsaw Loss and Damage Mechanism* (WIM) has been set up by climate negotiators at COP 19 for "dealing with climate-related effects, including residual impacts after adaptation." Since then, the WIM has been subject to very contentious debate: While some considered it the 3rd building block of negotiations under the UNFCCC, others saw it merely as an attempt to establish liability, and suggest its remit would be better covered under negotiations dealing with climate adaptation. The UNFCCC in 2014 set up an Executive Committee and devised a work programme to inform the deliberations. The WIM has been finally endorsed at COP as a stand-alone article of the Paris agreement. The exact focus and form of this mechanism is largely unclear and will see heavy debate over the coming years scheduled for developing proposals, whole a first stocktaking is planned for COP 22.

While the UNFCCC work programme will inform deliberations along the terms of reference identified, there is need and scope for more broad-based discussions taking a research focus while aiming to inform policy. A number of promising avenues exist and have been preliminarily identified for taking the debate further, such as focussing on climate risk management and current international efforts for promoting disaster risk management. There have been a few studies reporting on empirical

assessments. Yet, overall a comprehensive assessment exercise to identify the grounds for Loss and Damage (e.g., compared to adaptation), key principles to build on, as well as evidence regarding risk "beyond adaptation" is missing.

The book by Mechler et al. (2018) is a stocktaking exercise highlighting the state of the art of research, political debate and policy options on Loss and Damage and the debate on risks "beyond adaptation." The book is aimed at informing research, policy-making and practice and the public throughout regarding issues related to the WIM. It also goes beyond informing this policy mechanism by providing evidence-based research into the risks "beyond adaptation" faced by individuals communities and countries. The book is composed of 5 sections, including setting the stage with 3 chapters, critical issues for shaping the discourse with 6 chapters, geographic perspectives and cases with 4 chapters, research and practice with 4 chapters, and last but not least policy options and other actions for the L&D discourse consisting of 4 chapters.

The book offers and discusses successfully the multiple perspectives on Loss and Damage, with a particular focus on climate extremes and climate risk management. Importantly, it thoroughly debates the politics and institutional dimensions of the discourse focusing on the principles and definitions of Loss and Damage. This includes important ethical as well as normative aspects which are central to the whole discourse but very often not explicitly stated. It therefore should support the science-policy dialogue on the WIM, with the focus on the identification of practical and evidence-based (e.g. through modelling approaches) policy and implementation options for its operationalisation (e.g. within simulation methods). Given the increased interest in Loss and Damage the book is a very relevant contribution to the science-policy dialogue, with an emphasis on identifying practical and evidence-based policy and implementation options for its operationalisation as well as subsequent use in quantitative risk management approaches.

Website: https://www.springer.com/de/book/9783319720258

4. Conference Announcements

- **16 October – 18 October 2019**
  IDRiM Conference 2019, Knowledge based disaster risk management. Broadening the scope by "smart Territories" for sustainable resilience cities and Organizations.
  The next IDRIM Conference will take place in Nice, France on October 16 -18, 2018. The 2019 annual event for researchers and practitioners in integrated disaster risk management (IDRiM) will focus on the issues of "**Knowledge-based Disaster Risk Management: Broadening the scope by "Smart Territories" for Sustainable and Resilient Cities and Organizations"**. The main themes of "Smart" are related to integrating the "knowledge society and knowledge economy, sustainable development, and social inclusion", with complexity theory, such as, for example, the important role of interconnectivity of networks and feedback effects. How and when this connectivity becomes positive or negative is both a challenge for "hard" sciences (e.g. what are the formal methods that provide valid tools to assess the efficiency of networks, as in see graph theory) and "soft" sciences in the field of risk, resilience and disasters (e.g. participative and deliberative governance frameworks).

- **13 March – 15 March 2019**
  4th Global Summit of Disaster Research Institutes for Disaster Risk Reduction (4GSRIDRR2019); and GADRI General Assembly
  The past Global Summits have continued to maintain an institutional structure advocating importance of engagement in collaborative research activities to accomplish disaster risk reduction and resilience at a global level. The Sendai Framework Agenda for 2030 calls to increase awareness on disaster risk reduction and resilience and implement policies to prevent new risks. What could GADRI do to further promote the 2030 agenda of the Sendai Framework? GADRI are committed to take a coherent and a global approach to disaster risk reduction and resilience through its network of disaster research institutes. The Fourth Global Summit under the theme of "Increasing the effectiveness and relevance of our institutes" will explore: • GADRI contributions to the Science and Technology Roadmap; and

the Tokyo Statement 2017 • Climate change and adaptation - What engagement mechanisms and research linkages are needed in governments, localities, media, etc.? • To what extent are these research directions and SDGs influences or impact the policy-makers? • What are the targeted research areas in DRR? How is disaster research management promoted? • Where are the funding for disaster risk reduction activities coming from and are they invested to right causes and areas that are most needed? Expected Outcomes: • learn from accumulated research knowledge of each research institute • share information on ongoing project activities and Achievements • explore opportunities for collaborative and empirical research activities • develop a statement of actions for various stakeholders in DRR which could be presented at the Global Platform 2019.

Website: http://gadri.net/

- **13 May – 17 May 2019**

  Global Platform for Disaster Risk Reduction

  The sixth Session of the Global Platform for Disaster Risk Reduction (GP2019) will take place in Geneva, Switzerland from 13 to 17 May, 2019, convened and organized by the UN Office for Disaster Risk Reduction (UNISDR) and hosted by the Government of Switzerland. The session will be co-chaired by Switzerland and UNISDR. It will represent the next important opportunity for the international community to boost the implementation of the Sendai Framework and related Sustainable Development Goals of the 2030 Agenda, as well as commitments of the Paris Climate Agreement. It will be the last global gathering for all stakeholders before the deadline for the achievement of Target E of the Sendai Framework: Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020. The GP2019 will be organized under the overall theme entitled: Resilience Dividend: Towards Sustainable and Inclusive Societies. It will focus on how managing disaster risk and risk-informed development investments pay dividends in multiple sectors at all levels and throughout social, economic, financial and environmental fields.

  Website: https://www.unisdr.org/conference/2019/globalplatform

- **25 September – 27 September 2019**
  6th International Conference on Disaster Management and Human Health Risk: Reducing Risk, Improving Outcomes
  The International Conference on Disaster Management is being reconvened following the success of the previous meetings, held at Wessex Institute in the New Forest in 2009, the University of Central Florida in Orlando, USA in 2011, A Coruña, Spain in 2013, Istanbul Technical University, Turkey in 2015 and Seville, Spain, 2017. This series of conferences originated with the need for academia and practitioners to exchange knowledge and experience on the way to handle the increasing risk of natural and human-made disasters. Recent major earthquakes, tsunamis, hurricanes, floods and other natural phenomena have resulted in huge losses in terms of human life and property destruction. A new range of human-made disasters have afflicted humanity in modern times; terrorist activities have been added to more classical disasters such as those due to the failure of industrial installations for instance.It is important to understand the nature of these global risks to be able to develop strategies to prepare for these events and plan effective responses in terms of disaster management and the associated human health impacts. The conference provides a forum for the exchange of information between academics and practitioners, and a venue for presentation of the latest developments. The corresponding volume of WIT Transactions containing the papers presented at the meetings are published in paper and digital format and widely distributed around the world. The papers are also archived in the WIT elibrary (www.witpress.com/elibrary) where they are available to the international community.

  Website: https://www.wessex.ac.uk/conferences/2019/disaster-management-2019

5. Internet Resource List

- Global Alliance of Disaster Research Institutes
  http://www.gadri.net/

- Emergency Events Database EM-DAT
  http://www.emdat.be/

- World Economic Forum Database
  http://reports.weforum.org/

- Global Assessment Report and UNISDR
  https://www.unisdr.org/we/inform/gar

- Munich NatCatService
  http://www.munichre.com/en/reinsurance/business/non-life/natcatservice/index.html

- Global Disaster Watch
  http://globaldisasterwatch.blogspot.co.at/

- RSOE EDIS - Emergency and Disaster Information Service
  http://hisz.rsoe.hu/alertmap/index2.php

- GDACS - Global Disaster Alert and Coordination System
  http://www.gdacs.org/

- Pacific Disaster Center
  http://www.pdc.org/

- Global Assessment Report on Disaster Risk Reduction 2013:
  http://www.preventionweb.net/english/hyogo/gar/2013/en/home/index.html

- United Nations Office for Disaster Risk Reduction. Global Assessment Report (GAR):
  http://www.unisdr.org/we/inform/gar

- PreventionWeb: Serving the information needs of the disaster reduction community:
  http://www.preventionweb.net/english/.

- Disaster Reduction Hyper base: Web based facility to compile appropriate disaster reduction technologies and knowledge.

http://drh.edm.bosai.go.jp/

- MCEER: Collection of disaster management resources, including international, federal, state, local and non-profit organizations: http://mceer.buffalo.edu/infoservice/reference_services/disasterManagementResources.asp

- Staffordshire Raynet: Disaster and Emergency Management on the Internet. Long list of websites for various disasters and databases. http://www.keele.ac.uk/depts/por/disaster.htm

- Internet Resources for Disaster Studies: University of Delaware Library http://www2.lib.udel.edu/subj/disasters/internet.htm

- FEMA Federal Emergency Management Agency: Focus is on the US http://www.fema.gov/index.shtm

- EDEN - Extension Disaster Education Network: Reducing the Impact of Disasters Through Education http://eden.lsu.edu/EDENCourses/Pages/default.aspx

- Disaster Handbook: University of Florida. http://disaster.ifas.ufl.edu/links.htm

- Disaster Management: Royal Roads University. http://libguides.royalroads.ca/content.php?pid=64941&sid=480216

- Natural Hazards and Disaster Information Resources: University of Colorado at Boulder (including newsletter). http://www.colorado.edu/hazards/resources/

- Center for Excellence in Disaster Management and Humanitarian Assistance https://www.cfe-dmha.org/

- Humanitarian Library http://www.humanitarianlibrary.org/

- UNHCR: Emergency Handbook https://emergency.unhcr.org/

- ProVention Consortium: Working in Partnership to Build Safer Communities and Reduce Disaster Risk http://www.proventionconsortium.net/?pageid=29

6. Disaster Related Journals

- **Journal of Integrated Disaster Risk Management, IDRIM Journal**
  http://idrimjournal.com/index.php/idrim

- **Economics of Disasters and Climate Change**
  http://www.springer.com/economics/environmental/journal/41885

- **Journal of Extreme Events**
  http://www.worldscientific.com/worldscinet/joee

- **Weather and Climate Extremes**
  http://www.journals.elsevier.com/weather-and-climate-extremes/

- **Climate Risk Management**
  http://ees.elsevier.com/clrm/

- **Journal of Geography & Natural Disasters**
  http://www.omicsgroup.org/journals/jgndhome.php

- **Disaster Health**
  http://www.landesbioscience.com/journals/disasterhealth/

- **International Journal of Disaster Risk Reduction (IJDRR)**
  http://www.elsevier.com/wps/find/journaldescription.cws_home/727506/description#description

- **Journal of Contingencies and Crisis Management**
  http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-5973

- **Australasian Journal of Disaster and Trauma Studies**
  http://www.massey.ac.nz/~trauma/welcome.shtml

- **Jàmbá: Journal of Disaster Risk Studies**
  http://www.jamba.org.za/index.php/jamba/index

- **Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards**
  http://www.tandf.co.uk/journals/journal.asp?issn=17499518&linktype=1

- **Current Opinion in Environmental Sustainability**
  http://www.elsevier.com/wps/find/journaldescription.cws_home/718675/description#description

- **International Journal of Risk Management (IJRM)**http://www.serialspublications.com/journals1.asp?jid=583

- **International Journal of Safety and Security Engineering:** http://journals.witpress.com/jsse.asp

- **Global Environmental Change** http://www.elsevier.com/wps/find/journaldescription.cws_home/30425/description#description

- **Journal of Homeland Security and Emergency Management** http://www.bepress.com/jhsem/about.html

- **Journal of Emergency Management** http://www.pnpco.com/pn06001.html

- **International Journal of Disaster Resilience in the Built Environment** http://www.emeraldinsight.com/products/journals/journals.htm?id=IJDRBE

- **Regional Environmental Change** http://www.springer.com/environment/global+change+-+climate+change/journal/10113

- **Natural Hazards Review** http://ascelibrary.org/nho/

- **Journal of Risk Analysis and Crisis Response** http://www.atlantis-press.com/publications/jracr/index.html

- **Environmental Hazards** http://www.earthscan.co.uk/?tabid=37213

- **International Journal of Climate Change Strategies and Management (IJCCSM):** www.emeraldinsight.com/products/journals/journals.htm?id=ijccsm

- **Journal of Natural Disaster Science**http://wwwsoc.nii.ac.jp/jsnds/contents/jnds/about.html

- **Disasters** http://www.wiley.com/bw/journal.asp?ref=0361-3666&site=1

- **Environmental Hazards**

http://www.earthscan.co.uk/?tabid=37213

- **Natural Hazards**
  www.springer.com/earth+sciences+and+geography/hydrogeology/journal/11069

- **Mitigation and Adaptation Strategies for Global Environmental Change**
  http://www.springer.com/earth+sciences+and+geography/meteorology+%26+climatology/journal/11027

- **Extremes**
  http://www.springer.com/statistics/journal/10687

- **International Journal of Disaster Resilience in the Built Environment**
  http://www.disaster-resilience.salford.ac.uk/international-journal-of-disaster-resilience

- **Journal of Disaster Research**
  http://www.fujipress.jp/JDR/JDR_about.html

- **Asian Journal of Environment and Disaster Management (AJEDM)**
  http://rpsonline.com.sg/journals/101-ajedm/ajedm.html

- **International Journal of Disaster Risk Science**
  http://www.springer.com/13753

- **Disaster Advances**
  http://www.disasterjournal.net/

- **International Journal of Mass Emergencies & Disasters**
  http://www.ijmed.org/

- **International Journal of Disaster Recovery and Business Continuity**
  http://www.sersc.org/journals/IJDRBC/

- **Disaster Prevention and Management**
  http://www.emeraldinsight.com/products/journals/journals.htm?id=dpm

- **Risk Analysis**
  http://www.blackwellpublishing.com/journal.asp?ref=0272-4332&site=1

- **Journal of Risk Research**
  http://www.tandf.co.uk/journals/journal.asp?issn=13669877&linktype=1

- **International Journal of Risk Assessment and Management (IJRAM)**
  http://www.inderscience.com/browse/index.php?journalID=24

7. New Books

The Sociotechnical Constitution of Resilience

Authors: Amir, Sulfikar (Ed.)
Year: 2018
Publisher: Palgrave Macmillan
ISBN: 978-981-10-8508-6
Content: This book considers the concept of resilience in a global society where coping with the consequence and long term impact of crisis and disaster challenges the capacity of communities to bounce back in the event of severe disruption. Catastrophic events such as the 9.11 terrorist attack, the Fukushima nuclear disaster, and the volcano eruption in Central Java entailed massive devastation on physical infrastructures, and caused significant social and economic damage. This book considers how the modern sociotechnological system facilitating human activity defines how societies survive and whether a crisis will be short-lived or prolonged. Drawing on the concept of sociotechnical resilience, this book closely examines a range of events North America, Asia, Australia, and Europe. By presenting the successes and failures of sociotechnical resilience, it offers important insights and practical lessons to build better and comprehensive understandings of resilience in a real-world setting, significantly contributing to the study of disaster resilience.

Natural Hazards GIS-based Spatial Modeling Using Data Mining Techniques

Authors: Pourghasemi, Hamid Reza, Rossi, Mauro (Eds.)
Year: 2018
Publisher: Springer International Publishing
ISBN: 978-3-319-73382-1
Content: This edited volume assesses capabilities of data mining algorithms for spatial modeling of natural hazards in different countries based on a collection of essays written by experts in the field. The book is organized into three parts which were under the editorial responsibility of different section editors: (1) Geophysical disasters, (2) Hydrological disasters, and (3) climatological disaster. The first part consists of landslides and earthquake (seismic) disasters. The second part includes flash flood, erosion, and land subsidence research. The final part focuses on climate change, forest fire, land fire, and drought subjects. Chapters were peer-reviewed by recognized scholars in the field of natural hazards research. Each chapter provides an overview on the topic, methods applied and discusses examples used. The concepts and methods are explained at a level that allows undergraduates to understand and other readers learn through examples. This edited volume is shaped and structured to provide the reader with a comprehensive overview of all covered topics. It serves as a reference for researchers from different fields including land surveying, remote sensing, cartography, GIS, geophysics, geology, natural resources, and

geography. It also serves as a guide for researchers, students, organizations, and decision makers active in land use planning and hazard management.

Urban Resilience for Risk and Adaptation Governance

Authors: Brunetta, G., Caldarice, O., Tollin, N., Rosas-Casals, M., Morató, J. (Eds.)
Year: 2018
Publisher: Springer International Publishing
ISBN: 978-3-319-76943-1
Content: This book brings together a series of theory and practice essays on risk management and adaptation in urban contexts within a resilient and multidimensional perspective. The book proposes a transversal approach with regard to the role of spatial planning in promoting and fostering risk management as well as institutions' challenges for governing risk, particularly in relation to new forms of multi-level governance that may include stakeholders and citizen engagement. The different contributions focus on approaches, policies, and practices able to contrast risks in urban systems generating social inclusion, equity and participation through bottom-up governance forms and co-evolution principles. Case studies focus on lessons learned, as well as the potential and means for their replication and upscaling, also through capacity building and knowledge transfer. Among many other topics, the book explores difficulties encountered in, and creative solutions found, community and local experiences and capacities, organizational processes and integrative institutional, technical approaches to risk issue in cities.

Advances in Indian Earthquake Engineering and Seismology

Authors: Sharma, M.L., Shrikhande, Manish, Wason, H.R. (Eds.)
Year: 2018
Publisher: Springer International Publishing
ISBN: 978-3-319-76854-0
Content: This edited volume is an up-to-date guide for students, policy makers and engineers on earthquake engineering, including methods and technologies for seismic hazard detection and mitigation. The book was written in honour of the late Professor Jai Krishna, who was a pioneer in teaching and research in the field of earthquake engineering in India during his decades-long work at the University of Roorkee (now the Indian Institute of Technology Roorkee). The book comprehensively covers the historical development of earthquake engineering in India, and uses this background knowledge to address the need for current advances in earthquake engineering, especially in developing countries. After discussing the history and growth of earthquake engineering in India from the past 50 years, the book addresses the present status of earthquake engineering in regards to the seismic resistant designs of bridges, buildings, railways, and other infrastructures. Specific topics include response spectrum superposition methods, design philosophy, system identification approaches, retaining walls, and shallow foundations. Readers will learn about

developments in earthquake engineering over the past 50 years, and how new methods and technologies can be applied towards seismic risk and hazard identification and mitigation.

Big Data in Engineering Applications

Authors: Roy, S.S., Samui, P., Deo, R., Ntalampiras, S. (Eds.)
Year: 2018
Publisher: Springer Singapore
ISBN: 978-981-10-8475-1
Content: This book presents the current trends, technologies, and challenges in Big Data in the diversified field of engineering and sciences. It covers the applications of Big Data ranging from conventional fields of mechanical engineering, civil engineering to electronics, electrical, and computer science to areas in pharmaceutical and biological sciences. This book consists of contributions from various authors from all sectors of academia and industries, demonstrating the imperative application of Big Data for the decision-making process in sectors where the volume, variety, and velocity of information keep increasing. The book is a useful reference for graduate students, researchers and scientists interested in exploring the potential of Big Data in the application of engineering areas.

Communicating Climate Change Information for Decision-Making

Authors: Serrao-Neumann, Silvia, Coudrain, Anne, Coulter, Liese (Eds.)
Year: 2018
Publisher: Springer International Publishing
ISBN: 978-3-319-74668-5
Content: This book provides important insight on a range of issues focused on three themes; what new climate change information is being developed, how that knowledge is communicated and how it can be usefully applied across international, regional and local scales. There is increasing international investment and interest to develop and communicate updated climate change information to promote effective action. As change accelerates and planetary boundaries are crossed this information becomes particularly relevant to guide decisions and support both proactive adaptation and mitigation strategies. Developing new information addresses innovations in producing interdisciplinary climate change knowledge and overcoming issues of data quality, access and availability. This book examines effective information systems to guide decision-making for immediate and future action. Cases studies in developed and developing countries illustrate how climate change information promotes immediate and future actions across a range of sectors.

Disasters Without Borders: The International Politics of Natural Disasters

Authors: John Hannigan
Year: 2018
Publisher: Wiley
ISBN: 978-0-745-66311-1
Content: Dramatic scenes of devastation and suffering caused by disasters such as the 2011 Japanese earthquake and tsunami, are viewed with shock and horror by millions of us across the world. What we rarely see, however, are the international politics of disaster aid, mitigation and prevention that condition the collective response to natural catastrophes around the world. In this book, respected Canadian environmental sociologist John Hannigan argues that the global community of nations has failed time and again in establishing an effective and binding multilateral mechanism for coping with disasters, especially in the more vulnerable countries of the South. Written in an accessible and even-handed manner, Disasters without Borders it is the first comprehensive account of the key milestones, debates, controversies and research relating to the international politics of natural disasters. Tracing the historical evolution of this policy field from its humanitarian origins in WWI right up to current efforts to cast climate change as the prime global driver of disaster risk, it highlights the ongoing mismatch between the way disaster has been conceptualised and the institutional architecture in place to manage it. The book's bold conclusion predicts the confluence of four emerging trends - politicisation/militarisation, catastrophic scenario building, privatisation of risk, and quantification, which could create a new system of disaster management wherein 'insurance logic' will replace humanitarian concern as the guiding principle. *Disasters Without Borders* is an ideal introductory text for students, lecturers and practitioners in the fields of international development studies, disaster management, politics and international affairs, and environmental geography/sociology.

The Asian Tsunami and Post-Disaster Aid

Authors: Sunita Reddy
Year: 2018
Publisher: Springer
ISBN: 978-9811301810
Content: Through the lens of the Asian tsunami, this book problematizes concepts that are normally taken for granted in disaster discourse, including relief, recovery, reconstruction and rehabilitation. The unprecedented flow of humanitarian aid after the Asian tsunami, though well-intentioned, showed adverse effects and unintended consequences in the lives of people in the communities across nations. Aid led not only to widespread relief and recovery but also to an exacerbation of old forms of inequities and the creation of new ones arising from the prioritization, distribution and management of aid. This, in turn, led to the incongruity between the needs and expectations of the affected and the agendas of aid agencies and their various intermediaries. This book examines the long-term consequences of post-disaster aid by posing the

following questions: What has the aid been expended on? Where has the aid primarily been expended, and how? And what were the unintended consequences of post-disaster aid for the communities? This topical volume is of interest to social scientists, human rights and law researchers and environmental scientists interested in disaster studies.

Disaster Risk Reduction: Community Resilience and Responses

Authors: Bupinder Zutshi, Akbaruddin Ahmad, Ananda Babu Srungarapati Year: 2018

Publisher: Palgrave Macmillan

ISBN: 978-9811088445

Content: This book discusses the interconnected, complex and emerging risks in today's societies and deliberates on the various aspects of disaster risk reduction strategies especially through community resilience and responses. It consists of selected papers presented at the World Congress on Disaster Management, which focused on community resilience and responses towards disaster risk reduction based on South Asian experiences, and closely examines the coordinated research activities involving all stakeholders, especially the communities at risk. Further, it narrates the experiences of disaster risk-reduction in different communities that have policy implications for mitigation of future disaster risks in the societies affected by these types of disasters. Written from the social science perspective to disasters rather than an engineering approach, the book helps development and governance institutions to prioritize disasters as a problem of development rather than being parallel to it.

Implementing Climate Change Adaptation in Cities and Communities: Integrating Strategies and Educational Approaches

Authors: Walter Leal Filho, Kathryn Adamson, Rachel M Dunk

Year: 2018

Publisher: Springer

ISBN: 978-3319803821

Content: This book analyzes how climate change adaptation can be implemented at the community, regional and national level. Featuring a variety of case studies, it illustrates strategies, initiatives and projects currently being implemented across the world. In addition to the challenges faced by communities, cities and regions seeking to cope with climate change phenomena like floods, droughts and other extreme events, the respective chapters cover topics such as the adaptive capacities of water management organizations, biodiversity conservation, and indigenous and climate change adaptation strategies. The book will appeal to a broad readership, from scholars to policymakers, interested in developing strategies for effectively addressing the impacts of climate change.

Loss and Damage from Climate Change: Concepts, Methods and Policy Options

Authors: Mechler R. et al.
Year: 2018
Publisher: Springer
ISBN: 978-3319720258
Content: This book provides an authoritative insight on the Loss and Damage discourse by highlighting state-of-the-art research and policy linked to this discourse and articulating its multiple concepts, principles and methods. Written by leading researchers and practitioners, it identifies practical and evidence-based policy options to inform the discourse and climate negotiations. With climate-related risks on the rise and impacts being felt around the globe has come the recognition that climate mitigation and adaptation may not be enough to manage the effects from anthropogenic climate change. This recognition led to the creation of the Warsaw International Mechanism on Loss and Damage in 2013, a climate policy mechanism dedicated to dealing with climate-related effects in highly vulnerable countries that face severe constraints and limits to adaptation. Endorsed in 2015 by the Paris Agreement and effectively considered a third pillar of international climate policy, debate and research on Loss and Damage continues to gain enormous traction. Yet, concepts, methods and tools as well as directions for policy and implementation have remained contested and vague. Suitable for researchers, policy-advisors, practitioners and the interested public, the book furthermore: discusses the political, legal, economic and institutional dimensions of the issue, highlights normative questions central to the discourse, provides a focus on climate risks and climate risk management, presents salient case studies from around the world.

Economic Consequence Analysis of Disasters: The E-CAT Software Tool

Authors: Rose, A., Prager, F., Chen, Z., Chatterjee, S., Wei, D., Heatwole, N., Warren, E.
Year: 2017
Publisher: Springer Singapore
ISBN: 978-981-10-2566-2
Content: This study develops a methodology for rapidly obtaining approximate estimates of the economic consequences from numerous natural, man-made and technological threats. This software tool is intended for use by various decision makers and analysts to obtain estimates rapidly. It is programmed in Excel and Visual Basic for Applications (VBA) to facilitate its use. This tool is called E-CAT (Economic Consequence Analysis Tool) and accounts for the cumulative direct and indirect impacts (including resilience and behavioral factors that significantly affect base estimates) on the U.S. economy. E-CAT is intended to be a major step toward advancing the current state of economic consequence analysis (ECA) and also contributing to and developing interest in further research into complex but rapid turnaround approaches.
The essence of the methodology involves running numerous simulations in a computable general equilibrium (CGE) model for each threat, yielding synthetic

data for the estimation of a single regression equation based on the identification of key explanatory variables (threat characteristics and background conditions). This transforms the results of a complex model, which is beyond the reach of most users, into a "reduced form" model that is readily comprehensible. Functionality has been built into E-CAT so that its users can switch various consequence categories on and off in order to create customized profiles of economic consequences of numerous risk events. E-CAT incorporates uncertainty on both the input and output side in the course of the analysis.

Defining and Measuring Economic Resilience from a Societal, Environmental and Security Perspective

Authors: Rose, Adam
Year: 2017
Publisher: Springer Singapore
ISBN: 978-981-10-1532-8
Content: This volume presents an economic framework for the analysis of resilience in relation to societal, environmental, and personal security perspectives. It offers a rigorous definition of economic resilience and an operational metric, and it shows how they can be applied to measuring and applying the concept to private and public decision making. Major dimensions of resilience and their implications for human development are explored. Resilience is emphasized as a coping mechanism for dealing with short-term crises, such as natural disasters and acts of terrorism. As well, the author shows how lessons learned in the short-run out of necessity and through the application of human ingenuity can be incorporated into long-run sustainability practices. In part, this opportunity stems from viewing resilience as a process, one that enhances individual and societal competencies. The book links economic resilience to several other disciplines and examines the relationship between resilience and various other key concepts such as vulnerability, adaptation, and sustainability. It scrutinizes the measurement of economic resilience in terms of temporal, spatial, and scale dimensions. It examines the time-path of resilience and relates it to the recovery process. This work also looks closely at progress on the formulation of resilience indices and stresses the importance of actionable variables. It presents a risk-management framework, including aspects of cost-effectiveness and cost-benefit analysis. Additionally, it explores the role of resilience in relation to the co-benefits of disaster risk management.

Risk Modeling for Hazards and Disasters

Authors: Gero Michel (Editor)
Year: 2017
Publisher: Elsevier
ISBN: 0128040718

Content: Risk Modeling for Hazards and Disasters covers all major aspects of catastrophe risk modeling, from hazards through to financial analysis. It explores relevant new science in risk modeling, indirect losses, assessment of impact and consequences to insurance losses, and current changes in risk modeling practice, along with case studies. It also provides further insight into the shortcomings of current models and examines model risk and ideas to diversify risk assessment. Risk Modeling for Hazards and Disasters instructs readers on how to assess, price and then hedge the losses from natural and manmade catastrophes. This book reviews current model development and science and explains recent changes in the catastrophe modeling space, including new initiatives covering uncertainty and big data in the assessment of risk for insurance pricing and portfolio management. Edited by a leading expert in both hazards and risk, this book is authored by a global panel including major modeling vendors, modeling consulting firms, and well-known catastrophe modeling scientists. Risk Modeling for Hazards and Disasters provides important insight into how models are used to price and manage risk. Includes high profile case studies such as the Newcastle earthquake, Hurricane Andrew and Hurricane Katrina. Provides crucial information on new ideas and platforms that will help address the new demands for risk management and catastrophe risk reporting. Presents the theory and practice needed to know how models are created and what is and what is not important in the modeling process. Covers relevant new science in risk modeling, indirect losses, assessment of impact and consequences to insurance losses, and current changes in risk modeling practice, along with case studies

Natural Catastrophe Risk Management and Modelling: A Practitioner's Guide

Authors: Kirsten Mitchell-Wallace (Author), Matthew Jones (Author), John Hillier (Author), Matthew Foote (Author)
Year: 2017
Publisher: Wiley-Blackwell
ISBN: 1118906047
Content: This book covers both the practical and theoretical aspects of catastrophe modelling for insurance industry practitioners and public policymakers. Written by authors with both academic and industry experience it also functions as an excellent graduate-level text and overview of the field. Ours is a time of unprecedented levels of risk from both natural and anthropogenic sources. Fortunately, it is also an era of relatively inexpensive technologies for use in assessing those risks. The demand from both commercial and public interests—including (re)insurers, NGOs, global disaster management agencies, and local authorities—for sophisticated catastrophe risk assessment tools has never been greater, and contemporary catastrophe modelling satisfies that demand. Combining the latest research with detailed coverage of state-of-the-art catastrophe modelling techniques and technologies, this book delivers the knowledge needed to use, interpret, and build catastrophe models, and provides greater insight into catastrophe modelling’s enormous potential and possible

limitations. The first book containing the detailed, practical knowledge needed to support practitioners as effective catastrophe risk modellers and managers. Includes hazard, vulnerability and financial material to provide the only independent, comprehensive overview of the subject, accessible to students and practitioners alike. Demonstrates the relevance of catastrophe models within a practical, decision-making framework and illustrates their many applications. Includes contributions from many of the top names in the field, globally, from industry, academia, and government. Natural Catastrophe Risk Management and Modelling: A Practitioner's Guide is an important working resource for catastrophe modelling analysts and developers, actuaries, underwriters, and those working in compliance or regulatory functions related to catastrophe risk. It is also valuable for scientists and engineers seeking to gain greater insight into catastrophe risk management and its applications.

Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes

Authors: Edward A. Keller (Author), Duane E. DeVecchio (Author) Year: 2017

Publisher: Routledge

ISBN: 1138090867

Content: Natural Hazards: Earth Processes as Hazards, Disasters and Catastrophes, Fourth Edition, is an introductory-level survey intended for university and college courses that are concerned with earth processes that have direct, and often sudden and violent, impacts on human society. The text integrates principles of geology, hydrology, meteorology, climatology, oceanography, soil science, ecology and solar system astronomy. The book is designed for a course in natural hazards for non-science majors, and a primary goal of the text is to assist instructors in guiding students who may have little background in science to understand physical earth processes as natural hazards and their consequences to society. Natural Hazards uses historical to recent examples of hazards and disasters to explore how and why they happen and what we can do to limit their effects. The text's up-to-date coverage of recent disasters brings a fresh perspective to the material. The Fourth Edition continues our new active learning approach that includes reinforcement of learning objective with a fully updated visual program and pedagogical tools that highlight fundamental concepts of the text. This program will provide an interactive and engaging learning experience for your students. Here's how: Provide a balanced approach to the study of natural hazards: Focus on the basic earth science of hazards as well as roles of human processes and effects on our planet in a broader, more balanced approach to the study of natural hazards. Enhance understanding and comprehension of natural hazards: Newly revised stories and case studies give students a behind the scenes glimpse into how hazards are evaluated from a scientific and human perspective; the stories of real people who survive natural hazards, and the lives and research of professionals who have contributed significantly to the research of hazardous events.ã Strong pedagogical tools reinforce the text's core features: Chapter structure and design

organizes the material into three major sections to help students learn, digest, and review learning objectives.

Natech Risk Assessment and Management , 1st Edition, Reducing the Risk of Natural-Hazard Impact on Hazardous Installations

Authors: Elisabeth Krausmann, Ana Cruz, Ernesto Salzano
ISBN: 9780128038079
eBook ISBN: 9780128038796
Imprint: Elsevier
Content: In March 2011 the whole world watched in shock when a tsunami slammed into a nuclear power plant, causing a nuclear meltdown and raising the spectre of nuclear contamination. Raging fires and explosions at oil refineries in the wake of the massive earthquake that triggered the tsunami also made the global headlines. These events clearly demonstrate the potential for natural hazards to trigger fires, explosions, and toxic or radioactive releases from industrial activities that process, store or transport hazardous materials. These technological “secondary effects” caused by natural hazards are also called “Natech” accidents. Elsevier has recently published the book “Natech risk assessment and management – Reducing the risk of natural-hazard impact on hazardous installations” which was co-authored by the European Commission’s Joint Research Centre, Kyoto University and Bologna University, with a number of chapter contributions by other institutions. It covers the entire spectrum of issues pertinent to Natech risk assessment and management, and teaches engineers, safety managers and decision makers how to safeguard hazardous installations and pipelines against the impact of natural disasters. After a thorough introduction of the topic, the book discusses various examples of national and international frameworks for major accident prevention and preparedness and provides a detailed view of the implementation of Natech risk management in the EU and OECD. The book also includes a dedicated chapter on natural-hazard characterization and measurement from an engineering perspective, as well as a discussion of selected Natech accidents, including recent ones, and specific lessons learned from each. An important part of the book is dedicated to Natech risk assessment and it provides an analysis of all essential elements of the assessment process, as well as a presentation of available support tools. The final section of the book addresses the reduction of Natech risk, including structural and organizational prevention and mitigation measures, as well as early warning issues and emergency planning. The book is available directly from Elsevier or other major book sellers: http://store.elsevier.com/Natech-Risk-Assessment-and-Management/Elisabeth-Krausmann/isbn-9780128038079/

The Economics of the Global Environment: Catastrophic Risks in Theory and Policy

Authors: Graciela Chichilnisky (Editor), Armon Rezai (Editor)
Year: 2017
Publisher: Springer
ISBN: 978-3319319414
Content: This is the first book combining research on the Global Environment, Catastrophic Risks and Economic Theory and Policy. Modern economic theory originated in the middle of the twentieth century when industrial expansion coupled with population growth led to a voracious use of natural resources and global environmental concerns. It is uncontested that, for the first time in recorded history, humans dominate the planet, changing the planet's atmosphere, its bodies of water, and the complex web of species that makes life on earth. This radical change in circumstances led to rethinking of the foundations of human organization and, in particular, the industrial economy and the economic theory behind it. This book brings together new approaches on multiple levels: environmental sustainability requires rethinking in terms of economic theory and policy as well as the considerations of catastrophic risk and extremal events. Leading experts address questions of economic governance, risk management, policy decision making and distribution across time and space.

Already listed new books in previous newsletters with publication date between 2015 and 2017:

Climate Hazard Crises in Asian Societies and Environments

Authors: Troy Sternberg
Year: 2017
Publisher: Routledge
ISBN: 978-92-9257-475-8

Rebuilding Fukushima

Authors: Mitsuo Yamakawa (Editor), Daisaku Yamamoto (Editor)
Year: 2017
Publisher: Routledge
ISBN: 978-1138193796

Climate Change and Natural Disasters: Transforming Economies and Policies for a Sustainable Future

Authors: Vinod Thomas (Author)
Year: 2017
Publisher: Transaction Publishers
ISBN: 978-1412864404

Flood Risk Management and Response

Authors: D. Proverbs (Author, Editor), C. A. Brebbia (Editor)
Year: 2016
Publisher: WIT Press / Computational Mechanics
ISBN: 978-1784662417

Natural Disaster Risk Management: Geosciences and Social Responsibility

Authors: Ulrich Ranke (Author)
Year: 2016
Publisher: Springer
ISBN: 978-1784662417

Reducing Disaster Risk by Managing Urban Land Use: Guidance Notes for Planners

Authors:
Year: 2016
Publisher: Asian Development Bank
ISBN: 978-92-9257-475-8

Huge levels of aid are spent on reconstructing housing after disasters. Have these houses Still Standing?: Looking Back at Reconstruction and Disaster Risk Reduction in Housing

Authors: Theo Schilderman (Editor), Eleanor Parker (Editor)
Year: 2016
Publisher: Practical Action
ISBN: 185339839X

Ecosystem-Based Disaster Risk Reduction and Adaptation in Practice

Authors: Fabrice G. Renaud (Editor), Karen Sudmeier-Rieux (Editor), Marisol Estrella (Editor), Udo Nehren (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319436317

Disasters: Learning the Lessons for a Safer World

Authors: David Eves
Year: 2016
Publisher: Routledge
ISBN: 1138144231

Identifying Emerging Issues in Disaster Risk Reduction, Migration, Climate Change and Sustainable Development: Shaping Debates and Policies

Authors: Karen Sudmeier-Rieux (Editor), Manuela Fernández (Editor), Ivanna Penna (Editor), Michel Jaboyedoff (Editor), JC Gaillard (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319338781

Urban Resilience: A Transformative Approach

Authors: Yoshiki Yamagata (Editor), Hiroshi Maruyama (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319398105

Climate Change Adaptation, Resilience and Hazards

Authors: Walter Leal Filho (Editor), Haruna Musa (Editor), Gina Cavan (Editor), Paul O'Hare (Editor), Julia Seixas (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319398792

Disaster Risk Reduction and the Global System: Ruminations on a Way Forward

Authors: Michael Gordy (Author)
Year: 2016
Publisher: Springer
ISBN: 3319416669

Natural Disasters in China

Authors: Peijun Shi (Editor)
Year: 2016
Publisher: Springer
ISBN: 3662502682

Disaster Risk Reduction: Cases from Urban Africa

Authors: Mark Pelling and Ben Wisner
Year: 2016
Publisher: Routledge
ISBN: 1138002054

Mathematics Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies

Authors: N. Janardhana Raju (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319186620

National Flood Insurance: Management and Accountability in the Wake of Superstorm Sandy

Authors: Brenda Murphy (Editor)
Year: 2016
Publisher: Nova Science Pub Inc
ISBN: 1634843797
Content: -

Estimating Fatality Rates for Earthquake Loss Models

Authors: Emily So (Author)
Year: 2016
Publisher: Springer
ISBN: 3319268376

Resilience by Design

Authors: Alexandra Jayeun Lee (Author)
Year: 2016
Publisher: Springer
ISBN: 3319306391

Disaster Resilience After Hurricane Sandy: Enhancement Efforts, Use of Funds, and National Mitigation Framework

Authors: Johnathan Carr (Editor)
Year: 2016
Publisher: Nova Science Pub Inc
ISBN: 1634846451
Content: -

Implementing Climate Change Adaptation in Cities and Communities: Integrating Strategies and Educational Approaches

Authors: Walter Leal Filho (Editor), Kathryn Adamson (Editor), Rachel Dunk (Editor), Ulisses M. Azeiteiro (Editor), Sam Illingworth (Editor), Fatima Alves (Editor)
Year: 2016
Publisher: Springer

ISBN: 3319285890

Extreme Weather, Health, and Communities: Interdisciplinary Engagement Strategies
Authors: Sheila Lakshmi Steinberg (Editor), William Sprigg (Editor)
Year: 2016
Publisher: Springer
ISBN: 3319306243

Disaster Resilience of Education Systems: Experiences from Japan
Authors: Koichi Shiwaku (Editor), Aiko Sakurai (Editor), Rajib Shaw (Editor)
Year: 2016
Publisher: Springer
ISBN: 4431559809

The Handbook of Disaster and Emergency Policies and Institutions
Authors: John Handmer (Author), Stephen Dovers (Author)
Year: 2016
Publisher: Routledge
ISBN: 113897188X

Managing Extreme Climate Change Risks through Insurance
Authors: W. J. Wouter Botzen (Editor)
Year: 2016
Publisher: Cambridge University Press
ISBN: 1316600882

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Chakraborty, A., Ibrahim, A., & Cruz, A. M. (2018). A study of accident investigation methodologies applied to the Natech events during the 2011 Great East Japan earthquake. *Journal of Loss Prevention in the Process Industries*, *51*, 208-222.

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Hochrainer-Stigler S, Pflug G , Dieckmann U , Rovenskaya E, Thurner S, Poledna S, Boza G, Linnerooth-Bayer J, and Brännström A. (2018). Integrating Systemic Risk and Risk Analysis Using Copulas. *International Journal of Disaster Risk Science,* doi:10.1007/s13753-018-0198-1.

Hochrainer-Stigler, Stefan, Gergely Boza, Célian Colon, Sebastian Poledna, Elena Rovenskaya, and Ulf Dieckmann (2018). Resilience of Systems to Individual Risk and Systemic Risk. In: Trump, B. D., Florin, M.-V., & Linkov, I. (eds.). IRGC Resource Guide on Resilience (vol. 2): Domains of resilience for complex interconnected systems. Lausanne, CH: EPFL International Risk Governance Center. Available at: https://irgc.epfl.ch/risk-governance/projects-resilience/

[1] To spread the information of published articles in the last year from IDRiM members to other IDRiM members we now include selected and recent (not older than 1-2 years) publications of IDRiM members (see the announcements in the previous IDRiM News section for more details).

IRCG (2018) Guidelines for the Governance of Systemic Risks. Lausanne: International Risk Governance Center.

Ishiwata, H., & Yokomatsu, M. (2018). Dynamic Stochastic Macroeconomic Model of Disaster Risk Reduction Investment in Developing Countries. Risk Analysis, 38(11), 2424-2440.

Jiang, X., Mori, N., Tatano, H., & Yang, L. (2019). Simulation-Based Exceedance Probability Curves to Assess the Economic Impact of Storm Surge Inundations due to Climate Change: A Case Study in Ise Bay, Japan. *Sustainability*, *11*(4), 1090.

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Rose, A. (2018). Distributional considerations for transboundary risk governance of environmental threats. *International Journal of Disaster Risk Science*, *9*(4), 445-453.Rose, A., M. Samaddar, S., Ayaribilla, A. J., Oteng-Ababio, M., Dayour, F., & Yokomatsu, M. (2019). Stakeholders' Perceptions on Effective Community Participation in Climate Change Adaptation. In *Sustainable Solutions for Food Security* (pp. 355-379). Springer, Cham.

Xie, W., A. Rose, S. Li, J. He., N. Li, T. Ali, T., and W. Wei. (2018). "Dynamic Economic Resilience and Economic Recovery from Disasters: A Quantitative Assessment," *Risk Analysis*, 38 (6), 1306-18.

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9. Miscellaneous

New Graduate Degree Program:

We are pleased to announce a new blended Master of Science (MSc) Disaster Management: Resilience, Response and Relief course at the Humanitarian and Conflict Response Institute (HCRI) at The University of Manchester. Offered jointly with The Hong Kong Polytechnic University, this programme is designed for participants who intend to develop theoretical and practical knowledge and skills in the disaster risk management and humanitarian contexts. Graduates will be equipped to work and become leaders in the fields of disaster management, humanitarianism, and other related fields. This programme will further enhance students' personal and professional development and provide important collaborative links globally. The application deadline for the fall semester is 29 April 2016. For more information please visit HCRI's website (http://www.hcri.manchester.ac.uk/study-with-us/postgraduate-taught/).

Young Scientists Summer Program

Since 1977, IIASA's annual 3-month Young Scientists Summer Program (YSSP) offers research opportunities to talented young researchers whose interests correspond with IIASA's ongoing research on issues of global environmental, economic and social change. From June through August accepted participants work within the Institute's research programs under the guidance of IIASA scientific staff. Funding is provided through IIASA's National Member Organizations.

The program is designed for PhD students (ideally about 2 years prior to receiving their PhD) working on a field compatible with ongoing research at IIASA and a wish to explore the policy implications of their work. Participants will be working under the direct supervision of an experienced IIASA scientist in a unique interdisciplinary and international research environment. They will produce a paper (serving as first step towards a publishable journal article) and will get the opportunity to build up contacts for future collaboration within IIASA's worldwide network.

How to apply?

Candidates apply via the online application form (find the 'APPLY NOW' banner on the right side during the application period). Applicants can chose 1-2 programs. If there is additional is interest in one of our flagship projects this can be indicated in the box provided in the application form (under "please justify your choice of programs here"). We strongly encourage contacting the various program representatives and carefully read through all program descriptions before making your decision.

Registrations for the 2019 program are being accepted from **1 Oct 2018 - 11 Jan 2019**.

Applicants from all countries are welcome, although IIASA gives priority to citizens or residents of NMO countries. Participation in the YSSP is only possible for one summer (however, you may apply several times).

Website:
http://www.iiasa.ac.at/web/home/education/yssp/about.html

Other Newsletters:

- **IISD Reporting Services:** Free newsletters and lists for environment and sustainable development issues.
  Website: http://www.iisd.ca/email/subscribe.htm

- **The International Emergency Management Society Newsletter (TIEMS)**
  Website: http://www.tiems.info/

- **Natural Hazards Group Newsletters:**
  Website: http://www.agu.org/focus_group/NH/about/newsletters/

- **Disaster Research:** DISASTER RESEARCH (DR) is a moderated newsletter for creators and users of information about hazards and disasters.
  Website: http://www.colorado.edu/hazards/dr/currentdr.html

- **Emergency Manager's Weekly Report:**
  Website:
  http://www.6pinternational.com/news.php?category=Emergency%20Managers%20Weekly%20Report&

- **KatNet-Newsletter:** (mostly in German language)
  Website: http://www.katastrophennetz.de/

- **EM-DAT: International Disaster Database Newsletter (CRED)**
  Website: http://www.emdat.be/publications

- **DSCRN: Disaster and Social Crisis Research Network Newsletter**
  Website: http://www.dscrn.org/cms/index.php?page=newsletter

- **International Institute for Sustainable Development Newsletter: IISD Reporting Services.**
  Website: Climate Change: http://climate-l.iisd.org/about-the-climate-l-mailing-list/
  General Information: http://www.iisd.ca/

- **Society of Risk Analysis Newsletter:**
  Website: http://www.sra.org/newsletter.php

- **ULC Institute for Risk and Disaster Reduction Newsletter:**
  Website: http://www.ucl.ac.uk/rdr/irdr/newsletter/

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