Session on

Critical Infrastructures and Cascading Effects

Infrastructure systems are becoming increasingly interdependent. In the past, we have seen the damage that particular hazards can cause, but also how disruption in one infrastructure sector can cascade into others. Developing a 'system-wide' approach to resilience, reflecting the increasing interdependency of the transport, energy, digital and water infrastructure, is needed in order to sustain the systems on which countries rely and minimise the impacts on daily life when they fail. Often, most resilience planning is focused on individual sectors and it is difficult to find examples of holistic and cross-sector approaches. This means that there is currently little understanding of the resilience and vulnerabilities of the economic infrastructure as a whole. We will need to rethink how we operate, design and manage our critical infrastructure to ensure it is fit for long-term challenges we face. The aim of this session is to present quantitative and qualitative approaches for the investigation of cascading effects in critical infrastructure systems and risk mitigation strategies. Studies can include a range of different hazards, such as natural or man-made, including climate change, extreme weather, Covid-19, and infrastructure sectors and can capture temporal and/or spatial evolution of cascading effects.

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