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## **A comparative literature review of the methodologies to evaluate risk of NaTech disasters and Critical Infrastructure affected by natural hazard**

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In a climate change framework extreme natural events are going to occur more frequently and intensively as a result of global warming. Therefore, the effects and consequences of climate-related natural hazards, such as flooding, heatwaves, drought, landslides and others, have the potential to become more disastrous and extensive. Consequences of such events are of particular concern considering that today's societies are interconnected in complex and dynamic socio-technological networks and, hence, dependent more than before on Critical Infrastructures (CI) systems (such as transport, energy, water, ICT systems, etc.). Furthermore, there are also events of Natural Hazards Trigger Technological Disasters (also known as NaTech events), whereby an industrial accident caused by a natural event could affect people, the environment, and other facilities and systems. This work reviews studies in the fields of risk assessment of CI systems affected by natural hazards and NaTech events.

This study identifies and classifies: the methodologies applied (qualitative or quantitative), the type of infrastructures exposed (transport, electricity, oil, gas, water and waste water and telecommunications systems, industrial or nuclear plant) and hazard considered (flood, earthquake, lightning, landslide, avalanche, storm surge, heat and cold waves, wind), the scale of application and the level of spatial resolution.

The work provides a comparison of the scientific studies, the objectives and analysis methods to assess risk employed in the fields of CI systems and NaTech events in order to highlight similarities and differences and to guide the most suitable approach for each application case.