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Seismic events and their impacts on water infrastructure in a large urban conglomeration

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The objective of this work is to show a few examples of water-related hazards in urban zones subjected to seismic hazards. We present the case of Mexico City, an urban conglomeration with more than 20 million inhabitants, with soil subsidence due to excessive groundwater pumping and prone to a historical earthquake incidence (in magnitude and cost-damages).

Past significant seismic events and their impacts on the water supply and sewage network are analyzed. Likewise, potential material and economic losses that the urban water network could face in case of an extreme earthquake are shown. Finally, cost-effective solutions are proposed in order to reduce water-related risks over the short and medium term following a seismic event of substantial magnitude.