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Open loss data interconnectivity for earthquake disaster risk management

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As stated in the Sendai Framework, disaster risk reduction requires a multidisciplinary approach and decision-making based on the open exchange and dissemination of disaggregated data. Within many international initiatives and projects, including CODATA Task Group of Linked Open Data for Global Disaster and Global Earthquake Model (GEM), much has been done to consider the needs for the data infrastructure proposed in the Sendai Framework and by partnership collaboration and provide conceptual building blocks to help realize the Sendai imperative. The issues around database development are complex and harmonizing data policies, improving data access and interoperability, and developing long term strategies for data management are essential.

The knowledge base on physical and socio-economical consequences of past earthquakes is especially vital in order to increase the reliability of loss estimations in “emergency” mode. It may be used for calibration of near real-time loss assessment systems based on simulation models for shaking intensity, damage to buildings and casualty estimates.

The examples of shaking intensity and damage to buildings models calibration with impact data on past earthquakes are given.

The paper analyzes the structure and contents of the possible knowledgebase on physical and socio-economical consequences of past earthquakes which may be used for calibration of near real time loss models.

The need for coordinated efforts and research at international level aimed at creation of distributed data base on past events consequences is emphasized.