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An interoperability framework to address hazard and risk data as part of a trans-national spatial data infrastructure

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In order to complete a comprehensive hazard and risk assessment users face many challenges regarding the lack of accessibility, comparability, quality, organisation and dissemination of natural hazards (NH) spatial data. In order to mitigate these, an interoperable framework has been developed within the framework of the development of legally binding Implementing rules of the European Union INSPIRE Directive [1] aiming at the establishment of the European Spatial Data Infrastructure. The interoperability framework is technically described in the European Commission Data Specification on Natural risk zones [2]. The potential as well as possible weaknesses of this data interoperability framework to facilitate access, integration, harmonisation and dissemination of NZ data from different domains and sources were evaluated and have been presented in [3].

The objective of this paper is twofold. Firstly to advertise the potential and applicability of the model created to a global audience, beyond the regional context and applicability of a European Directive. Secondly the applicability will be assessed using the example of multi-nation disaster databases which traditionally have been hazard or application domain specific but could begin, by using such a framework, to allow comparability between different events over time. Current practice across the EU shows that there are hardly any comparable disaster damage and loss data: differences exist in the methods of data recording as well as in the governance approaches to managing disaster damage and loss data.

To improve the situation European Commission (DG-JRC) was called to '*Encourage the development of systems, models or methodologies for collecting and exchanging data on ways to assess the economic impact of disasters on an all-hazard basis.*' [4] As a result the first set of recommendations for recording and sharing disaster damage and loss data in the EU Member States [5] was published in 2015. Under the framework of the '*INSPIRE interoperability pilots*' the current set of recommendations is being evaluated and where relevant harmonized with the generic NH interoperability framework.

This paper discusses the open issues and next steps regarding the sustainability and evolution of the generic NH interoperable framework.

References:

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[4] Council of the European Union, Conclusions on risk management capability, 13375/14 of 24 September 2014

[5] De Groeve T., et al. (2015): Guidance for Recording and Sharing Disaster Damage and Loss Data. JRC Science and Policy Reports, Publications Office of the European Union, doi: 10.2788/18610

