



ERN and Ingeniar Ltda. are proud to announce the release of an updated, harmonized and state-of-the-art, fully probabilistic **seismic hazard model for Latin America and the Caribbean**. A multidisciplinary group of specialists worked in its development producing what is the first trans-boundary consistent probabilistic seismic hazard analysis of the whole region. Calculations were made using the latest version of the open-source and well-known program **CRISIS**.

State-of-the-art methodologies were used for the combination of sub-catalogues with different completeness windows assembled with data derived from local, regional and global catalogues (e.g. NEIC-USGS and ISC-GEM), and also for the development of hybrid ground motion prediction equations and the use of different seismicity and geometric models to better capture the characteristics of the tectonic environment within the region.

This new model not only covers a large geographical area (35+ countries), but it has a detailed resolution level at all locations, which will allow developing detailed probabilistic risk assessments at different scales at any location. The results of this work are part of the coming release of the **R-Plus System**, focused on the probabilistic estimation of earthquake losses for the insurance and reinsurance sector.

A careful calibration process was developed to confirm that the obtained results are consistent with existing regional seismic hazard information and also, that the historical events modelled and considered in this new version are congruent with the shakemaps published by well-known institutions, considering an appropriate uncertainty for the probabilistic risk estimation purposes.

This new model constitutes an important scientific and technical contribution to a better understanding of the seismic hazard in the region, using a consistent methodology and approach besides making use of the most recent input data available for the region, providing valuable information for disaster risk management activities. **ERN and Ingeniar Ltda.** continue increasing their global presence and modelling coverage while also developing advanced, transparent and high quality tools for probabilistic risk assessments, at the same time of promoting safety and a prevention and mitigation culture, in order to decrease the possible human and economic losses.

For more details of the **R-Plus System** visit: www.ern.com.mx

Sincerely yours,

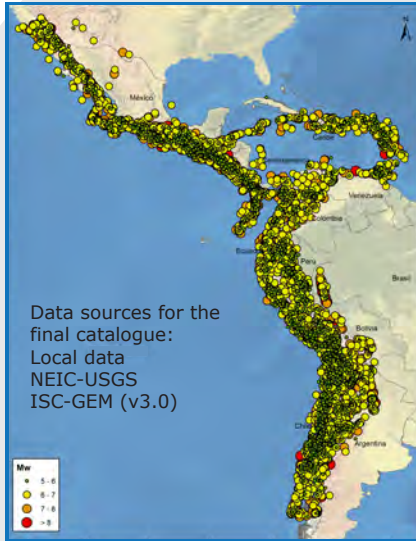
ERN Board of Directors





Earthquake hazard model

ERN and Ingeniar Ltda. released in April 2016 a harmonized and state-of-the-art, **fully probabilistic seismic hazard model for Latin America and the Caribbean**. It is the first trans-boundary consistent probabilistic seismic hazard analysis of the whole region.



Data sources for the final catalogue:
Local data
NEIC-USGS
ISC-GEM (v3.0)

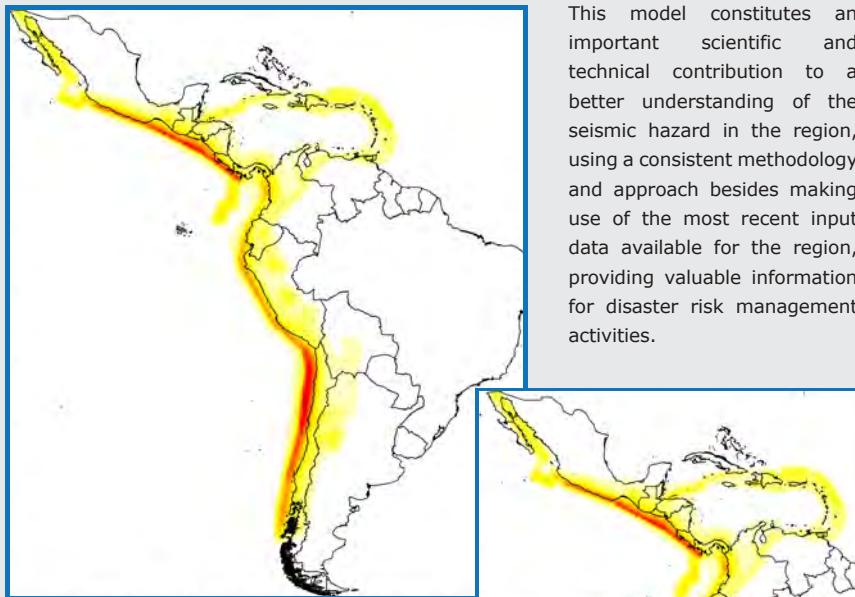
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Decustered earthquake catalogue with more than 55k events

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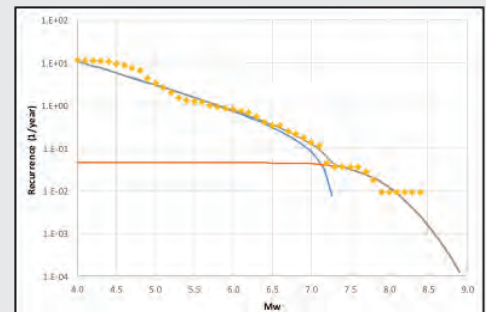
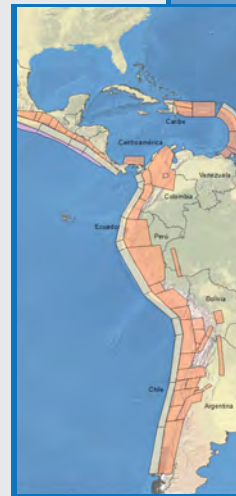


Updated seismic hazard model for 35+ countries in the Latin America and the Caribbean Region

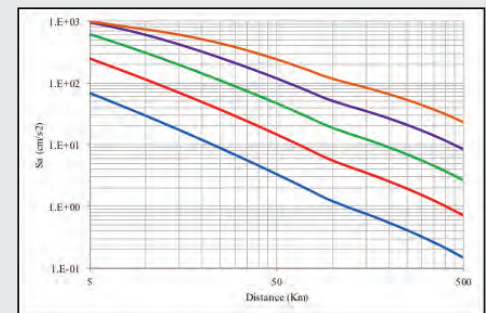
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Harmonized and consistent tectonic zonation for interface, intraslab, outer-rise and crustal sources



Use of different seismicity models to better capture the regional seismicity patterns



Development and use of hybrid GMPE's

This model was designed by ERN & Ingeniar Ltda.

This model is included in:



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