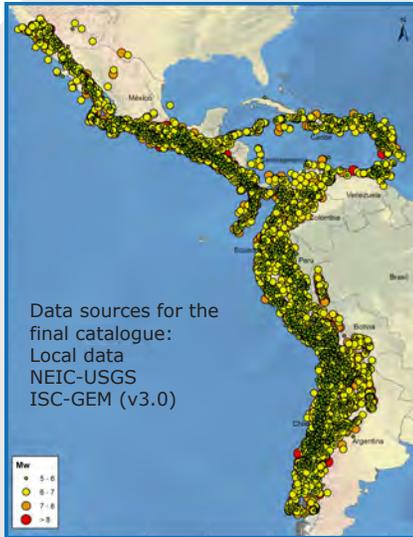




Earthquake hazard model

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)

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 model not only covers a large geographical area (35+ countries), but it has a detailed resolution level at all locations, which allows developing detailed probabilistic risk assessments at different scales at any location.



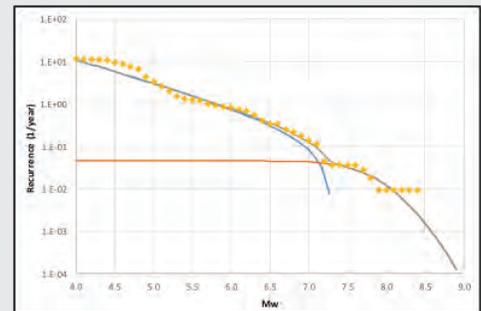
Harmonized and consistent tectonic zonation for interface, intraslab, outer-rise and crustal sources

Declassified earthquake catalogue with more than 55k events

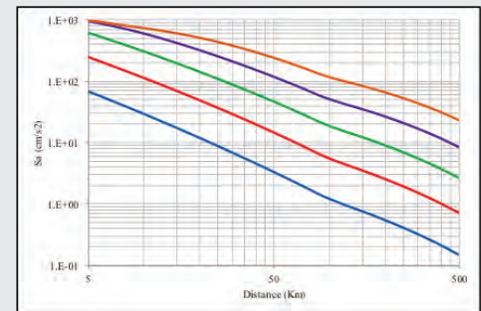
A careful calibration process was developed to confirm that the obtained results are consistent with existing regional seismic hazard information and also, that the historical events modelled and considered in this new version are congruent with the shakemaps published by well-known institutions, considering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



This 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.



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



Development and use of hybrid GMPE's

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

This model was designed by ERN & Ingeniar Ltda.

This model is included in:



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