

***Institute of Environmental Studies (IDEA)  
National University of Colombia  
Disaster Risk Management Task Force (DRM-TF)***

***IRDR Center of Excellence in  
Understanding Risk & Safety  
ICoE:UR&S***



# International Projects and Initiatives

## **CONTRIBUTIONS TO RISK KNOWLEDGE**

*Comprehensive Approach to Probabilistic Risk Assessments: CAPRA and Global Risk Model Suite: CAPRA-GRM (risk evaluation and capacity building in 19 countries)*

*System of Indicators of Disaster Risk and Risk Management for the Americas (application and update for 24 countries)*

*Holistic risk evaluation (Applied at city level to Barcelona, Metro-Manila, Bogota, Santo Domingo, Port of Spain, Medellin, Manizales and at subnational level in Nicaragua and Costa Rica.*

*Hybrid Loss Exceedance Curve methodology to reflect the extensive and intensive risk (Applied Colombia, Mexico, Nepal, Ecuador, Venezuela, Guatemala, Bolivia, El Salvador, Jamaica, Peru, Mauritius, Seychelles, Madagascar).*

# International Projects and Initiatives

## **Examples of relevant projects and activities**

*Country's risk evaluation and profiles for Argentina, Chile, Bolivia, Peru, Ecuador, Venezuela, Colombia, Guyana, Nicaragua, Costa Rica, El Salvador, Honduras, Guatemala, Belize, Mexico, Jamaica, Dominican Republic, Trinidad and Tobago, Nepal*

*Seismic hazard assessment for the building code of Colombia; seismic microzonations, flood, hurricane and landslides hazard evaluation, and lifelines risk evaluation at local level in Quito, Lima, Bogota, Caracas, Santo Domingo, Santiago de los Caballeros, Belize, Georgetown, David and Manizales.*

*The Global Risk Model development for GAR13 and update for GAR15 in 200+ countries and capacity building*

# International Projects and Initiatives

## **CONTRIBUTIONS TO GAR<sub>15</sub> GLOBAL RISK ASSESSMENT (1 of 2)**

- *Fully probabilistic earthquake and tropical cyclone (wind + storm surge) hazard and risk assessment at global level*
- *Compute the Loss Exceedance Curve and other probabilistic risk metrics using the Comprehensive Approach to Probabilistic Risk Assessment (CAPRA) Platform.*
- *Calculation of Hybrid Loss Exceedance Curves to reflect the extensive and intensive risk*
- *Examples of risk evaluations at local level for earthquake, tropical cyclones, floods and volcanoes*

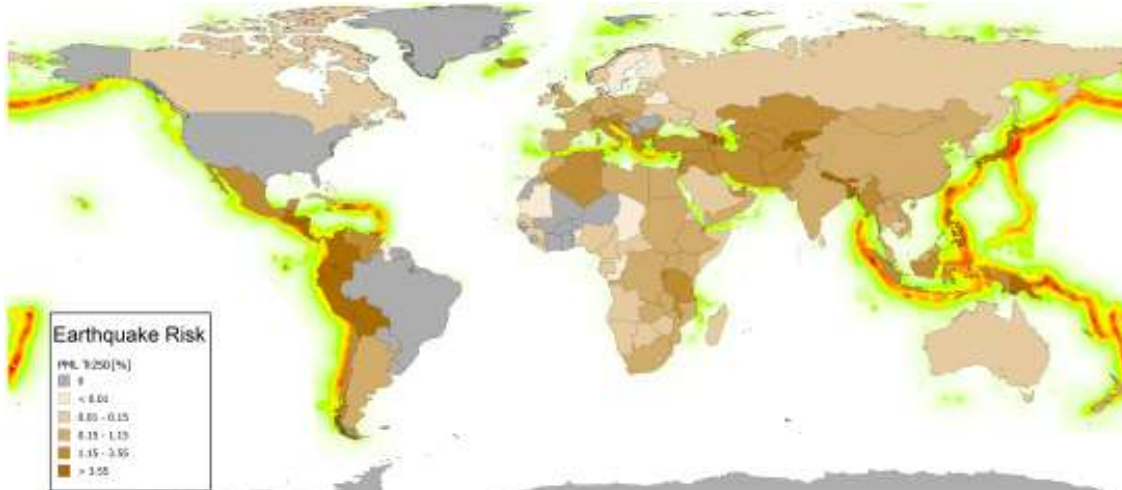
## International Projects and Initiatives

### **CONTRIBUTIONS TO GAR15 GLOBAL RISK ASSESSMENT (2 of 2)**

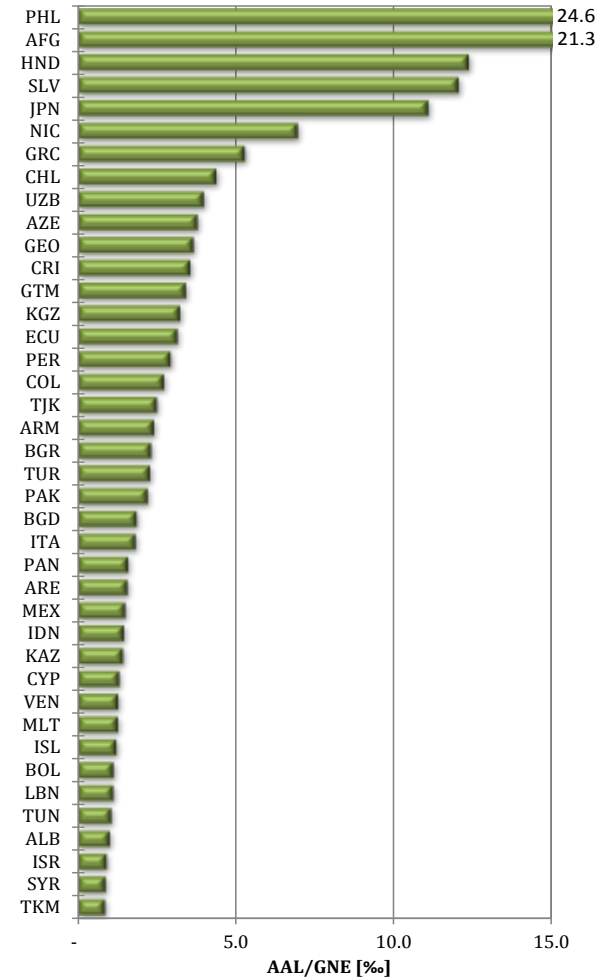
- *Country's risk profile based on coarse-grain information for risk awareness and comparison among countries*
- *Develop a good-enough risk assessment methodology to replicate the global approach at the local level*
- *It is the first time that a Loss Exceedance Curve is calculated for 215 countries using the same arithmetic and base information*

# RISK MAPS AND RANKINGS

Using AAL and PML results and macroeconomic data



Global level (National)



## **DISASTER RISK MANAGEMENT PROGRAM OF MANIZALES**

*Risk knowledge and information systems (5 projects)*

*Instrumentation, monitoring and early warning systems (6 projects)*

*Using risk for planning and awareness (5 projects)*





# PARTNERS & SPONSORS



**International Centre for Numerical Methods in Engineering  
Centro Internacional de Métodos Numéricos en Ingeniería**

