

# Social, Political, Economic, and Cultural Aspects of Seismic Microzonation in the Caribbean Nations

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# Contents

- Introduction
- What “Caribbean” are we talking about?
- Seismic geology and seismicity
- “Non technical” factors
  - Social, political, economic, and cultural
- The Association of American States
- Grade 1 “General Zonation of the ISSMFE
- Conclusion and recommendations

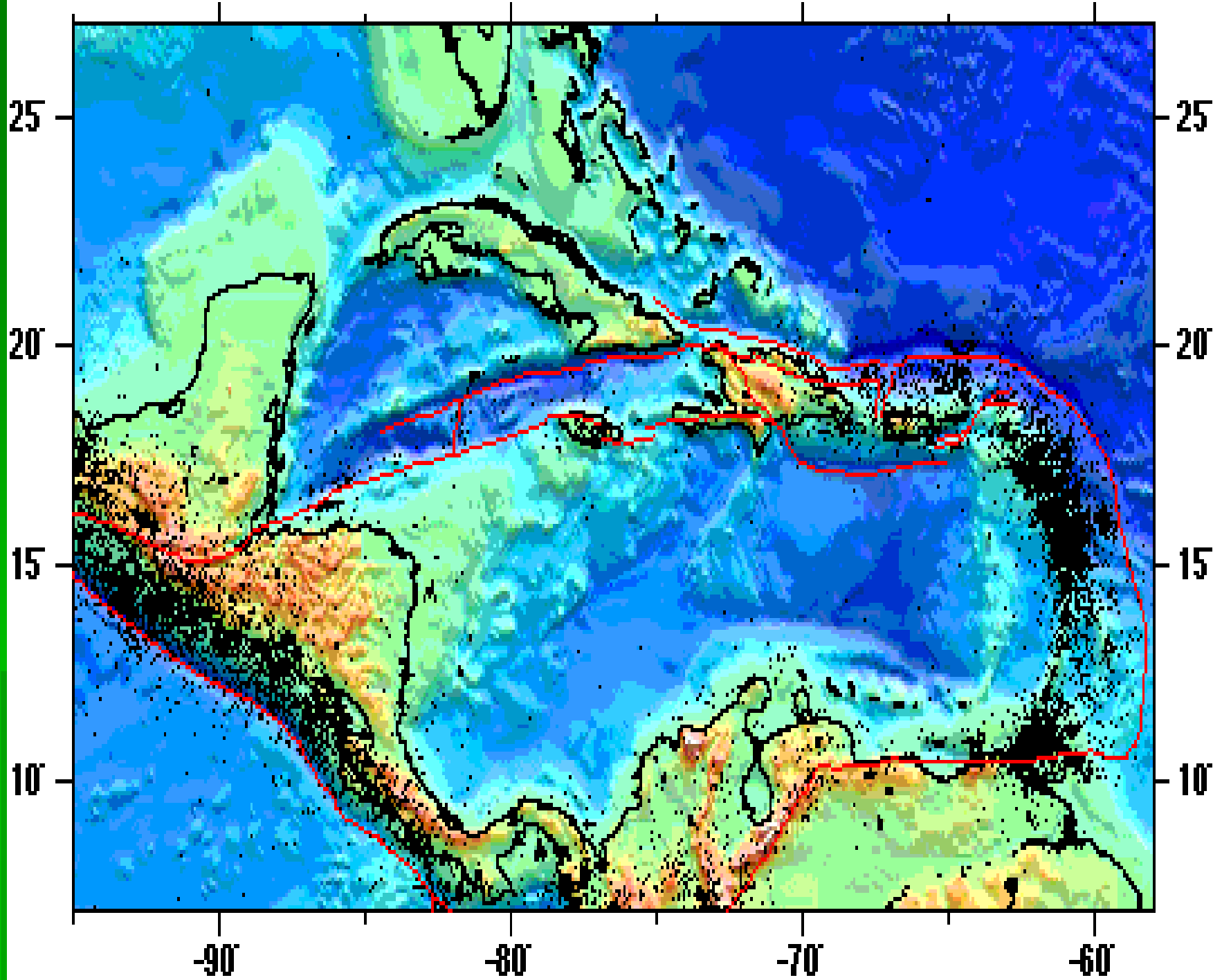
# What Caribbean are we talking about?

## Central America and the Caribbean



# Seismic Geology and Sismicity

- + Region contains several tectonic boundaries
  - *South American- Caribbean (Strike slip)*
  - *Caribbean-Atlantic (Subduction)*
  - *Caribbean-North American (Strike slip)*
  - *Central American-Caribbean (Subduction)*
- + Consequently: Seismotectonic complexity and considerable seismicity.



# “Non-Technical” Factors

***Social, political, economic and cultural factors*** have affected and continue to affect the implementation of seismic microzonation projects in the Caribbean, as elsewhere in the developing world.

These “Non-technical” factors are ***often difficult to differentiate. However will attempt to do so.***

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# Social Factors

- **Poverty**
- **Underdevelopment,**
- **Unequal distribution of wealth**
- **The exodus from the fields to the cities**
- **Lack of *a prevention culture***

# Political Factors

- Elected officials and political appointees *have very short terms of office*. Hence, difficulty to “sell” to them long duration projects.
- Urgency v. Relevancy (*Day-to-day v. long term planning*)
- The inadequacy of land use planning that do not take into consideration seismic risk.
- *Laxity* in enforcing codes and regulations

# Economic Factors

- Convince decision makers that seismic microzonation is *an investment not an expense*
- Ratio of study costs v. *implementation costs very high* often several orders of magnitude

# Cultural Factors

- Lack of a “*prevention culture*”
- Difficulties in *communicating* with decision makers
- Languaje, historical and cultural background (¿¿¿¿????)

# Needed

## An integral, holistic approach

- **Highly *qualified technical and scientific human resources are available in the Caribbean, with worldwide caliber experts***
- **Utilize the *Association of Caribbean States* latest commitments to disaster risk reduction**
- **Start with *Grade 1. “General Zonation” (ISSMFE)***

# The Association of Caribbean States (I)

**THE AGREEMENT BETWEEN MEMBER STATES  
AND ASSOCIATE MEMBERS OF THE  
ASSOCIATION OF CARIBBEAN STATES FOR  
*REGIONAL COOPERATION ON NATURAL  
DISASTERS***

was signed by the members in Cartagena de  
Indias, Colombia, on July 24<sup>th</sup>, 1994

# The Association of Caribbean States (II)

The Association is an organization for consultation, concerted action and co-operation, whose purpose is ***to identify and promote the implementation of policies and programmes aimed, among other things, at establishing co-operation agreements which respond to the diverse cultural identities, developmental needs and regulatory systems of the region,***

# The Association of Caribbean States (III)

Willing to increase and strengthen *regional co-operation* and emphasizing the importance of it in the effective management of natural disasters, especially when oriented towards *reducing the vulnerability of the population, the infrastructure and economic and social activities of the Parties,*

# Grade 1. “General Zonation” of the ISSMFE

- **The *Manual for Zonation on Seismic Geotechnical Hazards* of the International Society for Soil Mechanics and Foundation Engineering, ISSMFE, presents the *Grade 1. “General Zonation” based on compilation and interpretation of existing information***
- **Features:**
  - + **Crudest and *lowest-cost* approach**
  - + **Uses *existing information* (Historical earthquakes, geologic and geomorphologic information, instrumental earthquake catalogues, existing attenuation relationships, reports of major engineering projects,**
  - + ***Scales* 1:1.000.000 – 1:50.000, depending on quality of data base**

# Conclusions and Reccommendations

**“Non-Technical” constraints *can and should be overcome.***

***High quality human resources* are available in the Caribbean Region**

***Integrated, holistic projects* should be undertaken**

***The Asssociation of Caribbean States* seems an appropriate way to go**

**Begin with *Grade 1 General Zonation (ISSMFE)***

**Thank you**

**Gracias**

**Merci**

**Dank U**