

# GUATEMALA Earthquakes and Hurricanes RISK PROFILE

## What is a country disaster risk profile?

An estimation of the potential economic losses to property caused by adverse natural hazards.

### Country Disaster Risk Profile

#### Applications

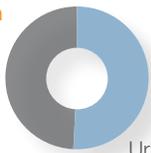
- ▷ **Develop** key baseline data
- ▷ **Evaluate** impact of disasters
- ▷ **Promote and inform** risk reduction
- ▷ **Inform** disaster risk financing

## Country At-A-Glance

GDP US\$ **58.7 billion** | Population **15.8 million** | Total Building Exposure US\$ (Replacement Value) **70.3 billion**

#### Population

Rural **49%**



Urban **51%**

#### Gross Capital Stock

Public **38%**



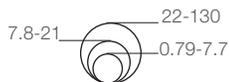
Private **62%**

## Two representations of earthquake risk

### Provinces by ratio (AAL/Province Exposure)

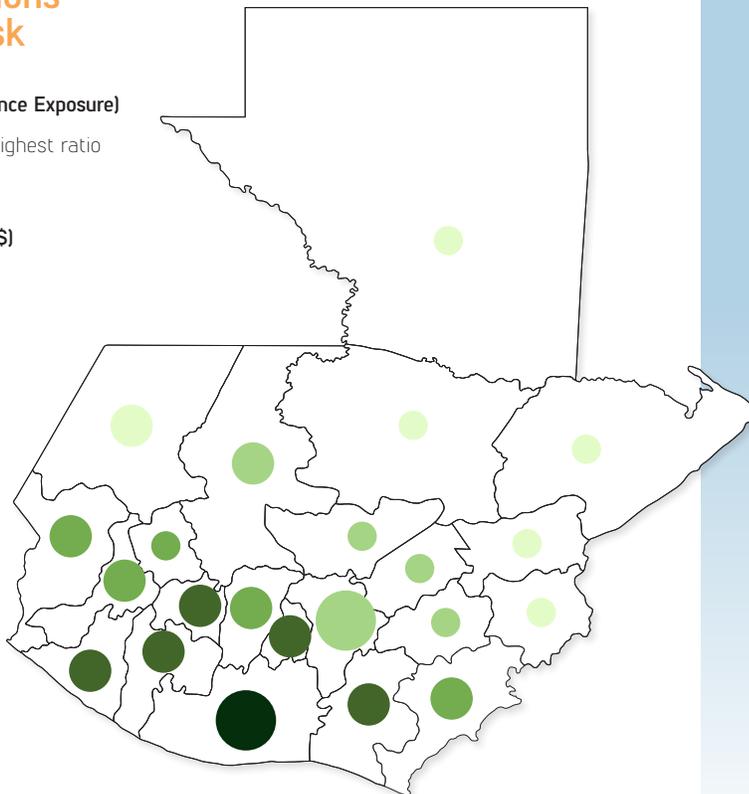
lowest ratio highest ratio

### AAL (in millions US\$)



**Relative Risk:** The darker the color, the higher the ratio of AAL/Province Exposure. The darkest color represents the province of Escuintla which has a higher proportion of vulnerable structures due to construction types and/or potentially higher earthquake intensity.

**Absolute Risk:** The larger the circle, the higher the Annual Average Losses that the province could potentially incur over the long term.



## Snapshot

- ▷ The earthquake risk in Guatemala is more significant than the hurricane risk.
- ▷ Annual Average Loss (AAL) from earthquakes is **US\$ 325.3M (0.46% of GDP)** and from hurricanes is **US\$ 21.6M (0.04% of GDP)**.
- ▷ The Probable Maximum Loss for earthquakes (250 year return period) is **US\$ 7.9B (11.2% of GDP)** and for hurricanes (250 year return period) is **US\$ 622M (1% of GDP)**.
- ▷ Single-family, residential houses constructed with unreinforced concrete brick masonry are the buildings most vulnerable to earthquakes, **accounting for over 40% of AAL**.

# COUNTRYDISASTER RISK PROFILES

## GUATEMALA

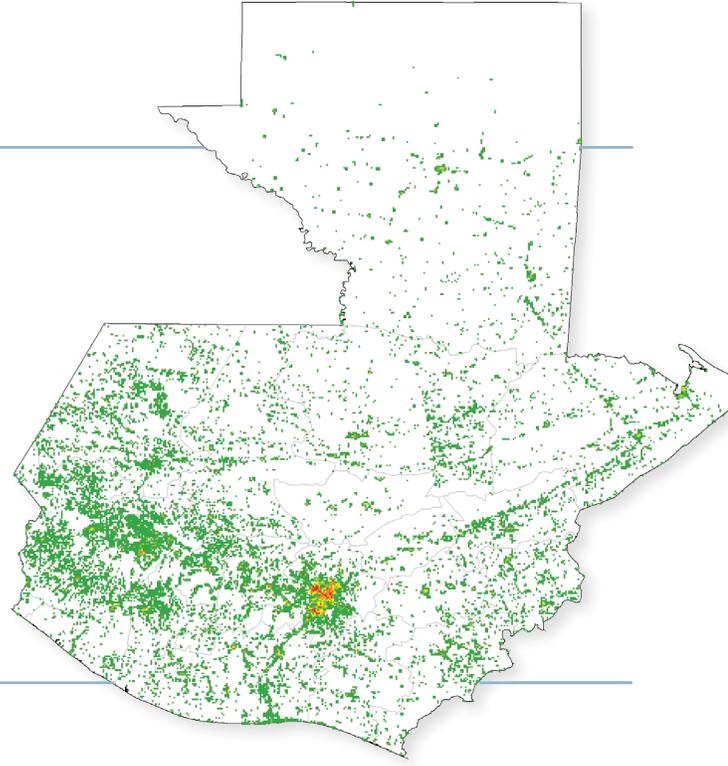
### What is at risk in Guatemala?

Economic assets such as residential and non-residential buildings are at risk. These assets that are exposed to natural disasters are referred to as a country's **Building Exposure**.

The map illustrates the value and distribution of residential and non-residential buildings in Guatemala at risk from earthquakes and hurricanes.

#### Legend

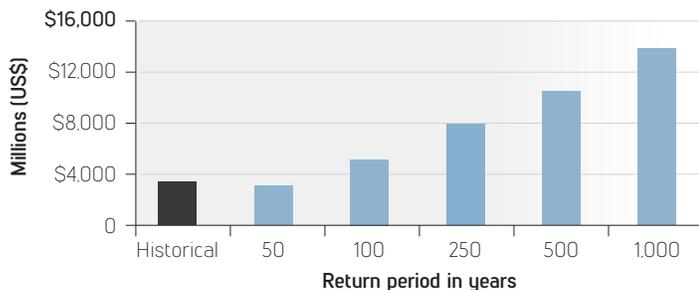
Exposure  
(in millions US\$)



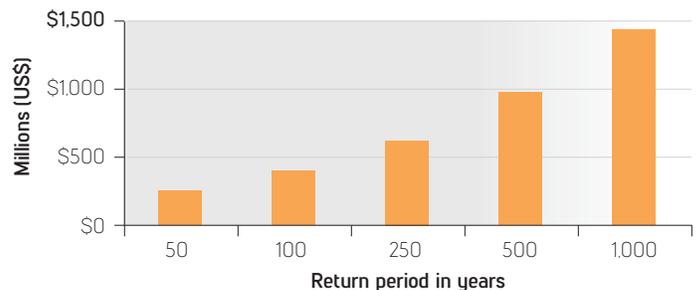
### What are the potential losses in Guatemala?

These charts show the estimated potential future losses to Guatemala that could be caused by earthquakes and hurricanes that could occur within a given return period. In 1902, a magnitude 7.5 earthquake struck Guatemala. If this historical event were to happen in 2015, it would cause losses of US\$ 3,200M amounting to 4.6% of GDP.

Estimated Losses Due to **EARTHQUAKES**

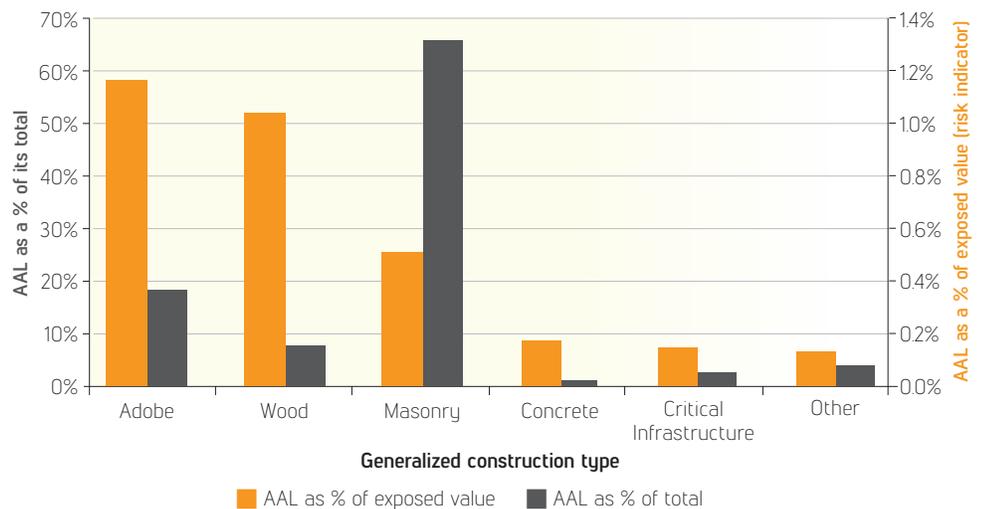


Estimated Losses Due to **HURRICANES**



### How can earthquake risk be reduced?

Risk reduction interventions could be prioritized in the highest risk ranked department of Escuintla in Guatemala (see map on previous page). At an estimated additional cost of US\$ 96M, most single family adobe buildings in Escuintla could be retrofitted up to the standards of good quality, wood frame buildings which would reduce the risk of adobe buildings by over 85%. This would also reduce the country's AAL by 3%.



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