

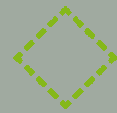
# Social Vulnerability

## Summer Academy 2007

### Megacities as Hotspots of Risk



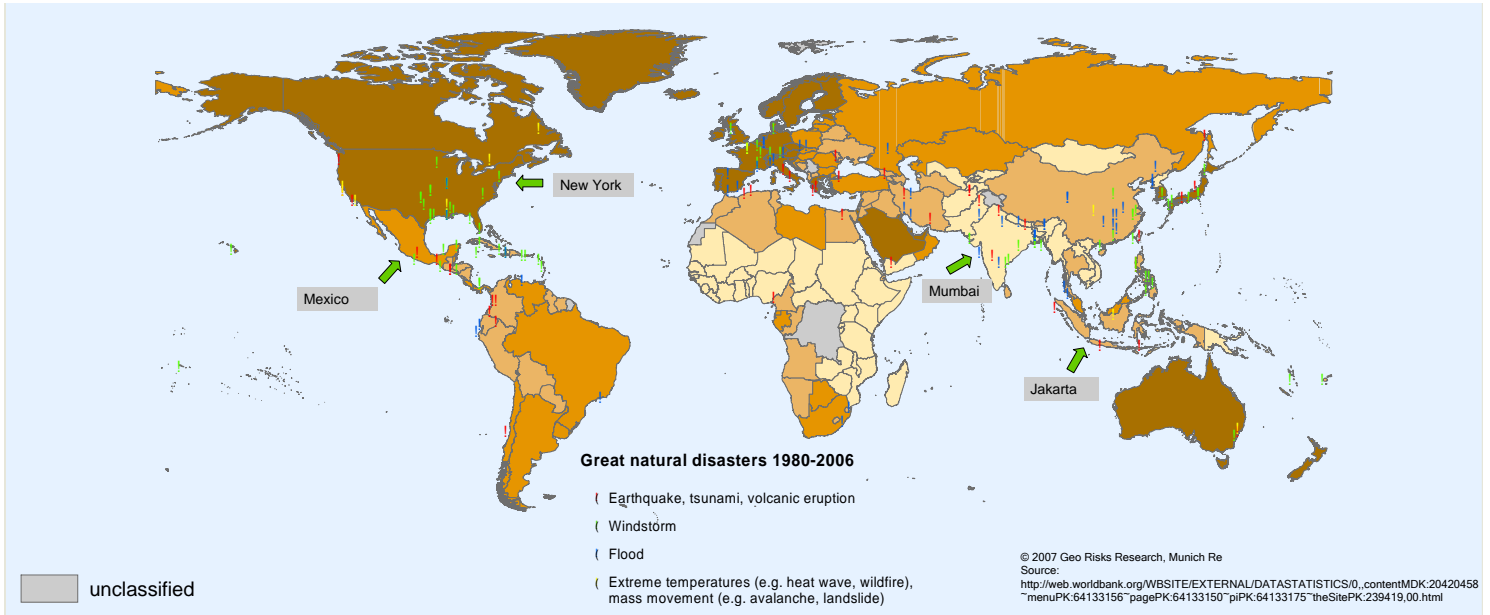
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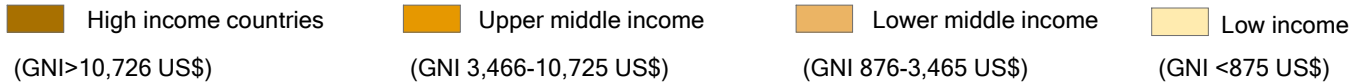
Munich Re  
Foundation  
From Knowledge  
to Action

## Natural catastrophes in differently developed economies

Classification of the different economies in four groups, spatial distribution of the great natural catastrophes 1980 - 2006 and examples of megacities



Income groups (GNI per capita in US\$)



Example New York



Example Mexico



Example Mumbai



Example Jakarta

**Loss example:**

- 10.-22.9.1938 Hurricane
- Overall losses\* 400m US\$
- Fatalities 600 (New England States)

**Risk exposure:**

TC, e.g. Hurricane	HW, Heat Wave
SS, Storm surge	FL, Flood/Flash flood
BS, Blizzard	WS, Winter storm

**Loss example:**

- 19.9.1985 Earthquake
- Overall losses\* 4,000m US\$
- Insured losses\* 275m US\$
- Fatalities 9,500

**Risk exposure:**

TC, e.g. Hurricane	VO, Volcano
EQ, Earthquake	HS, Hailstorm
WD, Winter damage	LS, Landslide

**Loss example:**

- 24.7.-5.8.2005 Floods
- Overall losses\* 5,000m US\$
- Insured losses\* 770m US\$
- Fatalities 1,150

**Risk exposure:**

TC, e.g. Cyclone	LS, Landslide
SS, Storm surge	FL, Flood, Flash Flood

**Loss example:**

- 11.1.-22.2.2002 Floods
- Overall losses\* 635m US\$
- Insured losses\* 200m US\$
- Fatalities 150

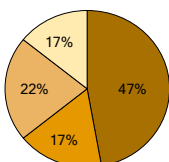
**Risk exposure:**

FL, Flood, Flash Flood	LS, Landslide
EQ, Earthquake	ST, Storm
TE, Severe Storm	

Analysis of all natural disasters 1980 – 2006 in four income groups:

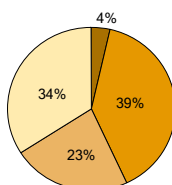
© 2007 Geo Risk Research Group, Munich Re  
\* all losses in original values

Natural catastrophes



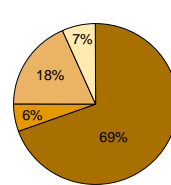
Total: 17,000

Fatalities



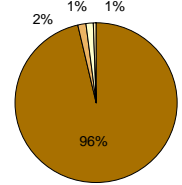
Total: 1,500,000

Economic losses\*



Total: 1,700bn US\$

Insured losses\*



Total: 420bn US\$