

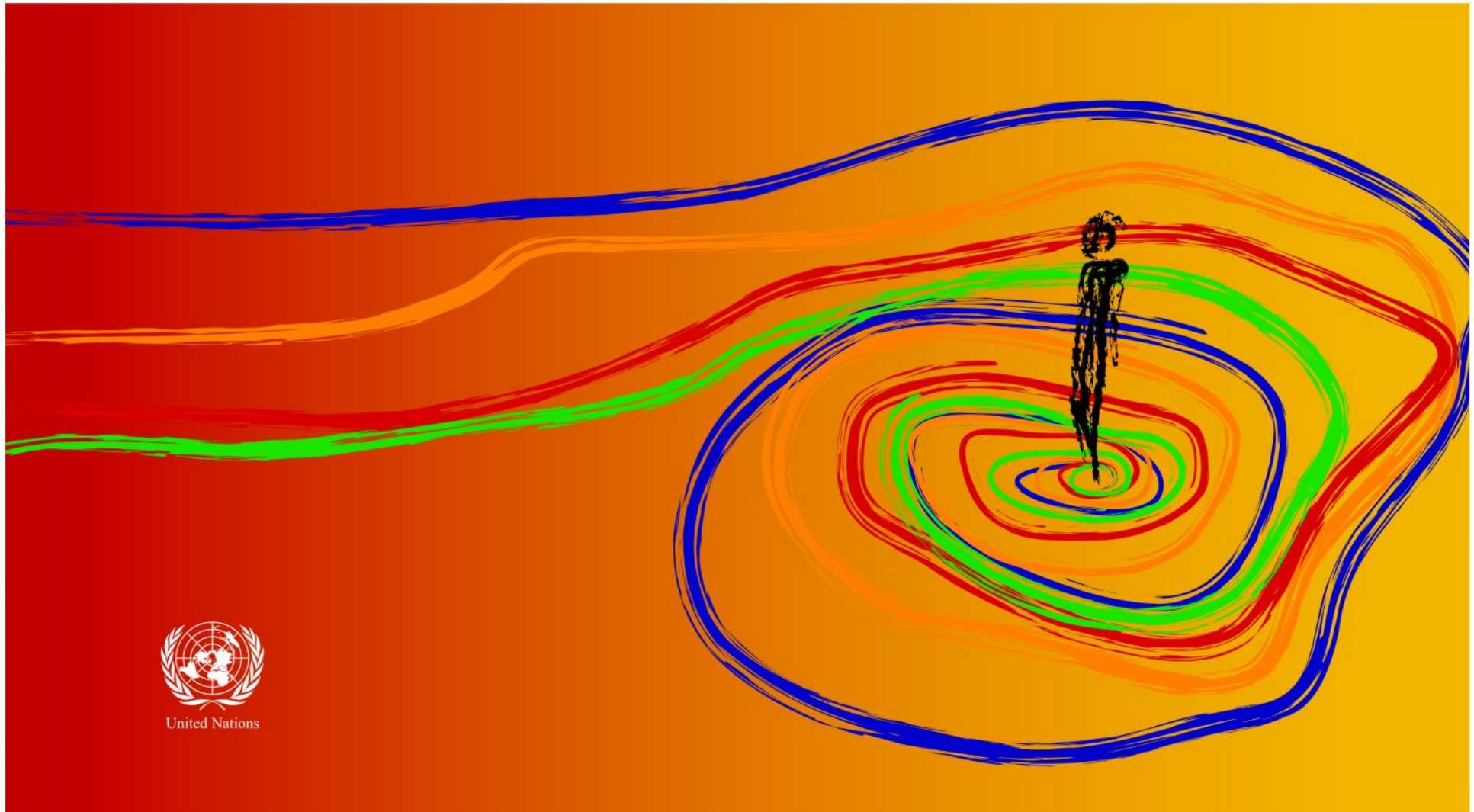
2009 Global Assessment Report on Disaster Risk Reduction

Risk and poverty in a changing climate

Invest today for a safer tomorrow




United Nations



Why a Global Assessment Report on Disaster Risk Reduction

- Disaster risk threatens both human and economic development and is magnified by climate change.
- Hyogo Framework for Action (HFA) endorsed by 168 UN member states in January 2005

An illustration of a person in a starting crouch on a track, symbolizing readiness or action. The person is wearing a blue and yellow uniform and is positioned on a blue track with white lane markings. The background is a solid blue color.

First biennial global assessment report of disaster risk reduction of the International Strategy for Disaster Reduction (ISDR).
Coordinated by UNISDR with UNDP, World Bank, UNEP, ProVention, WMO and many other partners.

Objectives of the Report

- Accurately identify and measure contemporary patterns and trends in disaster risk
- Increase our understanding of the causal factors of risk and of its consequences for human and economic development

● Assess the progress being made by countries towards achieving the HFA

● Propose policy initiatives to address gaps and challenges

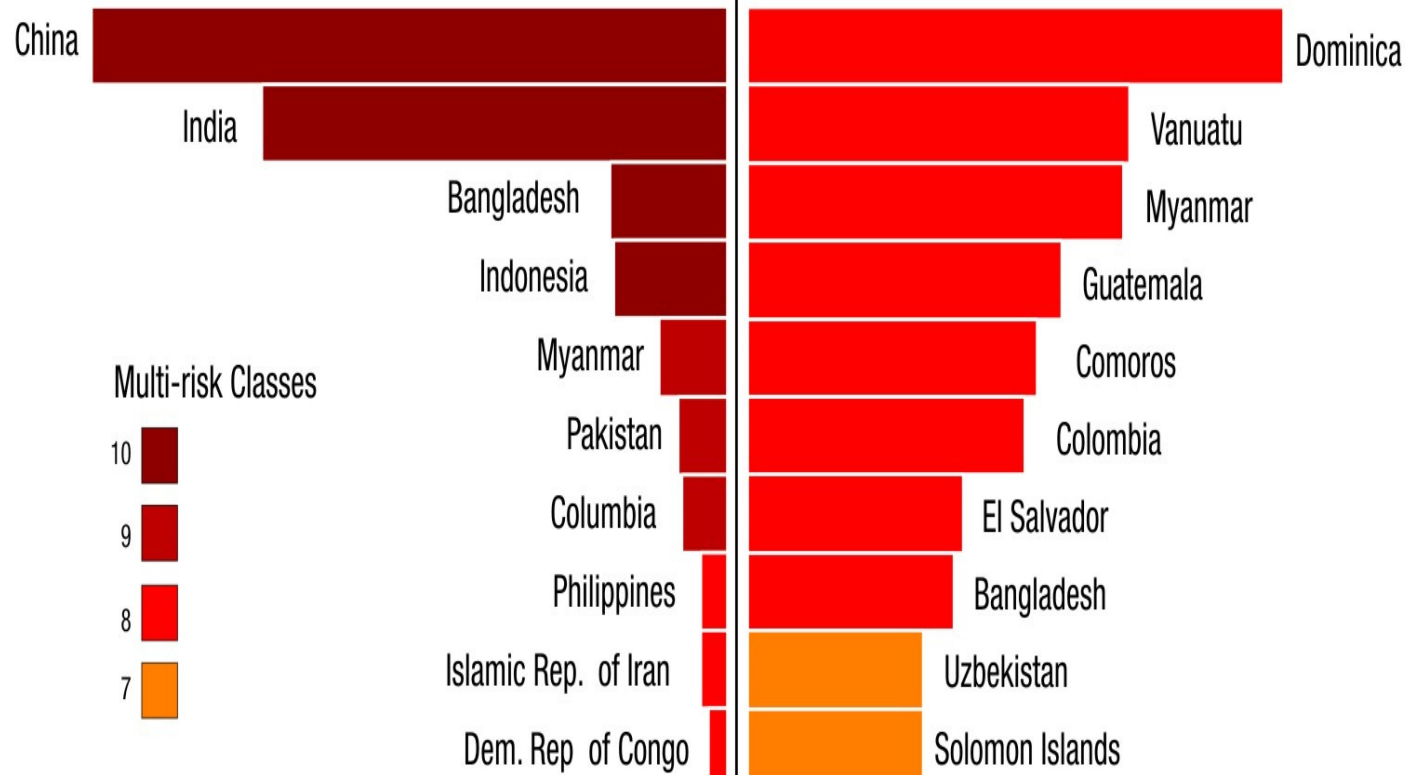


Disaster risk is intensively concentrated

Absolute and relative multi-hazard mortality risk

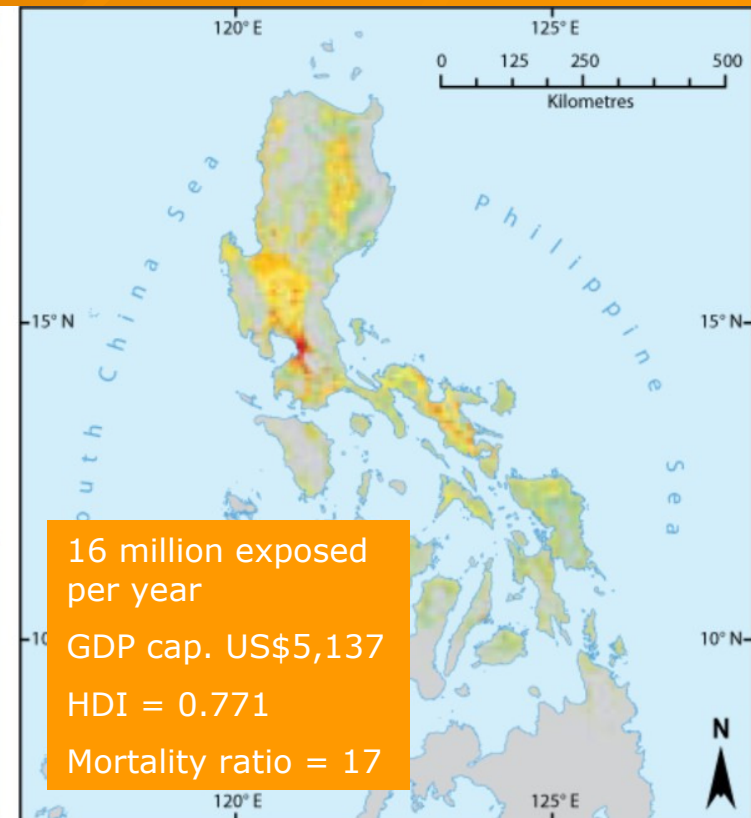
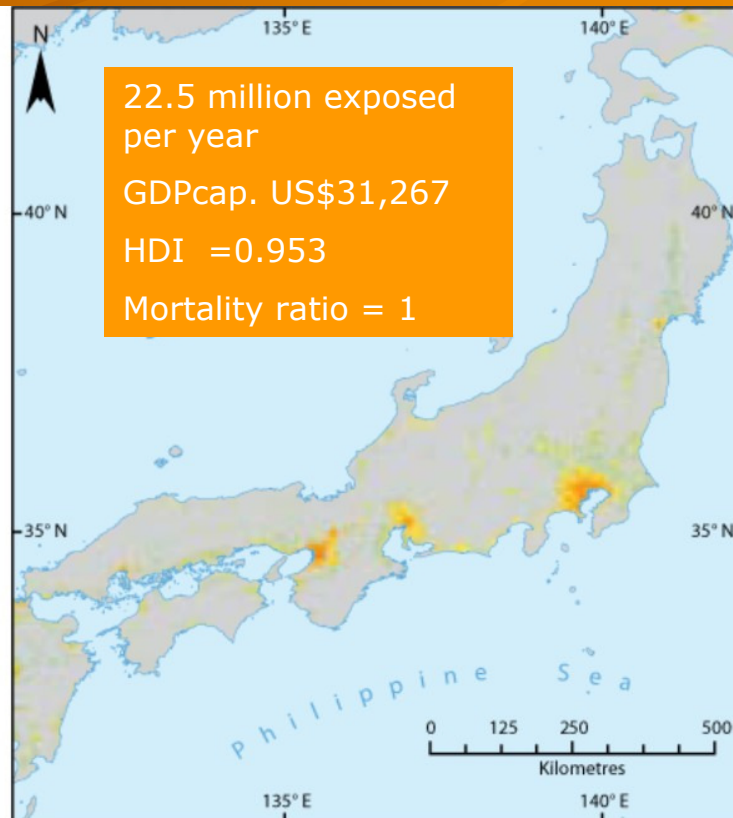
Absolute Risk [Killed per year as modelled]

Relative Risk [Killed per million per year as modelled]



it's unevenly distributed.....

**Mortality risk
for tropical
cyclones in
two countries
with similar
exposure:
Japan and the
Philippines**

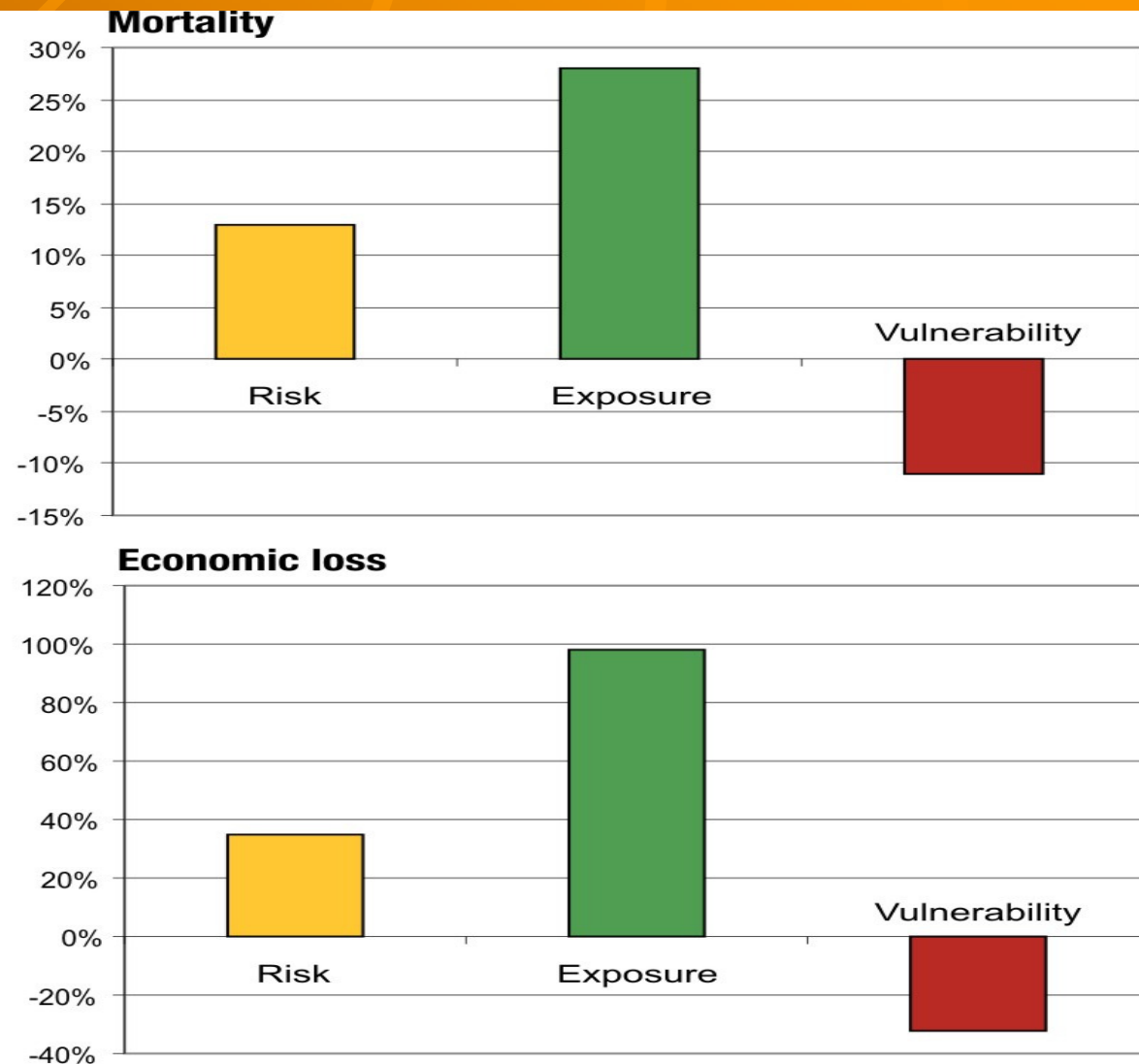


Modelled mortality risk

class 0 class 1 class 2 class 3 class 4 class 5 class 6 class 7 class 8 class 9 class 10

..... is increasing globally

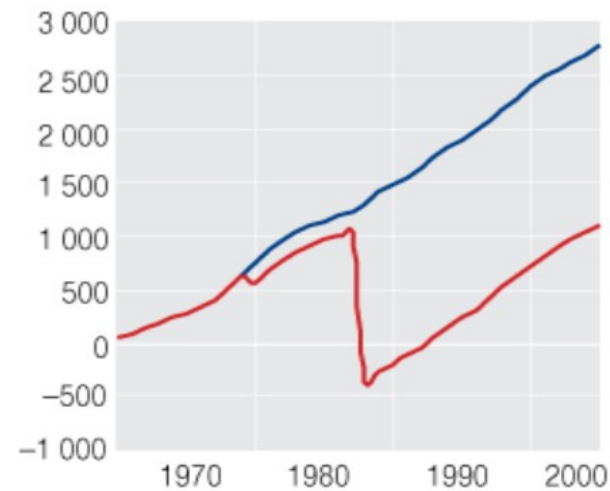
Increase in global flood risk 1990-2007



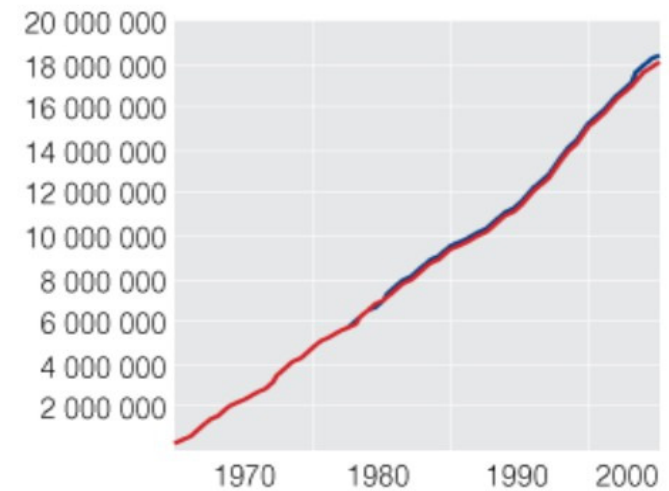
and..... hits small countries hardest.

Cumulative net capital formation (NKF) from 1970 to 2006, in Millions of Constant 2000 USD, with and without the effect of economic disaster loss

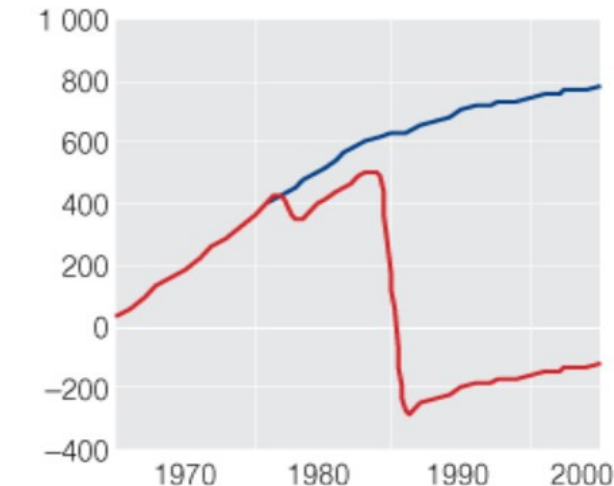
St. Lucia



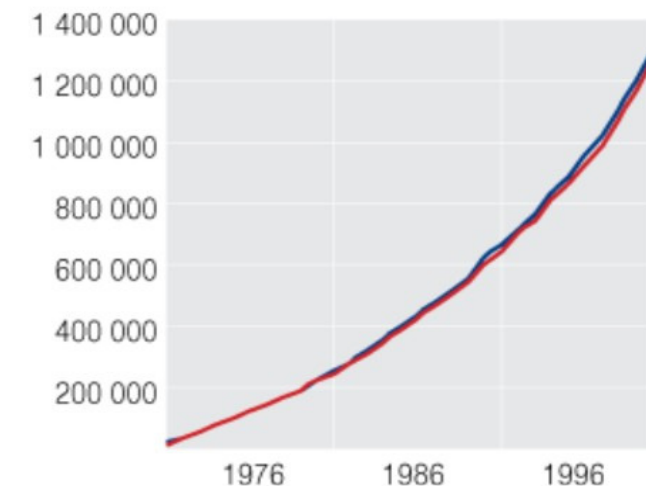
United States of America



Samoa

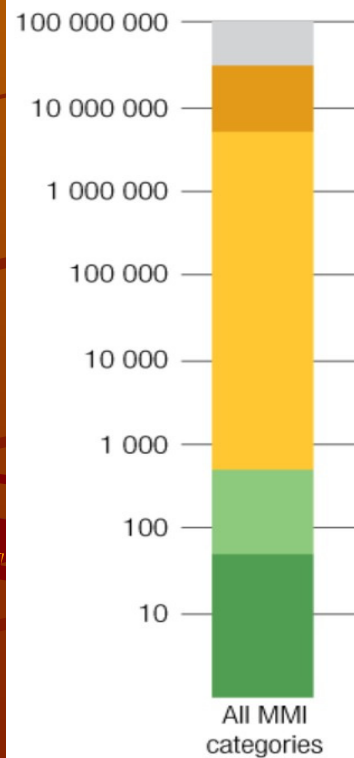


India

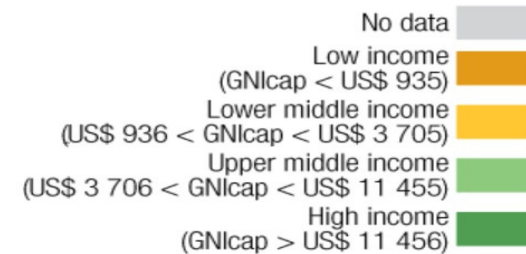
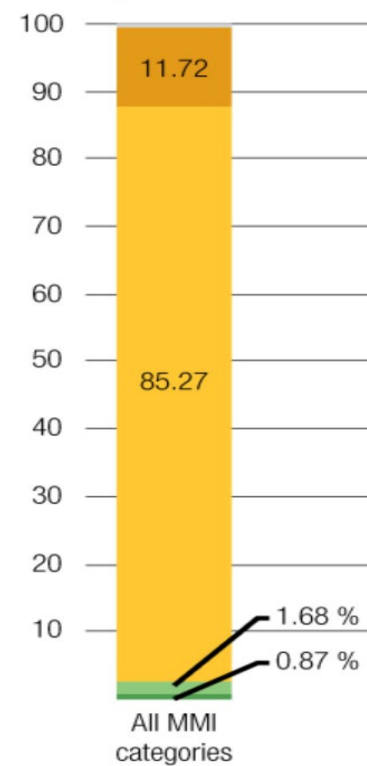


Global risk is driven by poverty and weak governance

Exposure to earthquakes
Number of people per year

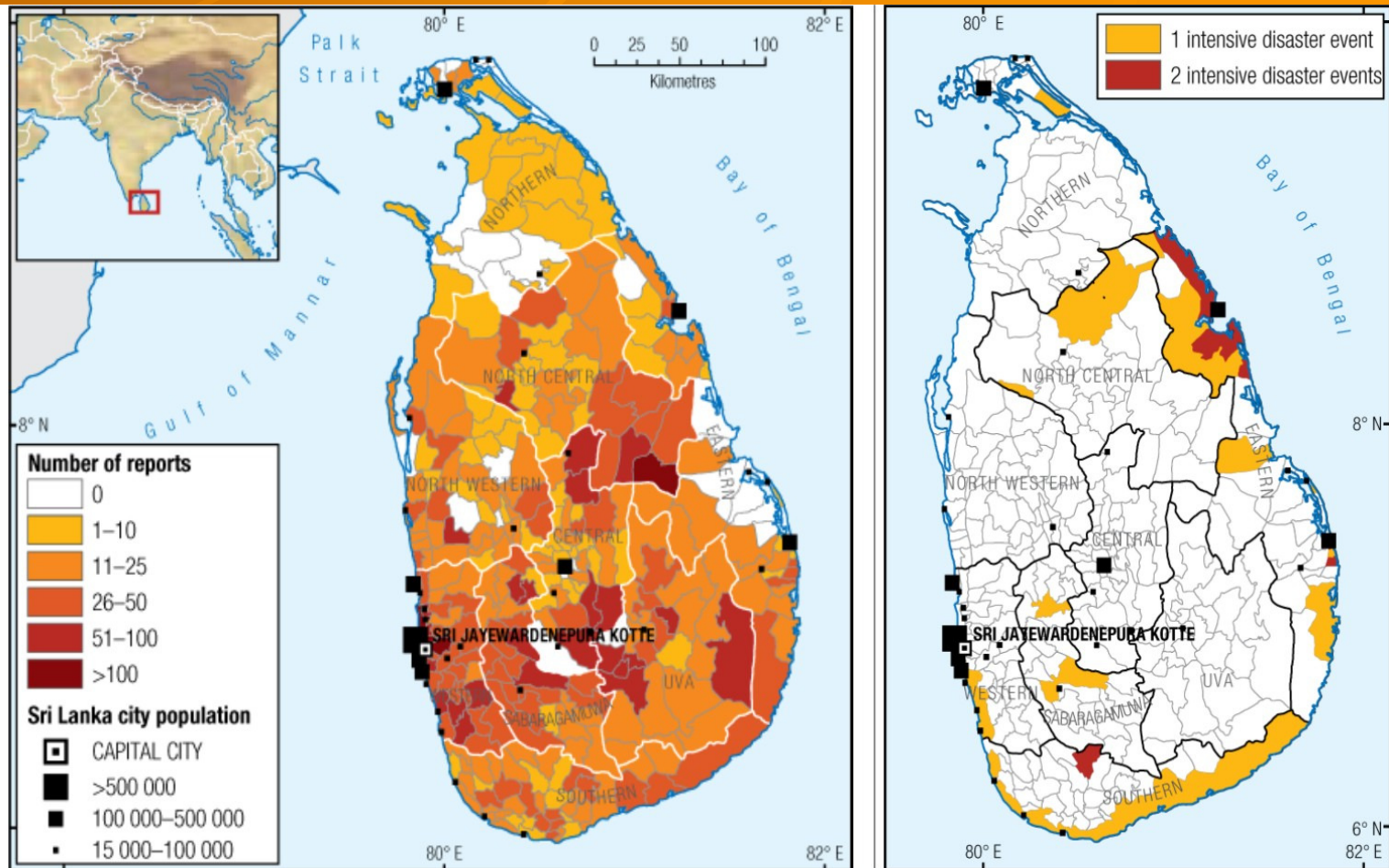


Modelled fatalities from earthquakes
Average number of people killed per year, percentage



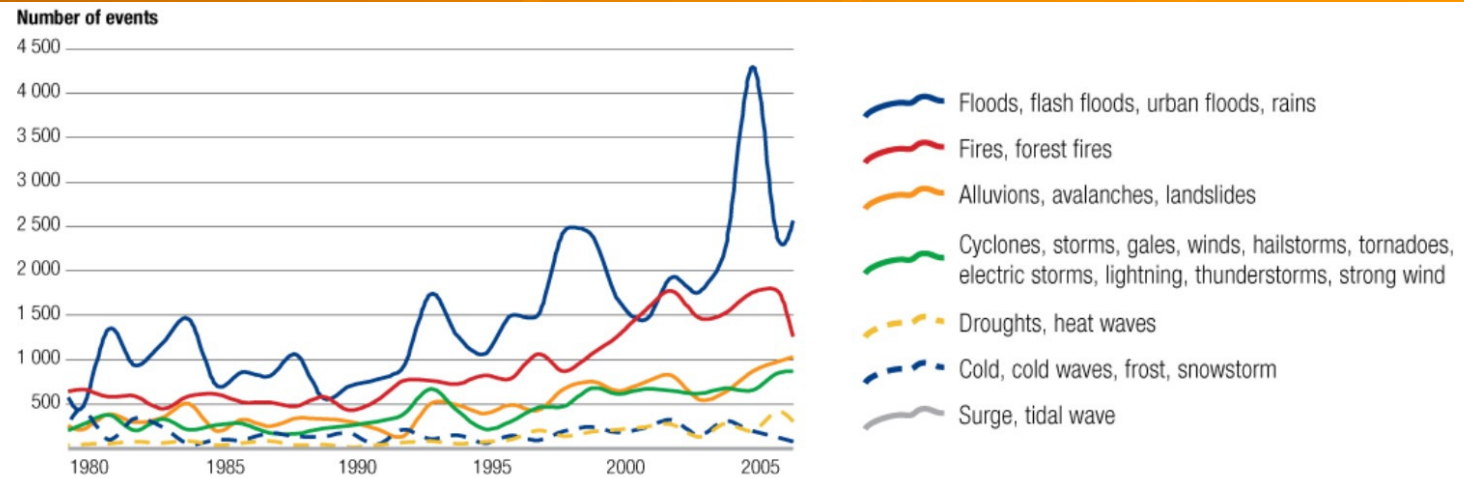
Risk is also extensively spread

**Number of
local loss
reports with
more (right)
and less (left)
than 50
deaths or 500
destroyed
houses
1970 – 2007
in Sri Lanka**

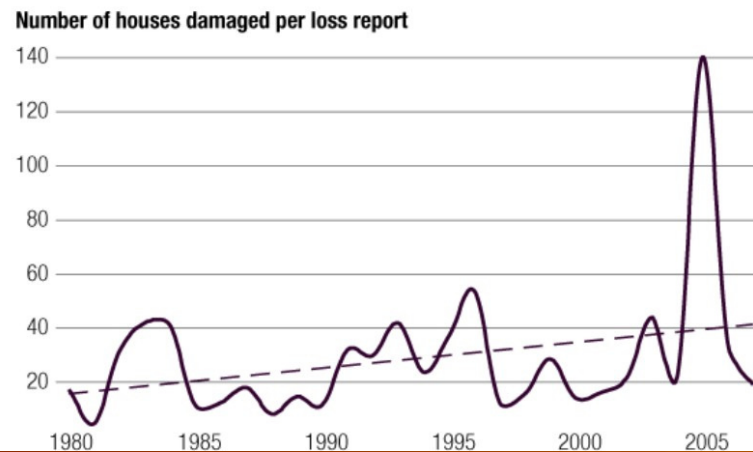


.....and increasing rapidly

Number of flood and rain extensive risk loss reports (1980–2006)

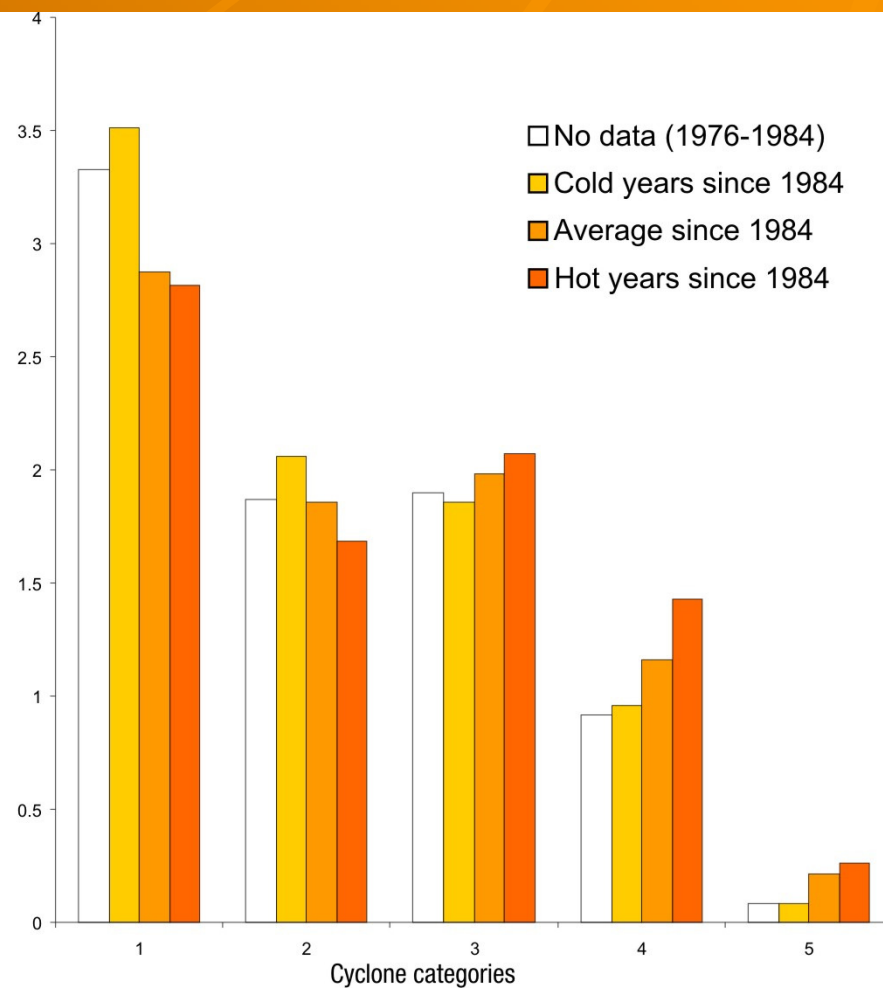


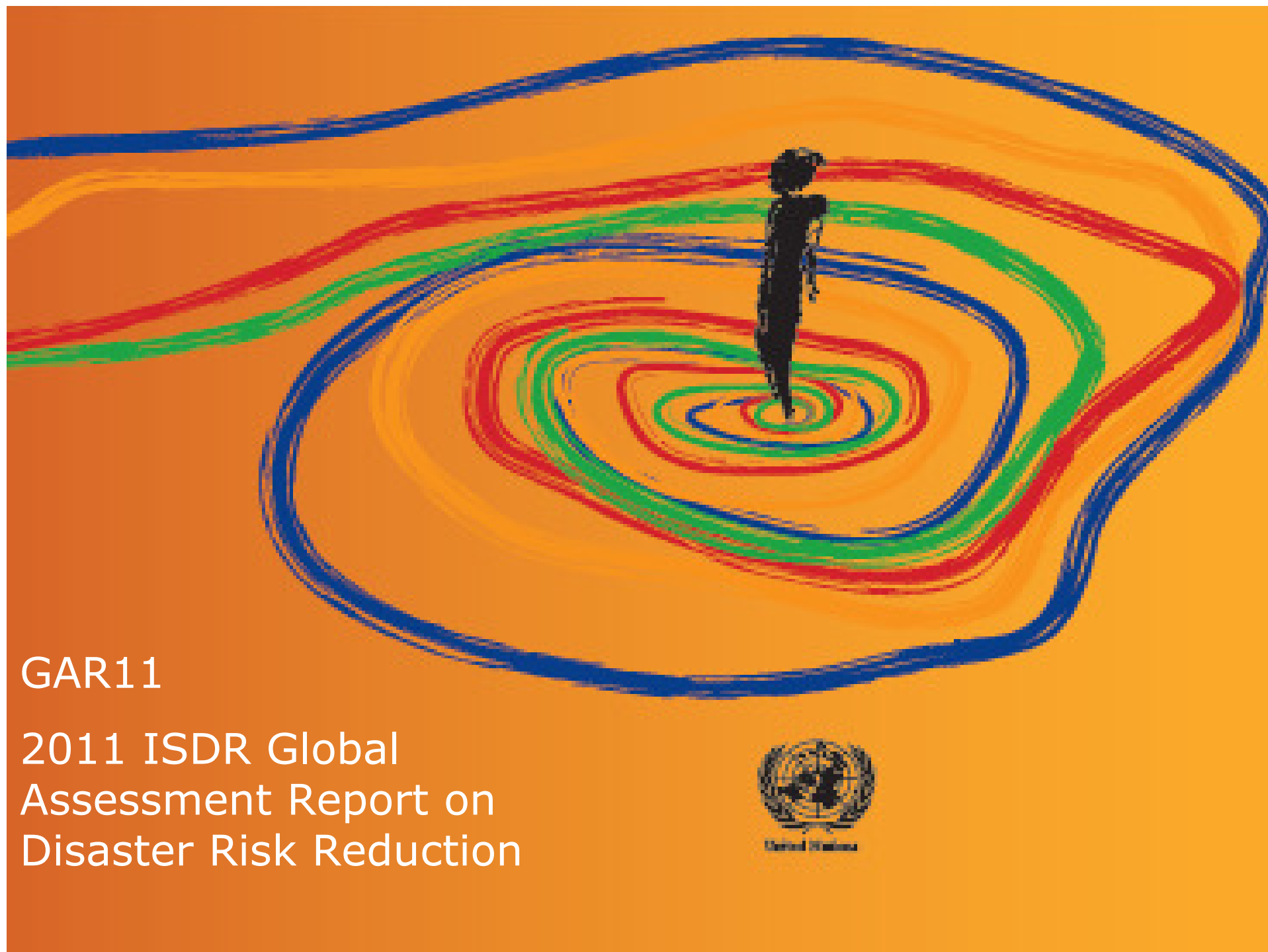
Extensive weather-related housing damage (1980–2006)



.....magnified by climate change

**Annual average
tropical cyclone
occurrence
1977-1984 and
1985- 2006**





GAR11

2011 ISDR Global
Assessment Report on
Disaster Risk Reduction



Background

- ◆ GAR09 development, launch and follow-up
- ◆ Second session of Global Platform indicated growing political momentum to DRR and CCA
- ◆ GAR11 will move from *drivers of risk and what needs doing to drivers of risk reduction and how to address the challenges highlighted in GAR09*

Enhanced analysis of risk patterns, trends and drivers

- ◆ Revised and updated multihazard risk analysis
- ◆ Regional and sub-regional risk trends
- ◆ Drought risk analysis
- ◆ Extensive risk analysis in 24 countries in all regions
- ◆ Quantification of impacts on children and on displacement

Stratifying risk reduction strategies

- ◆ Identifying risk segments and strata
- ◆ Costs and benefits of different risk reduction strategies



HFA monitoring

- ◆ Multi-stakeholder involvement
- ◆ Means of verification
- ◆ Quantitative indicators
- ◆ Enhanced analysis and visualisation of results



An enabling environment

- ◆ Policies in trade and productive sector development
- ◆ Social safety nets and poverty alleviation programmes
- ◆ Employment policy and programmes
- ◆ Accountability and civil society
- ◆ Decentralisation

An enabling environment

- ◆ Institutional and legislative arrangements
- ◆ Incorporating risk reduction into planning and regulation
- ◆ Using post-disaster recovery as a catalyst
- ◆ Market based approaches
- ◆ Upscaling

Implementation

- ◆ Launch in association with third session of Global Platform for Disaster Risk Reduction, Geneva 2011
- ◆ Advisory Board chaired by SRSG Wahlstrom
- ◆ Currently moving from planning to outsourcing research

GAR11 Drought risk analysis



Drought risk analysis

- ◆ Drought risk absent from GAR09
- ◆ Previous attempts to produce a mortality calibrated risk index failed
- ◆ GAR11 will focus on agricultural and hydrological drought risk
- ◆ Objectives:
 - Characterize risk
 - Identify causal drivers and social and economic consequences
 - Propose policy alternatives

Proposed structure

1. WMO globally agreed indicator for identifying and measuring meteorological drought
2. Development of indicators for identifying and measuring agricultural and hydrological drought risk, through two expert working groups
3. Case studies on drivers of drought risk and on policy alternatives for drought risk management

Estimating drought risk from a disaster reduction perspective

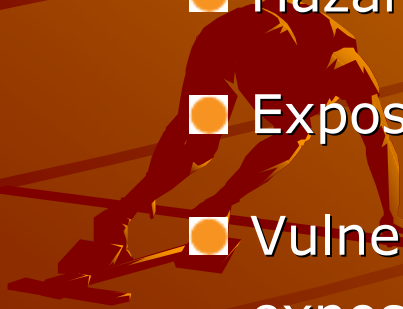
■ Risk = $f(\text{Hazard, Exposure, Vulnerability})$

■ Risk is probability of loss

■ Hazard is potentially damaging physical

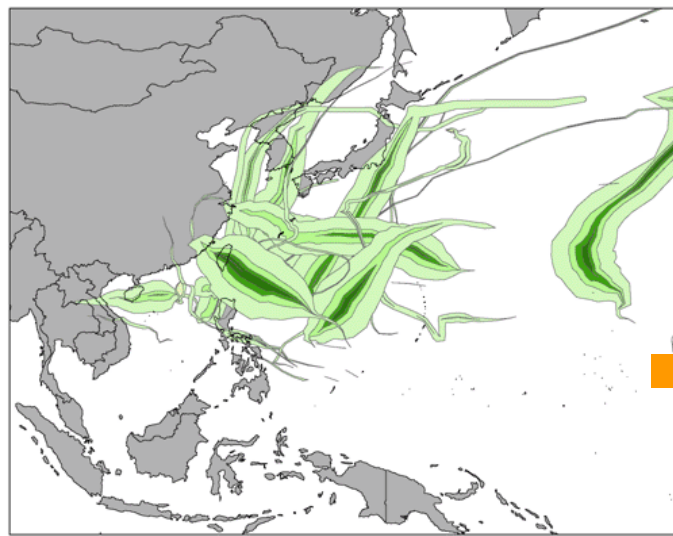
■ Exposure is assets or population exposed to hazard

■ Vulnerability refers to susceptibility to suffer loss of exposed elements

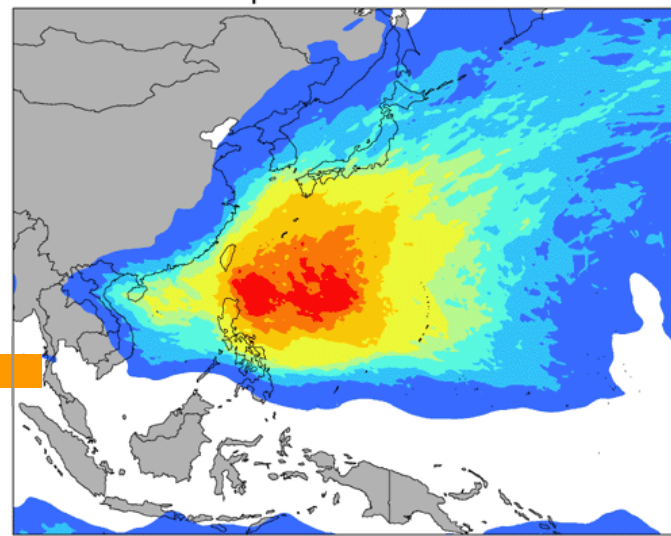


From hazard events to frequency and exposure

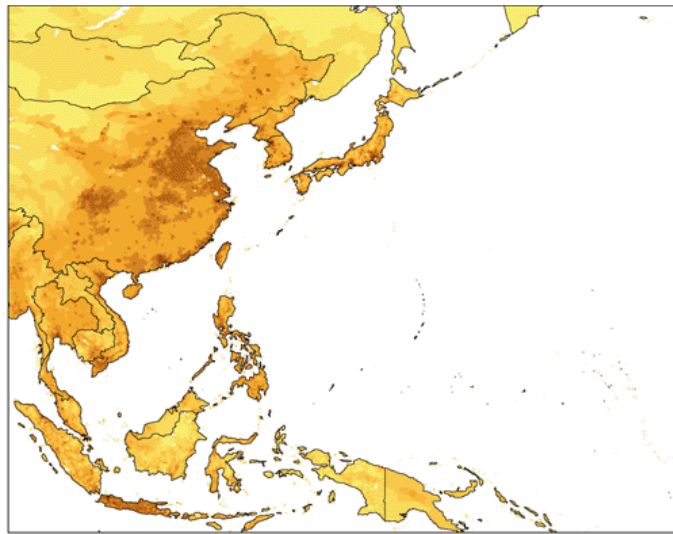
Tropical
cyclones



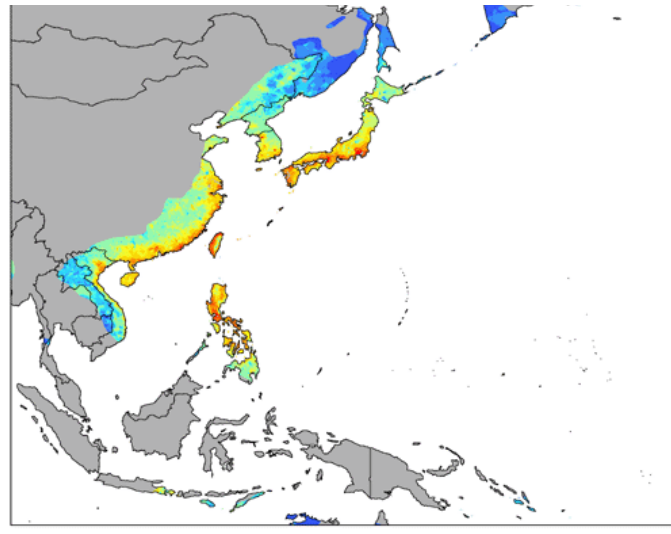
Cyclone
frequency



Population



Population
exposed to
cyclones



Calculate risk

- ◆ Identify vulnerability proxies
- ◆ Use loss data as realised risk
- ◆ Run multiple linear regressions to identify best fit of risk factors with loss patterns
- ◆ Use the regression model to impute future losses

What is possible ?

- ◆ Data limitations
- ◆ Spatial and temporal complications
- ◆ Heterogeneous contexts

◆ Good is better than perfect !!!

- GRACIAS POR SU ATENCION.

