Hitting the Poor

Impact of Natural Catastrophes in Economies at Various Stages of Development

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Geo Risks Research, Munich Reinsurance

IDRC 2008 Davos

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Contents

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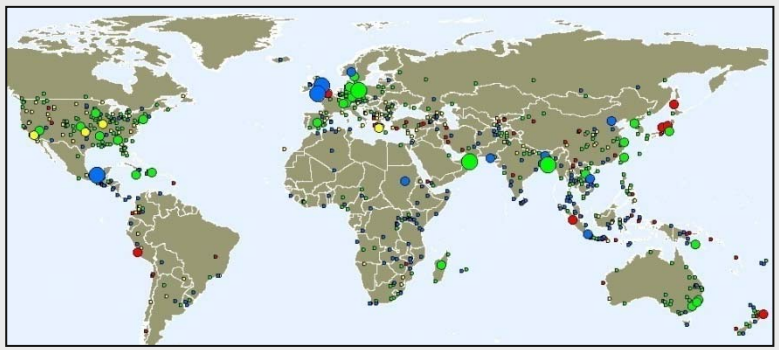
- Munich Re NatCatSERVICE – structure, data, sources

Start | Main Selection | Selection Results

MR Number	Assoc.	Event	Period	Area	Eco Loss	Ins Loss	Death	Description
MR200701D108	Y	Natural disasters (summary)	Jan-June 2007	China	9,500.00	0.00	715	Floods, hailstorms,
MR200701D040	N	Winter damage, winter storms	12.-17.1.2007	United States	1,150.00	245.00	65	PCS Cat. No. 91. Ice
MR200701B007	N	Winter storm, winter damage	13.-15.1.2007	United States	1,000.00	50.00	0	PCS Cat. No. 92. Ice
MR200701B059	C	Winter storm Kyrill	18.-19.1.2007	United Kingdom	1,200.00	670.00	14	Wind speeds up to 16
MR200701B059	C	Winter storm Kyrill	18.-19.1.2007	Germany	5,500.00	3,120.00	13	Wind speeds up to 20
MR200701B059	R	Winter storm Kyrill	18.-20.1.2007	Western Europe	10,000.00	5,800.00	49	Wind speeds up to 20
MR200701B059	R	Winter storm Kyrill	18.-20.1.2007	Eastern Europe	10,000.00	5,800.00	49	Wind speeds up to 20
MR200701B059	C	Winter storm Kyrill	18.-19.1.2007	Netherlands	550.00	425.00	6	Wind speeds up to 13
MR200702C007	M	Floods, flash floods	1.-11.2.2007	Indonesia	1,700.00	410.00	90	Persistent torrentia
MR200703B001	M	Tornadoes, severe storms	1.-2.3.2007	United States	650.00	500.00	22	PCS Cat. No. 96. Thu
MR200703C107	M	Floods, landslides	Spring 2007	Tajikistan	1,000.00	0.00	13	Persistent heavy rai
MR200703A048	N	Earthquakes	25.-26.3.2007	Japan	500.00	150.00	1	ML 6.9, >200 aftersh
MR200704B008	R	Winterstorm, tornadoes, floods	13.-17.4.2007	North America	2,000.00	1,569.00	23	PCS Cat. No. 98. Thu
MR200704B008	C	Winter storm, tornadoes, floods	13.-17.4.2007	United States	2,000.00	1,572.00	19	PCS Cat. No. 98. Thu
MR200706C039	Y	Floods, severe storms, landslides	Monsoon season 2007	India	2,600.00	0.00	3,311	Heavy monsoon rains,
MR200706C086	Y	Floods, landslides	June-September 2007	Asia	900.00	0.00	3,200	Heavy monsoon rains,
MR200706B004	R	Tropical cyclone Gonu, storm surge	4.-8.6.2007	West Asia / Middle East	4,000.00	650.00	70	Wind speeds up to 17

- Impact of natural catastrophes in economies at various stages of development



NatCatSERVICE

Most comprehensive global loss database

Long set of data

Experience

Consistency

Methodology

Reliable data and credibility

NatCatSERVICE
Structure – catastrophe categories

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0	Extreme natural event	no fatalities	no property damage
1	Small-scale loss event	>1 fatalities	and/or small-scale damage
2	Moderate loss event	>10+ fatalities	and/or damage to buildings and other property
3	Severe catastrophe	>20 fatalities	Overall losses US$ > 50m
4	Major catastrophe	>100 fatalities	Overall losses US$ >200
5	Devastating catastrophe	>500+ fatalities	Overall losses US$ > 500m
6	„GREAT“ natural catastrophe	Thousands of fatalities, Economy severely affected Extreme insured losses	

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Entry details – general information

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Event Header

Association Type:	Main		**Period:**	5.-8.6.2008
MR Number:		MR200806B004		
Event:	Severe storms, tornadoes, floods		**Subevent Cat.:**	te: Tempest/Severe storm
Area:	United States		**Area Details:**	IA, Keystone, Spencer, Parkersburg; IL, Chicago, Will; IN, Cook,
Losses USD m Eco/Ins:	1,500	725	**Death Toll:**	24

Affected:

People, Housing, Infrastructure, Lines of Business

Fatalities with detailed reporting

Description of the event

NatCatSERVICE
Entry details – loss information

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Exchange Rates (GKD rate type 'M'): USD-EUR 0.634698994, as of 30/06/2008

Economic Damage (in millions)

	USD	EUR	Avail. CUR	Select. CUR	Value	Source Date	Source	MR Assessment	Official Data
▸	1,500.00	952.05			0.00		MR 24.6.08	MR Geo/Claims, aw	☑
*									☐

Insured Damage (in millions)

	USD	EUR	Avail. CUR	Select. CUR	Value	Source Date	Source	MR Assessment	Official Data
	400.00	253.88			0.00		PCS 9.6.08	next estimation 19.6.08	☐
▸	725.00	460.16					PCS19.6.08	MR Claims, next estimation 25.8.08	☑
*									☐

MR Share on Insured Damage (in million USD + EUR)

MR Share (gross), USD:	0	EUR:	0
MR Share (net), USD:	0	EUR:	0

Official Figures (for publication, in million USD)

Economic Damage	est.	1,500
Insured Damage	est.	725

Remarks on Monetary Damage

AP 11.6.08: MN, Houston USD 6.8m for infrastructure and USD 15m crop losses
AP 9.6.08: IA only: insured loss USD 160m
MR Claims: 725m USD corresponds to modelled loss

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Entry details – sources (examples)

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Best (Insurance)

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- Reports from MR offices in 60 countries
- Local visitations at the disaster area
- Loss modelling
- Claims department

Insurance Industry

- Insurance related press
  (e. g. WIR, PCS, Best´s Ins. News)
- Insurance Associations worldwide
  (e. g. Insurance Council of Australia, Schweizer Versicherungs Verband)
- Loss reports from our clients

Very good (Science)

Weather Services

- Worldwide Weather Services
  (Meteo France, DWD, etc.)
- Monthly Weather Report
- Weekly Climate Bulletin

Science Community

- National Hurricane Center
- NOAA
- WMO
- USGS
- BSSA (Seismological Society of America)

Good and Reliable Sources

News agencies

- Factiva, Dow Jones, Reuters, AP, BBC, dpa, etc
- Local press (IAR-TASS, NBC, NZZ, China Morning Post, etc.)

NGOs and GOs

- UN
- OCHA
- ECLAC
- International Federation of Red Cross and Red Crescent
- European Environmental Agency

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Entry details – data quality

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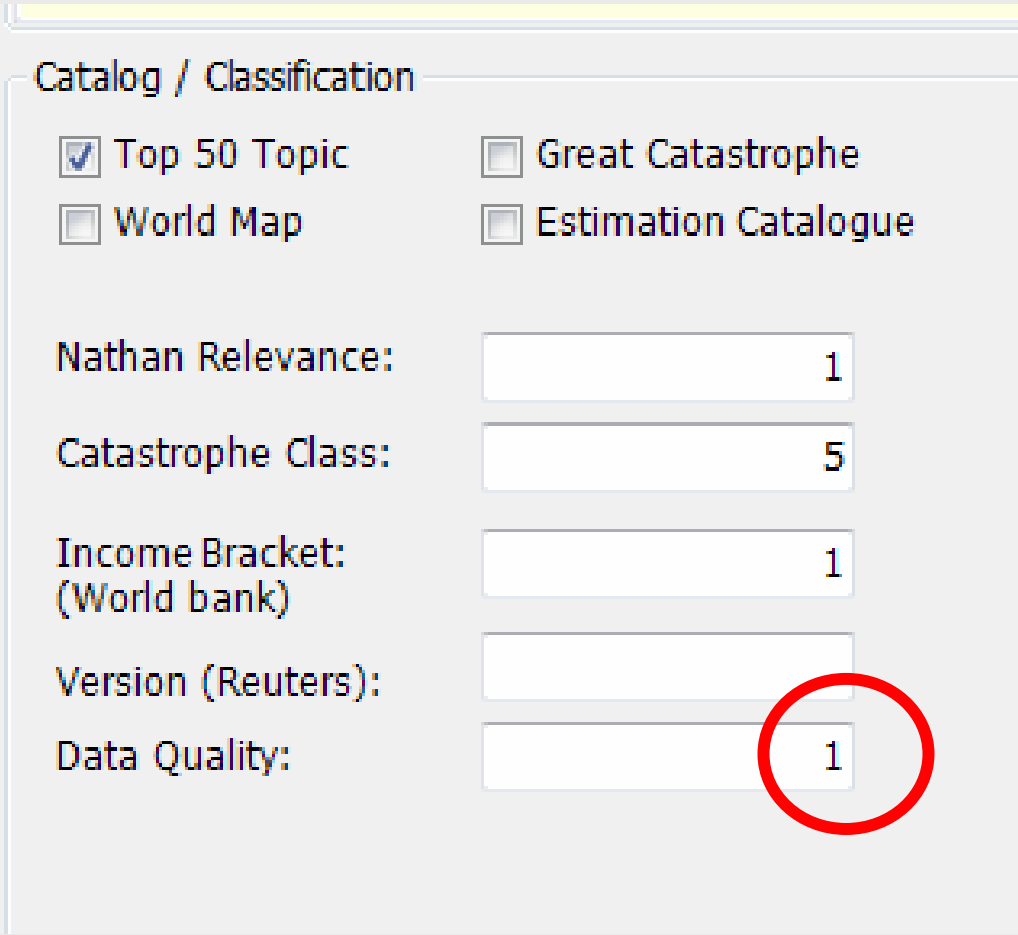

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China

Myanmar

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The differently developed countries –

according to World Bank‘s per capita income grouping

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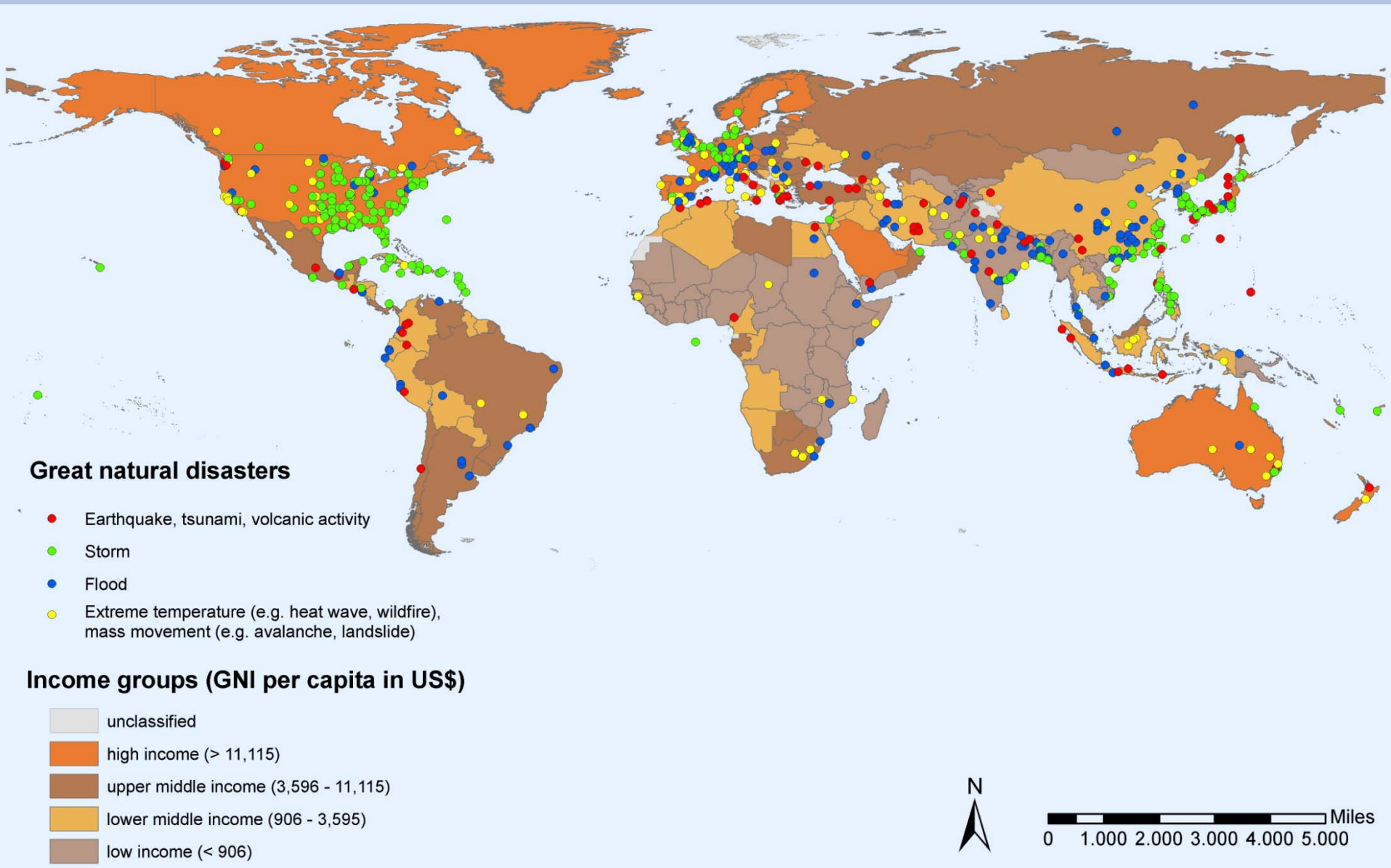

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Natural catastrophes 1980 - 2007

in differently developed countries

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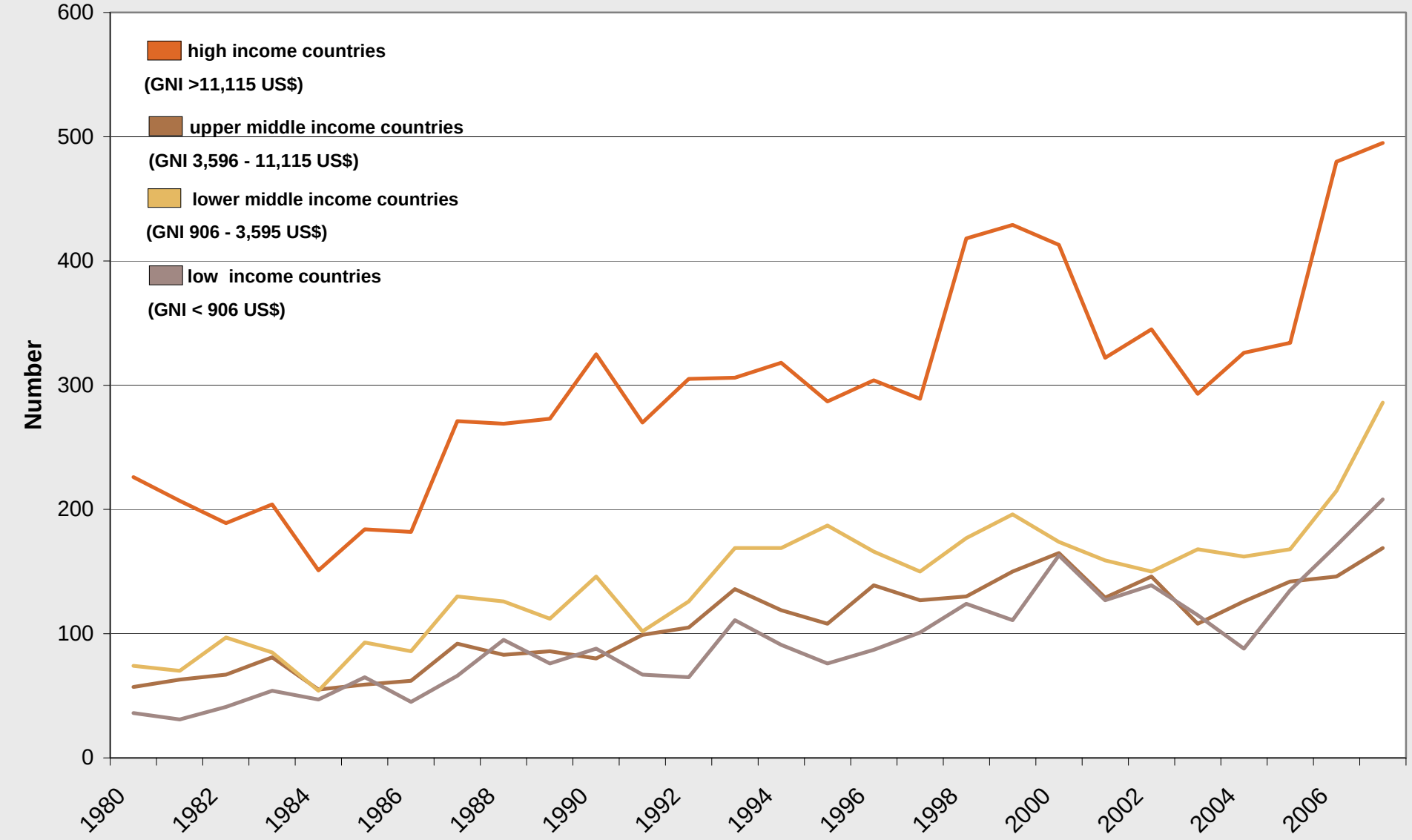

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Natural catastrophes 1980 - 2007

in differently developed countries

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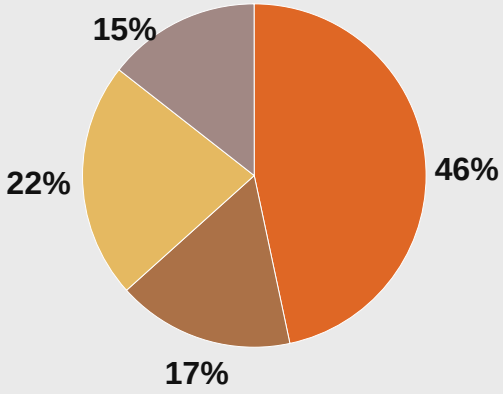
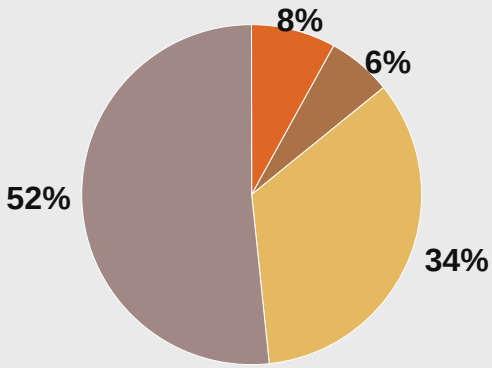
>18,000 Loss events



>1,500,000 Fatalities



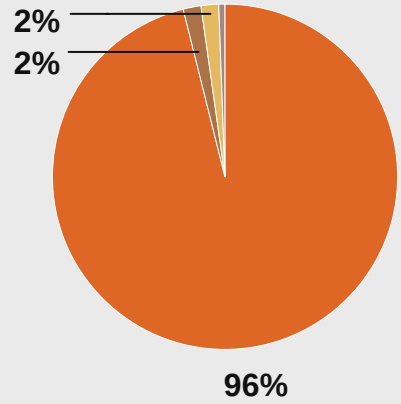
high income countries
(GNI >11,115 US$)

upper middle income countries
(GNI 3,596 - 11,115 US$)

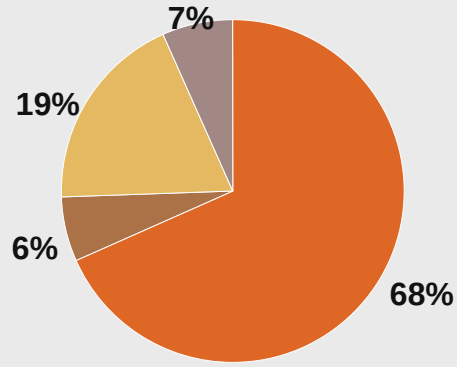
lower middle income countries
(GNI 906 - 3,595 US$)

low income countries
(GNI < 906 US$)

Insured losses* US$ 580bn



Overall losses* US$ 2,100bn



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* 2007 values

Natural catastrophes 1980 - 2007

Deadliest events

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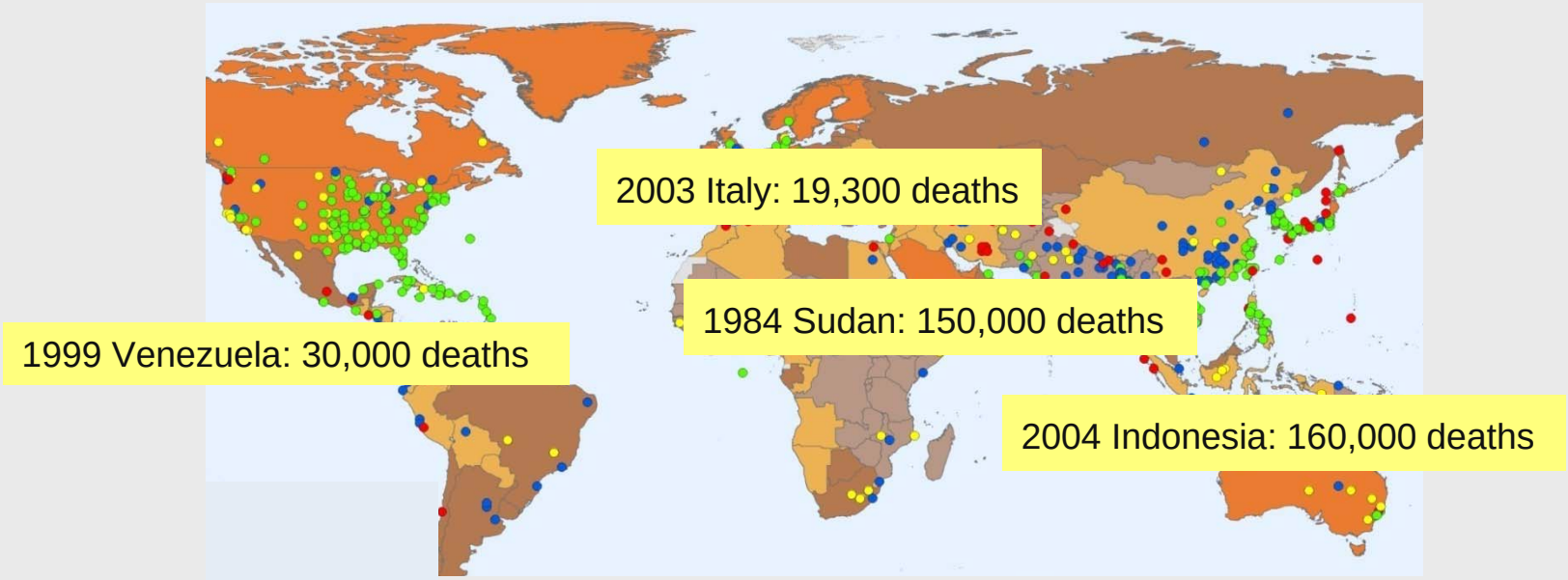

Country group	Year	Event	Region	Fatalities
High income	2003	Heat wave	Italy	19,300
Upper middle income	1999	Flash floods, landslides	Venezuela	30,000
Lower middle income	2004	Tsunami	Indonesia	160,000
Low income	1984	Drought	Sudan	150,000

Natural catastrophes 1980 - 2007

Costliest events (overall losses)

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Country group	Year	Event	Region	Overall losses* (US$m)
High income	2005	Hurricane Katrina	USA	125,000
Upper middle income	1999	Earthquake Izmit	Turkey	12,000
Lower middle income	1996	Floods	China	24,000
Low income	1995	Floods	North Korea	15,000

Earthquake Turkey

* original values

Summary I

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Events

- Number of events increases worldwide
- Wealthiest countries are most frequently hit: 8,400 of the toal of 18,000

Fatalities

- Worst-hit are the poorest countries (>50 % of all fatalities).
- Mainly due to drought and the resulting famine, windstorms and the resulting storm surges and floods.
- The deadliest disaster in the group of high income countries was the heat wave of 2003: worldwide 7th deadliest disasters since 1980

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Economic losses

- Wealthy countries accounted for over two third of global losses
- In relation to the GDP the burden is quite different:

  High income = 4,5 %, Low income = 10 %

Insured losses

- 96 % are to be found in the wealthy countries. This is not surprising.

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The way forward

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- Here is big need of action! Possibilities are:
  - classic insurance solutions
  - microinsurance – MR Foundation is a leading player and provides a global platform for microinsurance solutions
  - innovative solutions, e.g. climate insurance (MCII)

- The disaster experts have talked enough
- They have a broad knowledge in all fields
- Let‘s now change gear – and switch from „Talking to Action“

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www.munichre.com/geo

Thank you for your attention!

Angelika Wirtz

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Additional information:
Deadliest disasters since 1980

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Year	Event	Area	Losses (US$m, original values)		Deaths
			Overall losses	Insured losses	
2004	Tsunami	South Asia	10.000,00	1.000,00	220.000
1984	Drought	Sudan			150.000
1991	Tropical cyclone	Bangladesh	3.000,00	100,00	139.000
1984	Drought	Mozambique			100.000
2005	Earthquake	Pakistan	5.200,00	5,00	88.000
2008	Cyclone Nargis, storm surge	Myanmar	4.000,00		84.500
2003	Heat wave, drought	EUROPE	13.800,00	20,00	70.000
2008	Earthquakes	China	20.000,00	300,00	69.207
1990	Earthquake	Iran	7.100,00	100,00	40.000
1999	Flash floods, landslides	Venezuela	3.200,00	220,00	30.000
2003	Earthquake	Iran	500,00	19,00	26.200
1988	Earthquake	Armenia	14.000,00		25.000
1985	Eruption of Nevado del Ruiz	Colombia	230,00		25.000
1999	Earthquake	Turkey	12.000,00	600,00	17.118
2001	Earthquake	India	4.500,00	100,00	14.970

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As at: August 2008

General findings:
Increase in number of events

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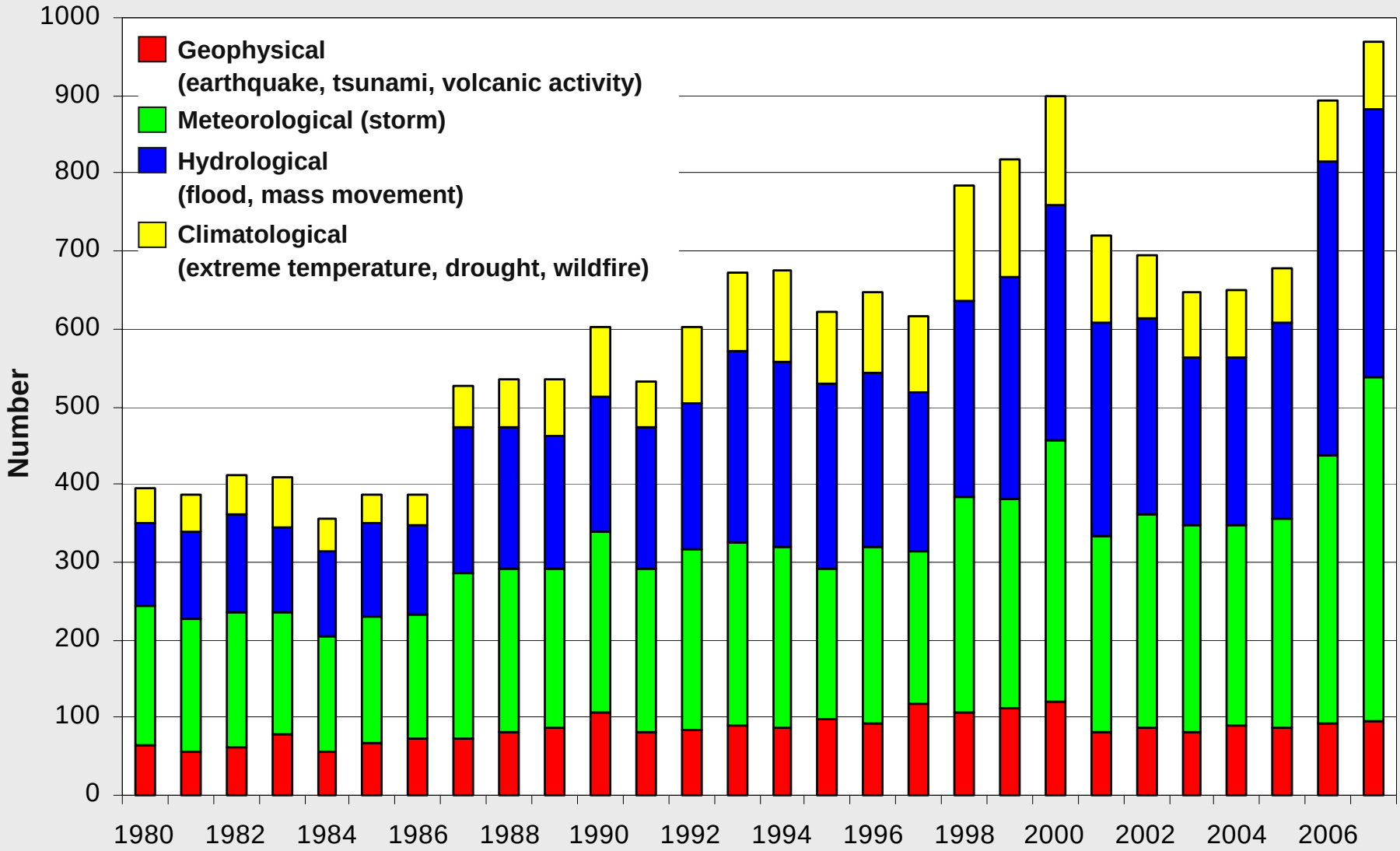

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General findings:
Increase in losses

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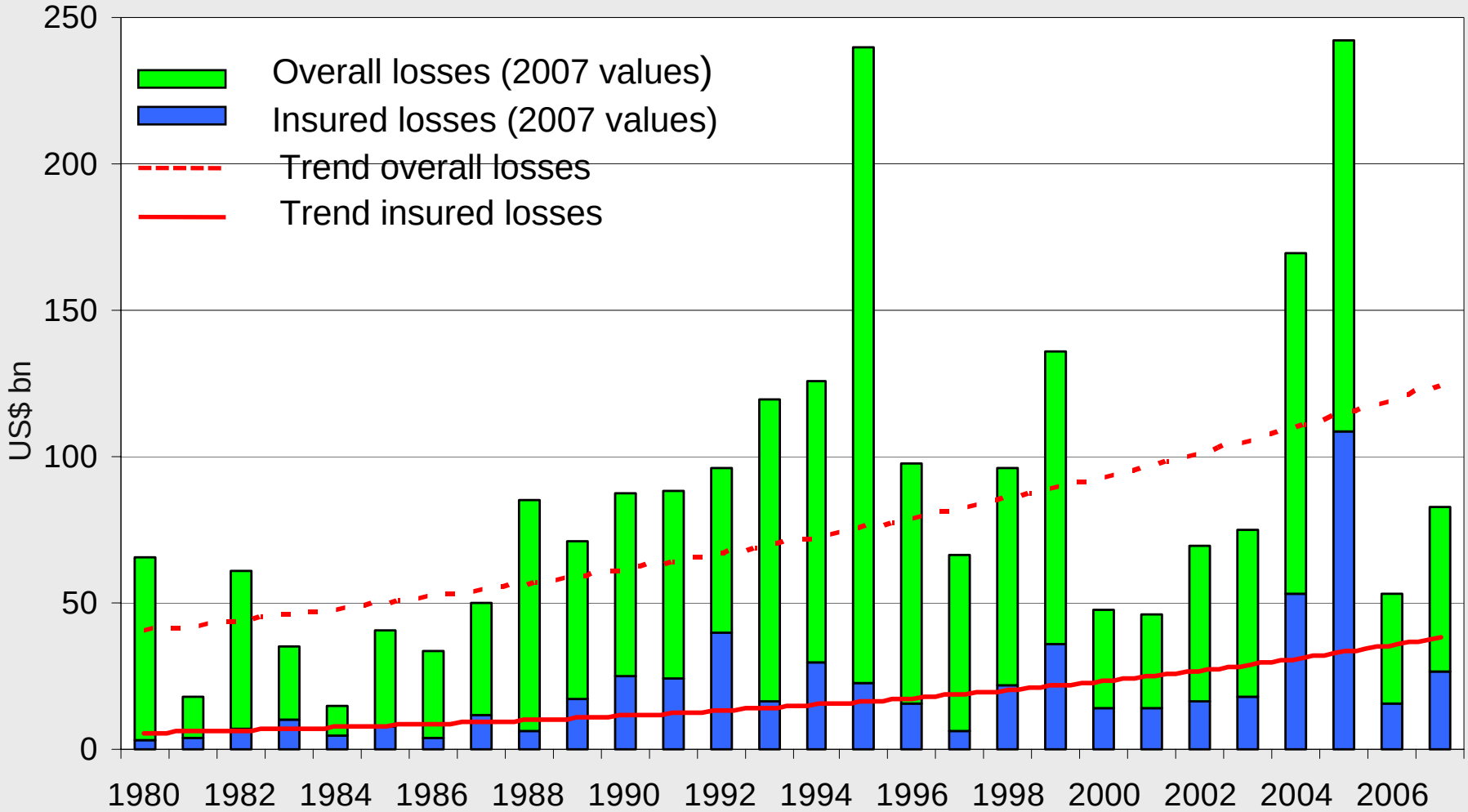

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Natural catastrophes 1980 - 2007

in differently developed countries: costliest events

Criteria: insured losses

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Country group	Year	Event	Region	Insured losses* (US$m)
High income	2005	Hurricane Katrina	USA	61,600
Upper middle income	2005	Hurricane Wilma	Mexico	1,800
Lower middle income	1988	Hurricane Gilbert	Jamaica	720
Low income	2005	Floods	India	770

Hurricane Katrina

* original values

As at: August 2008