

Hitting the Poor

Impact of Natural Catastrophes in Economies at Various Stages of Development

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Münchener Rück
Munich Re Group

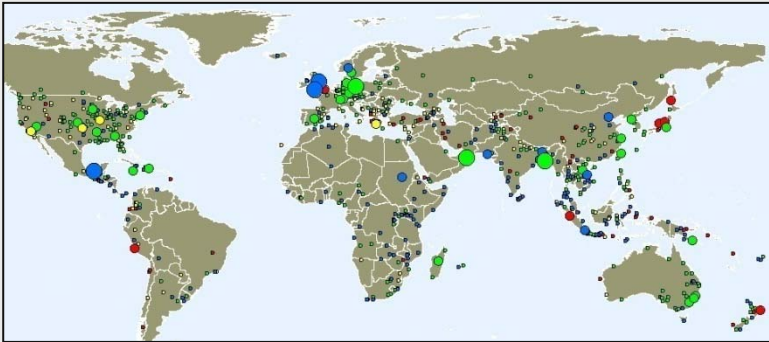


Contents

❖ Munich Re NatCatSERVICE – structure, data, sources

HR Number	Assoc.	Event	Period	Area	Eco Loss	Ins Loss	Death	Description
HR200701101	Y	Natural disasters (summary)	Jan-June 2007	China	9,500.00	0.00	715	Floods, hailstorms.
HR200701D040	N	Winter damage, winter storms	12-17.1.2007	United States	1,150.00	245.00	65	PCS Cat. No. 91. Ice
HR200701B007	N	Winter storm, winter damage	13-15.1.2007	United States	1,000.00	50.00	0	PCS Cat. No. 92. Ice
HR200701B059	C	Winter storm Kyrill	18-19.1.2007	United Kingdom	1,200.00	670.00	14	Wind speeds up to 16
HR200701B059	C	Winter storm Kyrill	18-19.1.2007	Germany	5,300.00	3,120.00	13	Wind speeds up to 20
HR200701B059	R	Winter storm Kyrill	18-20.1.2007	Western Europe	10,000.00	5,800.00	49	Wind speeds up to 20
HR200701B059	R	Winter storm Kyrill	18-20.1.2007	Eastern Europe	10,000.00	5,800.00	49	Wind speeds up to 20
HR200701B059	C	Winter storm Kyrill	18-19.1.2007	Netherlands	550.00	425.00	6	Wind speeds up to 13
HR200702C007	M	Floods, flash floods	1-11.2.2007	Indonesia	1,700.00	410.00	90	Persistent torrential
HR200703B001	M	Tornadoes, severe storms	1-2.3.2007	United States	650.00	500.00	22	PCS Cat. No. 96. Thu
HR200703C107	M	Floods, landslides	Spring 2007	Tajikistan	1,000.00	0.00	13	Persistent heavy rain
HR200703A048	N	Earthquakes	25-26.3.2007	Japan	500.00	150.00	1	Mt. 6.9, >200 aftersh
HR200704B008	R	Winterstorm, tornadoes, floods	13-17.4.2007	North America	2,000.00	1,569.00	23	PCS Cat. No. 98. Thu
HR200704B008	C	Winter storm, tornadoes, floods	13-17.4.2007	United States	2,000.00	1,572.00	19	PCS Cat. No. 98. Thu
HR200706C039	Y	Floods, severe storms, landslides	Monsoon season 2007	India	2,600.00	0.00	3,311	Heavy monsoon rains,
HR200706C086	Y	Floods, landslides	June-September 2007	Asia	900.00	0.00	3,200	Heavy monsoon rains,
HR200706B004	R	Tropical cyclone Gonu, storm surge	4.-6.6.2007	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



Most comprehensive global loss database

Long set of data

Experience

Consistency

Methodology



Reliable data and credibility



NatCatSERVICE

Structure – catastrophe categories

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	



Event Header				
Association Type:	Main	MR200806B004	Period:	5.-8.6.2008
MR Number:				
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

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	<input checked="" type="checkbox"/>
*									<input type="checkbox"/>

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	<input type="checkbox"/>
▶	725.00	460.16					PCS19.6.08	MR Claims, next estimation 25.8.08	<input checked="" type="checkbox"/>
*									<input type="checkbox"/>

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

MR Share (gross), USD: EUR:

MR Share (net), USD: EUR:

Official Figures (for publication, in million USD)

Economic Damage

Insured Damage

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

NatCatSERVICE

Entry details – sources (examples)

Best (Insurance)

Munich Re

- 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



Catalog / Classification

- | | |
|--------------------------------------------------|-----------------------------------------------|
| <input checked="" type="checkbox"/> Top 50 Topic | <input type="checkbox"/> Great Catastrophe |
| <input type="checkbox"/> World Map | <input type="checkbox"/> Estimation Catalogue |

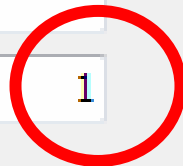
Nathan Relevance:

Catastrophe Class:

Income Bracket:
(World bank)

Version (Reuters):

Data Quality:



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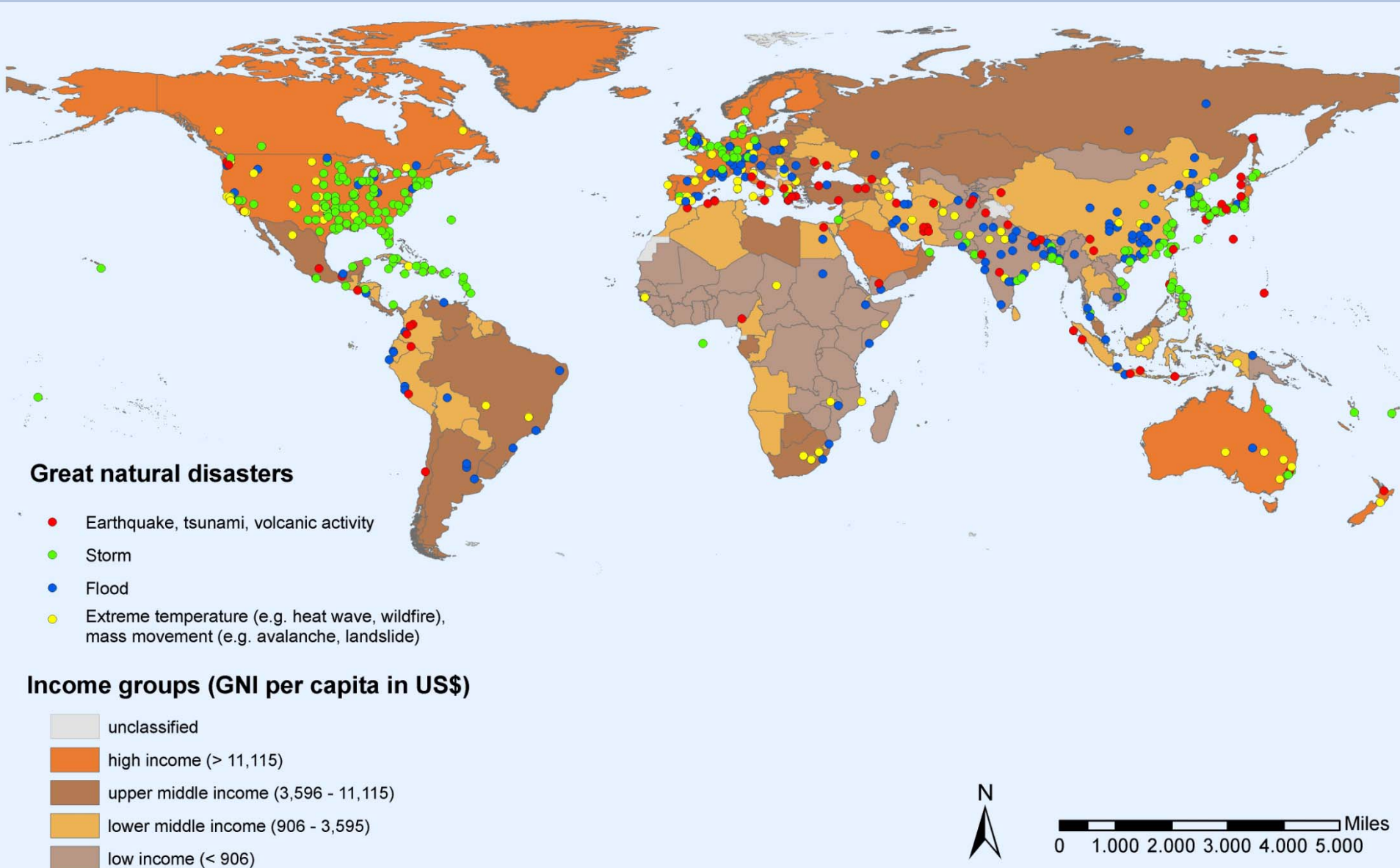


China

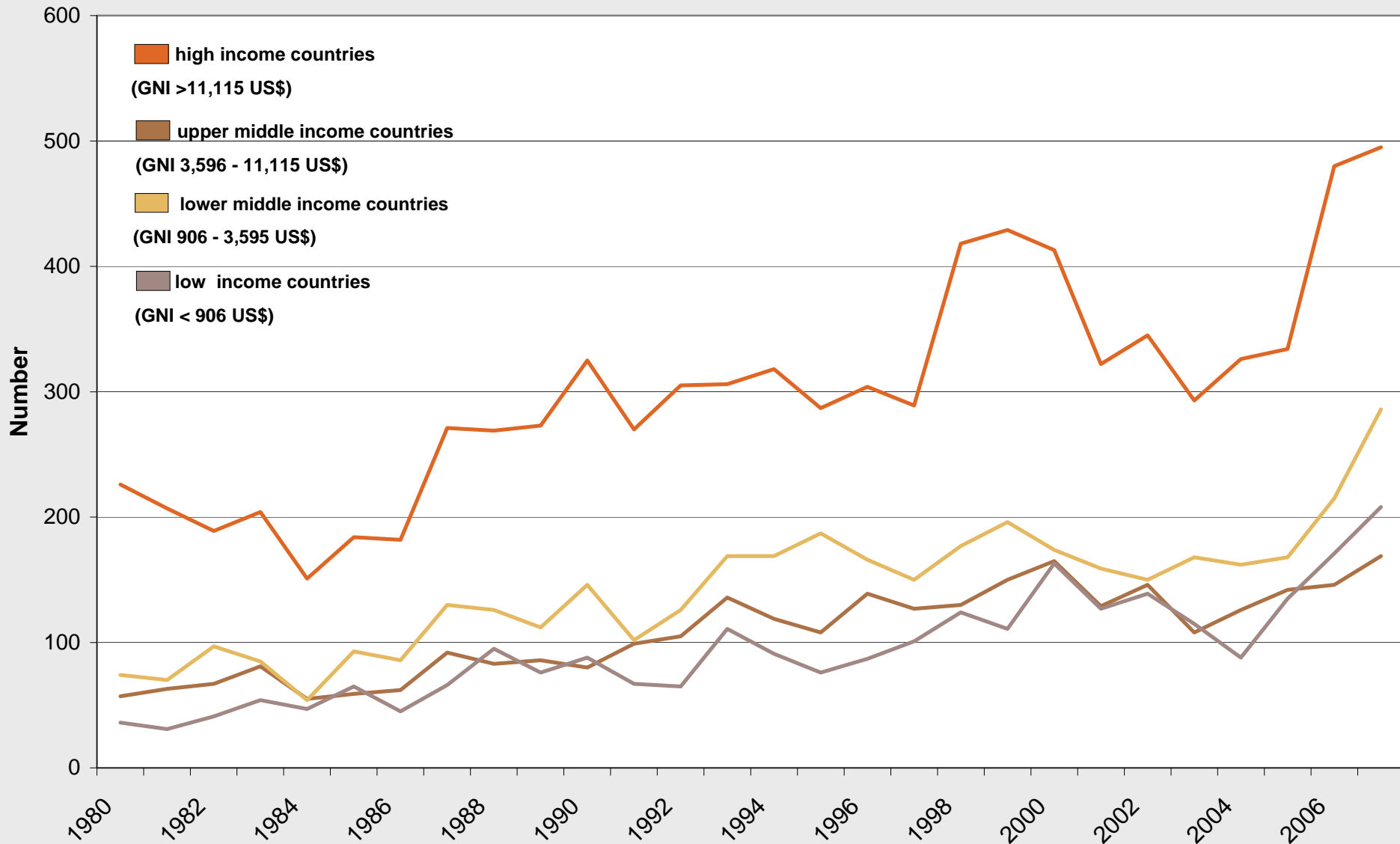


Myanmar

The differently developed countries – according to World Bank's per capita income grouping



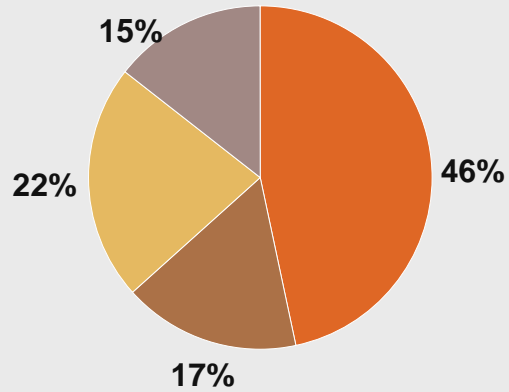
Natural catastrophes 1980 - 2007 in differently developed countries



Natural catastrophes 1980 - 2007

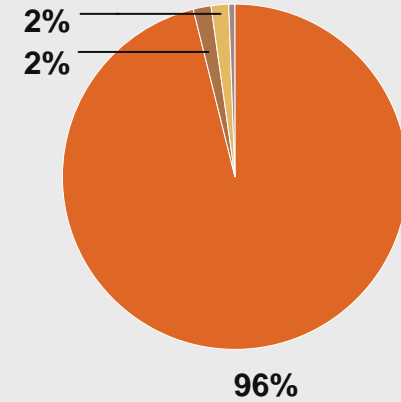
in differently developed countries

>18,000 Loss events

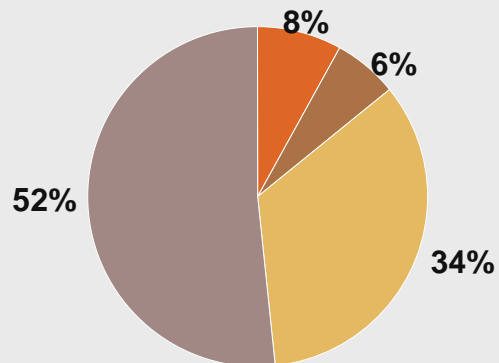


- high income countries
(GNI >11,115 US\$)
- upper middle income countries
(GNI 3,596 - 11,115 US\$)
- lower middle income countries
(GNI 906 - 3,595 US\$)
- low income countries
(GNI < 906 US\$)

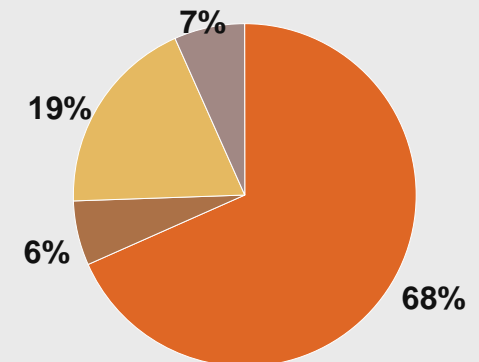
Insured losses* US\$ 580bn



>1,500,000 Fatalities

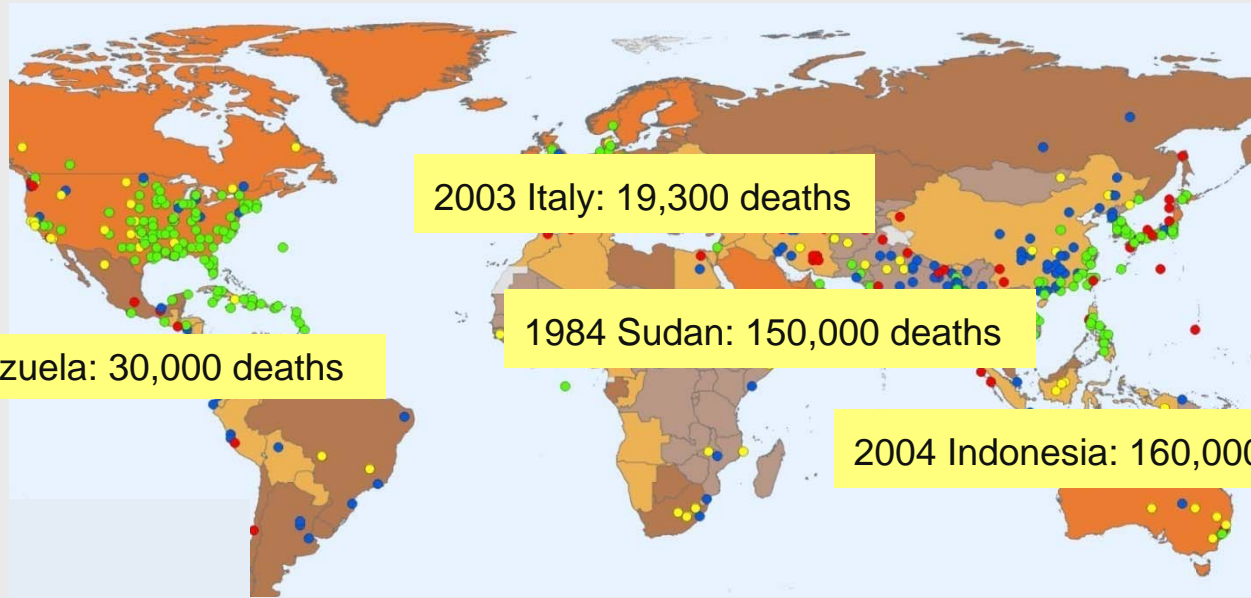


Overall losses* US\$ 2,100bn



Natural catastrophes 1980 - 2007

Deadliest events



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)

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



Events

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

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.

- 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“

You can download our analyses and publications

www.munichre.com/geo

Thank you for your attention!

Angelika Wirtz



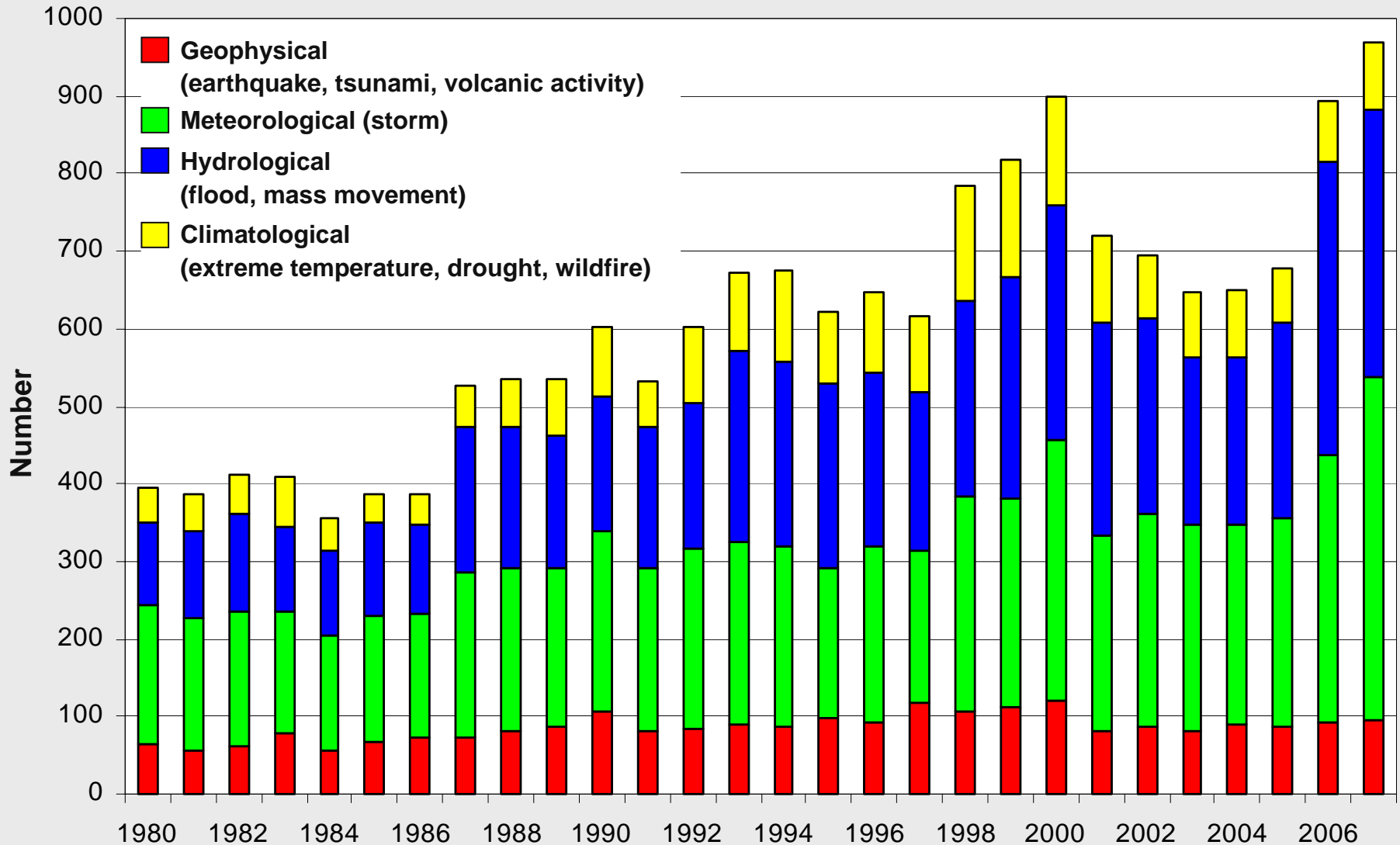
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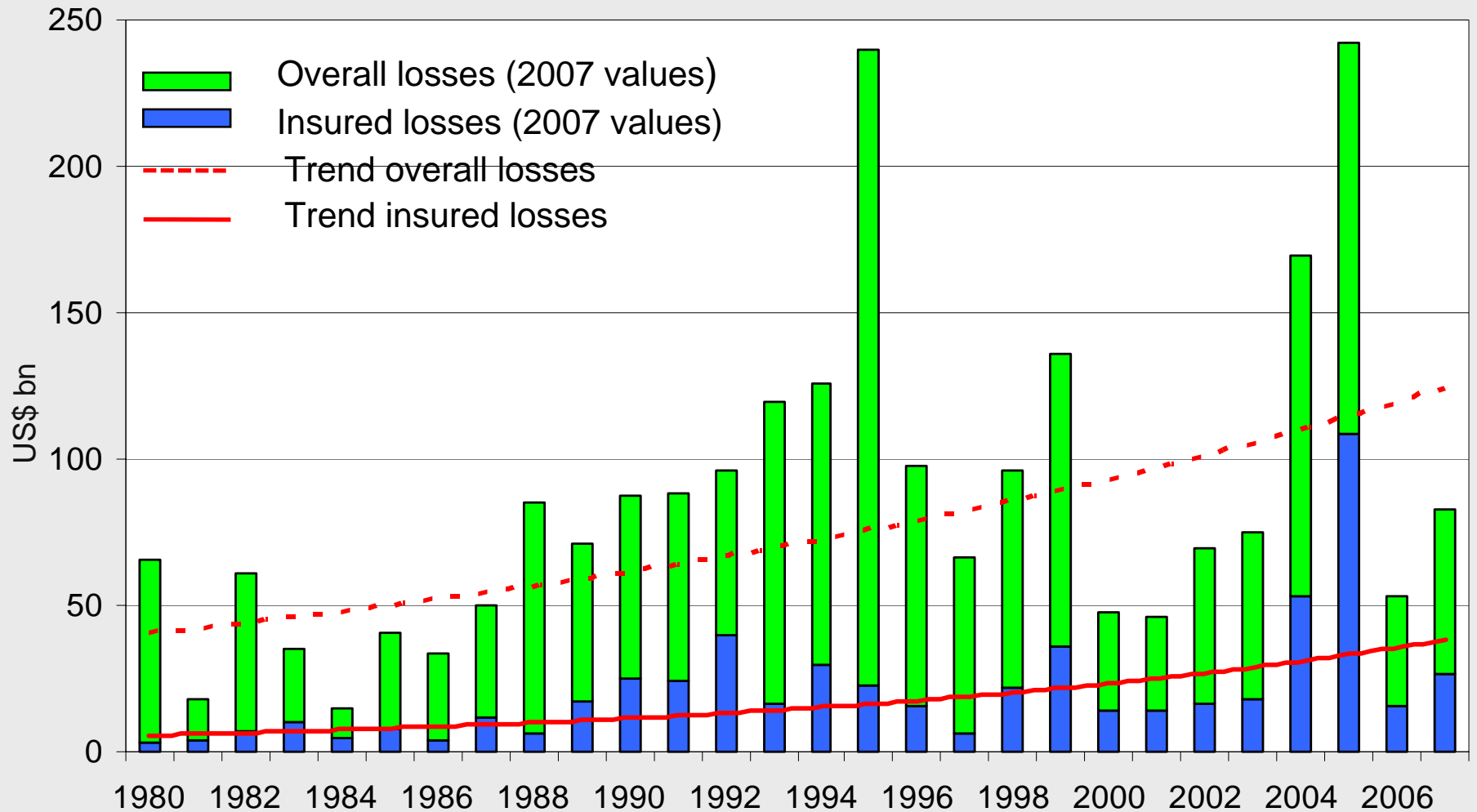
Additional information: Deadliest disasters since 1980

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

General findings: Increase in number of events



General findings: Increase in losses



Natural catastrophes 1980 - 2007

in differently developed countries: **costliest events**

Criteria: **insured** losses

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



* original values

As at: August 2008