

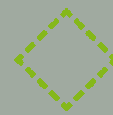
Social Vulnerability

Summer Academy 2007

Megacities as Hotspots of Risk



UNITED NATIONS
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Munich Re
Foundation
From Knowledge
to Action

MRNatCatSERVICE
Event: TC Tropical Cyclone
Name: Hurricane Katrina, storm surge
Date: 25.08.2005 - 30.08.2005
Country: United States
Region: Northern America
F1; AL; LA: New Orleans, Slidell, MS, Biloxi, Pascagoula, Waveland, Gulfport, Bay St. Louis, LA, New Orleans, MS, Biloxi
Deaths: 1227
Economic losses: 175000.00 (insured), 61600.00 (MR share), 640.00 (Exchange)
Effects on: People (Injured, Homeless, Missing, Evacuated), Houses (Damaged, Destroyed), Agriculture, Industry, Infrastructure, Water supply, Electricity, Fishery, Traffic, Marine, Environment.

Example data set:
Hurricane Katrina, USA, 2005

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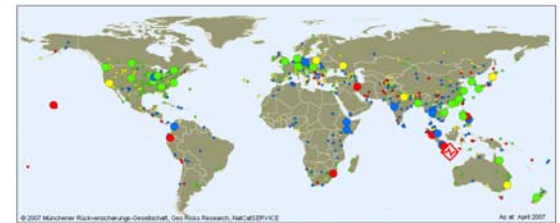
Global loss database for natural disaster

Category	Description	2000-2005	1990er	1980er
0	Natural event	No property damage (e.g. forest fire with no damage to buildings)		
1	Small-scale loss event	1-9 fatalities and/or hardly any damage		
2	Moderate loss event	10-19 fatalities and/or damage to buildings and other property		
3	Severe catastrophe	20+ fatalities	Overall losses US\$ > 50m	> 40m / > 25m
4	Major catastrophe	100+ fatalities	Overall losses US\$ > 200m	> 160m / > 85m
5	Devastating catastrophe	500+ fatalities	Overall losses US\$ > 500m	> 400m / > 275m
6	Great natural catastrophe "GREAT disaster"	Thousands of fatalities, economy severely affected, extreme insured losses (UN definition)		

Natural catastrophes - breakdown into seven catastrophe categories

Natural disasters 2006

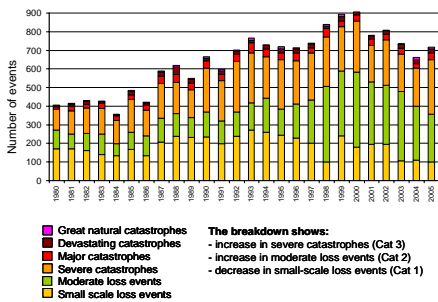
World map



2006: 850 natural catastrophes

- Significant loss events
- ◆ Great natural catastrophe: Earthquake Indonesia, 27.5.
- Earthquake, tsunami, volcanic eruption
- Windstorm
- Flood
- Extreme temperatures (e.g. heat wave, wildfire), mass movement (e.g. avalanche, landslide)

Number of events per year (1980 – 2005) broken down into catastrophe categories



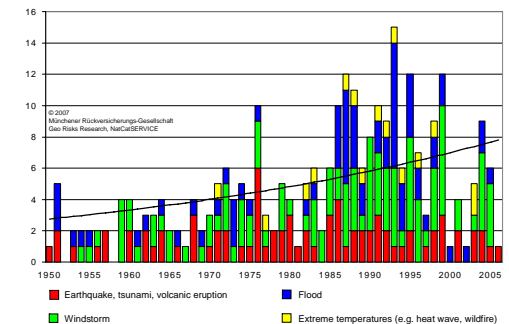
Example of a loss estimate: Hurricane Ivan, USA, 2004

	Insured losses (US\$m)	Estimated direct overall losses (US\$m)
Insured property damage		
-USA (average loss US\$ 11,500, especially Florida and Alabama, approx. 500,000 claims)	7,110	10,000*
-offshore facilities	3,000	3,000**
-under the National Flood Insurance Program	1,000	2,000***
-Damage to infrastructure and supply facilities		3,000
	12,000	18,000

- * approx. 70 % insurance penetration.
- ** 100% insured, no further effect on the overall losses.
- *** 50-60% insurance penetration.

Great natural disasters 1950 – 2006

Number of events



NatCatSERVICE

Significant winter storms Europe 1980 - 2007

10 costliest storms ordered by overall losses

Date	Winter storm	Region	Overall losses* (US\$m)	Insured losses* (US\$m)	Fatalities
18-20.1.2007	Hymil**	Europe	13,000	6,500	49
28.12.1999	Lothar	esp. France, Germany	11,500	5,500	110
25-28.1.1999	Jana	Western, Northern, Eastern Europe	9,850	5,100	94
7-9.1.2005	Erwin (Gudrun)	esp. Northern Europe	5,800	2,500	18
27-28.12.1999	Martin	France, Spain, Switzerland	4,100	2,500	30
15-16.10.1987	B.T.J.	esp. Great Britain	3,700	3,100	17
25-27.2.1990	Ulvian	Europe	3,200	2,100	52
3-4.12.1999	Anatol	esp. Denmark	3,000	2,350	20
26-30.10.2002	Jeanett	esp. Western Europe	2,650	1,700	37
28.2-1.3.1990	Wrebeke	Western, Southern Europe	2,260	1,350	64

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* Preliminary figures
As of April 2007

NatCatSERVICE founded in 1974 is one of the most comprehensive global natural catastrophe databases in existence. The database currently has more than 25,000 records, with data on the major catastrophes of the last 2,000 years and all post 1980 events. The only way to ensure accurate analyses and hazard assessments is to systematically document all details in full. Thanks to the complexity and homogeneous quality of the data, a variety of analyses can be carried out at country and regional level throughout the world.

In addition, we set standards on an international scale:

- Consistent use of terminology for disaster perils worldwide, jointly with the global databases run by Swiss Re (sigma) and the University of Leuven (EM-Dat) as well as the WMO, the IFRC and the ADRC
- Classification of catastrophe categories
- Definition of extreme loss events (together with the WMO and the University of Hawaii)
- NatCatSERVICE data are increasingly implemented in scientific reports and analyses, e. g. the IPCC reports (TAR)

You can download the latest data, analyses and charts from our website at www.munichre.com/geo.