



# NATCATSERVICE

Natural catastrophe know-how for  
risk management and research





The earthquake which struck Haiti on 12 January 2010 was one of the deadliest such catastrophes ever recorded in the NatCatSERVICE database. More than 220,000 people lost their lives in the quake.





Many parts of the world experienced catastrophic flooding in 2010. In June, intense rain caused widespread flooding, especially in the southern part of Brazil.



SERVICE

# ACCESSIBLE AT ALL TIMES AND FROM EVERYWHERE

## **NatCatSERVICE Downloadcenter**

All NatCatSERVICE analyses and evaluations can be found on the online portal TOUCH Natural Hazards. Access is free following a simple registration procedure.

>> [www.munichre.com/touch/naturalhazards](http://www.munichre.com/touch/naturalhazards)

## **Publications**

Further Munich Re publications on natural hazards can be downloaded and ordered from our TOUCH publications portal.

>> [www.munichre.com/touch/publications](http://www.munichre.com/touch/publications)

## **Client service**

connect.munichre gives our clients exclusive online access to further information on the subject of natural catastrophes.

>> [connect.munichre.com](http://connect.munichre.com)

## **Contact NatCatSERVICE**

The address for individual enquiries, wishes and suggestions:

[NatCatSERVICE@munichre.com](mailto:NatCatSERVICE@munichre.com)

# NATCATSERVICE – THE WORLD'S LARGEST DATABASE ON NATURAL CATASTROPHES

Increasing value concentrations, new growth regions, ever greater cumulative risks and above all the effects of climate change have made the analysis of natural hazards a significant element of modern risk management. Many decades of acquired experience in analysing and evaluating loss events due to natural hazards have made NatCatSERVICE one of the most valued sources of information worldwide. The database behind NatCatSERVICE not only forms the basis for developing customised insurance solutions, but is also used by researchers and for political decision-making processes.

Occurrence and loss data from around the world have been recorded by Munich Re's Geo Risks Research unit since 1974. This unique archive of natural hazards has developed into the world's most comprehensive database of natural catastrophes, going all the way back to the eruption of Mount Vesuvius in AD 79. Roughly 1,000 loss events due to natural hazards are added to the NatCatSERVICE database every year.

The database provides the basis for a wide range of information, tools and services related to risk management and research. Originally developed for the insurance industry, NatCatSERVICE is now also used by scientific and institutional facilities and media. No other source offers more comprehensive, reliable and professional information on losses due to natural catastrophes than Munich Re's NatCatSERVICE.

# A DATABASE WITH SPECIAL QUALITIES

It is not only the scope of the recorded loss events that makes the NatCatSERVICE database so unique: its quality is also characterised by the depth of detail and precision of the information. The database permits complex evaluations and analyses, as well as applications for risk modelling. Basically, the NatCatSERVICE database concentrates on loss events due to natural hazards resulting in property damage or bodily injury. The loss development associated with each event is continuously updated, even if it extends over several years in some cases.

Innumerable facts relating to a loss event can be retrieved from the NatCatSERVICE database – from the date, type of event or precise geocoding through meteorological data, such as wind strength or amount of

precipitation, to precise details on insured and overall losses.

## Reliable data sources

The very high quality of the NatCatSERVICE information is a point of great importance. Munich Re receives its loss data from the best possible sources. These include more than 60 offices worldwide and good relations with clients in over 150 countries. National and international insurance associations additionally provide reliable data in the form of notified claims and detailed reports of the loss events. Systematic evaluation of daily press reports, from local to international levels, rounds off the range of sources.

## ENTRIES PER LOSS EVENT

Key figures	Loss data	Scientific facts and figures
Date of loss and time record	Insured losses	Description of the event
Type of event	Overall losses	Wind strength
Geocoding of main loss areas	Bodily injuries	Precipitation levels
Nature of the event	Infrastructure areas and industries affected	Earthquake magnitude

## Precise loss figures

On the basis of the information received, as well as the reports by offices abroad and insurance associations, NatCatSERVICE provides definitive figures concerning the insured losses associated with a natural catastrophe. Depending on the information available, Munich Re uses different sources and calculation methods when determining the overall losses. In the case of roughly one-third of all loss events, reliable data on economic losses are provided by governments, statistical offices, the World Bank and development banks. These are entered in the database by Munich Re after close scrutiny and verification of their plausibility.

If suitably verified data concerning the economic losses are not available, we take as our basis the figures concerning the insured losses, extrapolate these via the insurance density of the affected





region and determine the amount of loss with the aid of specially developed algorithms. These loss estimates take account of the type of event, as well as the risk exposure of the region affected. Among other things, this includes information on the structure of affluence in the country affected, as well as details concerning damaged industrial plants, infrastructure and supply systems.

Even if an insured losses has not been incurred, Munich Re can still determine the overall losses. To this end, a realistic picture of the loss is drawn up by experts on the basis of the type of event, the nature of the region affected, its population density and information on damage to buildings and infrastructure, as well as injuries, and then use this to arrive at the overall losses.

### Compatible database structure

Standard guidelines and terminology are essential if data are to be optimally used. For this reason, the NatCatSERVICE database uses a uniform worldwide standard for recording events due to natural hazards. A distinction is made between geophysical, meteorological, hydrological and climatological events which are then further subdivided into event groups (e.g. windstorms) and event types (e.g. tropical storms).

The data are additionally structured according to catastrophe classes reflecting the impact of a catastrophe in financial and human terms. They are classified on a scale from 0 to 6. Catastrophe class 0 comprises natural events without financial or human losses; these are included in the database, but are not used for evaluation. Catastrophe classes 5 and 6 comprise the great and devastating natural catastrophes, and play a special part in the entire system. They supply some of the most important and most stable statistics when identifying worldwide loss trends.

<b>Geophysical events</b> 	<b>Meteorological events</b> 	<b>Hydrological events</b> 	<b>Climatological events</b> 
<b>Earthquake</b>	<b>Storms</b> - Tropical storm - Extratropical storm - Local windstorm	<b>Flooding</b> - River flood - Flash flood - Storm surge	<b>Extreme temperatures</b> - Heatwave - Freeze - Extreme winter conditions
<b>Volcanic eruption</b>		<b>Mass movement (wet)</b> - Rock fall - Landslide - Avalanche - Subsidence	<b>Drought</b>
<b>Mass movement (dry)</b> - Rock fall - Landslide - Subsidence			<b>Wildfire</b>





Meteorological events, such as tropical storms, occur every year and cause considerable overall and insured losses, depending on their track and intensity. Hurricane Alex ravaged Central America from the end of June to early July 2010.



# PRODUCTS – ADDING VALUE TO KNOWLEDGE

The services and information provided on the subject of natural hazards range from downloads on the internet through publications to individual analyses and evaluations.

## **Internet services: TOUCH Natural Hazards**

With TOUCH Natural Hazards, Munich Re has created a separate online portal providing detailed information on the scientific bases and underwriting aspects of natural hazards, as well as comprehensive data material. The NatCatSERVICE Downloadcenter is a vital element here. Valuable information in the form of professionally prepared statistics, evaluations and analyses is presented according to a whole variety of criteria and can be downloaded free of charge in the following sections:

### **Annual statistics**

Up to 1,000 loss events due to natural hazards are evaluated each year with regard to their overall, insured and human losses, as well as their regional distribution.

### **Great natural catastrophes**

The long-term analysis of great natural catastrophes dates back to 1950. It forms an important and stable statistical basis for determining worldwide loss trends.

### **Significant natural catastrophes**

Since 1980, NatCatSERVICE has compiled summaries of the greatest losses for the economy as a whole and for the insurance industry, as well as of the world's deadliest catastrophes.

### **Focus analyses**

Focus analyses comprise evaluations and statistics compiled from a special vantage point. The NatCatSERVICE findings are thus linked with additional data and clearly presented on maps.

## THE ONLINE RANGE AVAILABLE FROM TOUCH NATURAL HAZARDS



### Basic natural hazards know-how

Numerous articles on event types, such as earthquake, windstorm or flood, provide basic information on natural hazards and draw attention to important underwriting aspects.

### NatCatSERVICE Downloadcenter

The download library forms the centrepiece of TOUCH Natural Hazards. It provides statistics and assessments of loss events due to natural hazards based on a whole variety of criteria.

The NatCatSERVICE Downloadcenter is a major source of information for risk management and research.

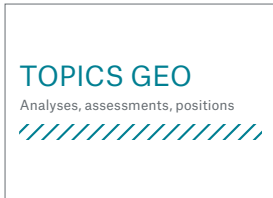
### Current information and publications

Current special assessments and statistics, as well as press releases and publications can also be downloaded from TOUCH Natural Hazards. Among others, these include the TOPICS GEO – annual review of natural catastrophes.

The complete range available from TOUCH Natural Hazards can be used free of charge after completing a simple registration procedure:

>> [www.munichre.com/touch/naturalhazards](http://www.munichre.com/touch/naturalhazards).

**Publications: TOPICS GEO – Annual review of natural catastrophes**



TOPICS GEO provides a comprehensive annual review of the main natural catastrophe events during the past year. Focal topics, catastrophe portraits and background analyses present the current risk situation, as well as trends and market developments from the vantage of the insurance industry. Current loss data from the NatCatSERVICE database also make up an integral part of each issue.

**Client portal: connect.munichre**



In our client portal connect.munichre, the annual review TOPICS GEO and the World Map of Natural Hazards are available from 1999. Clients of Munich Re can exclusively download a large number of catastrophe portraits and a weekly NatCatSERVICE report here.

**Customised solutions: Individualised NatCatSERVICE**

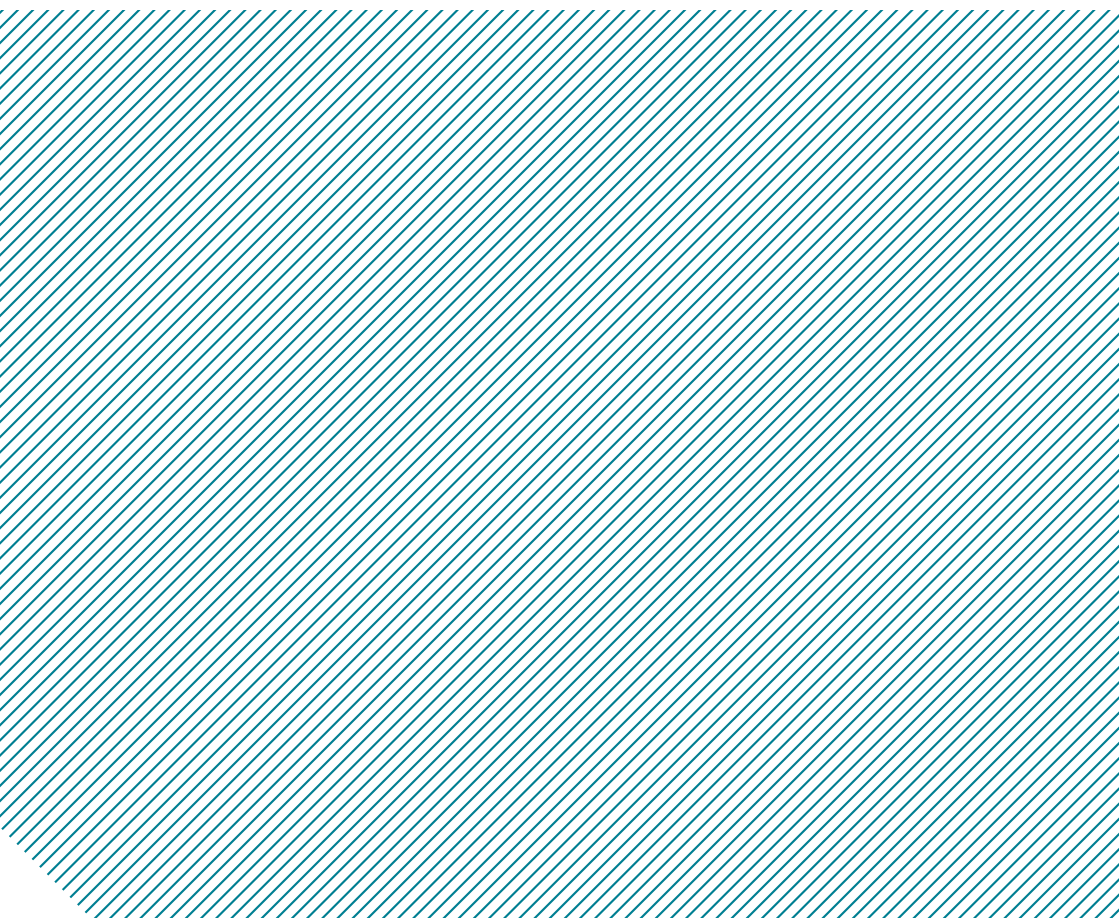


It goes without saying that the experts in Geo Risks Research will also prepare individual evaluations and detailed analyses on request. In this case, please contact us by e-mail at: [NatCatSERVICE@munichre.com](mailto:NatCatSERVICE@munichre.com).



Extreme winter conditions repeatedly bring public life to a grinding halt. A thick layer of frozen spray and black ice made roads and pathways impassable around Lake Geneva in 2005.





© 2011  
Münchener Rückversicherungs-Gesellschaft  
Königinstrasse 107, 80802 München, Germany

Order number 302-06733

**Picture credits**  
Cover page: plainpicture  
U2, U3, S. 5: Reuters  
U5: Picture Alliance