Globe of Natural Hazards –
A new risk management tool

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Geospatial Solutions
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ESRI UC 2009 – San Diego
Devastating Natural Catastrophes 1980 – 2008
(Kat 5 + 6: > US$ 500 Mio, 500 fatalities) – Number of Events and Trend Line

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Great Weather Catastrophes 1950 – 2008
Overall and insured losses with trend

90% of insured losses caused by windstorms

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As at January 2009
Our vision:

**Knowledge carrier for the insurance industry**

Munich Re sets the standard in the analysis and assessment of risks
Creates added value for clients in the writing of complex risks
Makes new risks insurable

Losses from geo risks are increasing worldwide
Munich Re has been investigating geoscientific phenomena, the attendant risks and loss potentials since 1974

The relevance of our research results extends beyond the realms of insurance: political sphere, authorities, land-use planning, emergency response, construction industry, etc.

Cooperation in the fields of knowledge and research supplement and nurture our competences
Examples: Global Earthquake Model (GEM), RMS, London School of Economics (LSE)
Natural hazards:
MR has shared its knowledge for 30 years


1989 / 1999

2000 / 2004

2001 / 2005

NATHAN

CD-ROM: 80,000 copies distributed in market – MR publication record
Target groups in dialogue

Risk communication creates risk transparency

- **Clients**
- **Analysts, investors**
- **General public**
- **Science**
- **Political committees**
Wall map/Folding map – World Map of Natural Hazards (G/E)
Globe of Natural Hazards 2009 – Products
DVD – Globe of Natural Hazards

Globus der Naturgefahren – Globe of Natural Hazards
Version 2009
Global, regional und lokal –
Naturgefahren und Klimaeffekte auf einen Blick
Global, regional, local –
Natural hazards and climate effects at a glance
Why produce a DVD when there's Google Earth?

<table>
<thead>
<tr>
<th>Customised platform</th>
<th>MR offers stakeholders a central knowledge platform on the subject of natural hazards</th>
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<tbody>
<tr>
<td>Networked knowledge</td>
<td>DVD is a medium that enables us to visualise the topics of natural hazards, climate change, and insurance aspects in their full complexity</td>
</tr>
<tr>
<td>Access to the client</td>
<td>There are still markets and companies without high-speed internet connections or with installation restrictions for IT products (which is why the DVD runs on all Windows environments without having to be installed!)</td>
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<td>First step towards web solutions</td>
<td>DVD is therefore an excellent door-opener for higher-value consulting and other geo-related services</td>
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### Globe of Natural Hazards 2009

#### What is new?

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<tr>
<th>Knowledge in a state of flux</th>
<th>All global hazard maps have been updated with ESRI technology</th>
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<td>New hazards</td>
<td>Topics like flood and climate change are fully integrated</td>
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<tr>
<td>Hazard pointer</td>
<td>Power function supplies quick information on situation regarding natural hazards and climate change for any location on earth</td>
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<tr>
<td>View from space</td>
<td>Our knowledge can be displayed with a satellite image in the background</td>
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<tr>
<td>Networked knowledge</td>
<td>Complex topics like risk management of natural hazards and climate change are linked in a sophisticated manner</td>
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<td>Intuitive user interface</td>
<td>More interactive images illustrate the connections in complex risk management</td>
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<td>Insurance relevance</td>
<td>Accentuation of insurance-related content considering as many lines of business as possible</td>
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Knowledge in a state of flux

All global hazard maps have been updated
What is new?

New hazards

Topics like flood and climate change are fully integrated.
Hazard pointer

Power function supplies quick information on situation regarding natural hazards and climate change for any location on earth.
What is new?

Our knowledge can be displayed with a satellite image in the background.
Complex topics like risk management of natural hazards and climate change are linked in a sophisticated manner.

Climate impact: Change in tropical cyclone activity

Since 1995, the North Atlantic has been going through a warm phase of the Atlantic Multidecadal Oscillation (AMO), which means an above-average frequency of hurricanes. The effect of global warming will be that, in association with higher sea surface temperatures, hurricanes will be more intense in future, with higher peak wind speeds and more heavy rain.

Further links:
- Impacts of climate change
- Insurance and climate change
- More information on tropical cyclones
**What is new?**

- **Intuitive user interface**

More interactive images illustrate the connections in complex risk management.
Globe of Natural Hazards 2009

What is new?

Insurance relevance

Accentuation of insurance-related content considering as many lines of business as possible
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<th>Knowledge in a state of flux</th>
<th>Revised hazard zoning improves the quality of our own scenarios, accumulation, and modelling</th>
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<td>Direct benefit</td>
<td>Findings flow directly into our operative tools (e.g. UWPF via Geo Data Service)</td>
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<td>Strengthening ties with clients</td>
<td>Exclusive information will be provided in the extranet by NATHAN (connect)</td>
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<td>Benefits for clients</td>
<td>Including enhancement of MRGAP service for the identification of portfolios' global NatCat exposure</td>
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<td>Training</td>
<td>MR is seen to be a competent risk carrier, its knowledge tangible, and accessible in many ways via the media</td>
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Disclaimer

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