Who is Munich RE?

- Insurer of Insurances
- Founded 1880
- The world’s largest re-insurer
- Premium income ca. € 22 bn
- Leading role in insurance of natural catastrophes

Geo Risks Research of Munich Re – Analyses of natural disasters since 1974 (staff today 30)
Core business of insurance industry is quantification of risks!

Outline

- Global review of Natural catastrophes
  - data – trends – analysis
- Australian Natural catastrophes
  - data – trends – analysis
- Improving Community Resilience to Extreme Weather Events
  - ICA paper
Where next?
- Munich Re’s approach to climate change
- the insurance sector’s role … and implications
- IPCC involvement

Weather disasters

The last years have brought records in weather disasters in respect to:

- Intensities
- Frequencies
- Damages and losses

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Natural catastrophes 2010
960 loss events

2010: The year of fire, water, air and ...
Little work has been done to quantify the relation of hailstorms and ENSO.

Very few studies globally as to how hail risk will change.

Comprehensive and detailed analysis of past and future hailstorms is crucial in order to improve risk management strategies.

With 5 out of the largest 24 losses in Australia, Hail presents the most underestimated peril!
Queensland Floods – Is there a link to climate change? Rainfall anomalies cannot be alone attributable to La Niña.

La Niña periods are associated with above normal rainfall in Queensland: Spring (Sept-Nov) Rainfall Anomaly

Dec SST in the Australian region the highest on record.

Natural catastrophes in Australia / Oceania 1980 – 2010

Number of events and trend: 65 in 2010

Significant trend for weather related perils

Increasing ratio of insured / overall losses

Reasons for globally increasing losses caused by natural disasters

- Rise in population
- Better standard of living
- Increasing insurance density
- Settlement in extremely exposed regions
- Increased vulnerability of modern societies and technologies to natural hazards
- Change in environmental conditions - Climate Change

Example of population change & settlement in extremely exposed regions: South East Queensland (SEQ)

- SEQ: Brisbane, Gold and Sunshine Coast
  - 2.7m residents, 66% of states population
  - Strongest population growth in Qld (71% within the last 5 years!)
  - Australia’s highest exposed values concerning TC’s, highest loss potential.

Climate Change projections: Tropical Cyclones in Australia

Stronger tropical cyclones, with uncertainty about changes in frequency, southerly shift of forming/decay regions,

Larger oceanic storm surges, superimposed on sea-level rise

TC Yasi, 3 Feb 2011, Cat 4-5 (wind gusts of about 285 km/h; 5m tidal surge, 941hPa), one of the most powerful TC on record (stronger and larger than Larry)!
Six Key Actions of Resilience

1. Community Understanding of Weather Related Risks
2. Risk Appropriate Land Use Planning & Zoning
3. Risk Appropriate Mitigation Measures
4. Risk Appropriate Property protection Standards
5. Financial Risk Mitigation in the Community

Climate Change: Improving Community Resilience to Extreme Weather Events, April 2008

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The impact of changing hazards on risk modelling

From hazard to risk: Principle of NatCat modelling, Tropical Cyclones

Risk curve

Losses

"Return period"
How does it all fit together?

How much risk do you want to assume?
Do you know how much you assume?
Do you control the risk you (want to) take?

Loss -
State -
Capital Market -
Insurer -
Decision -
Return period (years)

Where to from here … the insurance sector’s role in partnership with society

- Provision of data on weather-related losses to science, political decision makers and the public
- Transparency of risks via risk measurement & risk adequate premiums
  - sound actions, prevention, reduced loss loads for society
- Products promoting society’s emissions reduction goals (mitigation)
- Products enhancing society’s hazard-adaptive capability (adaptation)

Globe of Natural Hazards 2009 – Products
Wall map/Folding map

Topics Geo 2009 – Products
Wall map/Folding map

Topics Geo Natural catastrophes – Analyses, assessments, positions

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The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body open to all member countries of the United Nations (UN) and WMO. Currently 194 countries are members of the IPCC. Governments participate in the review process and plenary Sessions, where main decisions about the IPCC work programme are taken and reports are adopted, accepted and approved. For AR5 a unique team of 831 climate change experts across all working groups will volunteer their time over the next four years. The aim of the report is to genuinely synthesise and assess the current state of knowledge in a product of unparalleled influence.

Conclusions
Natural catastrophes and insured losses rising – but definitely an insurable risk!

- Natural catastrophes, especially weather related events, are increasing dramatically in number and magnitude, both globally and in Australia.
- There is more and more scientific evidence for causal links between global warming and increasing frequencies and intensities of natural catastrophes.
- For Australia/Oceania the Southern Oscillation Index shows a correlation with loss frequencies and severity.
- We have to mitigate global warming and adapt to the changing risks in respect to the regionally specific risk patterns.
- Mitigation and adaptation measures open up great economic chances for companies and countries being on the forefront in these processes.
- Natural catastrophes are still insurable. However we have to adapt our risk assessment, our modeling, our rates, our risk selection and accumulation control continuously.
- With our long experience we have created a unique expertise on natural catastrophe risks in the changing world and are happy to share this within our industry, with government authorities and the UNFCCC- community.

Thank you for your attention!