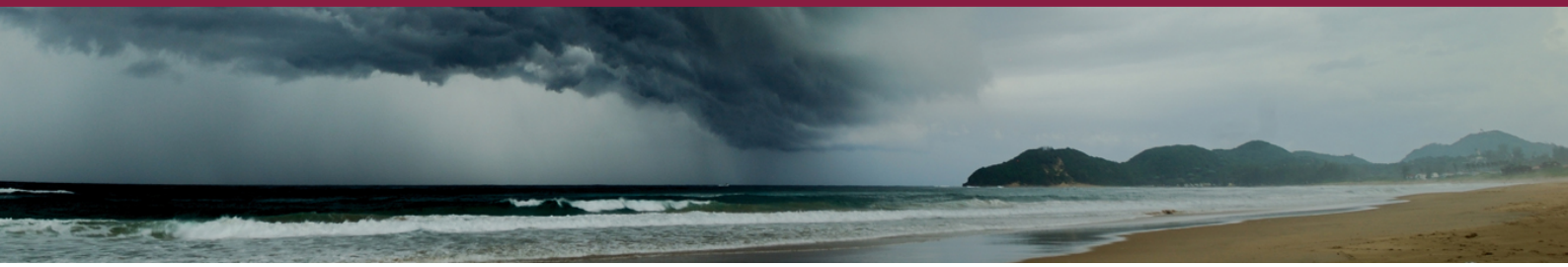

Scientific research by the German insurance industry

Conclusions and demands triggered by the recent findings

Fact Sheet

The German insurance industry is doing in-depth research on climate change and the future losses due to natural hazards. Furthermore, the German insurers are very active in the field of risk reduction, e. g. prevention measures to decrease vulnerability of buildings. We did provide actual loss data of the insurance industry to the scientific community in the past – we are open for similar scientific cooperation in the future. The German insurance market is on its way to adapt insurance products for the upcoming challenges: severe weather events (e. g. floods due to heavy rainfall), damages on upgraded insulations, fast growing installation of renewable energies in private buildings (solar, geothermal).

In May 2011 the German Insurance Association (GDV) presented the result of a three-year scientific cooperation, which stirred up the scientific community as an example of a new partnership to provide answers to lawmakers, decision makers and the public:

Why did we do the scientific research?

The insurance industry is covering the financial consequences of almost all severe weather events. The insurers are doing this for their customers – the policyholders. People benefit from all types of insurance cover e. g. by having their house rebuild after a storm event or being put back on their feet after being flooded by heavy rain. The insurance industry will continue to provide natural hazards cover in the future.

However, recent years have shown that natural hazards strike more frequently and more violently. The result: billions of losses for homeowners, cities, municipalities, and insurers. This raised the question of how climate change will shape Germanys insurance losses in the future.

What did we do?

German insurers established a scientific cooperation between leading climate researchers (Potsdam Institute for Climate Impact Research - PIK, Free University of Berlin and University of Cologne) and the insurance industry. Lead by the PIK and the German Insurance Association (GDV) in Berlin, the researchers linked actual loss data of the insurers with a bunch of different climate models for the first time. All members of the scientific cooperation took a step into the unknown, because linking loss data and climate models was never done before. The main focus lay on the perils “storm”, “hail” and “flooding” – the most common natcat perils in Germany (heavy rain will be studied in a future research).

Questions raised:

- What kind of losses are caused by natural hazards in the future? Which scale do they have?
- What will change in Germany due to climate change?
- What can we do? How can we adapt? What do we demand?

Storms will be more intense in the coming decades and occur more frequently:

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- A major storm event with large scale losses as we measure it around every 50 years will most likely have a return period of only 10 years in the second half of the century. These extreme storms will account for about 7 to 8 billion € in insured losses per storm event. By comparison, the 2007 large scale storm event "Kyrill" accounted for 2.4 billion € “only” – all adjusted by the German insurance industry.
- The loss due to the peril “storm” will rise by more than 50 percent until 2100.

Insured losses due to flooding will increase:

- By the end of this century, losses due to flood events will most likely double - depending on the scenario even triple.
- Flood events with a return period of nowadays 50 years will most likely occur every 25 years in the second half of the century.

What conclusions do we draw?

The higher the CO_2 emissions, the faster our climate will change, the more extreme the natural hazards and insured losses will be in Germany. Society as a whole must act now, with proactive decisions on reducing greenhouse gasses and a forward-looking sustainable art of living.

What do we demand in the face of the scientific results?

Lawmakers have to be aware of their responsibilities in the protection against natural hazards. Laws and regulations have to be aimed at future developments and a changing climate. They have to be reviewed on a regular basis.

Furthermore the German insurance industry demands:

- The existing land use planning must take into account all risk areas - extremely flood-prone regions are no plots for building.
- Retention areas and flood plains must be clearly identified to mitigate the effects of extreme rainfall.
- Information about extreme weather events must be made available the general public quickly and freely.
- Curricula for schools and supportive content for kindergartens must create the pre-condition for a fundamental understanding of the causes and consequences of climate change.
- Measures must be planned across countries.
- Drainage systems shall be designed in a way that future amounts of heavy rainfall can safely be passed along.
- Roof structures must be adapted to higher wind loads.
- Upgraded insulation on houses must be resistant against the expected natural hazards such as more powerful hailstorms.
- Openings should be protected from heavy rain and surface water.

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