



Allianz Risk Pulse

Focus: Floods

The destructive powers of too much water

→ **Floods can cause extreme damage – damage that can be averted, at least in part. In developing countries there is often insufficient investment in preventive measures and awareness building – when floods hit, they often result in fatalities. In the industrialized world, floods mainly cause material damage. But here, too, stronger risk awareness would lead to loss minimization.**

Water is one of the most precious resources of our planet – we drink it, cook with it, bathe in it and use it for cleaning. It makes up 70 percent of the human body and without it we would soon die of thirst. Yet the substance we rinse our toothbrushes with in the mornings can, in large and uncontrolled quantities, very quickly wipe out vehicles and buildings and injure or even kill people. This vital element develops its destructive power in spectacular ways – as heavy rainfall and thunder storms, high water levels and floods.

Floods are among the most devastating natural catastrophes of all. Some 180 million people in Pakistan and China, but also in many parts of Europe, were affected by floods in 2010 – with a large toll on life as well as property.



“Risk awareness of natural catastrophes is not sufficient. This also means that people often do not take enough precautions.”

Clement B. Booth, member of Allianz SE Board of Management

Hardly any region on earth is fully safe from the ravages of floods. Yet only few home and property owners have insured themselves against flood damage. They have to pay the bulk of repair costs and losses out of their own pockets – not everywhere in the world can the state sufficiently help its people in times of need.

Insufficient security measures boost damages

Top 10 floods 2001–2010

Number of people affected			Economic losses		
Country	Date	No total affected	Country	Date	Damage in 000 USD
China , General flood	23.06.2003	150,146,000	China , General flood	29.05.2010	18,000,000
China , General flood	29.05.2010	134,000,000	Germany , General flood	11.08.2002	11,600,000
China , General flood	15.06.2007	105,004,000	USA , General flood	09.06.2008	10,000,000
China , Flash flood	08.06.2002	80,035,257	Pakistan , Flash flood	28.07.2010	9,500,000
India , General flood	21.06.2002	42,000,000	China , General flood	23.06.2003	7,890,000
China , General flood	01.07.2009	39,372,000	Australia , General flood	25.12.2010	5,130,000
Bangladesh , General flood	20.06.2004	36,000,000	China , General flood	01.07.2003	4,830,000
China , General flood	15.07.2004	33,652,026	China , General flood	15.06.2007	4,425,655
India , General flood	20.06.2004	33,000,000	United Kingdom , General flood	25.06.2007	4,000,000
Pakistan , Flash flood	28.07.2010	20,359,496	United Kingdom , General flood	20.07.2007	4,000,000

This list of the greatest floods of the past decade show, that in countries with inadequate prevention measures, people are especially heavily affected by floods.



Photos: Allianz Hungary

In May 2010, Hungary experienced great damages through floods – a result of endless rain. In order to provide quick and flexible handling of claims on the spot and via telephone, Allianz Hungaria deployed as many claims experts as possible to be able to evaluate twice to three-times as many cases. Colleagues on the ground and in the callcenters worked around the clock to help customers in need.

“Only few people live in areas where insurance against natural hazards and flooding isn’t at all possible,” says Clement B. Booth, member of the Allianz SE Board of Management. “But as long as people don’t live directly on the banks of a river or on the coast many just don’t take the risk seriously enough or have a false sense of security. But when a natural catastrophe does occur, it is then often too late.”

As one of the biggest P&C insurers in the world, Allianz uses complex models to estimate risks and expected damage as precisely as possible and provide fast and unbureaucratic help in the event of flooding. Allianz has dozens of mathematicians, meteorologists and risk analysts working in the fields of risk management, catastrophe modeling and loss research. In addition, many of the roughly 150,000 Allianz employees around the world either work in customer-service functions or as so-called “loss adjusters”. And then there are the agents or brokers who are frequently the customers’ first contact partner when a catastrophe hits.

Markus Stowasser and Korbinian Breinl are working at the Cat Research & Development Team at Allianz SE Reinsurance. They work on complex models for floods, in order to calculate costs more accurately against risks in future events, which ultimately also serves to increase insurability.

The Cat Research experts know all about floods. They distinguish between three types of floods: “river floods” are caused by high water levels in rivers as a result of heavy and long-term precipitation. “Flash floods” can occur suddenly and anywhere and they are the result of heavy precipitation in a short period of time. And then there are “storm surges” that take place in coastal regions – low pressure areas over the ocean generate high wind speeds that drive flood waves onto the land. Hurricanes are included in this category. Since “Katrina” wrought havoc in New Orleans in 2005, the whole world knows what disastrous effects tropical hurricanes can have on coastal regions. If we bear in mind that a cubic meter of water weighs as much as a small car, the destructive force of floods quickly becomes evident.



“Only a very small number of premises in flood-prone regions can indeed not be insured.”

*Korbinian Breinl,
Allianz SE Reinsurance*

The Polish floods in May 2010 swelled metres high, flooding entire houses in the country’s South.



Photo: Allianz Poland

In November 2009 more rain pelted down on the county of Cumbria in Northern England in 48 hours than normally falls in the whole month. The result: more than 1000 damaged buildings, hundreds of people without a roof over their heads and extensive damage to roads and bridges. More than 2500 tons of debris and mud had to be removed. The loss came to over 300 million euros, of which some two thirds was insured. This was the case for the James Walker Group (JWG), international makers of gaskets and seals, with 400 employees.

On November 19 production at JWG had to be halted as the plant was waist-deep under water. Nevertheless, there was an emergency plan that averted major damage. For example, all electrical installations were disconnected at an early stage and key production equipment stowed on higher racks, out of harm's reach. Only two days after the catastrophe, JWG was already able to dispatch components that had been finished before the flooding and a week later production was up and running again, although it took six months before output approached pre-flood levels.

Employees of Allianz Global Corporate & Specialty (AGCS) were important partners in the reconstruction work. Martin Henson, head of Non-Marine Claims at AGCS, comments: "Every major loss is an opportunity to show proof of our customer focus. Our loss adjusters were on site as soon as possible, which was crucial, the situation being what it was."



"An insurer's response to a major flood loss will demonstrate their understanding and awareness of the client's risk."

Martin Henson, Head of Non-Marine Claims, Allianz Global Corporate & Specialty

Stuart Pyper, JWG's financial controller, looks back on this cooperation just as positively. "It was clear from the beginning that Allianz's prime concern was to help us get back to business as usual as quickly as possible. To avoid cash-flow problems they asked us if we needed money, instead of us having to keep chasing after them for it. Once they had been agreed, the advance payments were quickly made."

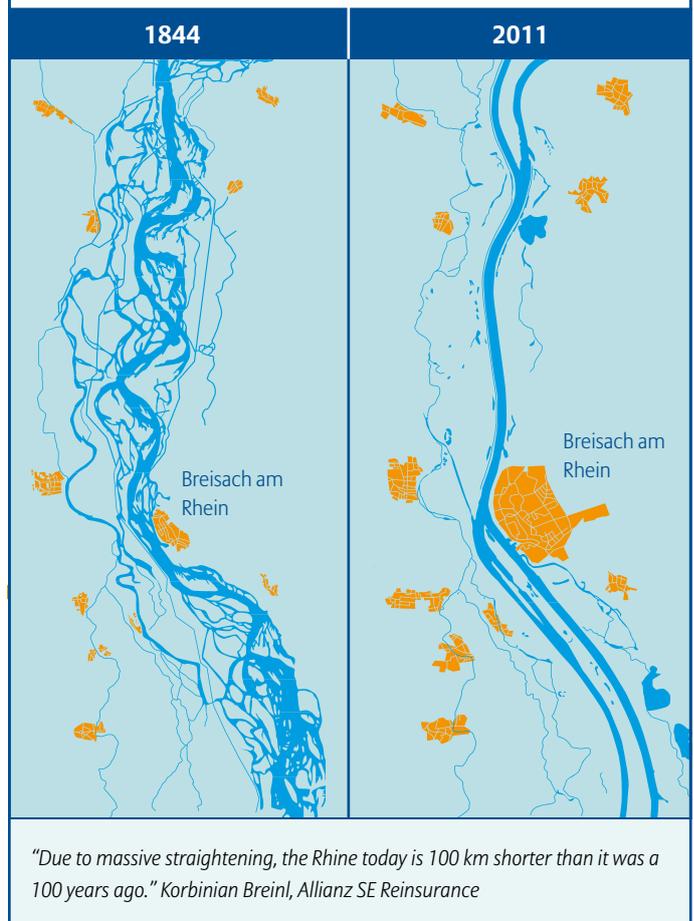
In the past 40 years the average annual costs of insurance claims due to natural catastrophes have multiplied. In the 1970s they were still around 5 billion US dollars worldwide, but by 2010 they were already up to more than 40 billion dollars. And the tendency is still rising.

Climate models of the kind which Allianz experts use, confirm the simple assumption that higher global temperatures lead to more water vapor in the atmosphere and so to a higher probability of precipitation. Simulations have shown that in Germany, insurance claims are likely to double by the end of the century. However, these projections are still subject to great uncertainty.

However, it is wrong to pin all the blame for the increase in flood catastrophes on climate change. Apart from global warming there are numerous different factors contributing to the increase in the risk of flooding, especially along rivers. Valuable drainage areas are being sealed off by concrete and road construction. This means that more water is flowing straight into the rivers. Soil compaction and land con-

River regulation increases the risk of floods

The Upper-Rhine at Breisach near Freiburg, South Germany



Sources: Allianz / University of Freiburg

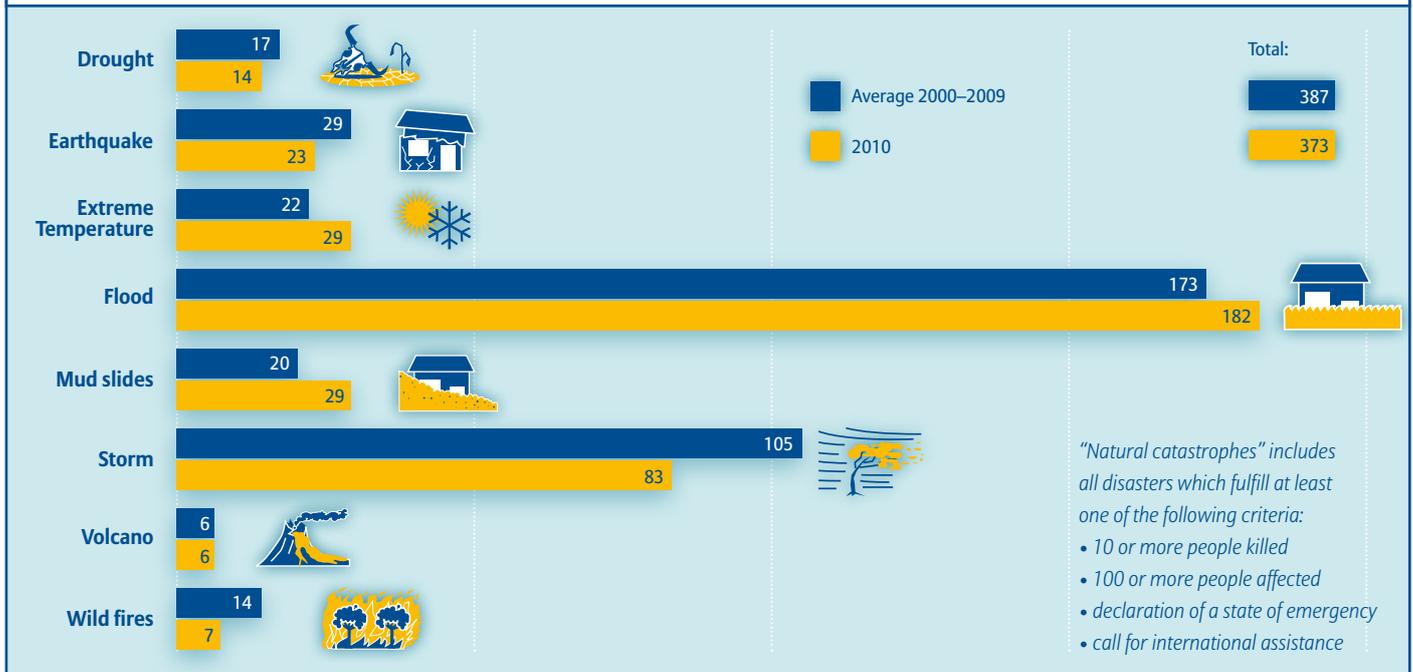
Did you know that ...

- ... **the Ganges river in India** carries more water on average than the biggest German rivers (Danube, Rhine, Elbe, Weser, Ems) together
- ... **in New Delhi it can rain** as much in one day during the monsoon as in Munich or New York in a whole year
- ... **water is a heavyweight element** – a cubic meter weighs as much as a small car
- ... **the flood that ravaged** 28 Chinese provinces in spring 2010 affected 130 million people
- ... **the evacuation of more than a thousand animals** from Prague's zoo during the flood of the century in 2002 was one of the biggest rescue operation of its kind – sadly not all the animals could be saved, 134 perished in the flood waters

Sources: Allianz, Prague Zoo, EW-DAT | Photo: Allianz Czech Republic

Floods account for the biggest part of natural catastrophes happening in a year

Disaster occurrence by disaster type



Sources: Allianz / UNISDR / EM-DAT

solidation measures that go hand in hand with intensive agriculture are aggravating the problem. In the past, rivers were straightened or channeled for the benefit of inland navigation. Long meanders disappeared, which leads to faster run-off times and higher water levels. New housing projects at exclusive sites close to river banks or ocean fronts are making important natural flood areas scarce. Although dikes protect their immediate vicinity, they merely transfer the problem downstream, where the damage can be all the more devastating.



“It is difficult to separate the purely physical factors – i.e. that there really is more rainfall – from the socio-economic factors.”

Markus Stowasser of Allianz SE Reinsurance

Breinl and Stowasser identify yet more reasons for the increase in insurance claims in the past decades. “More and more people are moving into high-risk areas, where higher values are then insured. It is difficult to separate the purely physical factors – i.e. that there really is more rainfall – from the socio-economic factors,” says Markus Stowasser.

They both see globalization as a reason why natural catastrophes are apparently increasing disproportionately. “Nowadays we are much more interlinked. Twenty or thirty years ago we would not even have been aware of many flood events on other continents. Increased coverage in globalized media can quickly convey the impression that flooding is more on the increase than really is the case,” argues Korbinian Breinl.

More risk awareness is especially needed in the developing countries. What most people do not know is that even supposedly safe buildings can suffer damage from rising ground water or overburdened sewers.

In order to better assess risks and minimize damage, Allianz is working together with various external partners from all over the world to create risk models for a large number of regions. The Allianz Cat Research & Development Team and JBA Consulting cooperated on a risk model for the growth market India. The model simulates flood situations in the country’s largest cities, such as Mumbai, Calcutta and New Delhi. During the 4-month monsoon period, these cities receive more than 75 percent of their annual rainfall, in some cases 1000 millimeters in 24 hours, as much as in Munich or New York in one year. This flood-risk model is the first ever for India.

Thanks to continuously improved risk models, insurers can manage their portfolios more precisely and thus ensure that they are financially secure. Risk models also help to determine, where and at what price insurance is possible. In the end effect, this allows for a greater degree of insurability. Clients profit from both. However, insuring yourself against flood risks is not where things begin or end. Insurers, media and politicians must continue to make people aware of the need for effective risk prevention.

Clement B. Booth, member of the Board of management, Allianz SE

Markus Stowasser, Cat Research & Development, Allianz SE Reinsurance

Korbinian Breinl, Cat Research & Development, Allianz SE Reinsurance

Martin Henson, Head of Non-Marine Claims, Allianz Global Corporate & Specialty

Always ready – Allianz is there to help customers when floods happen

GERMANY



More than 100 experts instantly on the ground

In August 2010, the Eastern parts of Germany were struck by major floods. Allianz reacted immediately by providing affected customers with all relevant details like emergency numbers, support with claims notifications, etc.

109 claims experts were in the flood areas and arranged for a quick and unbureaucratic claims regulation. Severin Moser, board member of Allianz Germany, also travelled to the flooded areas, to talk to customers and get a picture of the situation on the ground.

CZECH REPUBLIC



Fast is worth twice as much

On 25 June 2009, the first Czech region reported heavy floods; other parts of the country quickly followed.

Allianz pojistovna promptly increased the number of telephone operators, while mobile claims inspectors were immediately on the ground, inspecting up to 40 cases a day, even in areas that were still flooded.

To guarantee for smooth operations and quick handling of all claims, a crisis team of all business divisions was formed and took over the leading role.

POLAND



It wouldn't stop raining

"Within a few days, we received as many claims as we would usually get in a month", says claims adjuster Jacek Nowotarski, commenting on the floods that hit Poland in spring 2010. To deal with this emergency situation, Allianz moved its claims people in motor to property.

Staff from safe areas in Poland supported their affected colleagues round the clock and customers who were particularly struck received advance payment to be out of the woods.

USA



Saving the guitars of Nashville artists

In May 2010, Nashville experienced heavy floods. Fireman's Fund immediately dispatched a team to the region. Damage from flooding, wind, power outages, and fire related to lightning were the main issues. Apart from personal property claims, there were also claims from the entertainment area. Artists approached the team, hoping and asking if we were their carrier. Given the set of circumstances, we brought in additional expertise and received phenomenal results and reaction from artists and agents.

FRANCE



An event that hit all of us

When major floods struck the region of Le Var in June 2010, Allianz France responded immediately by setting up a crisis team that helped clients, including storage owners, camping sites, small businesses and private clients.

Customers could reach their claims experts via an emergency number around the clock. Allianz experts were also immediately on the spot, ensuring sufficient and prompt support.

AUSTRALIA



Ships in distress

Even before the Brisbane river burst its banks in January 2011, experts of Allianz's subsidiary Club Marine, Australia's largest pleasurecraft insurer, were at the marinas to bring the boats to safety. However, they couldn't save them all on time, which is why they formed a search and rescue team jointly with the Coast Guard – and were the only boat insurer to do so. Together, they retrieved forty-five of a total of fifty damaged boats.



Be prepared: Tips in case of floods

**Floods happen and their effects can be great – potentially extreme.
Having a disaster plan in place can greatly decrease the consequences of a flood event.**

Tips for businesses



Step 1. Analyze your risks.

Think about the risk of flood at the site of your (new) facilities.

If you are located in a flood-prone area: Get a flood assessment, based on models of the river's history. And keep in mind that even if there is no obvious flood exposure, the site can still be a subject to flash floods.



Step 2. Prepare for the event.

Create a flood emergency plan. Practice it. Ensure adequate training and flood drills of your employees.

Take precautionary measures like:

- installing barrier systems (seal all wall penetrations effectively from water)
- appropriate asset positioning
- the protection of important utility services such as gas pipes or electrical cables
- ensure access to portable generators to provide temporary electrical power to the facility
- ensure access to pumps to remove water from basements



Step 3. Once floods strike.

- Nominate persons, authorised to invoke the flood emergency plan
- Monitor the river level
- Organize staff to move assets out of the flood zones
- Protect key assets, e.g. by wrapping them in cling film



"It is important for us to act quickly when our customers need help. When the flooding came we deployed loss adjusters from the entire country to help our customers on the spot."

Severin Moser,
CEO of Allianz Versicherungs-AG
on the floods in Saxony in 2010.



DANGER!

Tips for homeowners



Be prepared :

- Assess your level of risk.
- Create an emergency plan for your property and your family.
- Make sure you have your insurance documents and contact details in a safe dry place.
- Prepare a "flood pack" to include a torch, first aid kit, warm clothes, blankets and water.



When the flood hits:

- Listen to local radio or search the internet for up-to-date information on the flooding situation in your area.
- Move your car to safe areas. Never start the motor if your car is or has been flooded.
- If safe to do so, move property from lower floors to higher levels.
- Be prepared to turn off essential supplies – gas, electricity and water – at the mains.
- Have sandbags ready to block doors.
- Listen to the advice of the authorities and follow any instructions they give to leave property.
- If you have to wait for the rescue service, do not try to access riverbanks. Flooded streets can carry dangerous items.
- Contact your insurer as soon as possible after a property has been damaged. Mark the water-level and keep records of all damages.

Sources: Allianz Germany, Allianz UK, Allianz Global Corporate & Specialty.

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Allianz SE, Königinstraße 28, 80802 Munich, Germany

Overall responsibility:

Katerina Piro, Group Communications, Allianz SE

Chief editor:

Katharina Mauer

Editorial team: Korbinian Breinl, Martin Henson, Michael Neißendorfer,

Katerina Piro, Annika Schünemann, Markus Stowasser

Links

www.allianz.com

www.agcs.allianz.com

www.knowledge.allianz.com

www.emdat.be

www.allianzre.com

Contacts

Katerina Piro
Group Communications Allianz SE
Katerina.Piro@allianz.com
+49.89.3800.16048

Christiane Merkel
Head of Communications Allianz Re
Christiane.Merkel@allianz.com
+49.89.3800.18195

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