No 1 / 2012

PERILS

INSIDE

Dear Reader,

It is a pleasure to present to you the first PERILS Newsletter of 2012. In this issue, we report on the European windstorm season 2011/12, the update of our industry exposure database and the usage of our industry data in insurance risk transfer products.

In contrast to an unusually quiet European windstorm season in 2010/11, the 2011/12 season was very active. PERILS investigated no less than six events with the potential to exceed our event capture threshold of a EUR 200m market loss. In the end, two events exceeded this threshold in the markets we cover, namely Joachim (15 - 17 December 2011) and Andrea (4 - 5 January 2012). PERILS has reported the first two scheduled event loss reports for both of these events. The third event loss reports will be made available during the summer months of this year.

An interesting feature of the past winter was the high correlation of windstorm activity with the North Atlantic Oscillation (NAO) Index. We have included a special section focusing on this phenomenon on pages 10-11 of this newsletter.

PERILS' market data continues to be used for portfolio benchmarking where an existing insurance portfolio is measured against the market. Equally, the data are increasingly being used in Cat model validations helping to make models more realistic and robust over time. In addition, their use in the risk assessment and trigger design of industry-loss based risk transfer products continues to grow. Further information on this latter point is provided in the Business Update section of this issue.

The use of PERILS data is driven by the need for the insurance industry to better understand natural catastrophe risk. We at PERILS are happy to contribute to this goal by increasing the availability and transparency of Cat insurance market data. Furthermore, we remain fully committed to enhancing and expanding our range of services, and to continuing to deliver data, all of which supports the efforts of the insurance industry as a whole.

With kind regards,

Luzi Hitz
CEO PERILS AG

Figures & Facts

32'136	number of data entries in PERILS Industry Exposure Database 2012
11	number of countries covered by PERILS
2	number of perils covered: Europe Wind, UK Flood
EUR 200m	market loss threshold for capturing Europe Wind and UK Flood events
9	number of captured events
4	minimum number of PERILS loss reports for qualifying events
> 80	number of data providing national insurance companies
USD 3.2bn	total of PERILS-based capacity at risk per 31 Mar 2012
USD 4.0bn	total of PERILS-based capacity placed 1 Jan 2010 to 31 Mar 2012
57%	share of PERILS-based capacity which uses structured triggers
61	number of PERILS-based insurance risk transactions 1 Jan 2010 to 31 Mar 2012

Windstorm Events

An active 2011/2012 windstorm season with more than EUR 1 bn of cumulated industry losses but no major single event.

In contrast to the 2010/2011 Europe windstorm season, the period from late November 2011 through to mid January 2012 showed a high intensity of extra-tropical cyclone activity. A key factor in this was a pronounced west wind drift with an above average pressure difference between sub-polar and sub-tropical zones over the Northeastern Atlantic (see also section on North Atlantic Oscillation).

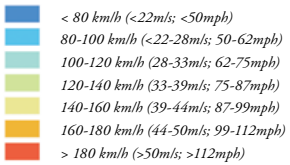
PERILS investigated no less than six windstorm events for their potential to result in a market-wide insured property loss of more than EUR 200m (Table 1). Sources used included data from insurance companies, wind speed data (see inset) and scenario loss considerations using the PERILS vulnerability data. As a result of these investigations, events Berit, Friedhelm, Dagmar, and Ulli were deemed to have not exceeded the EUR 200m threshold in the markets covered by PERILS (see Figure 1 on page 6) and as a consequence were classified as "non-qualifying" events which did not require any further investigation.

Event Name	Event Date	Markets Mainly Affected
Berit (Xaver, Yoda)	25 to 27 Nov 2011	DK, N, S
Friedhelm	8 to 10 Dec 2011	DK, UK
Joachim	15 to 17 Dec 2011	F, D, CH
Dagmar (Patrick)	25 to 26 Dec 2011	N, S, FIN*
Ulli (Emil)	3 to 4 Jan 2012	DK, D, NL, UK
Andrea	4 to 5 Jan 2012	B, F, D, NL, UK, CH

** Finland is not included in PERILS industry loss data.*

Table 1: Major windstorm events of the Europe windstorm season 2011/2012. *A total of six events were investigated by PERILS.*

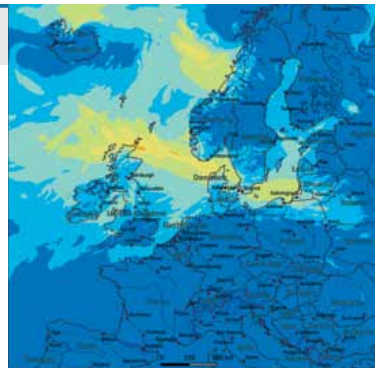
2011/2012 Europe Windstorm Season

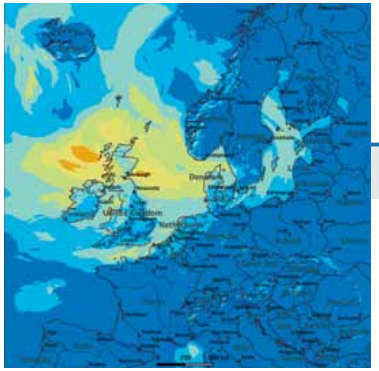


Maximum gust speeds in km/h
Source: COSMO-EU, DWD

25 to 27 Nov 2011 — BERIT (Xaver, Yoda)

Windstorm Berit mainly caused damage in Denmark, Norway and Sweden. In Denmark, the storm caused disruption to public transport. The bridges linking the Danish islands of Zealand and Funen (Great Belt Bridge) and Denmark and Sweden (Oresund Bridge) had to be temporarily closed. In Norway, the Lofoten Archipelago was particularly badly affected. In northern Poland (not covered by PERILS), power was disrupted to approximately 150'000 homes.



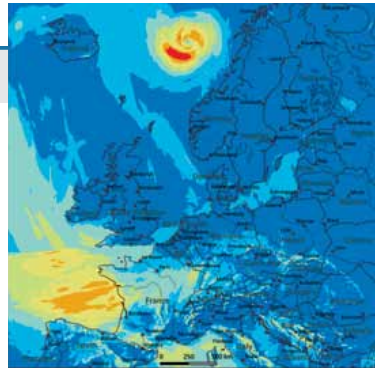


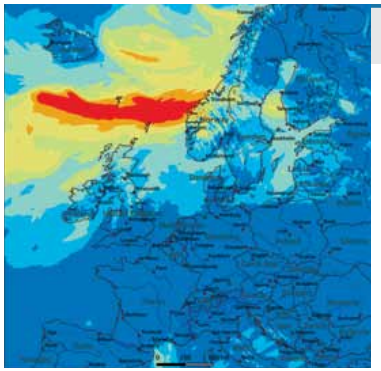
FRIEDHELM — 8 to 10 Dec 2011

Windstorm Friedhelm mainly caused damage in Great Britain and Denmark. In Scotland, the storm caused disruption to public transport and power supplies with approximately 150'000 homes experiencing temporary power cuts on Thursday 8 December. The storm also had a significant impact on parts of northern England where heavy winds were followed by local flooding in Cumbria, North Yorkshire and Swaledale.

15 to 17 Dec 2011 — JOACHIM

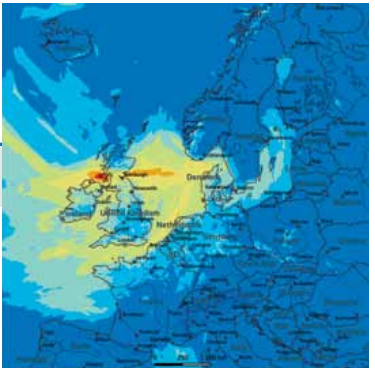
Windstorm Joachim caused damage across France and Germany, and to a lesser extent Switzerland. In France, the storm caused disruption to public transport and power supplies, with up to 600'000 French homes experiencing temporary power cuts. The Pays de la Loire and the Brittany regions were particularly affected. The effects on Germany were less extensive. The storm affected mainly the southern states of Baden Württemberg and Bavaria, and to a lesser extent the states of central Germany.





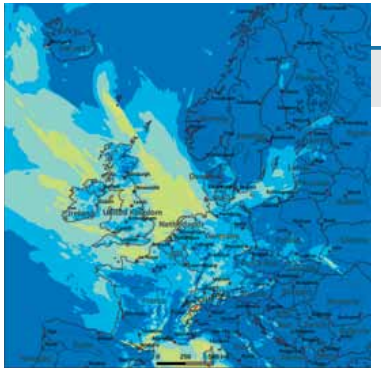
DAGMAR (Patrick) — 25 to 26 Dec 2011

Windstorm Dagmar mainly caused damage in Norway, Sweden and Finland (the latter not covered by PERILS). In Norway, the storm caused widespread power supply and transportation disruption. The main road between Oslo and Bergen was temporarily closed, and train services between the two cities were temporarily suspended. In Sweden, the storm disrupted traffic and caused power outages.



3 to 4 Jan 2012 — ULLI (Emil)

Windstorm Ulli caused damage across Great Britain, Denmark, Germany and the Netherlands. In Great Britain, particularly in Northern Ireland and Scotland, up to 150'000 households were left without power as a result of the storm. In northern Germany, heavy waves along the coast and strong winds disrupted traffic. Likewise, Ulli caused traffic disruption in Denmark. The ferry links between Denmark and Norway were temporarily cancelled.



ANDREA — 4 to 5 Jan 2012

Windstorm Andrea caused damage across Great Britain, Germany, France, the Benelux States and Switzerland. In the UK, winds caused transport disruption and temporary power outages to some 100'000 homes. Central England was particularly badly affected. In Germany and in the Netherlands, local storm surge-induced flooding occurred along the northern coastline as Andrea approached from the North Sea and pushed the water against the coast. This was accompanied by heavy rainfall aggravating the situation.

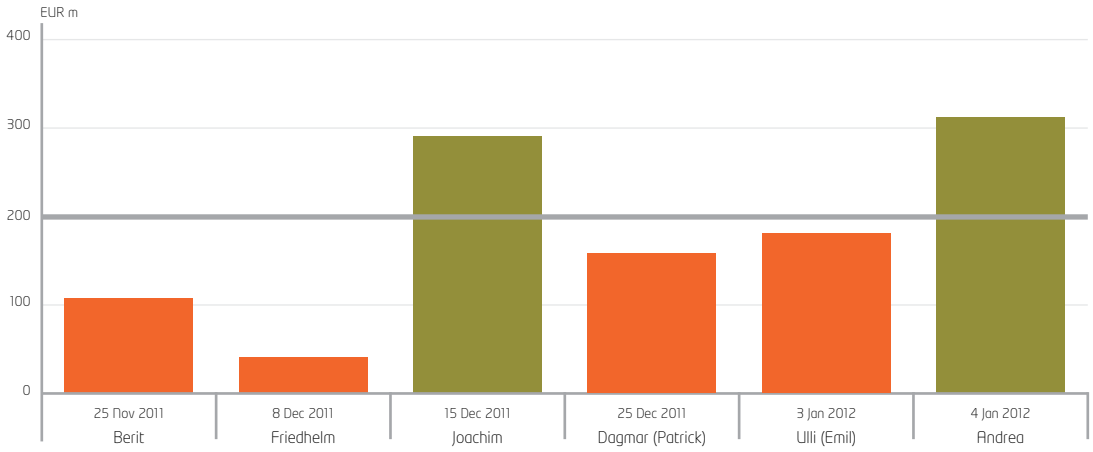


Figure 1: Industry event loss estimates for the Europe windstorm season 2011/12. *Storms Joachim and Andrea were captured by PERILS. All other events were classified as non-qualifying because industry losses remain below PERILS' EUR 200m capturing threshold in the markets covered by PERILS. Note that windstorm Dagmar produced significant losses in Finland which are however not captured by PERILS.*

Storms Joachim and Andrea, however, exceeded the EUR 200m capturing threshold. PERILS therefore fully captured the loss data from the affected insurance companies and has produced two loss reports for each event, in line with the standard loss reporting schedule (Figure 2). Subsequent loss reports for Andrea and Joachim will be made available six and twelve months after the respective occurrence dates.

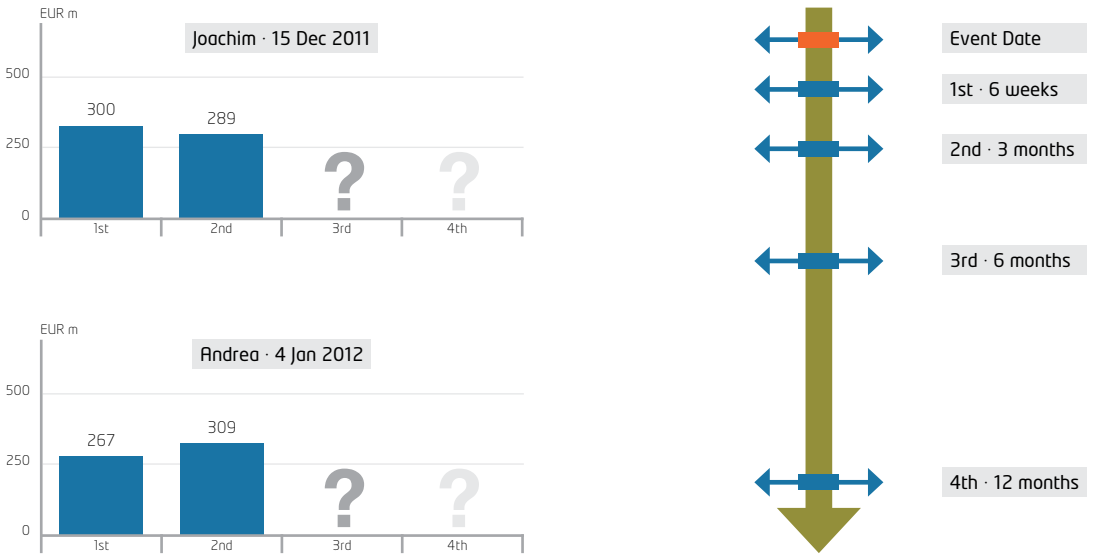


Figure 2: *On the left:* ***PERILS' first two loss estimates*** *for storms Joachim and Andrea, each released six and twelve weeks after the respective occurrence dates. On the right:* ***PERILS' standard reporting schedule*** *for qualifying events.*

Business Update

This section highlights major business developments, including recent updates of PERILS' products and their use in the insurance and reinsurance industry.

Update of Europe Windstorm Industry Exposure Database for 2012

On 1 April 2012, PERILS released its updated Industry Exposure Database 2012 (Figure 3). The database contains windstorm-exposed industry property sums insured with an in-force date of 1 January 2012 for eleven European countries (Belgium, Denmark, France, Germany, Ireland, Luxembourg, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom), on a CRESTA zone, occupancy type (residential, commercial, industrial and agricultural) and cover type level (building, content, business interruption). The industry exposure is based on data directly collected from more than 80 national insurance companies representing well over half of the overall market in terms of property premium.

Compared to 2011, the total sums insured movement over all eleven windstorm markets combined is +3.4% (+2.5% at constant EUR exchange rates). Changes in country-wide sums insured vary between -7% and +12%. This year-on-year development is mainly driven by movements in collected sums insured data and movements in market benchmarks.

Figure 3: PERILS Industry Exposure Database 2012. *On 1 April 2012, PERILS made the latest update of its exposure database available to its subscribers. The market-wide sums insured data are available per CRESTA zone, property occupancy type and coverage type. The in-force date of the exposure is 1 January 2012.*

First time inclusion of UK Flood

European insurers have been keen for PERILS also to provide exposure and loss data for the peril of UK Flood. Inland flooding in the UK is a priority risk for many insurers, particularly in the aftermath of the 2007 summer floods which resulted in over 180'000 claims and over GBP 3bn in insured losses. The issue is also high on the corporate agenda due to the fact that the agreement between the UK Government and the UK insurance industry to secure a long-term sustainable flood insurance market is set to expire shortly. In the case of non-renewal of the Statement of Principles on the Provision of Flood Insurance it is estimated that up to 200'000 property owners will struggle to get affordable flood insurance when the current agreement ends in June 2013. In such an environment, accurate flood market data at a high granular level is crucial.

As in the case of windstorms, UK flood loss data is made available by PERILS for all events exceeding a market loss of EUR 200m. The resolution for both the exposure and loss data is on a 2-digit postcode level and split by personal and commercial property lines (Figure 4).

By increasing data availability and transparency for this key risk, it is hoped that PERILS' independent market data will lead to a better understanding of UK flood risk and contribute to the long-term stability of the market.

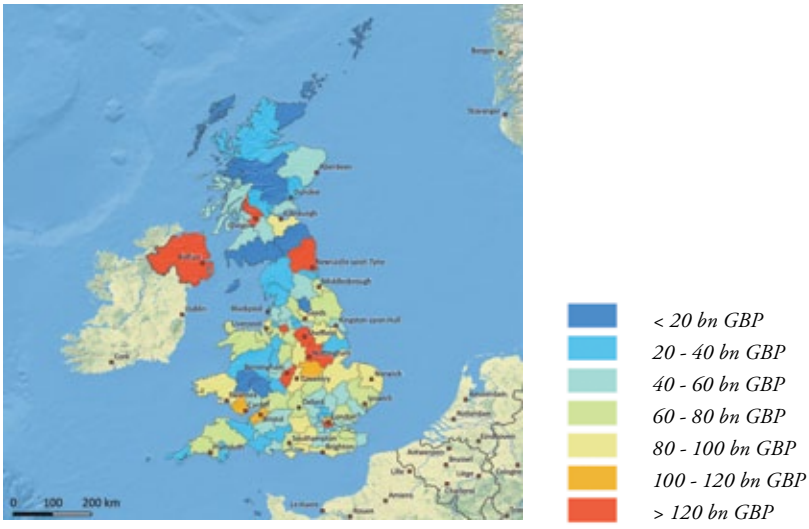


Figure 4: Market-wide sums insured exposed to UK Flood. *PERILS has expanded its coverage to include exposure and loss information for the peril of inland flooding in the UK. This encompasses rain-induced floods such as river floods, surface-water floods, flash floods, and ensuing perils such as mudflows, dam breaks, and rises in groundwater.*

Use of PERILS industry loss data in insurance risk transactions

In Q1 2012, close to USD 1bn of new limits were placed using the PERILS industry loss figures. This brings the capacity at risk using PERILS data as at 31 March to USD 3.2bn. The total of limits placed using the PERILS index service since it was launched has now risen to over USD 4bn (Figure 5).

More than half of this total capacity uses the PERILS data resolution for the design of bespoke trigger indices. This means a country, CRESTA-zone and/or property line of business weighting is defined. In the case of an event, weighting factors are applied to the PERILS loss data to determine the trigger value. The purpose of this approach is to increase alignment with the actual loss experienced by the protection buying entity.

Such bespoke triggers have become a common feature in the industry-loss-based risk transfer market. They are used in 144A ILS transactions as well as in collateralized reinsurance and Industry Loss Warranty (ILW) risk transfer in the private market. They mimic the performance of indemnity-based covers but at lower disclosure requirements while at the same time higher risk transparency.

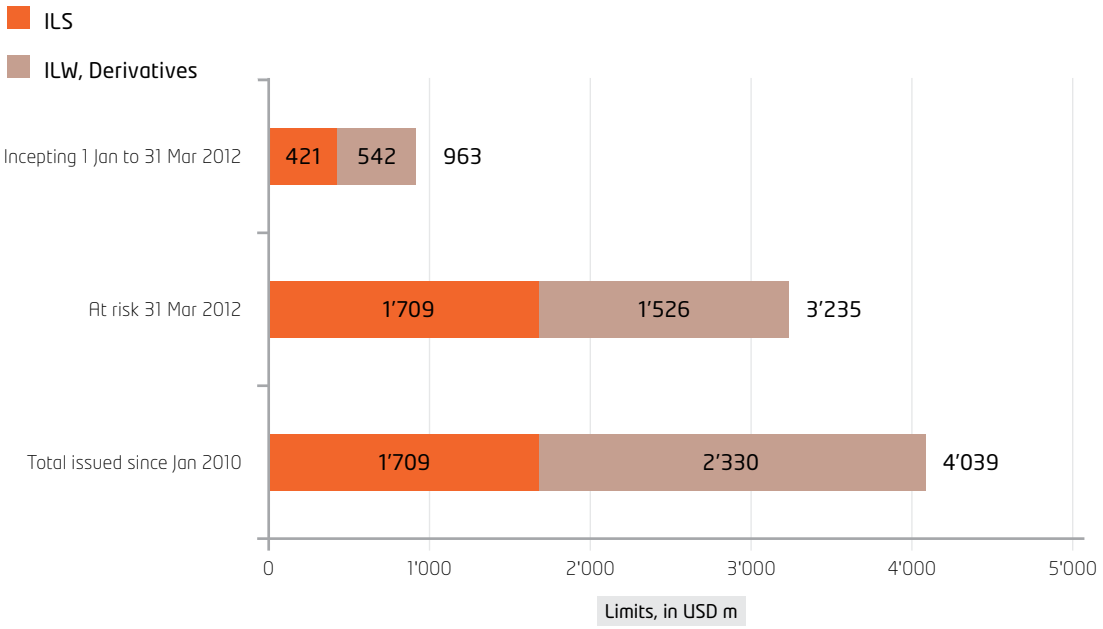
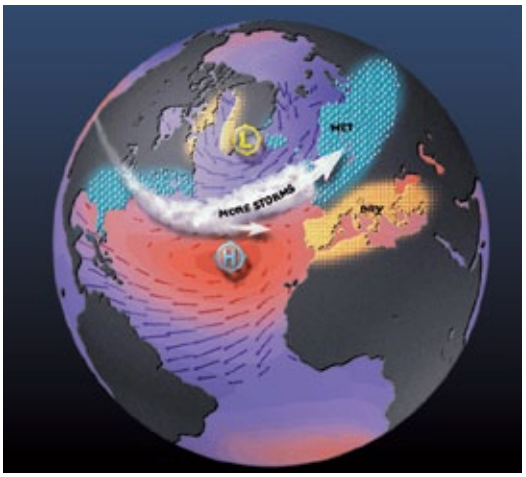


Figure 5: PERILS-based limits / risk capital. *In the first 3 months of 2012 close to USD 1bn of limits using the PERILS loss index were transferred to the reinsurance and capital markets. Limits currently at risk stand at USD 3.2bn, while the total of limits issued since 1 Jan 2010 is USD 4.0bn.*

North Atlantic Oscillation

The North Atlantic Oscillation (NAO) Index describes the difference in sea level pressure between the Icelandic low and the Azores high. The NAO Index correlates with the storm activity in Western and Northern Europe.

The source of energy for European winter storms comes from temperature and pressure differences between sub-polar and sub-tropical zones. The North Atlantic Oscillation Index enables the quantification of this pressure gradient. It represents the difference of sea level pressure between a point in the South, such as Ponta Delgada (Azores, Portugal) and a point in the North, such as Reykjavik in Iceland (Figure 6).



after Martin Visbeck, Columbia University

Phases with positive values, i.e. a stronger than average subtropical high pressure center and a deeper than normal low over Iceland, correlate with an increased frequency of winter storms crossing the Atlantic Ocean. Phases with negative NAO Index values, i.e. weak Azores highs and weak Icelandic lows, are accompanied by low storm activity.

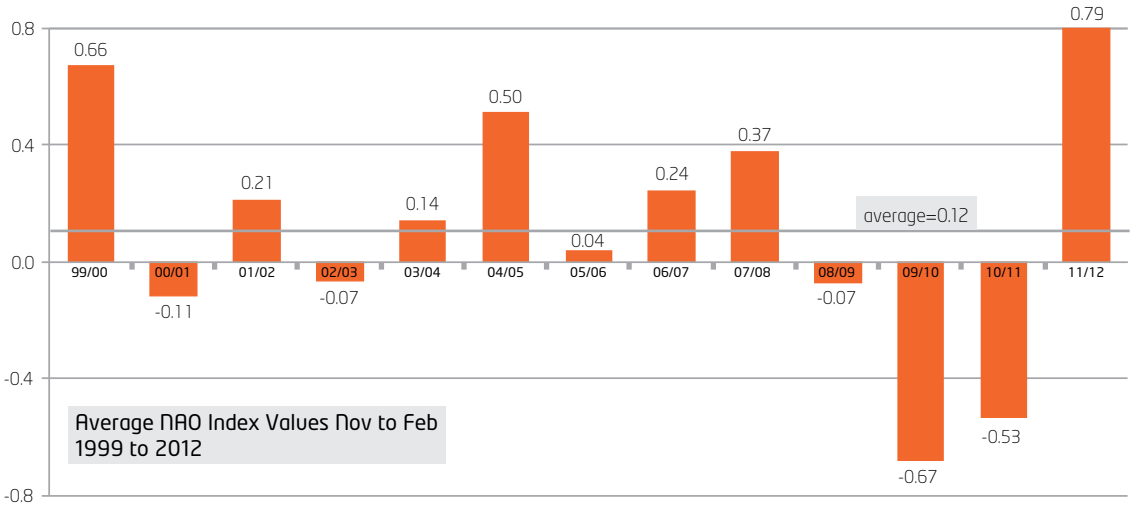
As highlighted earlier, the winter 2011/12 included an unusually high number of European storm events, although they were of limited size and impact for the insurance industry. This type of windstorm activity where one storm follows another is often referred to as "clustering". It is a phenomenon which is increasingly taken into consideration in probabilistic Cat models.

Statistical studies show that such windstorm clustering is often accompanied by above-average NAO indices over longer time periods. And indeed, comparing average daily NAO values for the winter seasons (defined as November to February) since 1999 shows that the highest NAO Index value was experienced in winter 2011/12 (Figure 7). The NAO Index value for the winter 1999/2000 – which included the storm cluster of Anatol, Lothar and Martin – was the second highest reported to date.

The relationship between pressure gradient and storm activity is still observable when we drill further into the 2011/12 winter season. All six events investigated by PERILS occurred in periods of significant positive NAO Index values (Figure 8).

It seems therefore evident that positive NAO Index values correlate with increased storm activity.

Figure 6: The North Atlantic Oscillation. *A significant difference in pressure over the Azores and Iceland generally leads to higher storm activity in Western and Northern Europe.*



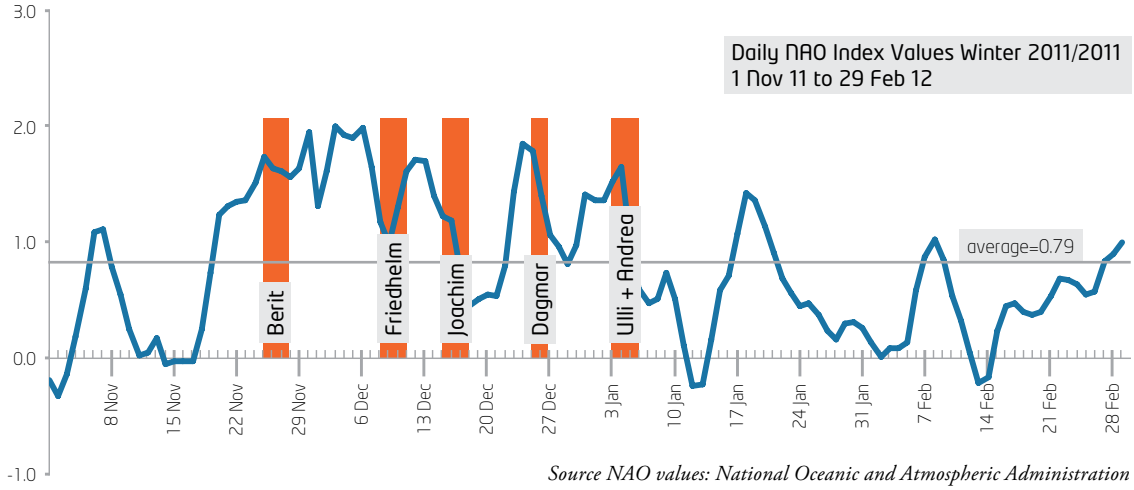
Source NAO values: National Oceanic and Atmospheric Administration

Figure 7: Average NAO Index values for November to February. *The highest value recorded over the last 13 years was that recorded in the winter 2011/12, which was remarkable for its strong storm activity. The second highest was observed in 1999/2000 which included the storm cluster of Anatol, Lothar and Martin.*

The question is then whether we can use this statistical insight to benefit the management of extra-tropical windstorm risk in the insurance industry?

While forecasts of NAO conditions for entire winter seasons exist, their accuracy appears to be rather limited. Mid-term forecast, such as 14-day predictions of the NAO index, are more reliable, but are already factored into numerical weather predictions.

It therefore appears that at present there is no silver bullet to enable us to predict the level of activity and intensity of future windstorm seasons. What seems certain, however, is that windstorm clustering exists and that it is correlated with phases of a positive NAO Index. Further research into this phenomenon is, in our view, warranted and may one day help to better anticipate the seasonal storm activity to the benefit of both businesses and society.



Source NAO values: National Oceanic and Atmospheric Administration

Figure 8: Daily NAO Index values and storms investigated by PERILS during the winter 2011/12. *All six windstorm events occurred in a period of above average NAO Index values.*

Outlook

Since its establishment in January 2009, PERILS has gained ever broader support. This has enabled us to strengthen the overall integrity of the data which we provide, and also to extend our geographical reach and the range of services we provide, for example to include perils such as UK flood in the PERILS Industry Exposure & Loss Database.

We at PERILS are committed to building on the continuing success of our activities. This commitment is founded upon our steadfast conviction that the work we do serves to enhance the overall effectiveness of the insurance industry and we will further expand our efforts into those areas where we believe the increased availability of independent Cat market data will benefit the industry as a whole.

With very best regards,

Your PERILS Team

Zurich, May 2012

"Sechseläuten" – a traditional spring festival in Zurich, marking the end of the winter (storm-) season