

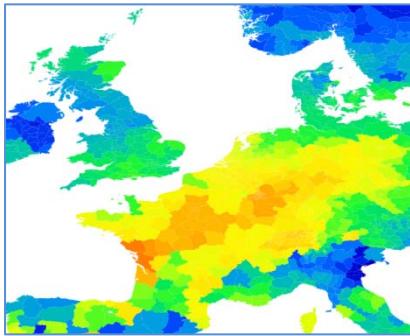
EuroTempest: Creating Calm in a Chaotic Climate

As freezing temperatures hit Europe, EuroTempest reviews the extreme cold and snow fall experienced across much of the continent last winter, looks into the seasonal predictions for the coming months and advises the insurance industry on how to manage these seasons of uncertainty.

Climatology

European winter meteorology is strongly influenced by the North Atlantic Oscillation (NAO), the atmospheric pressure difference between the semi-permanent centre of low pressures near Iceland and the Azores, a large subtropical centre of high pressures. When the difference is higher than the climatological average, the NAO is in its positive phase, favouring wet, warm and windy winters over Europe. Colder, drier weather tends to dominate in its negative phase.

During last winter, the NAO Index reached some of its lowest values ever observed between mid-December 2009 and mid-January 2010, corresponding with record freezing temperatures and snowfall leading to a sharp increase in insurance claims.



Windstorm Xynthia gust footprint

The NAO Index values remained extremely low throughout February, during which windstorm Xynthia – a wet event – developed and caused considerable losses across Europe. The negative phase of NAO during February 2010 did not favour severe European windstorm activity, which demonstrates the difficulties of producing an accurate seasonal forecast from the existing understanding of the European climatology.

Cold weather claims

The losses caused by the freezing conditions of winter 2009-2010 were, for some insurers, of the same magnitude as the windstorm damage caused by Kyrill in 2007. Motor insurance claims were estimated to be around 30%¹ above average in the UK and RSA² estimated that the total economic cost to the UK of the snow was up to GBP690 million per day due to business interruption.

Notably, burst pipes caused both significant damage, particularly in the UK and Ireland, and a new claims challenge for insurers. This was the first time for at least 20 years that large volumes of burst pipe claims had been experienced, causing some uncertainty in calculating the appropriate reserves.

Forecasting European Weather

Accurate and useful seasonal predictions of European weather are notoriously difficult to produce due to the chaotic nature of the atmosphere in this region. Last winter, two out of three forecast agencies predicted a warmer than average winter when Europe experienced record low temperatures and snowfall. The uncertainty in the seasonal outlooks means that insurers need to rely on shorter term forecasts and technologies to be prepared when a weather event strikes.

¹ http://www.theaa.com/motoring_advice/news/busiest-day-for-breakdowns-in-ten-years.html

² <http://www.rsagroup.com/rsa/pages/media/ukpressreleases?type=press&view=true&ref=550>

For example, EuroTempest's Five Day Outlook for Europe from 29 November 2010 reveals:

- Some unsettled conditions are expected for Europe over the next five days with some heavy precipitation expected in places.
- Gusts of over 60mph are currently not expected to affect any land areas of Europe over the next five days.
- Precipitation of over 25mm per day is currently expected to occur over countries on the east coast of the Adriatic from today until Thursday. Daily rates may exceed 75mm in places. Precipitation of over 25mm per day is also expected over eastern Poland and western Ukraine today, southern France and parts of Hungary on Wednesday and Albania on Thursday and Friday where daily rates may reach 40mm.

Managing the Weather

Where can I access the forecast information I need?

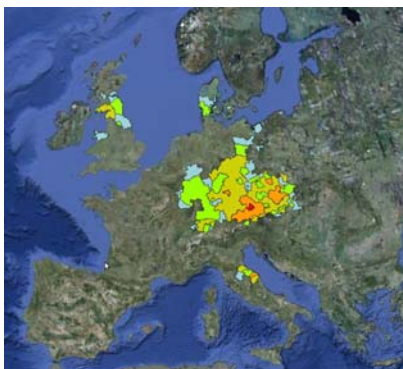
With unreliable seasonal forecasts and national meteorological data primarily geared towards public safety rather than insurance, EuroTempest provides a tailored alternative for insurers with five day outlooks published twice-weekly. These focus on the information that is most relevant for insurers such as wind, rainfall and temperature across Europe. Alert emails are also available for freeze and thaw events.

How we can calculate real time loss estimates?

Early insight into weather conditions and expected losses is critical to efficient capital and human resource allocation. EuroTempest combines real-time forecasts and observation data taken during an event with vulnerability models to provide estimates of claims volume and distribution. This is available for European portfolios up to five days before an event and within 24 hours for post-loss estimates. EuroTempest post-event loss estimates for windstorms Klaus and Xynthia were within 5% of the final published loss for specific insurers.

I'm a reinsurer... what's the damage?

The complexity of reinsurance contracts and the diversity of risk data makes loss estimation and effective response management more challenging for reinsurers. In response to requests from reinsurers with a mixture of aggregated and non-aggregated risks in their portfolio, EuroTempest has



Windstorm Emma 2008 Loss Ratio Map

developed ReLoad™ (Reinsurance Loss And Damage), a new loss-ratio product which combines measured wind speed data and vulnerability curves to deliver representative loss-ratio maps within 24-hours of an event to help guide loss assessment and response. The data is available as tabulated files or in Google Earth format for visualisation over risk location and exposure maps.

How can we use retrospective weather data to benefit our business?

EuroTempest collects weather observation data from around 2,000 weather stations across Europe which feeds into our loss estimations and enables bespoke weather analyses. For example, with the combination of data and meteorological expertise, EuroTempest was able to establish that the sequence of damaging cloudburst events in Denmark in August 2010 were likely associated with a single weather system. This resolved queries from the insurance industry of whether or not the losses were associated, thus impacting the payment of claims.

In addition, EuroTempest's Claims Validation Tool provides observation data to claims management and handling teams so that they can quickly and easily assess weather conditions at any postcode, on any date and ensure that the claims received are consistent with weather damage. Maps and observations of parameters such as wind, rainfall, temperature, snow depth and lightning (amongst others) are all available.

About EuroTempest

EuroTempest is part of Aon Benfield Research's academic and industry collaboration. EuroTempest provides innovative weather risk products to benefit the warning and management of weather risk across Europe. The EuroTempest team, which includes award-winning experts from the fields of meteorology, insurance, reinsurance and loss modelling, offers an unrivalled suite of products to meet the needs of those with exposure to extreme winter windstorms and unseasonal weather.

EuroTempest's services are of specific benefit to insurers, reinsurers, risk managers and loss adjusters. EuroTempest can also provide services that are relevant to companies and organisations in other industry sectors whose performance is influenced by extreme high winds. Since its foundation in 2007, EuroTempest has worked with re/insurers across the world including the UK, Ireland, France, Germany, Switzerland, Bermuda and the US.

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