

Putting the Geo into Insurance - GeoRisk 2018



On 13 March, Esri and Willis Towers Watson, insurance advisors and brokers, hosted a seminar on GIS and insurance at the Willis Tower in the City of London.

This was the second such event, with a two-year gap since the previous seminar. A lecture theatre full of delegates were treated to an intensive day of talks from experts in the application of GIS for insurance. As one might expect, the programme featured speakers from the host companies, with applications sitting on Esri platforms.

Serving Data

It is the reinsurance companies Swiss Re and Munich Re who, according to one of the speakers, trailblazed the use of GIS in the insurance industry. They provide data to the sector through services called CatNet and Nathan (Natural Hazards Assessment Network) Risk Suite respectively. These offerings serve data to the insurance industry on natural hazards, including river and coastal flooding, seismic, tsunami, wind and hail.

The Power of Collaboration

This means of collating and distributing data gets over of the issue that a single insurance entity cannot justify the cost of collating spatial data over an area, when only a proportion of the risk business is likely to be theirs.

Another solution is to pool resources and this is exactly the purpose of the US National Insurance Crime Bureau (NCIB), which operates the Geospatial Intelligence Centre. When 1,200 insurance companies club together the result is a programme calling on 150 aircraft to take 15cm resolution imagery covering the whole of the USA every year and 5cm resolution of metropolitan areas. The NCIB calls this operation blue sky photography.

When a disaster occurs, the NCIB moves into grey sky mode within 24 hours and aims to process the photography within 72 hours of the plane landing, by parallel processing on 300 servers. Such is the influence of NCIB that the speaker, Ryan Bank, related how he managed to gain previously unheard-of authority to share airspace with Air Force One. With this scale of response, insurance becomes part of incident management.

Another company, Terraloupe, takes this photographic data and classifies the imagery to identify the condition of buildings in the disaster zone. Kai Ole Rogge described how this was done with a mix of labelling of features in Pakistan and app writing in the USA. His company uses what3words for georeferencing moveable features, such as cars in driveways.

Common Operating Pictures

Incident response was often near the surface at GeoRisk. And to manage an incident you need a common operating picture – don't you? But, according to Alex Martonik you don't, because the information you need depends upon the nature of the catastrophe. He used Esri's Story Map to illustrate his point, as drought catastrophe in California turned to fire and then, when it finally rained, to landslides. Perhaps it is more accurate to say that the common operating picture has to be tailored for the particular crisis.

Smarter Working

Every solution should have a problem and these ranged in sophistication. Jeremy Brooks spoke of using GIS to prioritise exposures in a portfolio to help his company, Willis Corporate Risk and Broking, decide where to concentrate their efforts to reduce the risks. Others related how they use GIS not only to assess risk but also to avoid and limit risk when designing a new project: the example quoted was a marine cable which was potentially at risk from fishing nets.

Insurers also need to know how a catastrophe is evolving, so that they can take steps to minimise and mitigate the risk but also so that they can be prepared for paying out to victims. Following the Atlantic hurricanes in 2017, one company was able to start paying within seven days. At a more mundane level, another uses GIS to predict how many staff are required to man the phones during an incident.

Geo Journey

One speaker, whose background is insurance underwriting, illustrated perfectly the human factors involved in trying to introduce GIS to a company which sees 'geospatial' almost as an alien who has to prove his trustworthiness. The journey started in 2011, a year which the

company did not enjoy – when there were earthquakes in New Zealand, a tsunami in Japan, floods in Australia and Thailand and tornados in the USA - events that would fully test all industry catastrophe models. In early 2013, he attended a conference in London and got talking to a consultant from the Ordnance Survey. Seeing the possibilities, the company hired an intern in August 2014 for three months. It was “a revelation”, with information produced in hours which used to take weeks. Furthermore, the intern, from a non-insurance background was asking some hard questions. Within three months of gingerly putting its toes in the water, the company was buying hardware and software from Esri and there was a team of two GIS folk.

But his objective was to ‘socialise a common view of risk’. This meant developing a system which people would want to use. The proof of concept was produced in 2016 and there are now 150 users.

Settlement

There were a couple of talks about particular risks. Andy Lucas from Property Assure spoke about subsidence in the UK. The traditional means of assessment was based upon examination of soil type and claims history. Property Assure’s aim was to improve profiling by using InSAR to measure subsidence. To do this, they are in a consortium with the European Space Agency and the British Geological Society. With frequent satellite passes, come frequent measures of level change and it is even becoming possible to document shrink-swell signatures within the data and calculate rates of subsidence. This also opens up the possibility of predictive analysis. As well as inSAR they are using GIS to analyse the risk from drains, property type and age, and trees. They are even developing a routine to identify tree species from aerial imagery.

Risk Reflective Pricing

The overall impression is that, as one would expect, the industry is using GIS to enable it to assess individual risks more accurately. This will reduce the smoothing effect caused by lack of information and premiums will match more closely individual risk. One wonders if this could reach the point where the insurance cost of high-risk developments could render them uneconomic to build.

Political Risk

Nicholas Schwank, from CONIAS has an interesting task – forecasting political risk. In a survey of 1,200 companies in 2017 political risk was ranked eighth in importance to businesses. His company has analysed 850 conflicts and uses the results to forecast how conflicts will develop.

As surveyors know well, it is as important to understand the needs of your customers as it is to know how to adjust a traverse. This was a day which revealed not only how another group of customers uses our data but also the benefits of integrating business and geospatial information. The conference had a great atmosphere, thanks largely to the affable chairman, Matthew Perry.

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<https://www.gim-international.com/content/article/putting-the-geo-into-insurance-georisk-2018>
