Image: Phil MacD Photography/Shutterstock

Flooded street in King's Staith, York City Centre, after heavy rain in late December 2015

Counting the cost

With insurance claims from this winter's floods expected to top £1.3 billion, Alun Jones describes how a new property-level age and type database will help insurers more accurately assess the cost of flood damage to individual properties and, therefore, the total costs across their entire portfolios

Backgrounder

The Government-backed Flood Re scheme, which is due to launch next month (April) will provide some homeowners, in high risk areas, with access to an affordable level of home insurance. Flood Re cover is based on location and property tax band, the latter being an indicator as to the size of a property but not its age. This is significant as both factors are critical in determining repair costs to a flooded property.

Such detailed age and type information is not commonly available and can therefore hamper efforts by insurers to accurately predict the costs that could be incurred due to flooding at a property level. This is significant as their capital reserves may not match their liabilities and, hence, breach Solvency II rules.

The availability of a new property level age and type database now offers insurers the ability to correctly identify the cost of damage for each individual property and, thus, the total costs across their entire portfolios. Such a resource can only help improve underwriting, claims management, and risk modelling across the industry.

Game changer

Flood Re is set to be a game changer for both the insurer and the home owner – commercial property owners are not part of the scheme. Already, much has been written as to its likely impact and how it will be administered; see some references at the end of this article.

Essentially, the Government-backed scheme will help insurers pass on (cede) the insurance of some homeowners in high-risk areas, thereby giving them access to affordable insurance. This will be based not only on a property's location but also its Council Tax band; the latter is something to which only the main insurers will have access.

Location, location, location

Many, if not all, insurers, intermediaries and reinsurers are aware of, and price on, the risk of a property being subject to flooding. This is based on its location or proximity to a flood risk zone—be that coastal, fluvial or surface water.

Thanks largely to many years of work undertaken by the Ordnance Survey, flood modellers and insurers will know the location of properties and whether or not they sit in a flood zone. While many have previously modelled this risk at the postcode level, most are already or in the process of moving to modelling risk at the individual property level. So the problem of flood risk location is largely solved.

But what next? Do we treat the possible damage as being equal across all properties in the same flood risk zone? If location is the same, and if the risk is the same, is our response the same and are the repair costs the same? No. Not unless all the properties are identical, which they are not.

Not all properties are equal

Evidence (http://www.mcm-online.co.uk/manual/) from The Flood Hazard Research Centre (FHRC, an interdisciplinary centre based at

Middlesex University) clearly shows there is a variation in flood damage costs between different types of properties and different ages (see graph to the right).

FHRC has determined the 2013 repair costs, shown here for 0.1m flood depth, for a Short Duration Flood period, for different types of properties and ages, along with the residential sector average damage cost.

The research shows that, even within one age group, there is variation (significant perhaps) in damage costs between property types, and across different property ages. Pre-1919 detached properties exhibit the highest damage costs and are off this chart at some £29,591. The average for each age group varies too, and this means that using a single figure or a simple trend (e.g. older properties have higher damage costs) to predict damage will generate woefully inaccurate results. A 1945–1964 terraced house, for example, has one of the lowest damage costs at £5,921 - well below the age and sector average.

The residential sector average damage cost is around £10,500 (dark blue line), but using such an average will again lead to incorrect individual property damage costs, as many types and ages vary about this figure.

So now we know that age and type of property are significant factors in the resulting flood damage costs; and as a consequence, one can assess the repair effort and the time that residents will be unable to occupy their homes. However, do insurers have accurate property age and type data to correctly model and predict all this?

Filling the data void

Relying on property age and type information from policy holders is recognised by insurers as being suspect. Property age and type is available in the census, but it is grouped to show house types as a percentage of an area that commonly contains over 1,000 properties. This is misleading when trying to work at the property or even postcode level. The Valuation Office does not release any data on property age or type, so accurate information of this nature is not readily available.

Here, at The GeoInformation Group, we have been working on a UK-wide buildings database that provides information at the property level – for both residential and non-residential buildings - including:

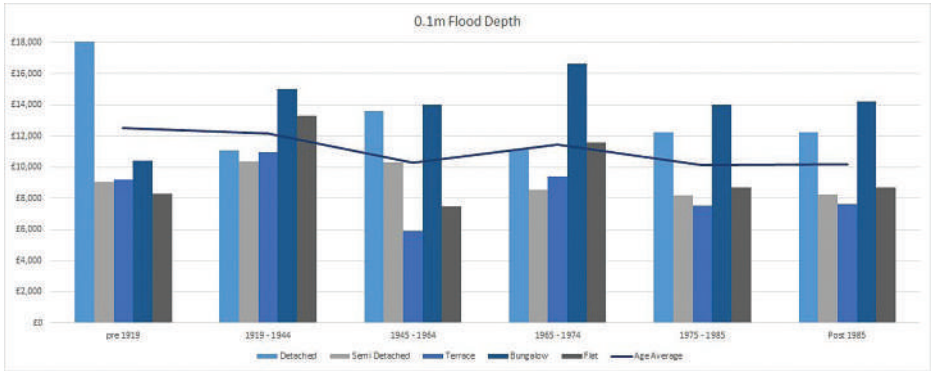
- Age
- Type
- Construction type
- Roof type
- Number of floors
- Number of bathrooms / bedrooms (residential)
- Floor area

This work, more on which can be found at www.geoinformationgroup.co.uk/#!ukbuildings/c1his, has shown the variability of property types across the UK at the individual property level, revealing significant variations even within one street.

Looking at the example map below, we can see within this small area (just a few streets and postcodes) that all the properties are within the flood zone and may previously have been treated as equal in terms of damage. However, the differences in the properties' age and type show that is not realistic.

The flood zone, provided by the Environment Agency in this example, shows Late Victorian terrace houses (light blue), right next to post war regeneration terraces and semis (purple), next to Interwar terraced and detached (pink), all within a street (and postcode) of each other. However we now know there is a damage cost variation of some £5,000 between these types of properties.

Getting this wrong for one property might be manageable, but getting it wrong for hundreds or thousands of properties would be a costly mistake - one that can now be easily avoided.



Graph created from tables presented in MCM-Online.co.uk. Flood Hazard Research Centre, Middlesex University, London.

Further information

- http://www.floodre.co.uk/sites/all/files/userfiles/files/Flood%20Re%20Transition%20Plan%20Feb%202016%20FINAL..pdf
- https://www.abi.org.uk/~/media/Files/Documents/Publications/Public/2015/Public%20affairs/ABI%20Issue%20Briefing%20-%20Flooding%20and%20Flood%20Re.pdf
- http://www.telegraph.co.uk/finance/personalfinance/insurance/contents/12095847/Will-the-redrawing-of-flood-maps-affect-your-house-and-insurance.html
- http://www.mcm-online.co.uk/wp-content/uploads/2015/05/Sample-3-Residential-Data.pdf
- https://www.abi.org.uk/News/News-releases/2015/12/Two-weeks-to-go-UK-insurers-ready-for-new-Solvency-II-capital-rules

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