Local Government and Insurance

Insurer Flood Data Requirements

Insurers need to employ the most up-to-date, comprehensive flood risk data available to ensure that the premiums they calculate reflect the true nature of the risks they cover.

Using the best available information improves an insurers ability to assess flood risk at an individual address level - they will be less likely to overprice or underprice flood insurance premiums. Importantly, where insurers have access to the same data as those who are responsible for mapping and managing the impact of flood, there is greater consistency in the messages residents receive about their exposure and vulnerability.

Why floods are different from other natural disasters

Flood is complex and expensive to model accurately. Unlike other broadscale natural hazards like cyclone and earthquake, floods often impact the same locations repeatedly whilst never affecting other nearby land. Insurance claims from flooding are highly concentrated in these locations. This is why insurers need quality, high resolution geographic information system (GIS) data to understand flood hazard. Councils are frequently the custodians of the best quality and most current flood risk information.

Insurers are comfortable receiving data in many formats and in stages as it becomes available. Councils do not have to hold back delivery of information because it is not in consistent format or is due to be updated. As a general rule, insurers want to obtain:

- ✓ Flood hazard data;
- ✓ Elevation data; and
- ✓ Building location and floor height data

Flood Hazard Data

Understanding flood hazard is essential to accurate flood risk pricing.

- Flood surfaces and/or depth grids, covering flood events from the design 10% AEP (10 year) to 0.01% AEP (10,000 year) and historical events, in any raster and/or vector format. The following AEP would provide a suitable range of events 10%, 5%, 2%, 1%, 0.2%, 0.01%. Flood insurance typically covers the current flood risk so the boundary condition and climate scenario model would ideally be for the current climate, not a conservative assumption;
- GIS polygons defining flood extents for available AEP events, as well as the boundaries of Council's declared flood hazard or planning area for development control purposes.
- GIS data showing the location of any mitigation infrastructure as well as performance data regarding mitigation.
- Any GIS data defining the hydraulic and hydrology models, such as flood surface contours, flood height upstream, point flood height;
- Model or study domain, ideally as a GIS polygon
- Flood study report, ideally as PDF;
- Basic metadata regarding the provided data including the projection used.

Building Location and Floor Height data

Identifying the location of the asset on a parcel of land and also the floor height is part of accurate flood pricing. This data can significantly affect the flood risk component of an insurance premium.

- Building property location, ideally as building footprint in a polygon or building footprint centroid as a point, or text file with coordinate information. In some flood-prone areas this data is so essential insurers will often consider reviewing other sources. For example, some occupation certificates or DA approvals can contain building information of value like floor height and location of building.
- Floor heights that are ideally of the first habitable level in Australian Height Datum (AHD) as a GIS point or text file with coordinate information. However any data on floor height can be of value and can improve the accuracy of flood pricing.

Elevation Data

Understanding the elevation data used by councils for local flood models can have a significant influence on the ability to price flood risk accurately. Insurers understand that accurate modern elevation data can be difficult to provide due to licensing agreements. If elevation data is readily available insurers would prefer

- Any high resolution modern bare earth elevation data, ideally from LiDAR, in any common GIS raster or vector format.
- Delivered as a 1 to 5 meter grid cell, with vertical accuracy of 15 - 50cm.

While this represents the ideal scenario, any elevation data currently used by a council for their own planning and flood modeling purposes, can be made use of to help the industry to accurately assess flood risk at address level.

Riverine Flooding vs. Overland Flow

Rapid developments in processing power and the capabilities of hydraulic modeling software in the last three years have resulted in more flood studies being completed using "rainfall on grid" methods.

This can create difficulties for both Floodplain Management Entities and a small number of insurers who offer flood cover on an opt-out basis because two different mechanisms of inundation (overland flow and riverine flooding) are included in the raw result set and it is not simple to separate the results.

For insurance purposes flood is now defined in federal legislation covering home building, home content, small business and strata building policies, as:

"The covering of normally dry land by water that has escaped or been released from the normal confines of any lake, river, creek or other natural watercourse (whether or not altered or modified) or any reservoir, canal or dam".

This definition does not include the impacts of overland flow, which is typically covered as a standard inclusion in home insurance policies.

Councils are not obliged to use the mandated insurance definition of flood. Where a council has created local flood data that includes flooding from sources other than those considered by insurers as flood risk, difficulties can arise for a small number of insurers.

There are two ways in which these insurers can address this issue:

- Where a Council chooses to differentiate between overland flow and riverine flooding, the insurer would review how this assessment relates to the definition of flooding and preferably use only the riverine flooding output as determined by Council's processes;
- Where a Council chooses not to differentiate between overland flow and riverine flooding as per the definition, the insurer will need to make this differentiation. This would take into account hydrology consultations, topographic and hydrological features of the catchment and the definition of flooding above. Only the riverine flooding component would then be used in flood premium calculations.

Coastal Inundation

"Flood" as defined for insurers does not include inundation due to action of the ocean, and various insurers have different approaches to covering this risk.

Flood studies in coastal areas often assess the impact of coincident Riverine and Coastal flooding and may include assessment of storm surge. Where this is the case, an insurer may prefer to assess flood premiums using riverine flooding only, in conjunction with a "normal" rather than an "extreme" downstream ocean level.

Storm Surge

"Flood" as defined for insurers does not include inundation due to storm surge. However the number of insurers covering this risk, defined seperatley, is increasing. Data held by coastal councils describing storm surge exposures is of interest to the industry and would help more insurers to enter this market.

Climate Change and Sea Level Rise

You may have seen media reports about projected sea-level rise or climate change scenarios leading to higher insurance premiums. This is a myth. Home building and contents insurers are not covering risk in 25, 10 or even 5 years time. They are covering the next 12 months from when a policy begins. This means insurers only set premiums based on the current risk, not the risk under any projected future climate scenarios. Where future climate scenarios have been used to develop hazard data it is ideal if council can provide insurers with guidance to help them determine risk according to current climate scenarios.

You can contact the Insurance Council of Australia (ICA) on 1800 734 621 or go to the Insurance Council's dataglobe website for more information.