



## Challenges of Flood Plain Publication

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### ABSTRACT

A key outcome in many of the modelling projects completed by Auckland Council are production of flood plains. Auckland Council is required under the Local Government Official Information and Meetings Act (LGOIMA) to make available any information relating to hazards known to properties, which includes flood inundation, through Land Information Memoranda (LIM). Flood plains mapped from hydraulic modelling results for the 1%AEP event are used to represent flood inundation on LIMs.

As well as meeting the legal requirements placed by LGOIMA, flood plains are also published on Auckland Council GeoMaps, an online GIS platform which makes regionwide datasets accessible to the public. Homeowners, residents, and developers can check whether their property and any other locations of interest across Auckland is located within a flood plain, without needing to pay for a LIM.

Flood plains are also used internally by Auckland Council to support regulatory functions such as resource consenting and building control, support to fulfil Council obligations to identify and mitigate risk and provide input into more advanced analyses such as flood warning systems.

Flood plains are published for the greater Auckland area covering 4,840 km<sup>2</sup> of land, comprising of 233 catchments. Flood plain updates have a rolling programme and are updated continually typically at catchment scale, as new models are completed and available.

There are several challenges that are faced throughout the entire process of flood plain publication, from model schematisation to after the flood plains are published and made publicly available.

It is important to have a high level of confidence in what is published, as flood plains directly impact property market values and developability of land and is an indicator of high-risk areas when significant flood events happen. As with any other model results, quality and accuracy of flood plains depend on quality of the model itself. The model will need to be schematised with flood plain production in mind so that the model contains sufficient detail to be able to map all areas that fit within the flood plain criteria. However, flood plains are often analysed at individual property level, whereas the most modelling projects that produce flood plains at Auckland Council are built at catchment, and sometimes even at regional level. The input data have varied uncertainty and currency across the region, which may directly impact data accuracy for the area of interest.



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There are also challenges when it comes to drawing and reviewing flood plains. Despite having a defined criteria for mapping flood plains, there are questions as to whether areas that do not meet flood plain criteria but are considered to have flooding risk should be included as a flood plain.

Once published, the flood plains are regularly challenged from the public and developers on its accuracy and validity. Difficulty also arises from the definition of flood plain in the Auckland Unitary Plan differing from how Auckland Council defines the flood plain mapping criteria.

This presentation will discuss the details of the challenges faced, and the steps taken to resolve or improve the process.

### **Keywords**

Flooding, Flood Plains, Hydraulic Modelling, LGOIMA, Land Development, Auckland Unitary Plan



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### Declaration

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