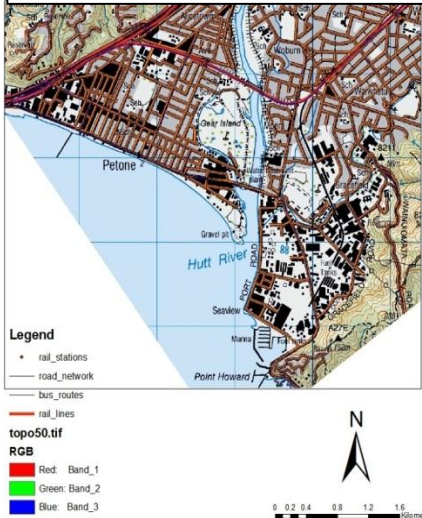
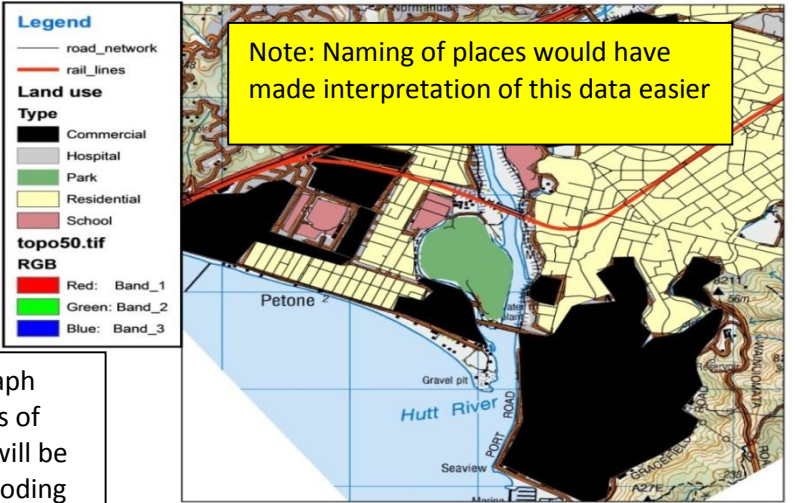


Map 1 – shows the total area of the Hutt Valley that will be affected by this problem, flooding and tsunamis.

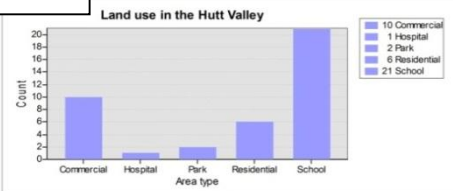


1

Land Use in the Hutt Valley

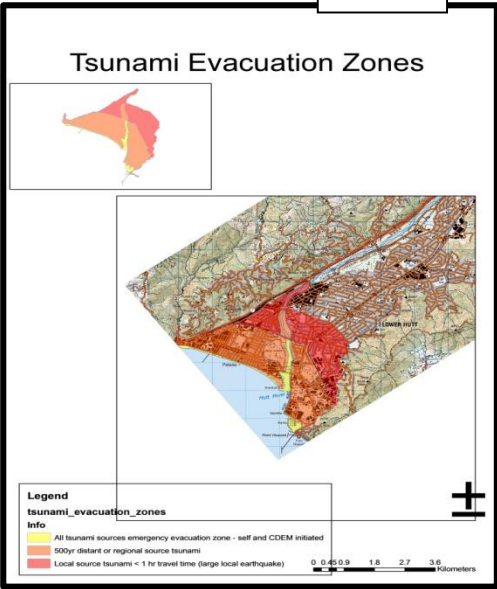


Map 2 and Graph show the types of land use that will be affected by flooding and tsunamis



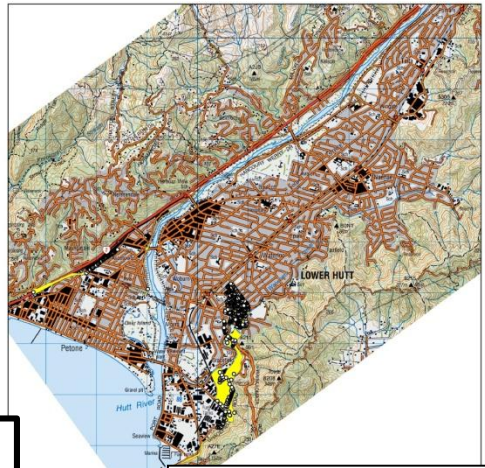
Note: Labels to identify important areas affected are

Map 4

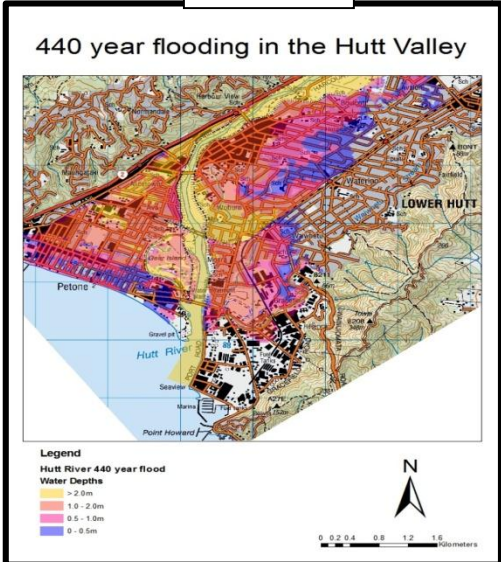


Note: Comparisons are made between two data sets. It would be better if layering was used to combine the data and turn off data sets to show the combined result.

Addresses in a yellow tsunami only



Map 5



Map 3 – shows the layering of houses that are in the self-evacuation zone (yellow tsunami). 448 people will be affected, mainly in the South East.

Maps 4 and 5 show the main area affected by flooding and Tsunami is in the lower parts of the Hutt Valley, near Petone

Note: Geographic conventions, orientation, scale are needed on some maps

Explaining the manipulations

I began by manipulating the topo map to show key relief features, land heights and rivers/streams. This was achieved by selecting only the layers I wanted and saving this image. The primary use of this map was to be able to show areas that would be flooded at different river heights or how far tsunamis waves could travel up the valley (2)...

Then it was necessary to create several themes e.g. land use and key assets... I used the draw tool to trace the outline of schools, parks, and hospital areas with a polygon shape. The land use map shows, commercial, residential, parks and schooling areas that would also be affected, mainly in Petone. Based on the map there are many commercial areas e.g. Gracefield and residential areas e.g. Alicetown and Woburn that will be affected. This was evident when comparing the base map with the land use map...(3).

These themes could be layered using the GIS software...

Wellington Regional council has a GIS Data Portal Programme, which has enabled me to gain the addresses for selected areas and locate them on a map to show the number of residents at risk of floods or tsunamis. Although we have access to this data, the accuracy and validity of the data was limited...

The solution to the problem

The maps clearly show the areas that are at highest risk of floods and what this land is used for... My proposal is to rezone the areas with the highest risk. This would mean the Petone area including Alicetown and ... (map 5) these coastal areas are major tsunami risk areas(4)... The current land is largely, commercial and residential...

Flooding caused by the river is already partly managed with carparks and recreation being the main land uses bordering the river and significant stop banks have been constructed... This already shows the benefits of zoning (5)...