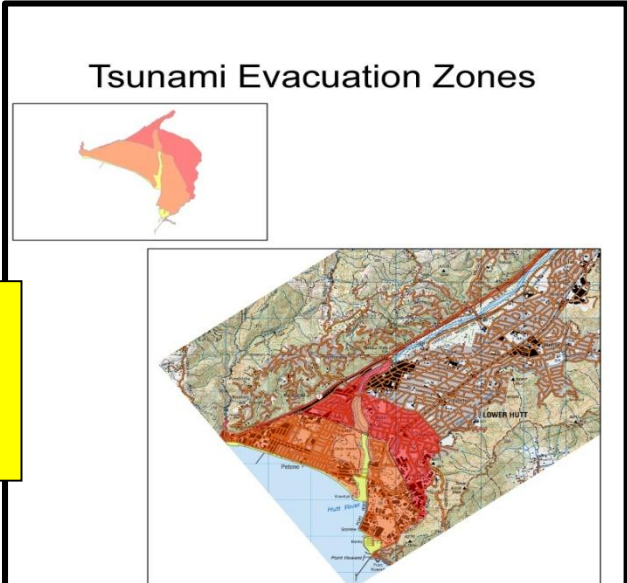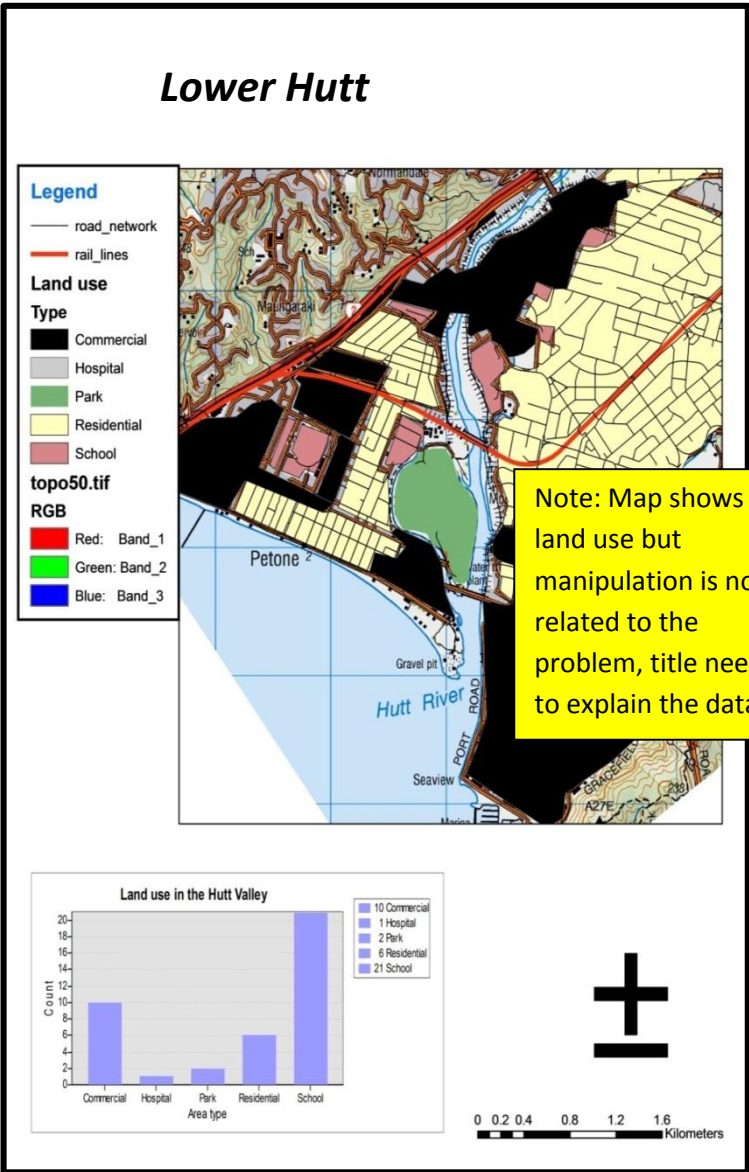## Houses to be affected by a Tsunami

23 BELL RD WAIWHETU
20 BELL RD WAIWHETU
63 MANDEL MEWS WAIWHETU
29 BELL RD WAIWHETU
45 MANDEL MEWS WAIWHETU
51 MANDEL MEWS WAIWHETU
61 MANDEL MEWS WAIWHETU
31 BELL RD WAIWHETU

23 WHITES LINE E WAIWHETU
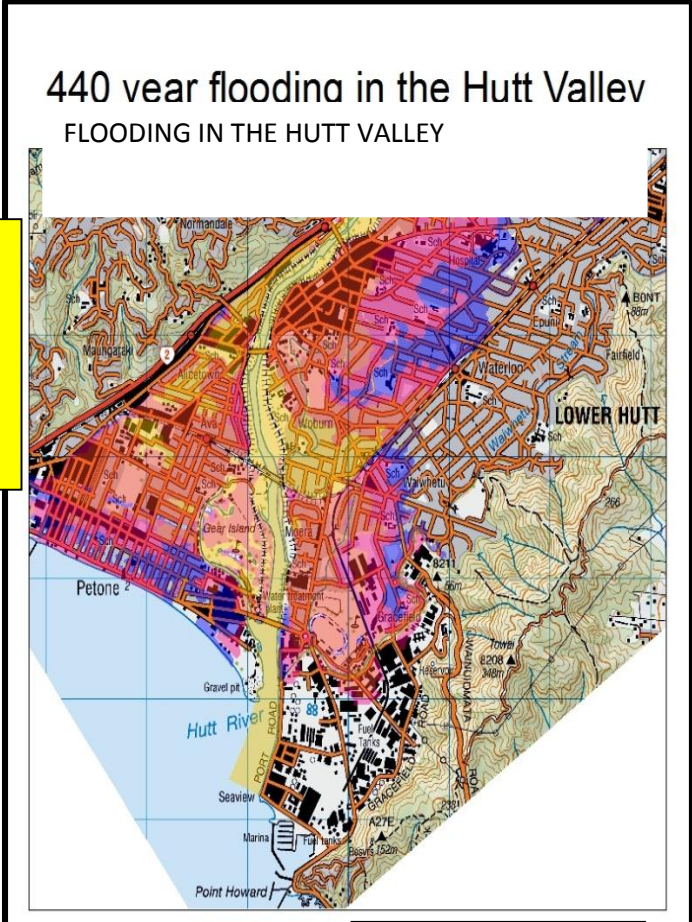119 WHITES LINE E WAIWHETU

1

Note: Table not linked to data manipulation or problem.

Tsunami Evacuation Zones

Note: Map is missing scale, orientation point and a key. The 3 different colours need identifying to indicate what the manipulation shows.

Lower Hutt

Legend
— road_network
— rail_lines
Land use
Type
- Commercial
- Hospital
- Park
- Residential
- School
topo50.tif
RGB
- Red: Band_1
- Green: Band_2
- Blue: Band_3

Petone

Gravel pit

Hutt River

Seaview

Land use in the Hutt Valley

10 Commercial
1 Hospital
2 Park
6 Residential
21 School

Count

Commercial Hospital Park Residential School
Area type

0 0.2 0.4 0.8 1.2 1.6
Kilometers

Note: Map shows land use but manipulation is not related to the problem, title needs to explain the data

Note: The relationships between the data manipulations and the problem should be clear.

440 year flooding in the Hutt Valley
FLOODING IN THE HUTT VALLEY

LOWER HUTT

Petone

Gravel pit

Hutt River

Seaview

Marina

Point Howard

Legend
Hutt River 440 year flood
Water Depths
- > 2.0m
- 1.0 - 2.0m
- 0.5 - 1.0m
- 0 - 0.5m

Note: Map is missing appropriate title, scale, and orientation point.

Student 6 – Not Achieved

Explaining the manipulations

I created a <mark>land use map of the Hutt Valley to show what assets might be affected. In the land use theme, I used the draw tool to pick out the assets. Affected assets included the railway, roads (including SH2), houses and commercial areas, including factories and houses, especially around Petone. This technique helped me identify what type of land use was most at risk and what type of action needed to be taken</mark> (2).

Themes were layered in the GIS software to show the areas affected. Layering the themes is a process where all the shape and layer files were inserted into the map show where the risks were. I noticed that there was some overlap, as the layers showed up a different colour –some people would be affected by both a flood and a tsunami – especially if it was a local tsunami…

<mark>I joined the two themes and then selected areas and clipped actual addresses. This is done by adding the address file and then clipping for each of the scenarios.
1. To clip – click on toolbox, then extract, then clip and name it something you will remember</mark>

<mark>2. Edit input feature – addresses, and output feature is the layer you are getting them from</mark>

<mark>I clipped information so that I could get the exact address for each layer</mark> (3).

Solution to the problem:

I think the solution needs to <mark>protect people so the residential areas at risk need to have flood barriers constructed…Over time it could be possible to change the zoning of some areas to make the main risk areas all recreation zones</mark> (4)…