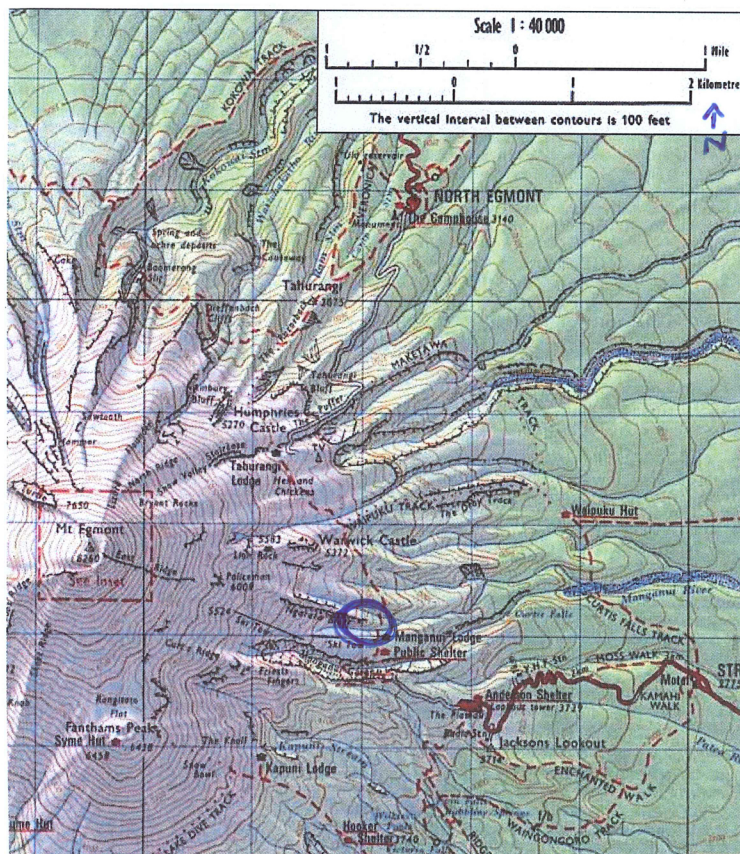


Location Two - Manganui Ski field



Sites
1, 2, 3

Quadrant at location 2 (Manganui ski lodge).

Rollian,
moss-like
covering soil

Red tussock
0.5m tall,
grass-like and
stringy

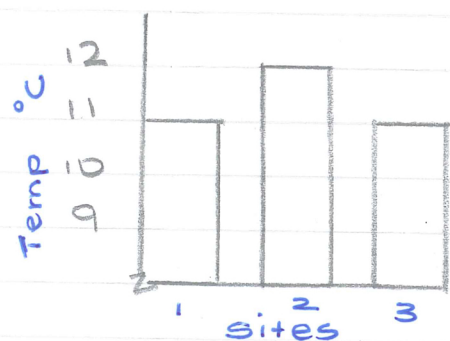


2

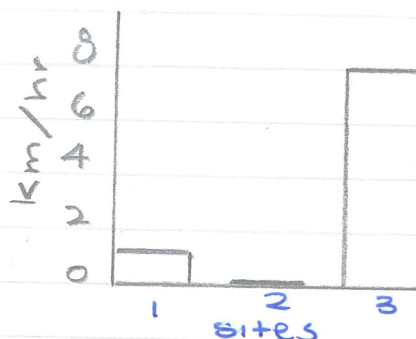
large portion
in this quadra
is made up
of Hebi adon,
it is about
0.5m tall and
has small
gathered leaves
at the ends
of the plant
branches.

1

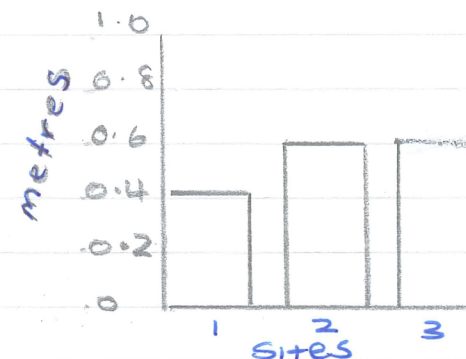
Air temperature



Wind Speed



Plant height (average)



Student 2_High Merit

Research Aim: To compare and explain differences in climate, vegetation and soil between two locations at different altitudes on the slopes of Mount Taranaki.

Findings for location 2:

Vegetation: At location 2 the vegetation content is generally made up of shrubs (Hebe), grasses and mosses. The quadrat shows partly exposed rock with no vegetation cover. The vegetation is all short and has hard leaves, which shows adaptation for the rough weather conditions. The tallest plant was the Astellia (like a flax), was almost 1 metre tall. Most of the Hebes and Red Tussocks were shorter at 0.5m and the mosses just covered the rocks (3). The mosses caused the average height to be smaller than it first looked. A lot of the vegetation is brown or slightly green in colour. The leaves of the plants tend to start right at the roots of the plant and ... Interaction between the altitude, climate and soil result in this type of vegetation (4). Due to the altitude the climate is very cold with snow cover for part of the year so plants need to adapt to these winter conditions, consequently the tussock type leaves or the small leathery leaves of the Hebes. Also at these higher altitudes the soil is thin, this is shown in the quadrats and photos where rock is exposed. Due to the thin rocky soils the largest vegetation is only shrubs and grasses. The vegetation at this location protects the soils with their spreading surface roots and way they spread as they grow. The dead leaves of the Astellia and tussocks decay slowly and can form a cover on the soil... This shows a clear two way interaction between vegetation and soils at this location (5)...

Conclusion:

I conclude from my research that there are distinct differences in climate, vegetation and soil at different altitudes on Mount Taranaki and these can be explained through interactions between the main elements (6). An increase in altitude affects the climate which affects the vegetation and soils. Location one was at 640 metres and location two was 620 metres higher at 1260 MASL.

From the results of my research there was clearly an interaction between the altitude and the climate. As the altitude increased the climate got colder and secondary data showed that the weather patterns are more irregular and extreme. My data only showed a 4°C decrease in temperature with the increase in altitude, but as my data collection at location 1 was early morning and collection at location 2 was late in the afternoon the expected and probable difference is not shown (7)...

My results show an interaction between altitude and vegetation. As the altitude increased on Mount Taranaki the vegetation becomes low shrubs compared to dense large forest trees. This is a result of altitudinal zones and the environmental interaction between temperature, soil compositions ... My results show there is a change from tall forest trees and ferns e.g. Beech, Kamahi and Ponga, to low tough hardy shrubs all around 0.5-1m in height including Tussocks, Leatherwood, Hebe etc. These results show that the higher the altitude the smaller but hardier the vegetation, which is adapted to the harsh conditions (8). There is also a change in soil and slope which also interact to influence vegetation types and density...