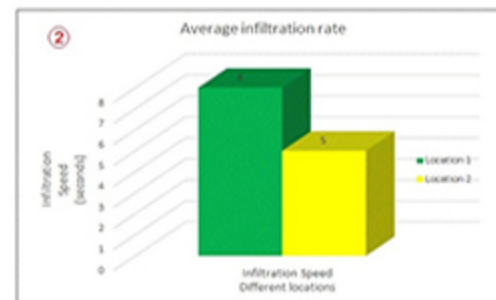
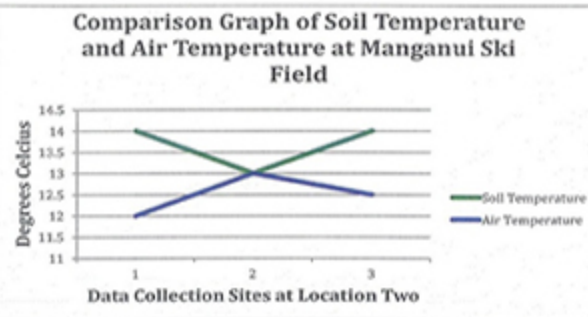
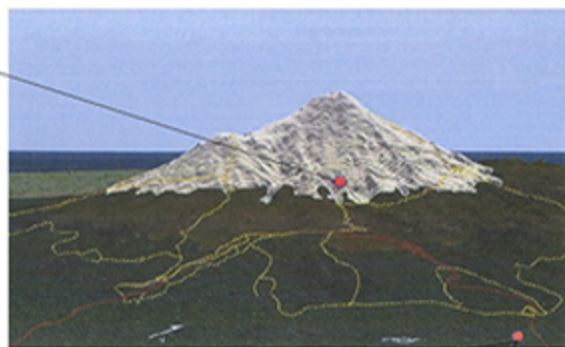


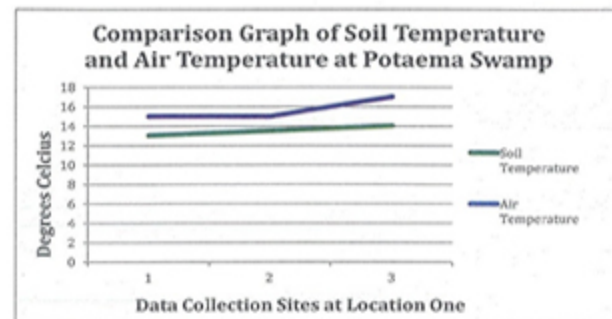


Site Two, 1270 m Altitude, Latitude 39.30 S, Longitude 174.09 E

Location Two- Manganui Ski Field
The Manganui ski field is situated on the East side of Mount Egmont and is approximately 1260 metres in altitude. The Manganui ski field consists of low height vegetation including tussocks, leatherwood and hebi. The climate of the Manganui Ski Field is unpredictable and often changes, with it normally being lower in temperature because of its altitude.



Location One- Potaema Swamp, Pembroke Road
Potaema swamp is located just below the Stratford Mountain House at approximately 640 metres in altitude. It consists of forest vegetation including kamahi, rata, rimu and punga. It is a fairly damp location hence why is it a swamp. The climate is usually about the same as New Plymouth with a slight decrease in temperature.



Student 1_Low Excellence

Research Question: How will an increase in altitude affect the natural elements (climate, veg, soils) and their interaction on the slopes of Mount Taranaki?

Explanation of the research findings

The soil and air temperatures between location 1 and location 2 were not hugely different despite the difference in altitude. At Location 1 the air temperature was averaged 15.5°C and the altitude was 640m above sea level, compared with the air temperature at the location 2 which averaged 12°C with an altitude of approximately 1260m (3). This shows that the higher in altitude the colder the air temperature is, this is because of the process of air pressure (Description of this process with diagram) ... this shows the interaction between altitude and air pressure resulting in different air temperature at the two selected locations (4).

Location 1 was expected to be the higher temperature because... and the difference with location 2 was expected to be greater e.g... This anomaly can be explained by the difference in time when the data was collected... The temperatures were taken at 10am at location 1 and 4pm at location 2 consequently warmer than expected temperatures at the higher altitude. Insolation is a significant factor in the process relating to air pressure shown in the above diagram (5).

From both locations the data collected shows that soil and air temperatures are fairly similar, a

	Air temp	Soil temp
Location 1 [640m]	15.5°C	13.5°C
Location 2 [1260m]	12°C	14°C

range of only 3.5°C across all the data. These results show that the interaction between the soil and air temperature is slightly different at

higher altitudes (6). At Location 1 the lower altitude location the soil is cooler (13.5°C) than the air temperature (15.5°C) whereas at location 2 the soil temperature is slightly warmer (2°C) than the air temperature. Reasons for the difference could relate to the different soil types and vegetation at each location. The denser soils at Location 1 proved to be cooler than the higher altitude coarser soils. This can be explained by analysing the moisture content of both soils. The soils in the swamp were colder and held more moisture, whereas the higher altitude soils contained less water and more air. With more air they warmed up more quickly than the wetter swampy soils thereby explaining this difference (7). There is still an interaction between air and soil temperatures but other variables must be considered. Such as slope, aspect, vegetation etc.

Evaluation of the research process

A strength of the data collection was having tables to record the data. This was especially helpful as we knew what we had tested and what was still to be tested. The recorded data was then easy to process into graphs and charts... This helped ensure the accurate transfer of data which enabled me to make valid conclusions. An improvement I would make would be to have space for comments and instructions beside each data recording box (8).

A weakness of the data collection was the time difference of recording at the different locations. The evidence for the temperature of the air is not completely valid as in location 1 the temperature was taken at 10 am whereas in location 2 the air temperature was taken an 4pm, so the sun would have been out for longer... This affects the validity of some of the data because it was a sunny day and the temperatures at the higher altitude were higher than expected (9). Data needed to be collected at the same time especially for temperature evidence.