

No part of the candidate evidence in this exemplar material may be presented in an external assessment for the purpose of gaining credits towards an NCEA qualification.

2

91240



912400



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

SUPERVISOR'S USE ONLY

## Level 2 Geography, 2017

### 91240 Demonstrate geographic understanding of a large natural environment

2.00 p.m. Wednesday 15 November 2017  
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate geographic understanding of a large natural environment.	Demonstrate in-depth geographic understanding of a large natural environment.	Demonstrate comprehensive geographic understanding of a large natural environment.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

**You should attempt ALL parts of the question in this booklet.**

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.**

**Achievement**

**TOTAL**

**4**

ASSESSOR'S USE ONLY

## INSTRUCTIONS

Name ONE large natural environment case study you will use to answer ALL parts of the question in this booklet.

Tongariro Volcanic Centre

In your answers, you should:

- integrate comprehensive supporting case study evidence
- use appropriate geographic terminology and relevant geographic concepts, showing insight.

## Relevant Geographic Concepts

### Environments

Environments may be natural and / or cultural. They have particular characteristics and features, which can be the result of natural and / or cultural processes.

### Location

Location is where something is found. It can be an advantage or a constraint. Location can be described in absolute or relative terms.

### Perspectives

Ways of seeing the world that help explain differences in decisions about, responses to, and interactions with environments. Perspectives are bodies of thought, theories, or world views that shape people's values and have built up over time. They involve people's *perceptions* (how they view and interpret environments) and *viewpoints* (what they think) about geographic issues. Perceptions and viewpoints are influenced by people's *values* (deeply held beliefs about what is important or desirable).

### Change

Change involves any alteration to the natural or cultural environment. Change can be spatial and / or temporal. It occurs at varying rates, at different times, and in different places.

### Interaction

Interaction involves elements of an environment affecting each other and being linked together. Interaction incorporates movement, flows, connections, links, and interrelationships, which work together and may be one-way or two-way interactions. Landscapes are the visible outcome of interactions. Interaction can bring about environmental change.

## QUESTION

ASSESSOR'S  
USE ONLY

### (a) Characteristics of the environment

Natural characteristics of an environment include landforms (relief), climate, soils, and vegetation.

Fully explain how TWO characteristics of your large natural environment result from the interaction of the elements and/or processes within this environment.

You MUST include sketch maps and/or diagrams to support your explanations in the spaces on pages 4 and 6.

Characteristic (1): Landform (relief)

Characteristic (2): climate

#### PLANNING (OPTIONAL)

Landform

- Tectonics

- Algebras

- Relaxation

Climate

1  
2  
3  
4  
5  
6  
7  
8

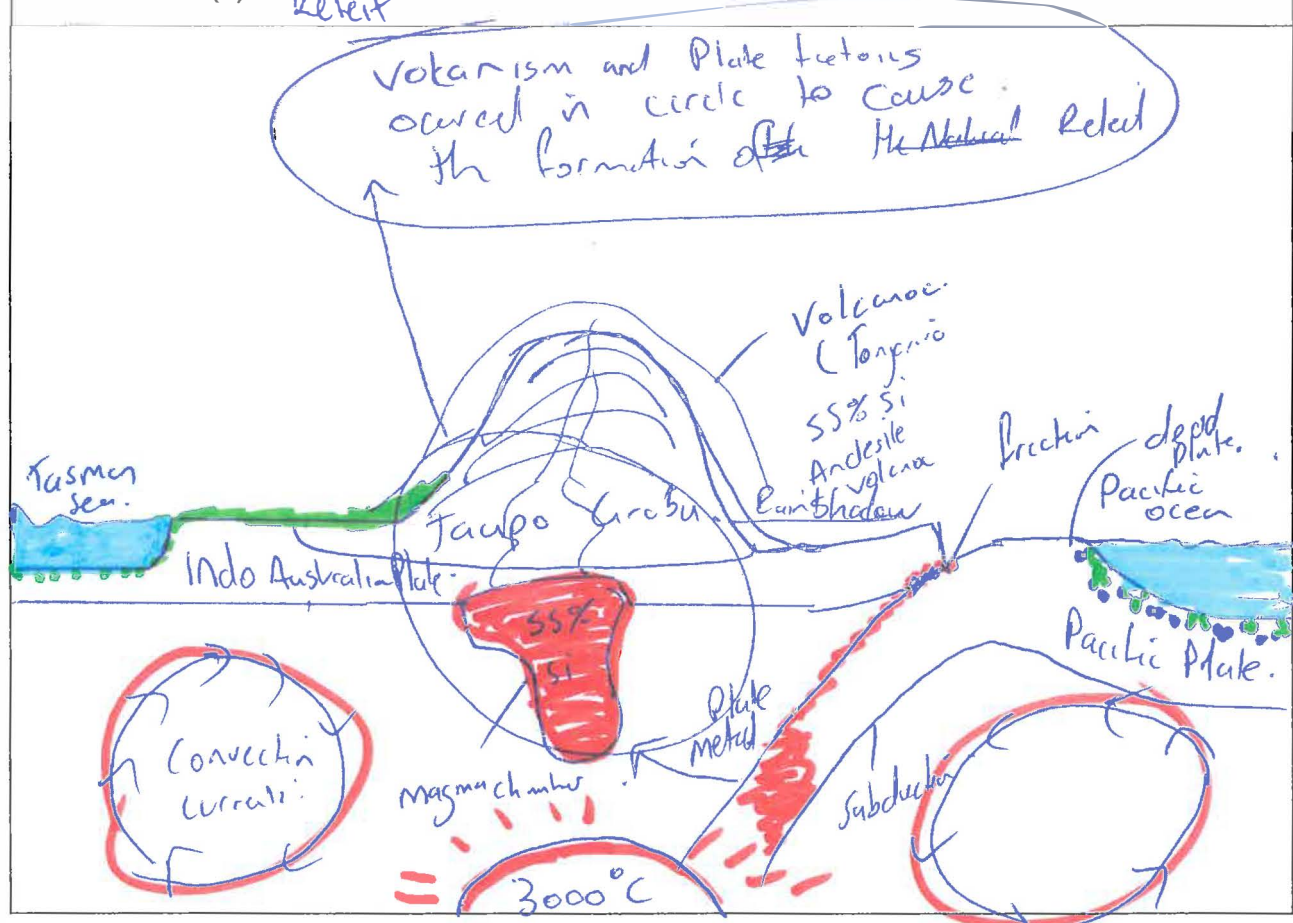
core 3000°C

Convection currents  
Driving plates

1  
2  
3  
4  
5  
6  
7  
8

Characteristic (1):

Releif



Fully explain how this characteristic of your large natural environment results from the interaction of the elements and/or processes within this environment.

Releif in the Tongariro Volcanic centre is ~~formed~~ <sup>results</sup> as a result of the interaction between Plate tectonics, and volcanism this

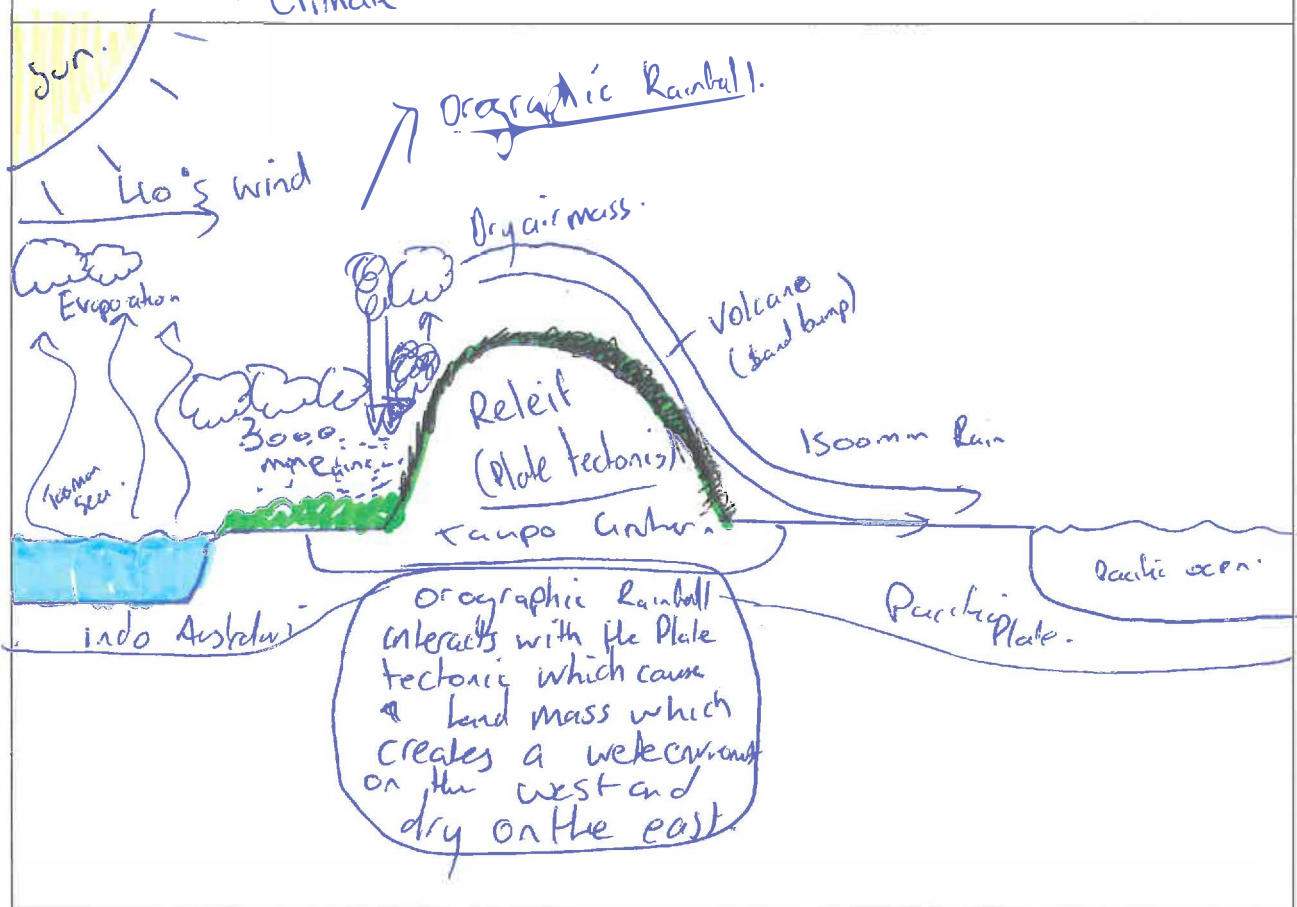
Plate tectonics is the process which starts from the earth's core which is  $3000^{\circ}\text{C}$  the heat causes convection currents to occur causing movement in the tectonic plates. The two plates, Indo Australia and Pacific collide and the Pacific subducts under the Australia. As a result the Indo Australia is stretched thin which created the Taupo Crater which is a thin piece of crust.

Volcanism then occurred and started with the friction of the two plates as subduction occurred. A lot of heat was expelled which melted the Pacific Plate which was composed mostly of Plutonic material. This made a gas which was mostly carbon - this plate formed a magma chamber under the Taupo Crater. The magma was 55% Si. The hot gases rose through the cracks of the Crater and began erupting and millions of years of eruption and layers of volcanic rock build up which is the volcano.

Plate tectonics and Volcanism occurred in the TVC to create the relief characteristic of Mount Tongariro. The two elements interacted and resulted in making a diverse Natural Environment known as the Tongariro volcanic centre.



## Characteristic (2): Climate



Fully explain how this characteristic of your large natural environment results from the interaction of the elements and/or processes within this environment.

The Characteristic of Climate in the Tonga Tongariro Volcanic Centre which has made a distinct environment of warm and wet on the west and dry and cold on the east has resulted from the interaction between plate tectonics and orographic rainfall.

Orographic Rainfall occurs in the ocean Tasman sea and. It starts from the sun heating the sea and causing evaporation to occur. Clouds accumulate as a result. The clouds are then moved towards New Zealand on a wind belt that has an and H<sub>2</sub>O's. The clouds accumulate at the base of the landform which is Tongariro volcanic centre.

and are pushed up the edge of the volcanoes. When the clouds rise the water inside decreases at  $0.08^{\circ}\text{C per } 100\text{m}$  of altitude, this causes the clouds to cool and the water that was vapour turns back into water and forms rain droplets. The rest of the cloud is <sup>light</sup> air and as it gets over the mountains it <sup>inverts</sup> temperature at the same adiabatic lapse rate of  $0.8^{\circ}\text{C per } 100\text{m}$ . This air warms and turns in to foehn winds which erode the eastern slopes on the TUC. As a result a rain shadow occurs. //

Plate tectonics start with the earth's core which is  $3000^{\circ}\text{C}$ . The heat from the core radiates through the lava and creates warm lava near the core and cold near the crust. This creates convection currents. The convection current pushes the Indo Australia and Pacific together. When they collide the heavier Pacific Plate subducts. This causes friction at the point of subduction (shown on characteristic diagram) and heat occurs. The Pacific Plate burns up and carbon gas is released which creates a magma chamber under the crust. The subduction that occurred creates a Graben which is a thin cracked piece of crust. The magma rises through and creates a volcano. //

orographic rainfall this occurs on the leeward of the mountains to create the characteristic climate of the TUC. //

## (b) Perceptions

ASSESSOR'S  
USE ONLY

Different groups of people and individuals have different perceptions of the natural environment. Perceptions can be cultural, economic, or political. Perceptions are outcomes of people's background, experiences, or involvement with the natural environment, and can change over time.

Fully explain how a group/individual's perception of your large natural environment has affected, or affects, their use of this environment.

Group/individual: Maori

## PLANNING (OPTIONAL)

— Pre 1840 very very sacred. and should  
not be walked on. Let alone looked at.

after 1907 they gifted the government Land because  
it needed to be protected due to a  
rise in tourism

John Cullen.



Fully explain how this group/individual's perception of your large natural environment has affected, or affects, their use of this environment.

ASSESSOR'S  
USE ONLY

The Maori Peoples perspective and how they use the Tongariro Volcanic Centre (TV) has changed of the course of 200 years.

The Maori who lived in New Zealand before the Treaty of Waitangi were very protective over the Land, and after Europeans began using it against the Maoris with they decided to do what would protect the Land.

When the Maoris first arrived in New Zealand on a canoe from the Pacific in the 1600's they split up and claimed many parts of New Zealand including the Tampo Region in which the TVC is located. Their Leader Te Huhu and his followers saw the mountains as their connection to their God.<sup>(Mani)</sup> So this then became a very sacred location to the Maori people so much so that only priests and leaders of Tribes were the only ones allowed to look at it. One day Te Huhu and some high ranking people made the Ascent up the mountain and a bad storm started setting in and the men were caught on the mountain. One of the Priests then prayed to the Gods and Te Huhu's body was lit on fire sparking the volcanic activity in the area. This is the story of why the Maoris believe that the Volcanoes in the TVC, especially MT Tongariro are very sacred. This story held their view point of pre 1840's times and today as well.

Many years after the Maoris came to New Zealand Europeans began to arrive and with the first explorers came the urge to explore and fuddle the biggest obstacles. One of which was Mount Tongariro which was climbed against the orders of Maori officials. & the

Europeans loved the mountain volcano so much that they wrote back to Europe and tourists mostly British became fixated in wanting to climb the beautiful mountains. The result of this was the birth of Tourism. Years later Chateau Tongariro was built on the Sacred Land by private investors to make a home away from home for Europeans. This prompted a change to what how the Maoris wanted the Land to be used for and their perception didn't really change much at all. In 1944 the Maori people came together and made the decision that instead of selling off land privately to Europeans for Economic use, that they wanted to gift it to the Crown so that the Land would be kept in public ownership so that the beautiful land was kept the way they wanted. This occurred in 1887.

Over the hundreds of years that Maori have been in New Zealand their perception of the (TVC) Tongariro volcanic Centre has changed very slightly as they still think of the Land as very sacred but they changed that perception to one of sustainability as well as it still being sacred. Their use of the Land has also changed but not much either as they didn't use to use it for anything and would barely even walk on it. Now they use the paths for recreation as well.

A4

**Achieved – A4**

The candidate has explained the interaction of both climate and relief within the Tongariro Volcanic Centre with some supporting case study evidence provided. The diagrams are appropriate.

In part (b) the Maori perception of the Tongariro Volcanic Centre is explained and shows understanding. Some supporting evidence is provided.