

Pearson Edexcel Level 3 GCE

Geography

Advanced Subsidiary

Paper 1: Dynamic Landscapes

Tuesday 15 May 2018 – Afternoon

Resource Booklet

Paper Reference

8GE0/01

Do not return this Resource Booklet with the question paper.

Turn over ►

P52282A

©2018 Pearson Education Ltd.

1/1/1/1/1/1/1




Pearson

SECTION A

The following resource relates to Question 1.

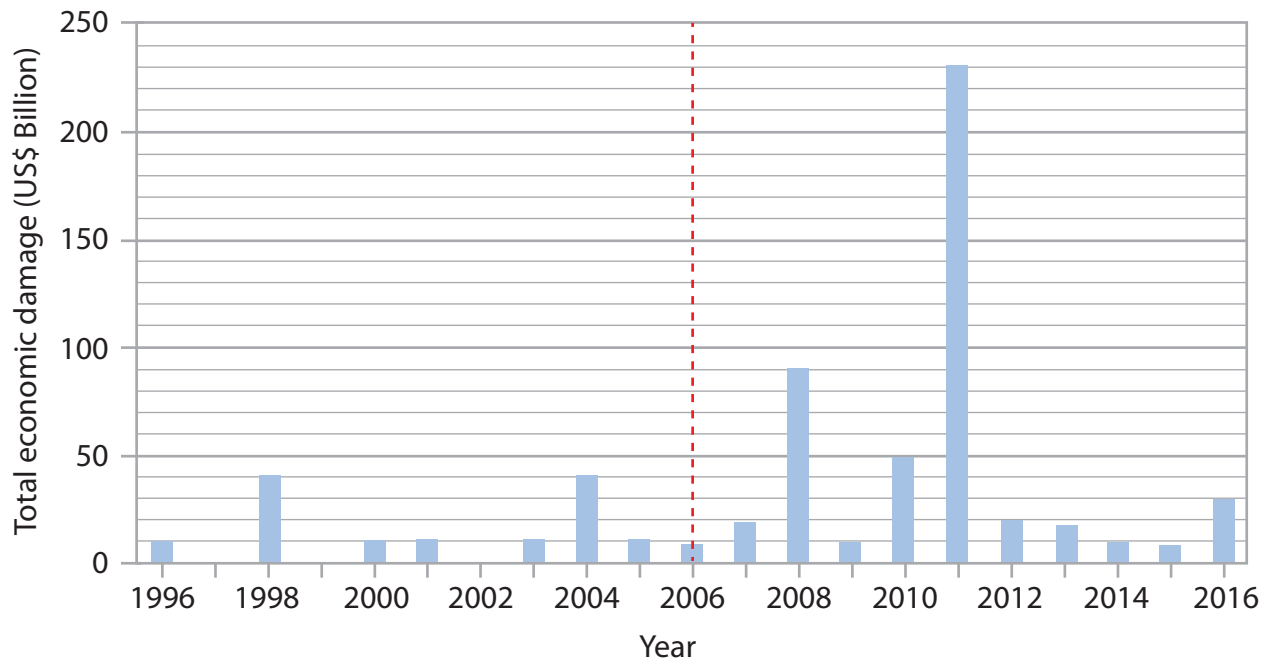


Figure 1

Total reported economic damage caused by tectonic hazards between 1996 and 2016

SECTION B

The following resources relate to Questions 2-4.

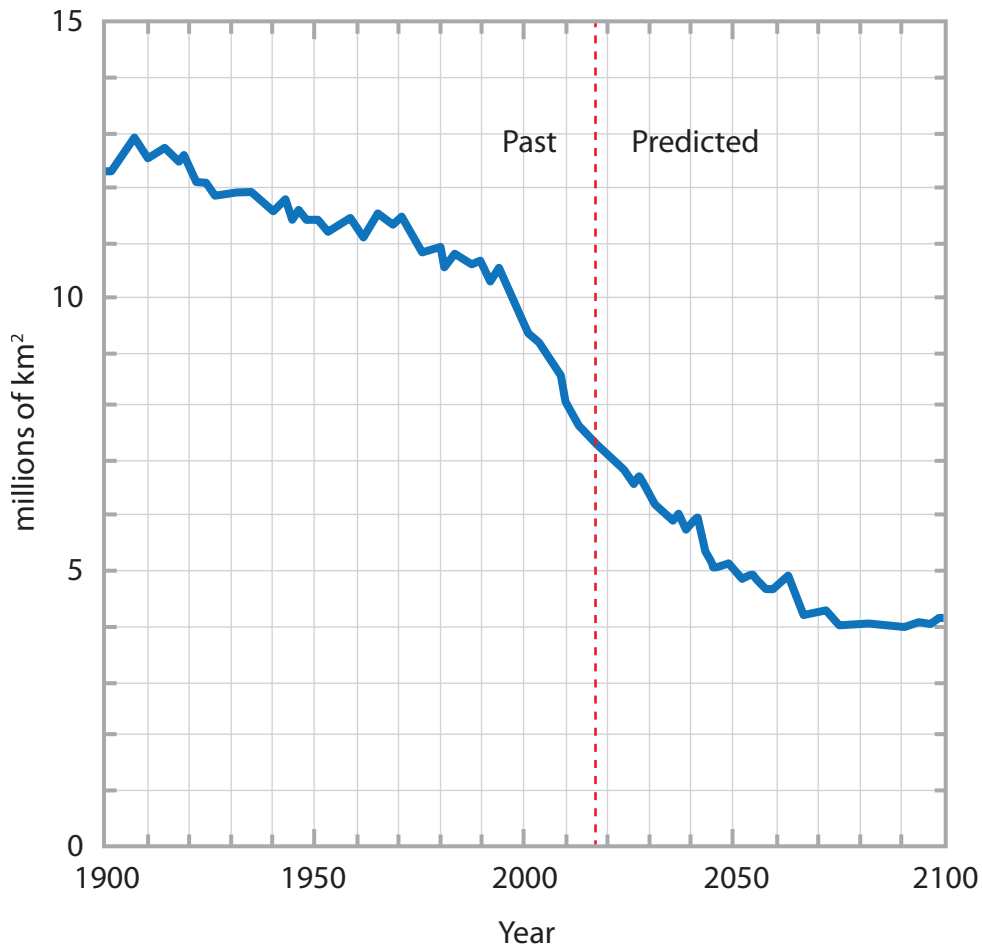


Figure 2

Past and predicted changes in the global permafrost area

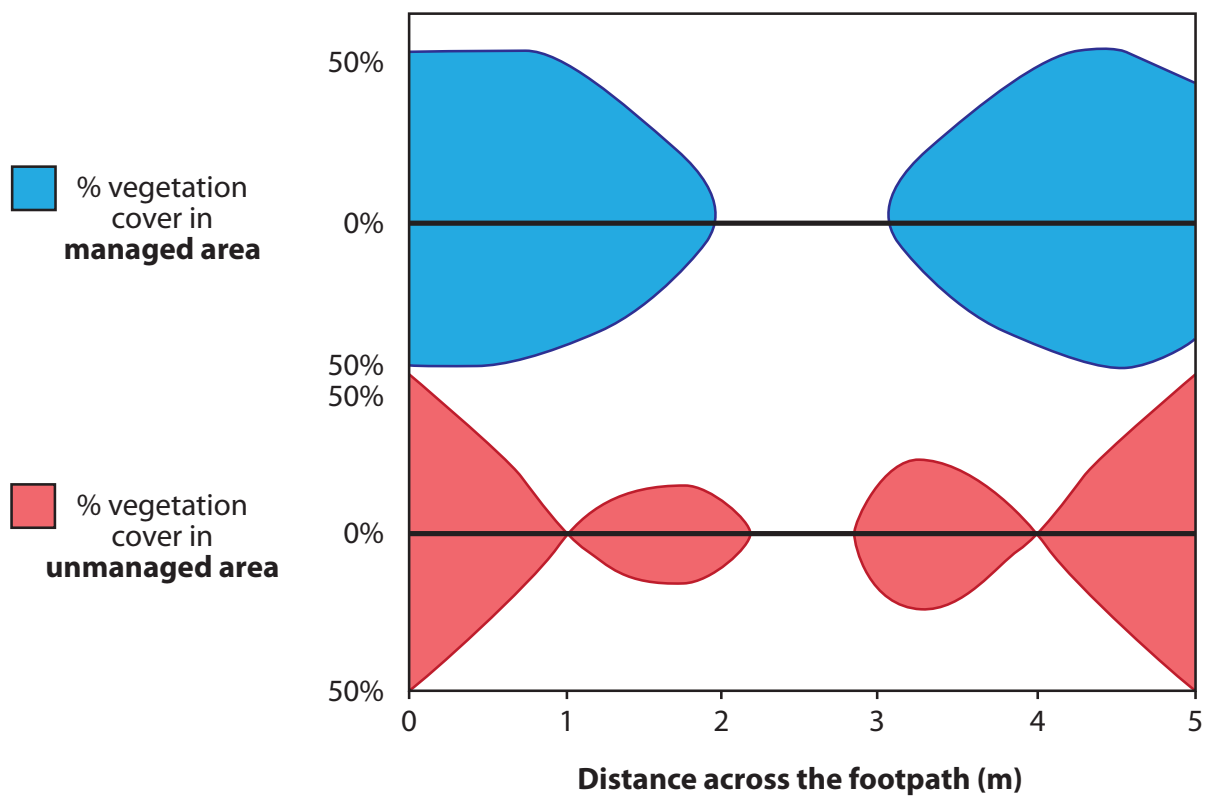


Figure 3
Kite diagrams showing footpath erosion in two areas near Easedale Tarn, Lake District

The following resources relate to Question 4.

- The Southern Alps run south-west to north-east along New Zealand's South Island; a landscape created by tectonic, weather and glacial processes.
- The mountains are formed along the Alpine Fault, a largely conservative plate boundary with the plates moving at least 30mm/year. The plates also move towards each other, with uplift of about 7mm/year, and occasionally, much larger uplift.
- The prevailing north-westerly winds (Roaring Forties) deliver extreme weather to the Southern Alps, including very high precipitation (snow/rain) of up to 10,000mm/year.
- There are over 3,000 glaciers in the Southern Alps, most of which move rapidly down the very steep slopes to the ocean.

Figure 4a

Information about the Southern Alps, New Zealand

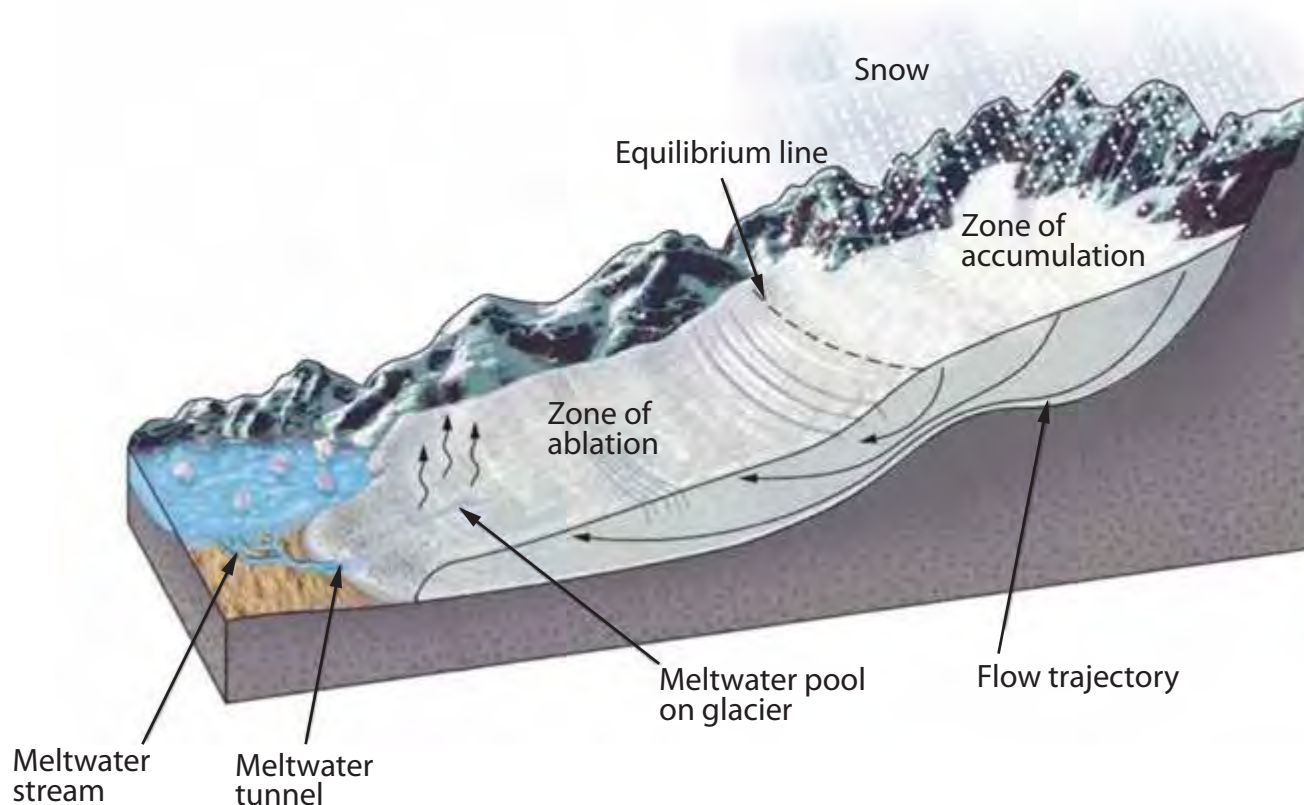


Figure 4b

A simplified cross-section from Mt. Tasman to the coast

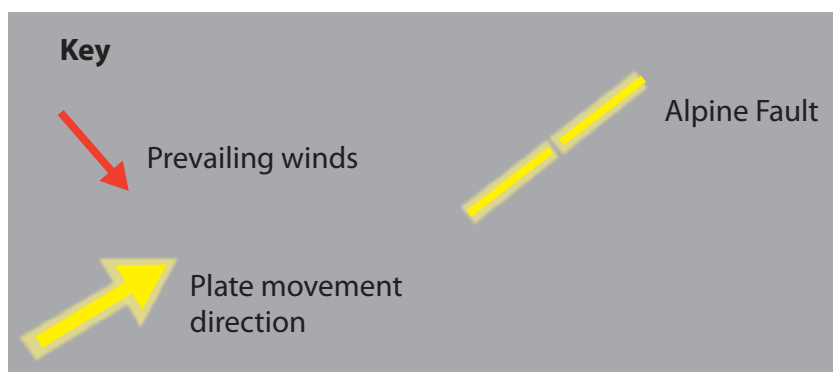
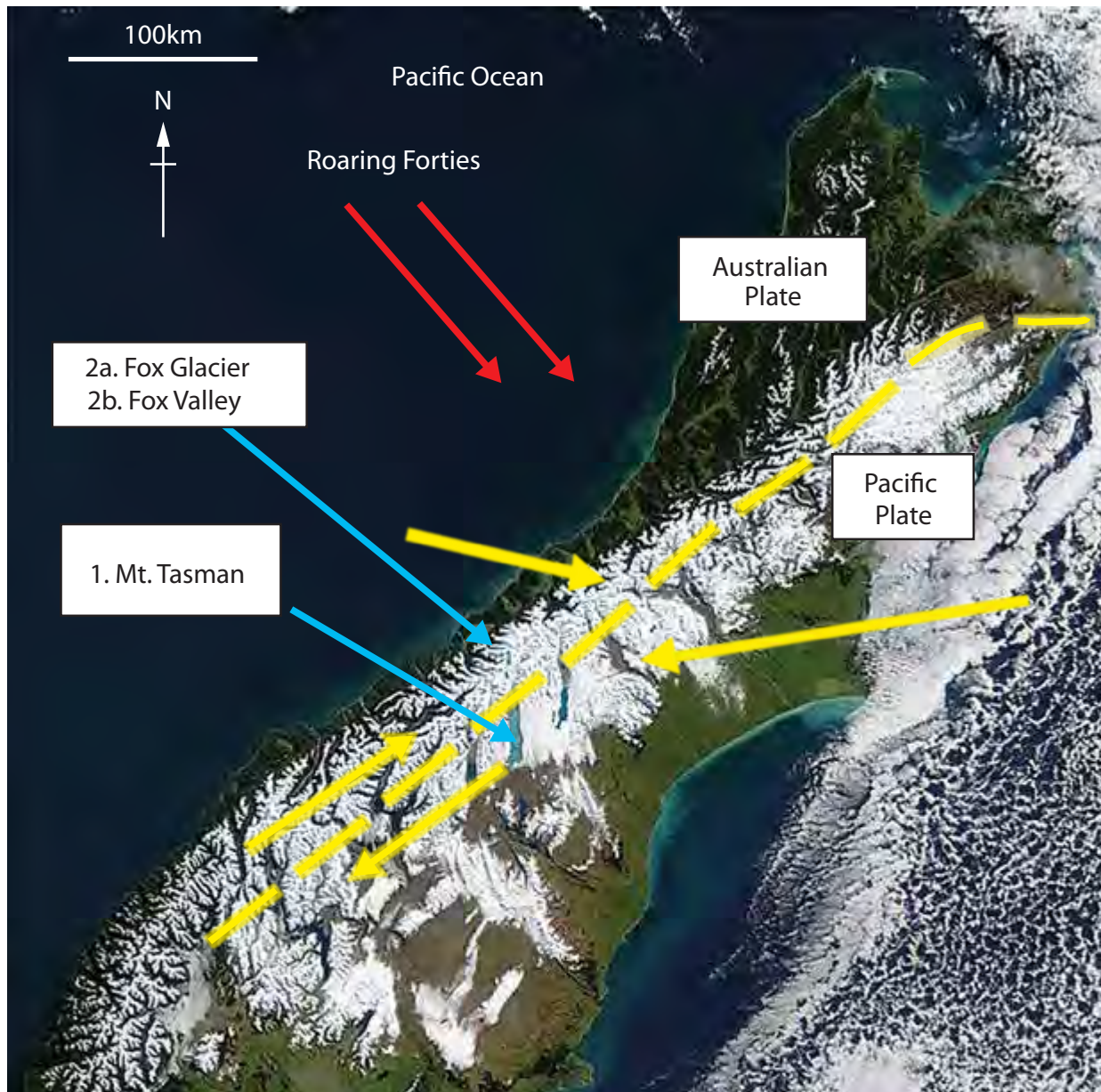


Figure 4c
Satellite image of the Southern Alps in winter



1. Mt. Tasman: pyramidal peak

- Grows in height by 5–10mm/year due to tectonic uplifting.
- Surrounded by cirques, many of which feed valley glaciers.



2a. Fox Glacier

- Ice flows downhill up to 7 metres a day.
- Causes rapid glacial erosional processes creating new valley landforms.



2b. Lower Fox Valley glacial trough

- Subaerial processes (e.g. freeze-thaw) result in freshly weathered rock surfaces and mass movement.
- Many complex depositional landforms found on the valley floor.

Figure 4d

Distinctive landscapes in the Southern Alps

SECTION C

The following resources relate to Questions 5–7.

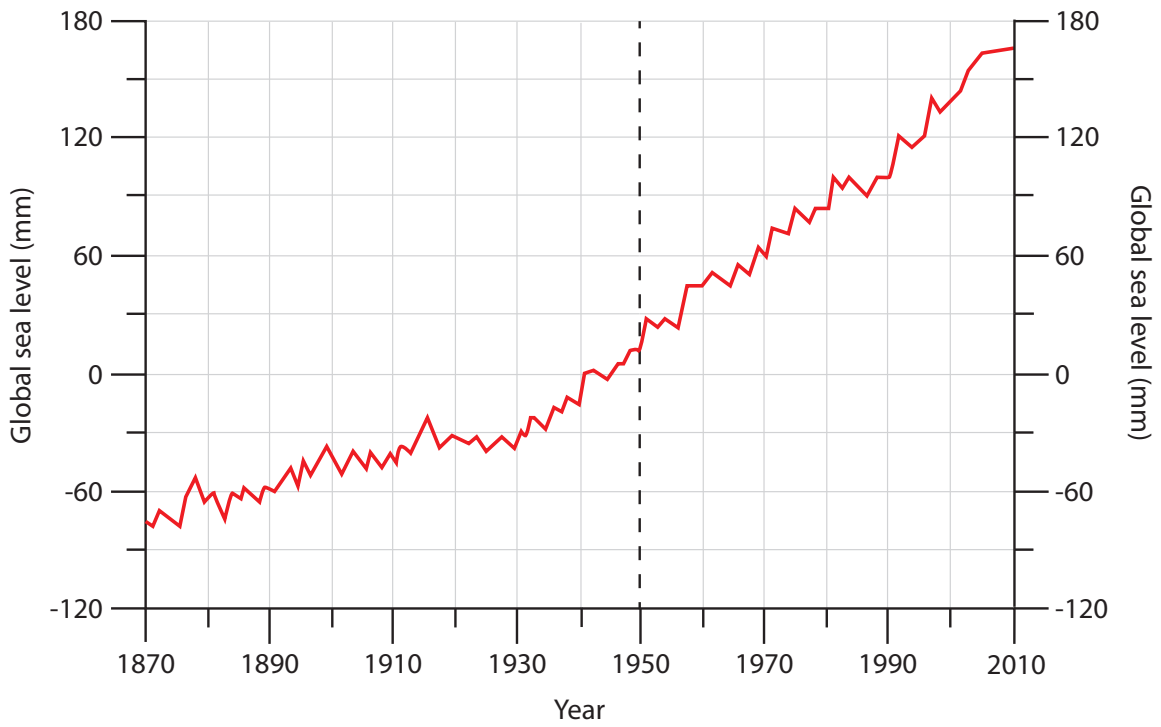


Figure 5

Global sea level changes before and after 1950

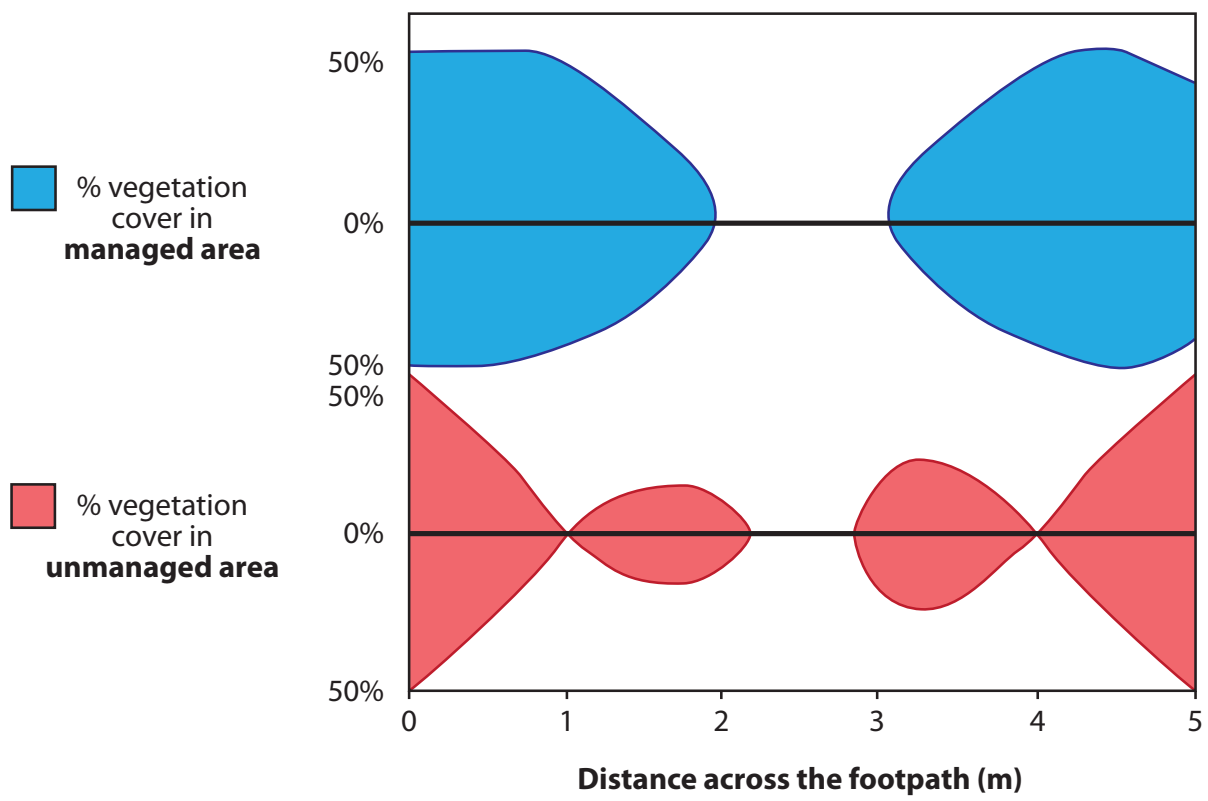


Figure 6

Kite diagrams showing footpath erosion in two areas of sand dunes at Studland Bay, Dorset

The following resources relate to Question 7.

- The Southern Alps run south-west to north-east along New Zealand's South Island; a landscape created by tectonic, weather and marine processes.
- The mountains are formed along the Alpine Fault, a largely conservative plate boundary with the plates moving at least 30mm/year. The plates also move towards each other, with uplift of about 7mm/year, and occasionally, much larger uplift.
- The Cook Strait was partly formed by eustatic sea level rise; the natural gap between the two coastlines funnels powerful winds and tides through the strait.
- On some sections of the coast, long-term but also sudden tectonic events create raised beaches and steeper slopes that are vulnerable to mass movement. In other areas, coastal erosion is exposing older rock.

Figure 7a

Information about the coastal landscape of New Zealand

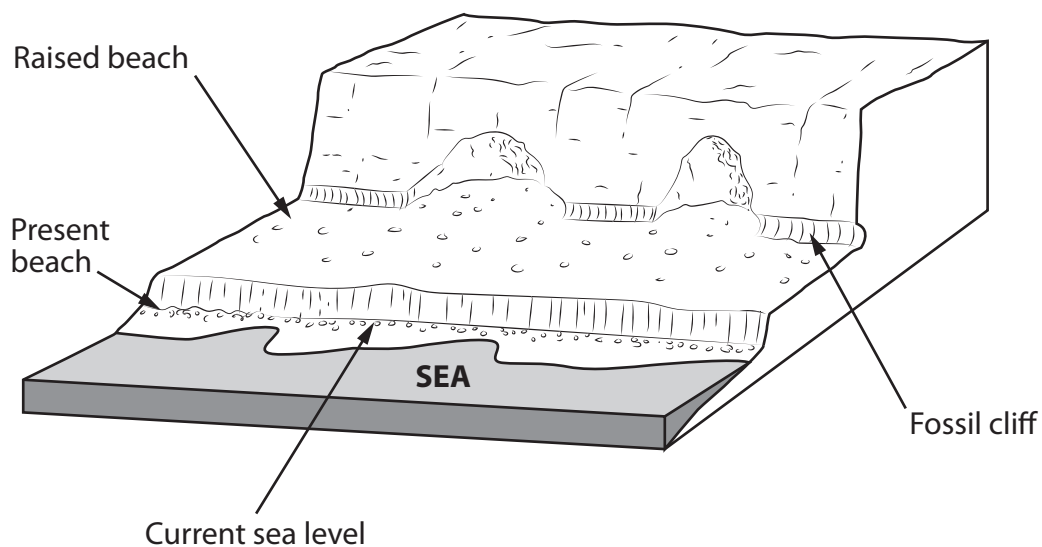


Figure 7b

A simplified cross-section of Turakirae Head

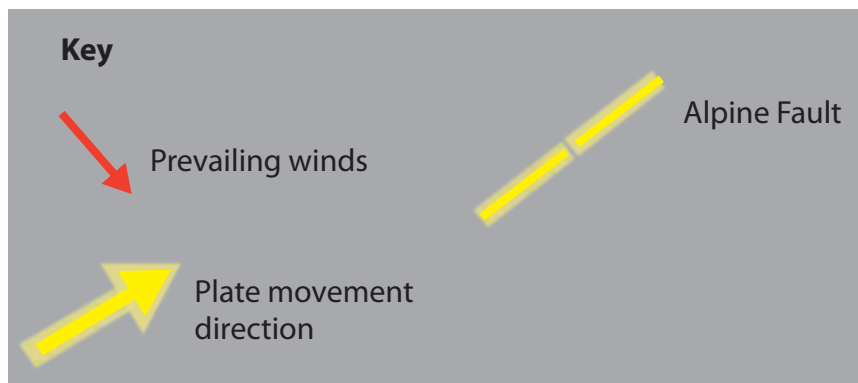
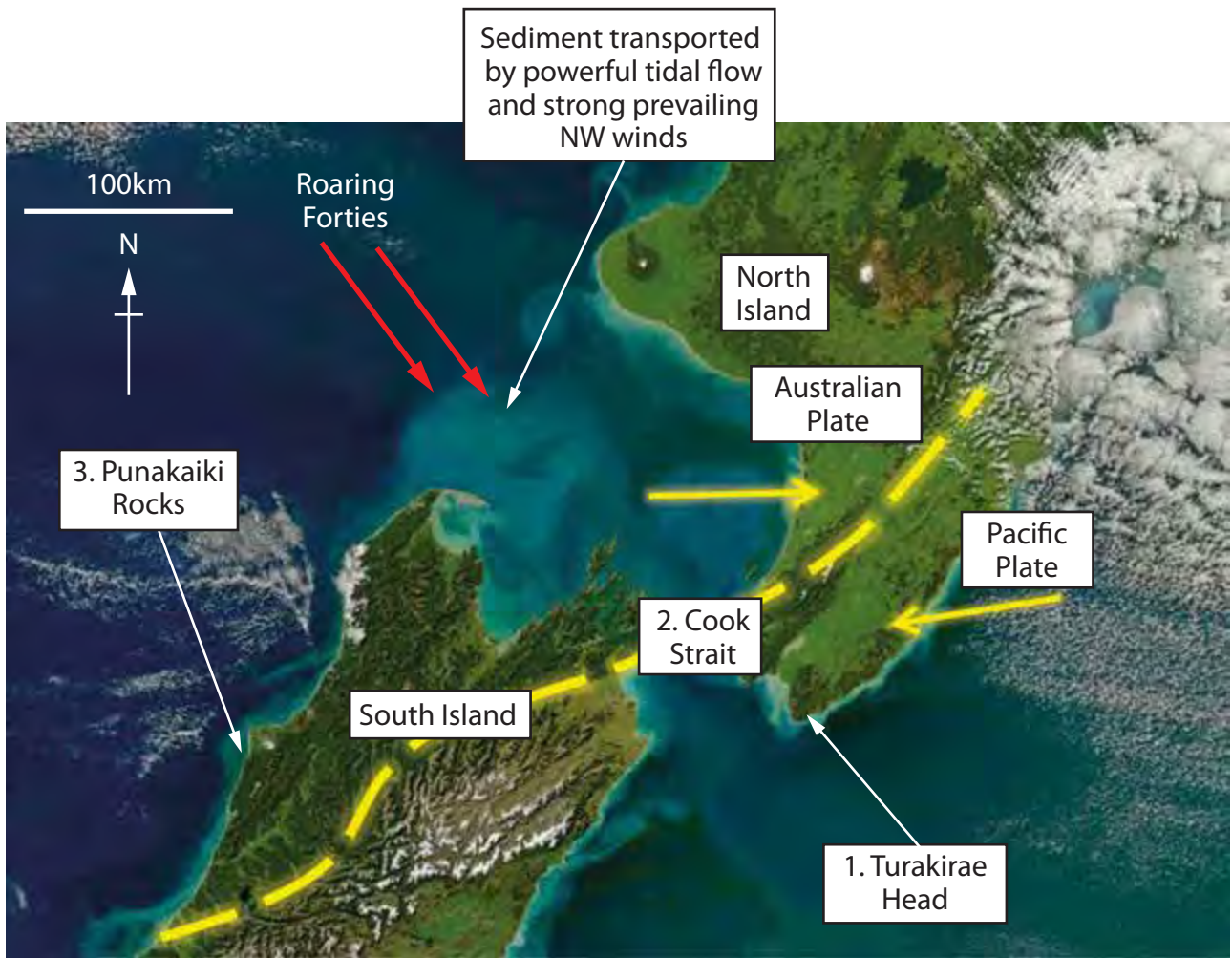


Figure 7c
Satellite image of part of North and South Islands, New Zealand



1. Turakirae Head raised beach and fossil cliff

- Successive earthquakes have caused sudden uplift of the beach level (e.g. 2.5 metres in 1855).
- Mass movement processes have left ridges of large boulders.



2. Cook Strait

- Mainly steep cliffs are battered by the Roaring Forties with a fetch of over 2,000km producing wave heights frequently over 5m and tidal flows approximately every 6-8 hours.
- Erosional processes have eroded cliffs on average 1-2 metres/year.



3. Punakaiki Rocks

- Less jointed limestone forms stacks, raised up by tectonic processes.

Figure 7d

Distinctive landscapes along New Zealand's coastline

BLANK PAGE

BLANK PAGE

BLANK PAGE

BLANK PAGE

Pearson Education Ltd. gratefully acknowledges all following sources used in preparation of this paper:

Figure 4a - Source from: <http://visibleearth.nasa.gov/view.php?id=67355>

Figure 4d - © Fergus Murray

Source from: <http://www.fergusmurraysculpture.com/new-zealand/southern-alps-and-glaciers-9-pages/ii-the-geomorphology-of-the-fox-glacier-region/>

Source from: https://upload.wikimedia.org/wikipedia/commons/1/1d/Fox_Glacier_NZ_2.jpg

Figure 7b - © Lloyd Homer, GNS Science Ltd.)

Figure 7c - Source from: http://eoimages.gsfc.nasa.gov/images/imagerecords/50000/50555/NewZealand_amo_2011119.jpg

Every effort has been made to contact copyright holders to obtain their permission for the use of copyright material. Pearson Education Ltd. will, if notified, be happy to rectify any errors or omissions and include any such rectifications in future editions.

Images used within this paper may be from www.clipart.com.