

Write your name here	
Surname	Other names
Pearson Edexcel Level 3 GCE	Centre Number
Candidate Number 	
Geography Advanced Paper 1	
Monday 4 June 2018 – Morning Time: 2 hours 15 minutes	Paper Reference 9GE0/01
You must have: Resource Booklet (enclosed) Ruler, calculator	Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Section **A** and Section **C**.
- Answer **either** Question 2 **or** Question 3 in Section **B**.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show **all** stages of **working out** and a **clear answer**.

Information

- The total mark for this paper is 105.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A: TECTONIC PROCESSES AND HAZARDS**Answer ALL questions in this section. Write your answers in the spaces provided.****You must use the Resource Booklet provided.**

- 1** (a) Study Figure 1a in the Resource Booklet and Figure 1b below.

This data in Figure 1b was collected to investigate whether there was a significant difference in earthquake depth at the two plate boundaries shown in Figure 1a.

	Number of earthquakes recorded in 2016	Mean focal depth of earthquakes (in kilometres)
Plate boundary A	186	34.8
Plate boundary B	145	12.7

Figure 1b**Frequency and focal depth of earthquakes in New Zealand, 2016**

- (i) Calculate the average monthly frequency of earthquakes at the two plate boundaries.

You must show your working.

(2)

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- (ii) A Student's t-test was used to determine whether there was a statistical difference in the mean focal depth of the earthquakes at the two plate boundaries.

Two hypotheses were tested:

Null Hypothesis: There is **no** statistically significant difference between the mean focal depth of earthquakes at the two plate boundaries.

Alternative Hypothesis: There **is** a statistically significant difference between the mean focal depth of earthquakes at the two plate boundaries.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

Using the partially completed Student's t-test below, calculate the value of t.

(1)

$$t = \frac{22.1}{4.43}$$

t =

- (iii) Study Figure 1c below.

Confidence level	0.10 (90% significance)	0.05 (95% significance)	0.01 (99% significance)
Critical value of Student's t-test	1.6	2.0	2.6

Figure 1c

Critical values for this Student's t-test

Using the Student's t-test value calculated in (a) (ii), state whether there is a significant difference between the mean focal depth of the earthquakes.

(1)



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(b) Assess the reasons why some communities are more vulnerable than others to tectonic hazards.

(12)



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(Total for Question 1 = 16 marks)

TOTAL FOR SECTION A = 16 MARKS



Glaciated Landscapes and Change

You must use the Resource Booklet provided.

- (6)

(b) Study Figure 2b in the Resource Booklet.

Explain the processes that affect the mass balance of temperate glaciers.

(6)

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(c) Explain the role of glacial meltwater in creating distinctive landforms.

(8)



(d) Evaluate the view that tourism poses the greatest threat to both active and relict glaciated landscapes.

(20)

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(Total for Question 2 = 40 marks)



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(b) Study Figure 3b in the Resource Booklet.

Explain the physical processes that affect the rate of coastal recession.

(6)

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(c) Explain the role of sediment transport in creating distinctive landforms.

(8)

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- (d) Evaluate the view that hard engineering approaches to coastal management produce more winners than losers.

(20)

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(Total for Question 3 = 40 marks)

TOTAL FOR SECTION B = 40 MARKS



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You must use the Resource Booklet provided.

(3)

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(6)

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(c) Explain why the price of water varies globally.

(8)



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(d) Study Figure 4b in the Resource Booklet.

Assess the role of oceans in regulating the carbon cycle.

(12)



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- (e) Evaluate the view that mitigation strategies are more important than adaptation strategies in addressing the risks posed by the degradation of the carbon cycle.

(20)



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(Total for Question 4 = 49 marks)

TOTAL FOR SECTION C = 49 MARKS
TOTAL FOR PAPER = 105 MARKS



Pearson Edexcel Level 3 GCE

Geography

Advanced Paper 1

Monday 4 June 2018 – Morning
Resource Booklet

Paper Reference

9GE0/01

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SECTION A

The following resource relates to Question 1.

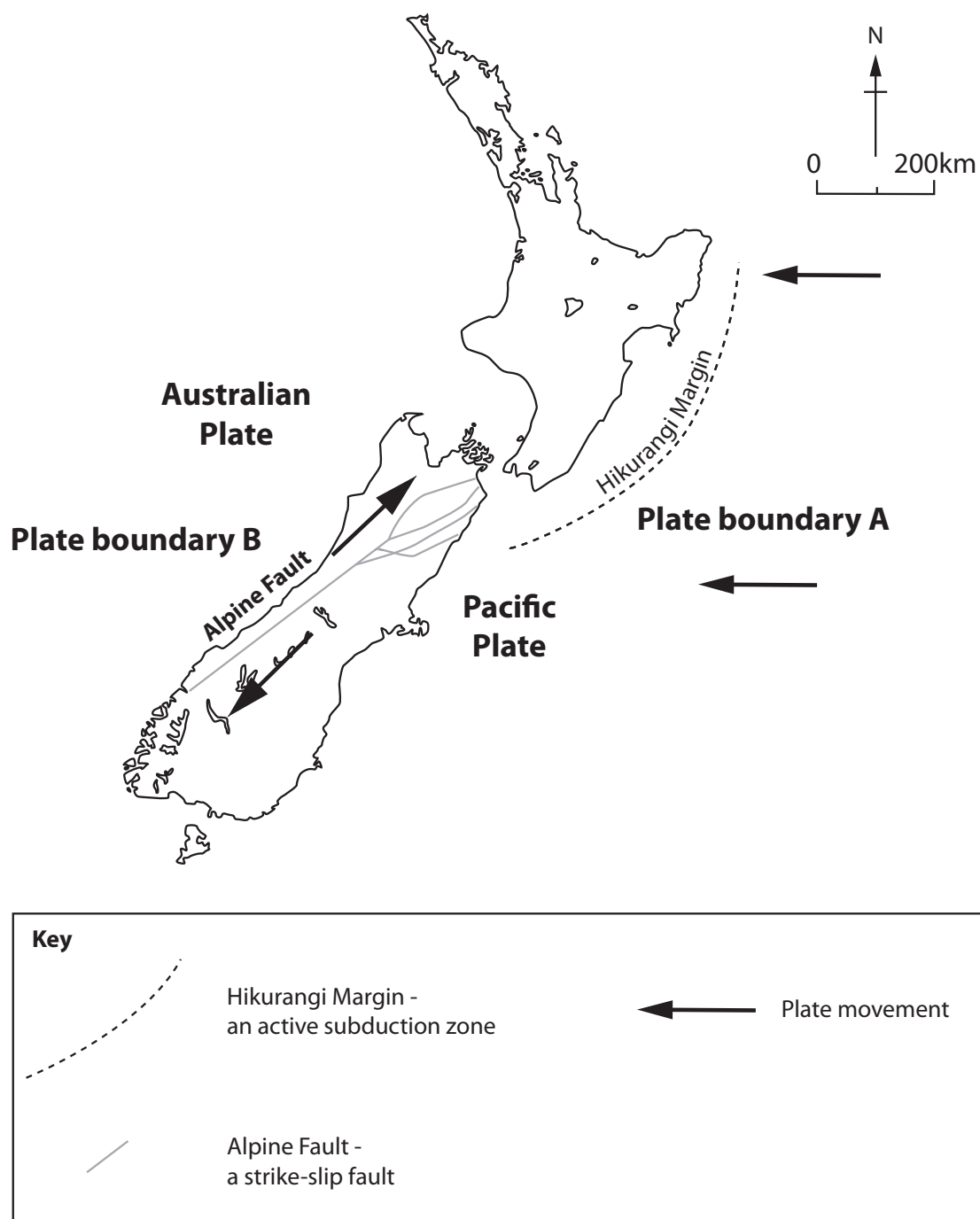
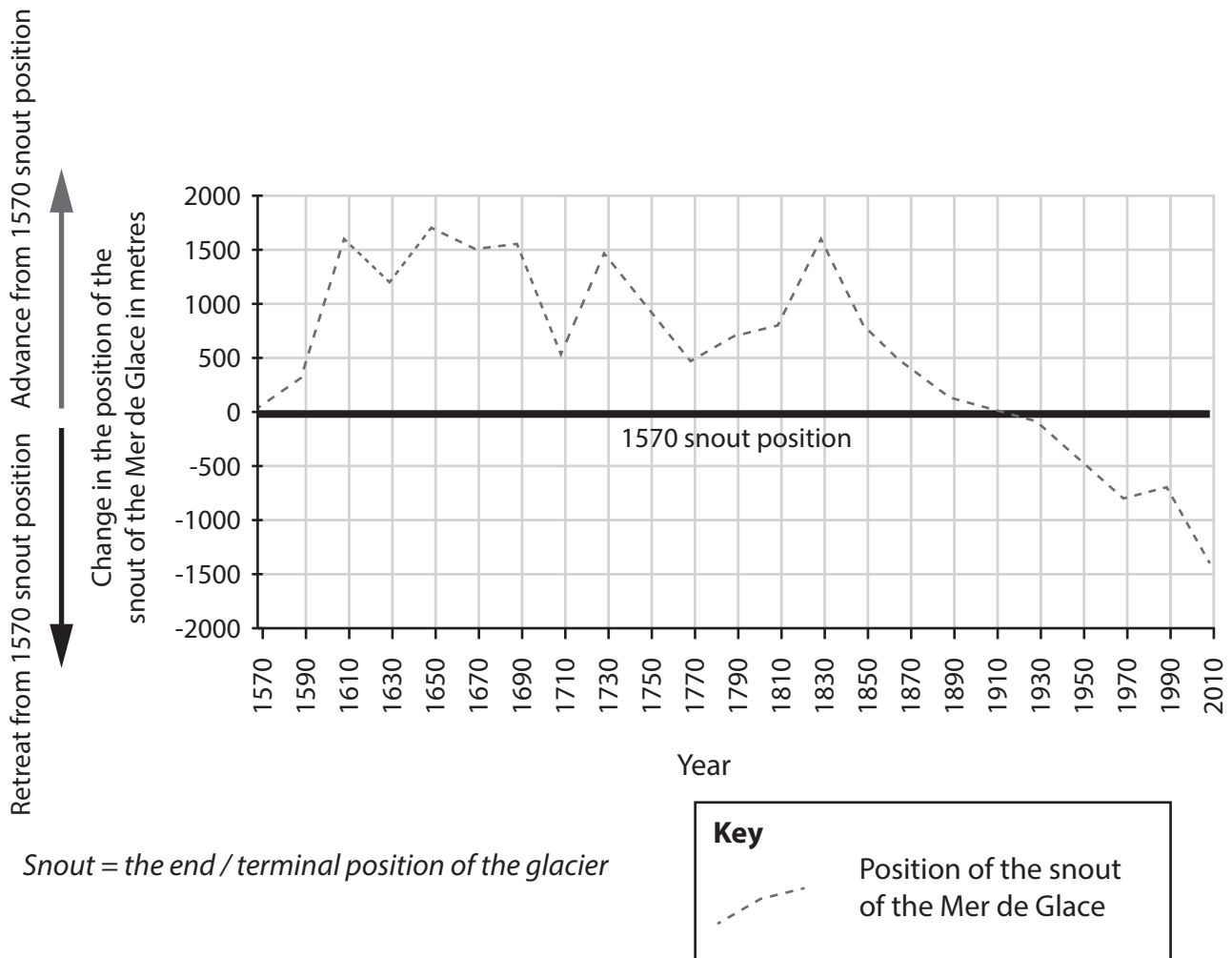


Figure 1a

Tectonic setting of New Zealand

SECTION B

The following resources relate to Question 2.



Snout = the end / terminal position of the glacier

Figure 2a

Changes in the position of the Mer de Glace, France, 1570 - 2010

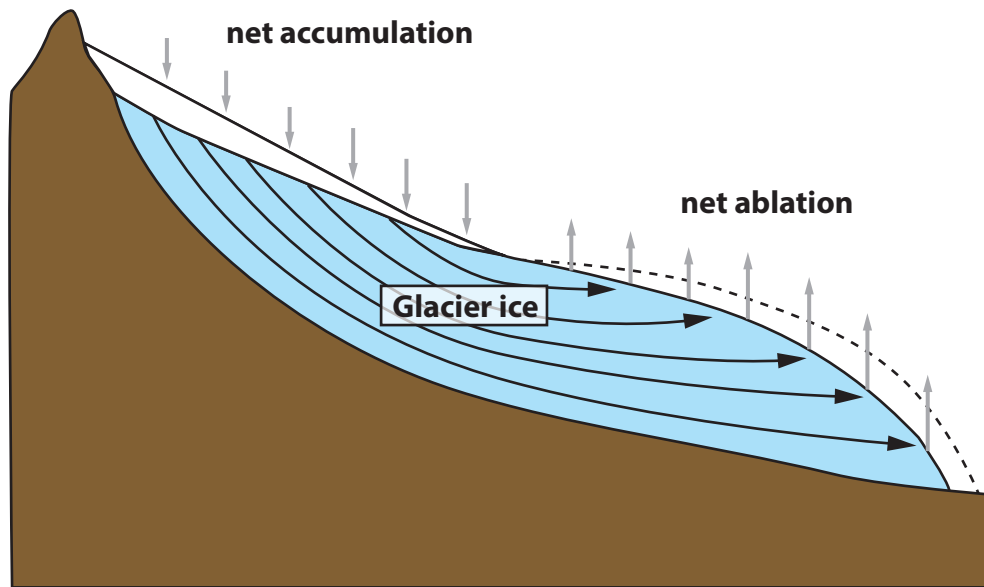


Figure 2b

Cross section showing the mass balance of a temperate glacier

The following resources relate to Question 3.

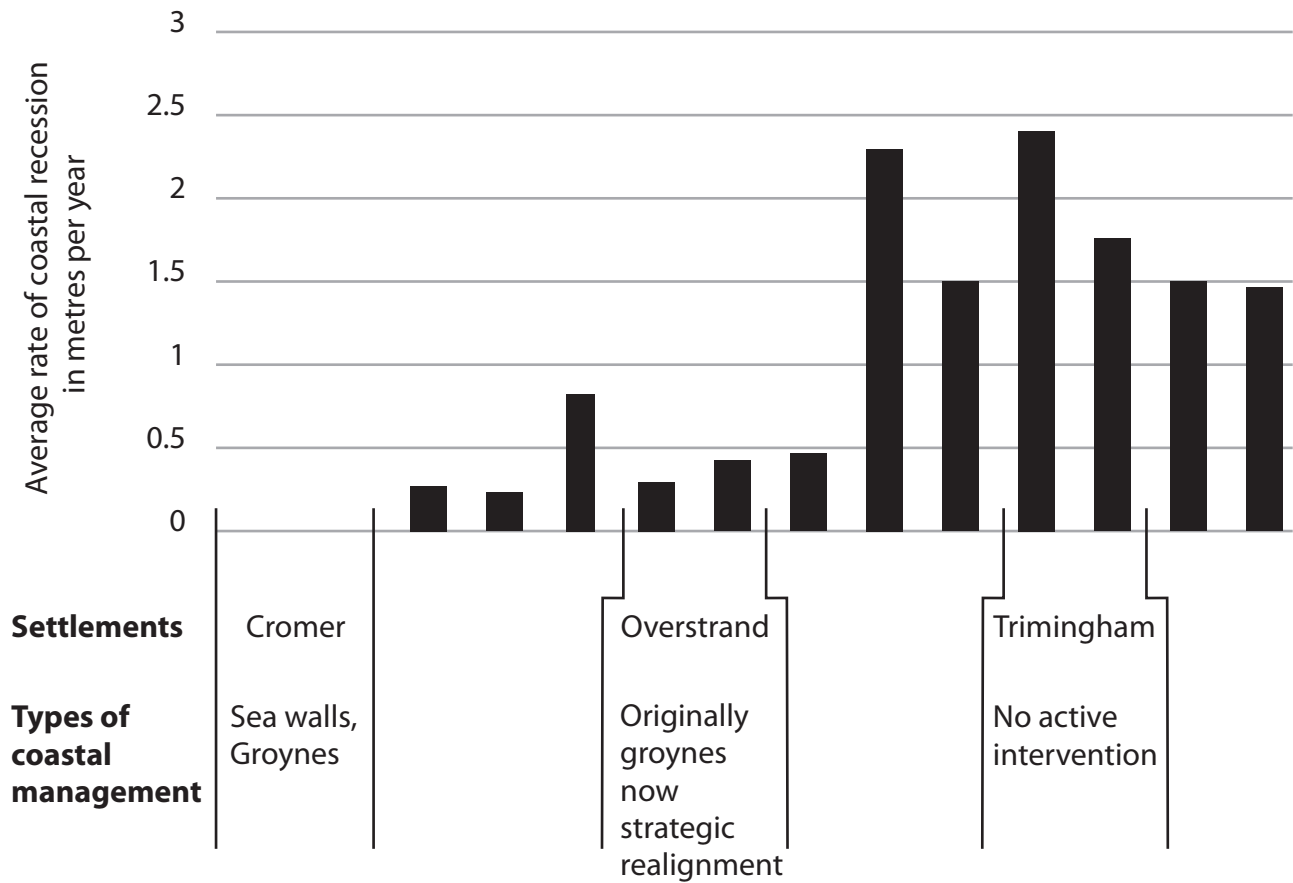


Figure 3a

Historic rates of coastal recession in North Norfolk



Figure 3b

A photograph showing coastal recession, West Ireland

SECTION C

The following resources relate to Question 4.

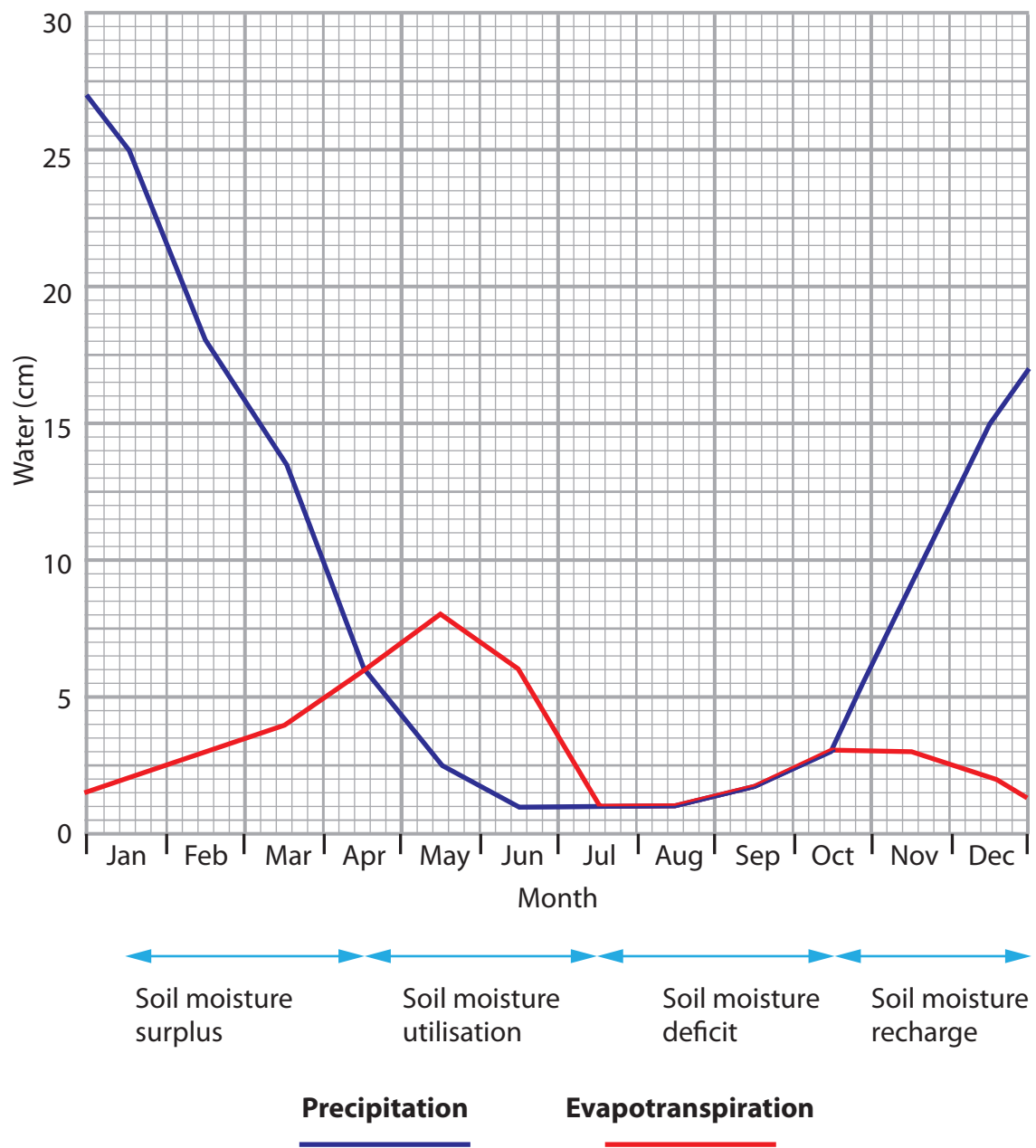
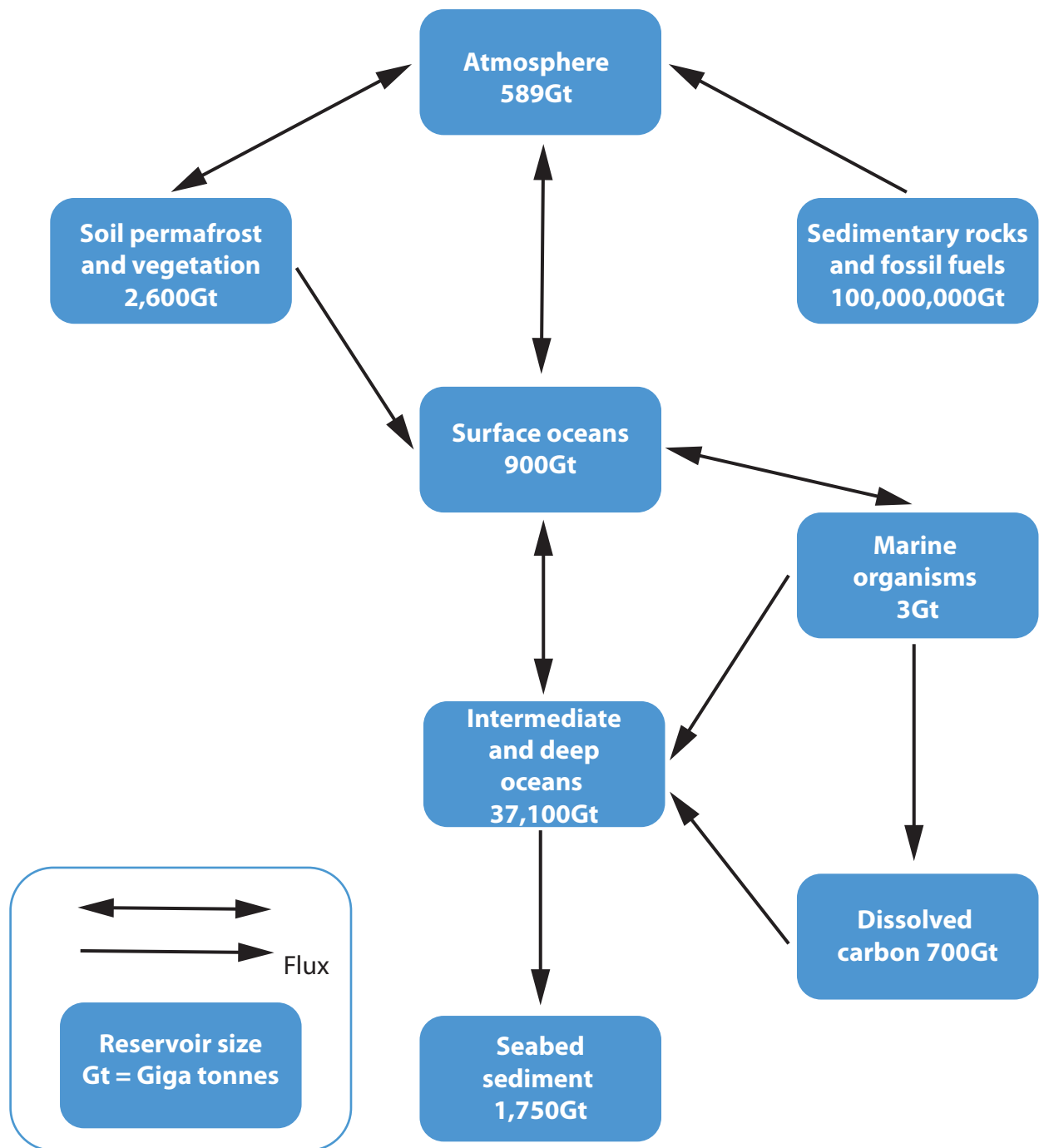


Figure 4a

Water budget of Cloverdale, California in 2016

**Figure 4b****The global carbon cycle**

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