| Surname | Centre Number | Candidate Number |
|---|---|---|
| First name(s) | | 2 |

# GCE AS

S24-B110U10-1

B110U10-1

**TUESDAY, 14 MAY 2024 – AFTERNOON**

## GEOGRAPHY – AS component 1
## CHANGING LANDSCAPES

2 hours 15 minutes

| For Examiner's use only | | |
|---|---|---|
| **Question** | **Maximum Mark** | **Mark Awarded** |
| **Either 1 and 2 or 3 and 4** | **15** | |
| | **20** | |
| **5.** | **10** | |
| **6.** | **16** | |
| **7.** | **49** | |
| **8.** | **10** | |
| **Total** | **120** | |

B110U101
01

### ADDITIONAL MATERIALS

A calculator.

### INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

In Section **A**, answer **either** questions 1 **and** 2 **or** questions 3 **and** 4.

Answer **all** questions in Section **B** (Tectonic Hazards) and **all** questions in Section **C** (Challenges in the 21st Century).

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

### INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part-question; you are advised to divide your time accordingly.

**This paper requires that you make as full use as possible of appropriate examples and reference to data to support your answers. Sketch maps and diagrams should be included where relevant.**

A plain page is available at the end of each section for you to add any relevant sketch maps and diagrams you may wish to include. The question number(s) should be clearly shown.

JUN24B110U10101

© WJEC CBAC Ltd.

Examiner only

## Section A: Changing Landscapes

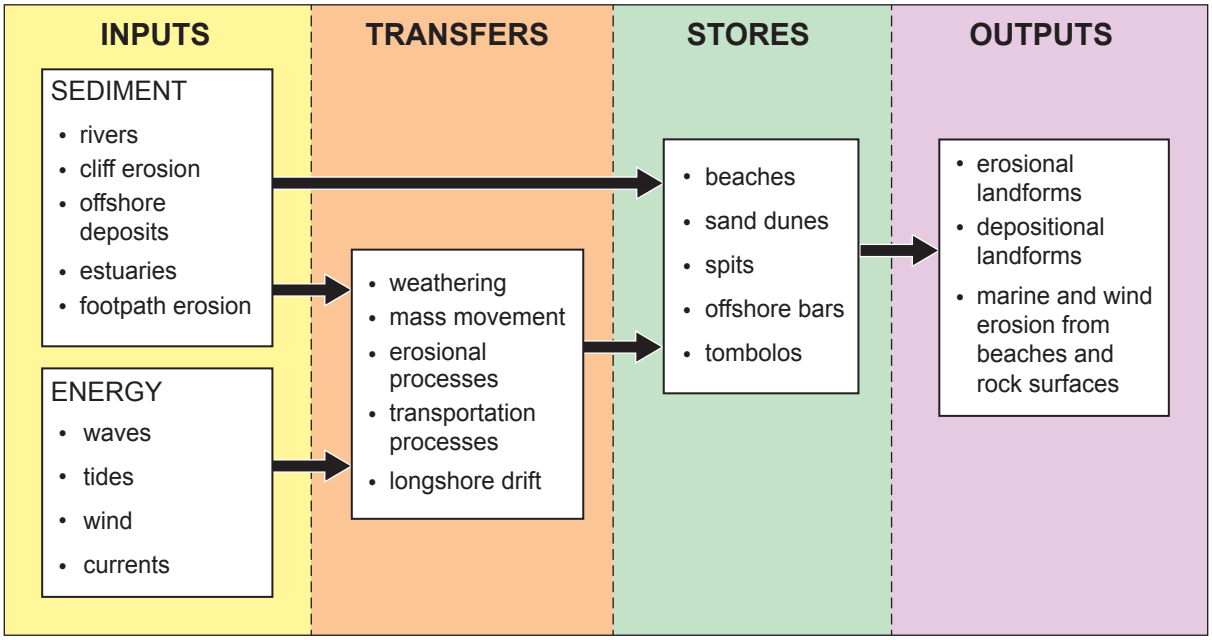
Answer **either** questions 1 **and** 2 **or** questions 3 **and** 4 from your chosen landscape.

Where possible, make full use of examples and data to support your answers.

### Either: Coastal Landscapes

Answer questions 1 **and** 2 if this is your chosen landscape.

**Figure 1: The coastal system**




**1.** (a) Use **Figure 1** to describe links between different parts of the coastal system. [5]



© WJEC CBAC Ltd.

Examiner only

(b) Examine the role that waves play in the formation of beach profiles. [10]

Additional space for Question **1**(b):





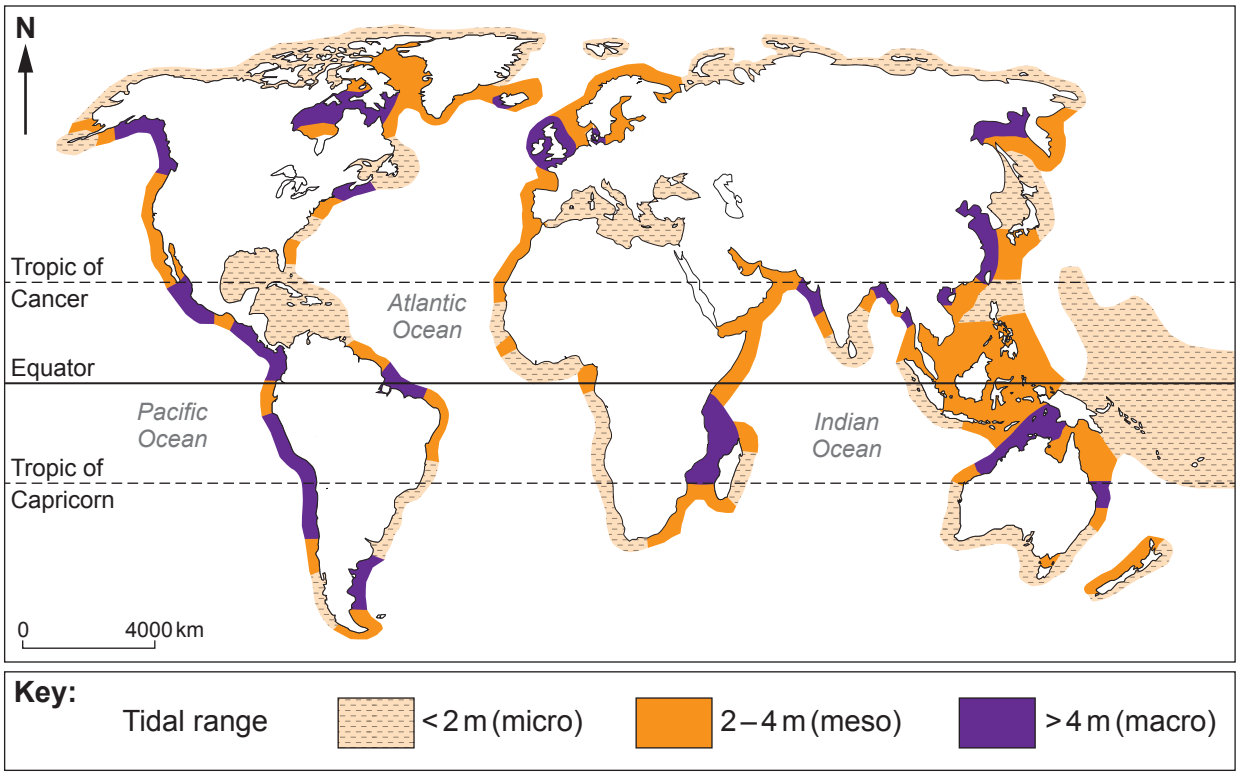
© WJEC CBAC Ltd.



**Turn over.**

Examiner only

**Figure 2: The global distribution of tidal ranges**




Source: https://www.hoddereducation.co.uk

**2.** (a) Use **Figure 2** to analyse the global pattern of tidal ranges. [5]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

(b) Discuss the view that biotic processes play the most significant role in the formation of **either** mangroves **or** coral reefs. [15]





© WJEC CBAC Ltd.



**Turn over.**

Examiner only

.....

.....

.....

.....

.....

Additional space for Question **2**(b):

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

# BLANK PAGE

# PLEASE DO NOT WRITE ON THIS PAGE





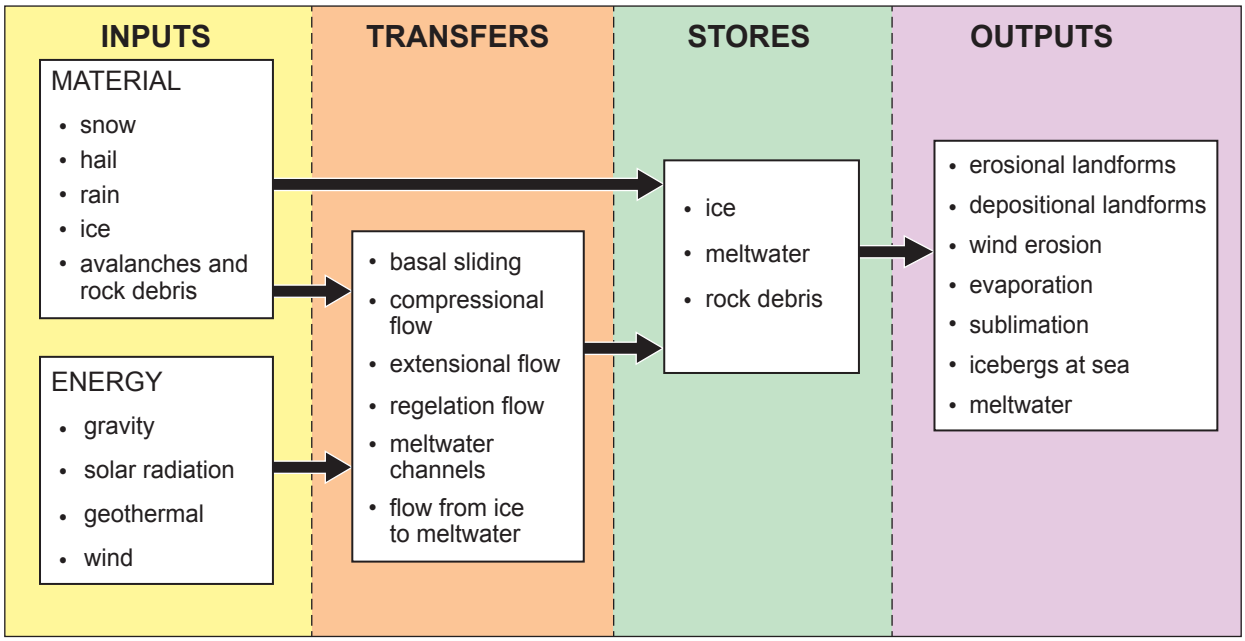
© WJEC CBAC Ltd.

Examiner only

## Or: Glaciated Landscapes

Answer questions 3 **and** 4 if this is your chosen landscape.

**Figure 3: The glacial system**




**3.** (a) Use **Figure 3** to describe links between different parts of the glacial system. [5]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

(b) Examine the relative importance of frost weathering and mass movement in the formation of **one or more** periglacial landforms. [10]

Additional space for Question **3**(b):



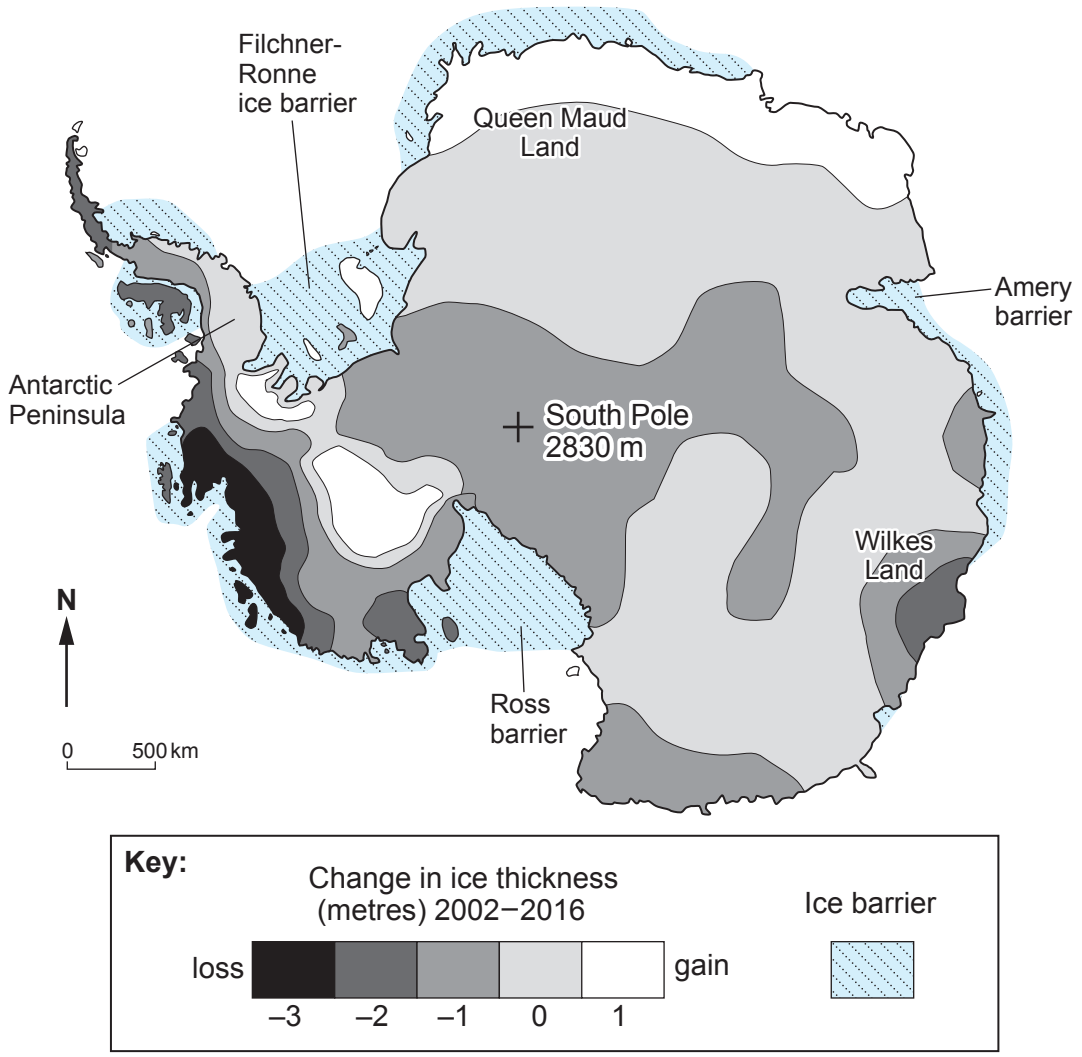


© WJEC CBAC Ltd.



**Turn over.**

**Figure 4: Changes in ice thickness, Antarctica, 2002–2016**




Adapted from: https://phys.org/news/2018-03-antarctica-laboratory-climate.html



© WJEC CBAC Ltd.

Examiner only

**4.** (a) Use **Figure 4** to analyse the pattern of ice thickness change. [5]





© WJEC CBAC Ltd.

Examiner only

(b) Discuss the view that human activity influences glacial landscapes more than physical processes. [15]



© WJEC CBAC Ltd.

Examiner only

.....

.....

.....

.....

.....

Additional space for Question **4**(b):

.....

.....

.....

.....

.....





© WJEC CBAC Ltd.

Examiner only



© WJEC CBAC Ltd.

# BLANK PAGE

# PLEASE DO NOT WRITE ON THIS PAGE





© WJEC CBAC Ltd.

Examiner only

## Section B: Tectonic Hazards

Answer **all** questions.

Where possible, make full use of examples and data to support your answers.

**Figure 5: Magnitude of eruption and mortality for selected volcanic eruptions, 2010–2022**

| Volcano | Number of deaths | Volcanic Explosivity Index (VEI) |
|---|---|---|
| Popocatépetl, Mexico | 1 | 2 |
| Hunga Tonga, Tonga | 5 | 5 |
| Mount Nyiragongo, DRC | 32 | 1 |
| Krakatoa, Indonesia | 426 | 3 |
| Calbuco, Chile | 0 | 4 |
| Mount Ontake, Japan | 63 | 3 |
| Nabro, Eritrea | 31 | 4 |
| Cordon Caulle, Chile | 0 | 5 |
| Grímsvötn, Iceland | 0 | 4 |
| Mount Merapi, Indonesia | 300 | 4 |
| Pacaya, Guatemala | 3 | 3 |

Source: USGS

**5.** (a) (i) Name a suitable graphical technique to represent the number of deaths shown in **Figure 5**. [1]

.....

(ii) Justify your choice of graphical technique in **5**(a)(i). [2]

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

(iii) Calculate the interquartile range for the number of deaths. Show your working. [3]

(iv) Outline **one** disadvantage of using the interquartile range when analysing the number of deaths shown in **Figure 5**. [3]

.....

.....

.....

.....

.....

.....

(v) Name **one** other measure of dispersion that could be used to analyse the number of deaths other than the interquartile range. [1]

.....

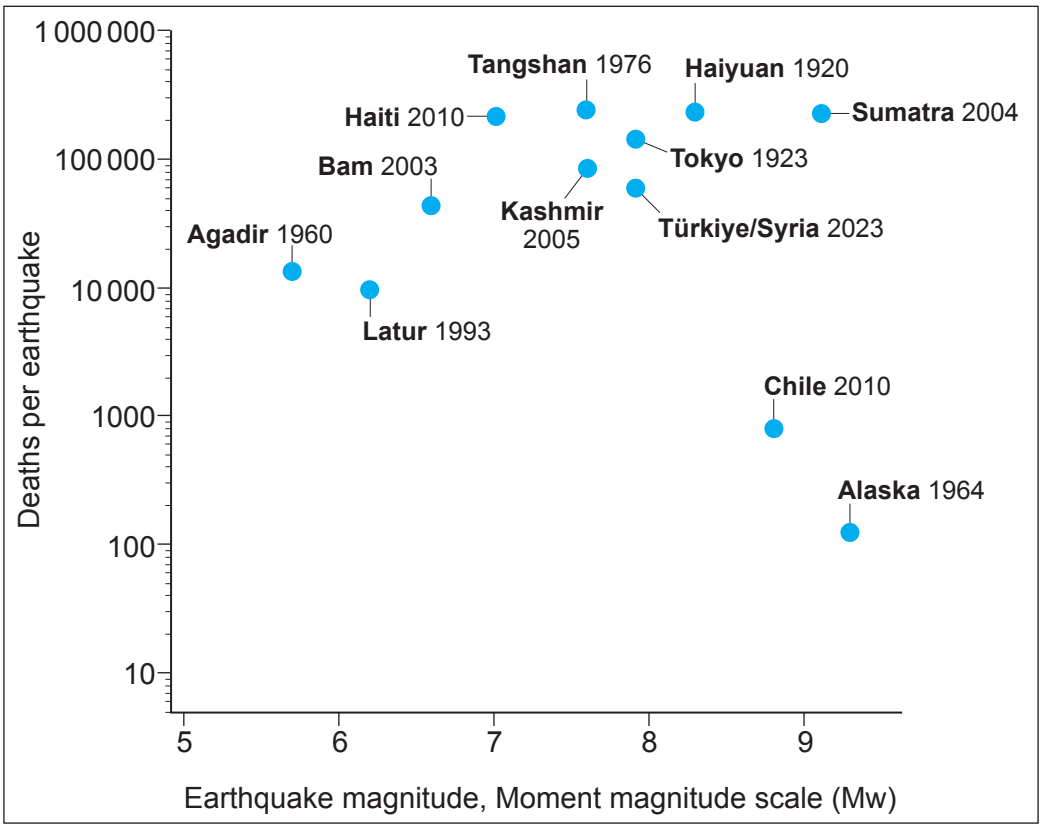




© WJEC CBAC Ltd.

Examiner only

**Figure 6: Relationship between earthquake magnitude and deaths per earthquake**




Adapted from: https://www.researchgate.net

**6.** (a) Use **Figure 6** to analyse the relationship between earthquake magnitude and deaths per earthquake. [5]



© WJEC CBAC Ltd.

Examiner only

(b) Explain the characteristics of liquefaction that make it a hazard. [6]



© WJEC CBAC Ltd.

# BLANK PAGE

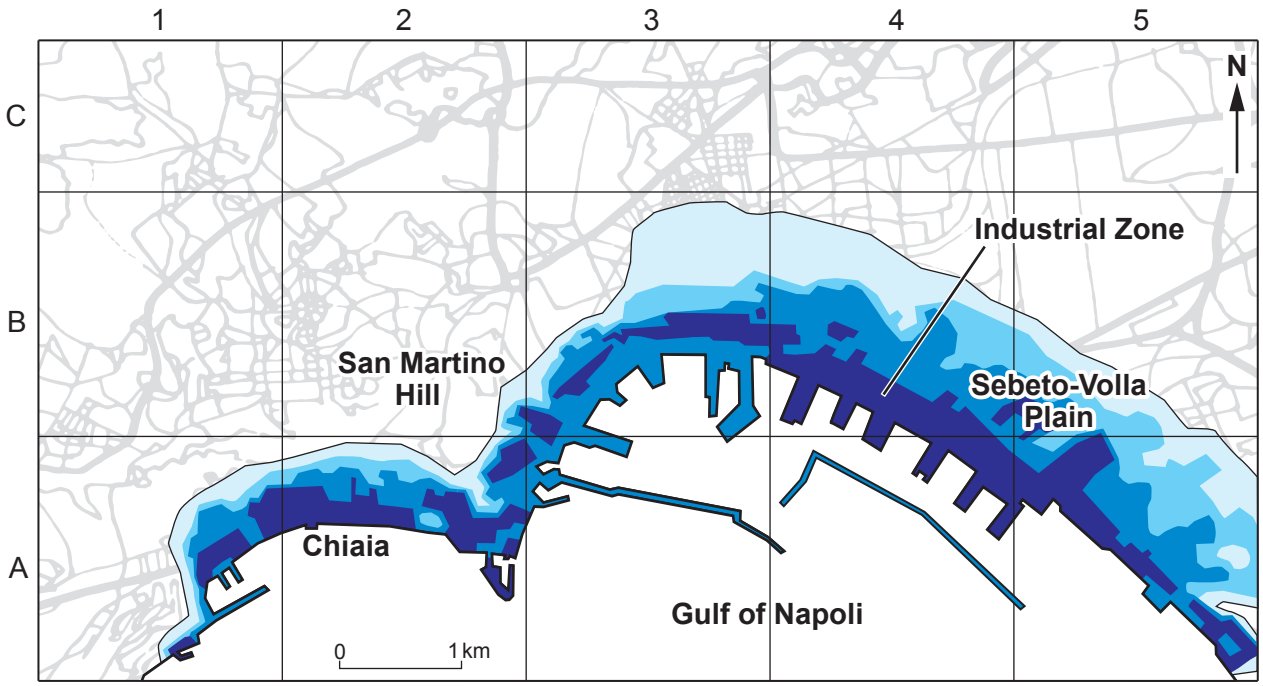
# PLEASE DO NOT WRITE ON THIS PAGE



© WJEC CBAC Ltd.

Examiner only

**Figure 7: Variation in levels of vulnerability to tsunami flooding, city of Napoli, Italy, 2015**




**Area of Napoli vulnerable to tsunami flooding**

| Class | Area (%) | Class | Area (%) |
|---|---|---|---|
| Low | 44 | High | 26 |
| Medium | 9 | Very High | 21 |

Source: https://www.mdpi.com/2077-1312/3/3/981/htm

(c) Use **Figure 7** to describe the vulnerability of Napoli to tsunami flooding. [5]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

**7.** (a) Examine the role that the type of volcanic eruption can play in contributing to volcanic hazards. [15]



© WJEC CBAC Ltd.

Examiner only

.....

.....

.....

.....

.....

Additional space for Question **7**(a):

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

(b) Discuss the view that earthquakes only generate hazards at the local scale. [14]



© WJEC CBAC Ltd.

Examiner only

.....

.....

.....

Additional space for Question **7**(b):

.....

.....

.....

.....

.....



© WJEC CBAC Ltd.

Examiner only

(c) 'Recovery from the impacts of a tectonic event mainly depends on the quality of governance.' To what extent do you agree? [20]



© WJEC CBAC Ltd.

Examiner only

Additional space for Question **7**(c):



© WJEC CBAC Ltd.

Examiner only



© WJEC CBAC Ltd.

## Section C: Challenges in the 21st Century

Answer **all** questions.

Make the fullest possible use of examples and data to support your answers.

**8.** Assess the view that present day processes influence places more than processes operating in the past. [10]

In your answer to question **8**, you may make use of the material in **Figures 8a, 8b and 8c**, and apply your own knowledge and understanding.

**Figure 8a: Coastline at Hemsby, Norfolk, England**

Source: https://news.sky.com/story/demolition-of-houses-along-norfolk-coastline-as-erosion-takes-its-toll-12831821


© WJEC CBAC Ltd.

**Figure 8b: Glacier mining for gold at Kumtor Mine, Kyrgyzstan**

Source: http://williamcolgan.net/blog/?tag=kumtor

**Figure 8c: Lava flows at Kilauea volcano, Hawaii**

Source: https://www.nps.gov/havo/learn/news/park-offers-route-and-tips-for-viewing-lava-flows.htm



© WJEC CBAC Ltd.

Examiner only

Additional space for Question **8**:

**END OF PAPER**



© WJEC CBAC Ltd.

Examiner only



© WJEC CBAC Ltd.

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|

Examiner only



© WJEC CBAC Ltd.