Surname	Centre Number	Candidate Number
First name(s)		2

GCE AS

B110U10-1

O20-B110U10-1

TUESDAY, 6 OCTOBER 2020 – MORNING

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.	**40**	
6.	**35**	
7.	**10**	
Total	**120**	

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ADDITIONAL MATERIALS

- a calculator.

INSTRUCTIONS TO CANDIDATES

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).

Use black ink or black ball-point pen.

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

Write your answers in the spaces provided in this booklet.

If further space is required you should use the continuation page(s) at the end of this booklet. The question number(s) should be clearly shown.

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 answer. 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.

Examiner only

Section A: Changing Landscapes

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

Make the fullest possible 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: Porth Gwylan, Llyn Peninsula, Wales, UK

1. *(a)* Use **Figure 1** to suggest inputs into this coastal system. [5]

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(b) Examine the role of marine processes in causing variations in beach profiles. [10]

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

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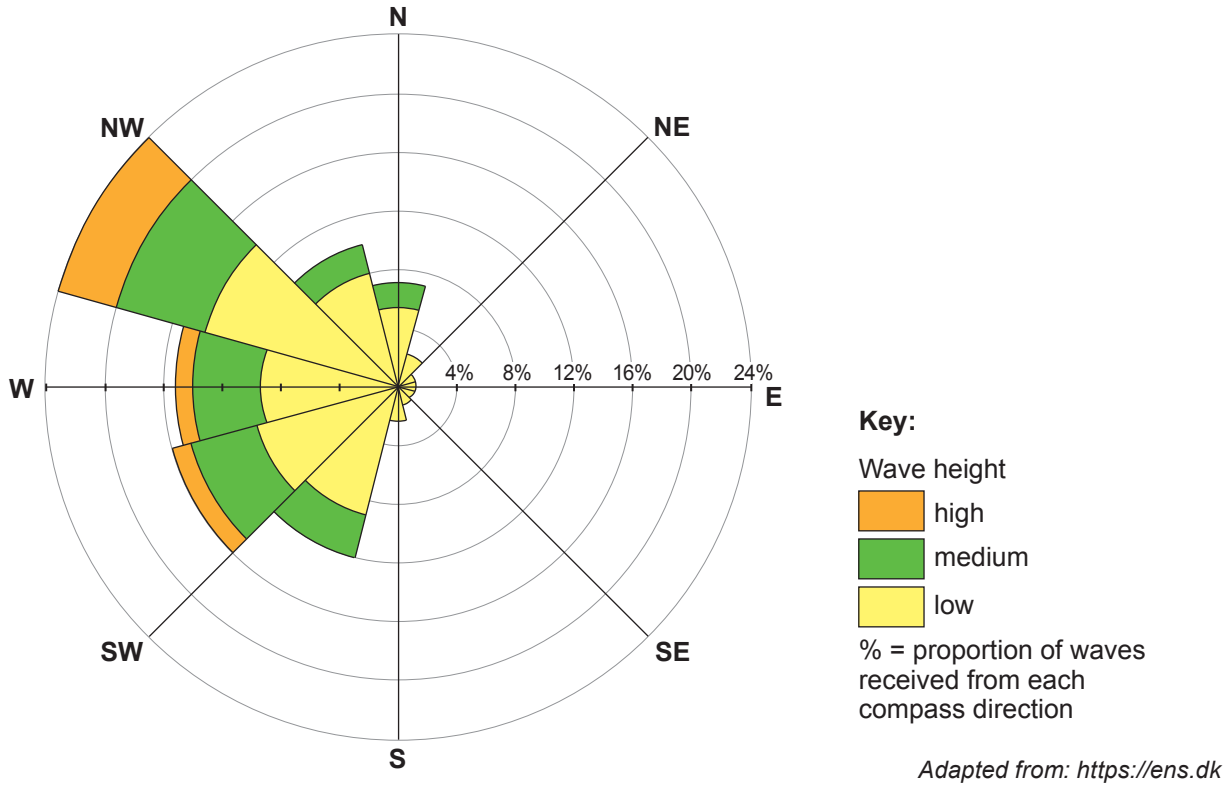
Figure 2: Wave orientation and wave height at Vesterhaf Nord Offshore Wind Farm, Denmark



Adapted from: https://ens.dk

2. *(a)* Use **Figure 2** to describe the relationship between wave orientation and wave height. [5]

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(b) Evaluate the relative importance of sub-aerial weathering processes in the formation of **one or more** high energy coastal landforms. [15]

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

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Or: Glaciated Landscapes

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

Figure 3: Glacier Valley, Alaska, USA

3. *(a)* Use **Figure 3** to suggest inputs into this glacial system. [5]

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(b) Examine causes of changes in glacial budgets through historical time. [10]

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

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Figure 4: Orientation, number and area of Italian glaciers, 2006–2007

Figure 4a: Number of glaciers

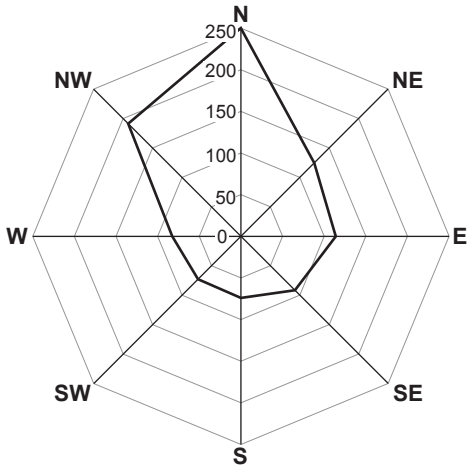
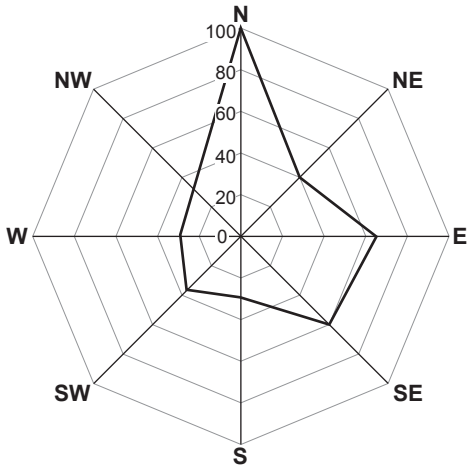


Figure 4b: Total area (km^2)



Source: www.researchgate.net

4. *(a)* Use **Figure 4** to describe the relationship between number and area of glaciers. [5]

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(b) Evaluate the relative importance of periglacial processes in the formation of **one or more** glacial landforms. [15]

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

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Section B: Tectonic Hazards

Answer **all** *questions.*

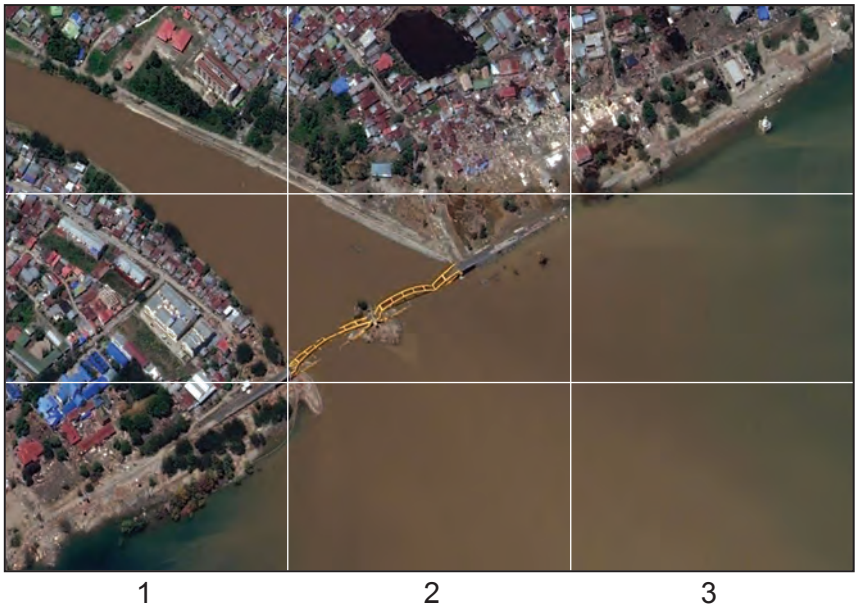
Make the fullest possible use of examples and data to support your answers.

Figure 5: Images of Palu, Sulawesi, Indonesia before and after the tsunami, 28 September, 2018

Figure 5a: 17 August, 2018

Jembalan Palu IV bridge on 17 August

Figure 5b: 1 October, 2018



Jembalan Palu IV bridge on 1 October

Source: www.abc.net.au

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5. *(a)* Use **Figure 5** to identify impacts of the tsunami. [5]

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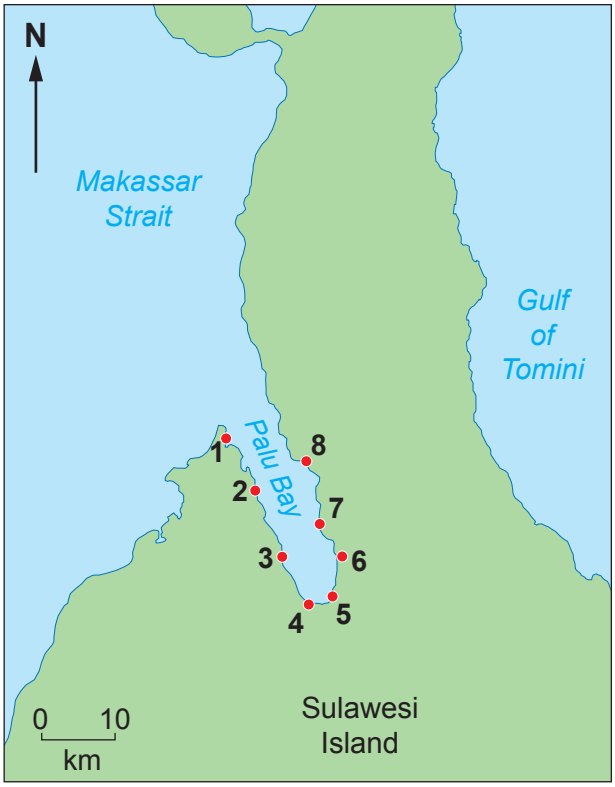
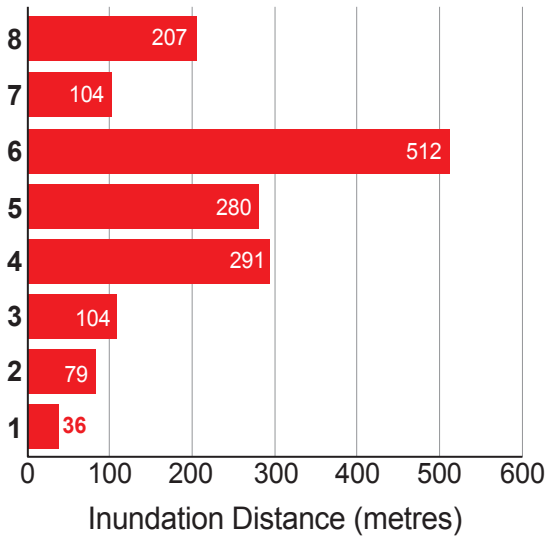
Figure 6: Tsunami inundation distances for selected locations in Palu Bay, Indonesia



Inundation distance is the distance waves travelled inland.



Source: www.nat-hazards-earth-syst-sci.net

(b) Use **Figure 6** to analyse the pattern of inundation. [6]

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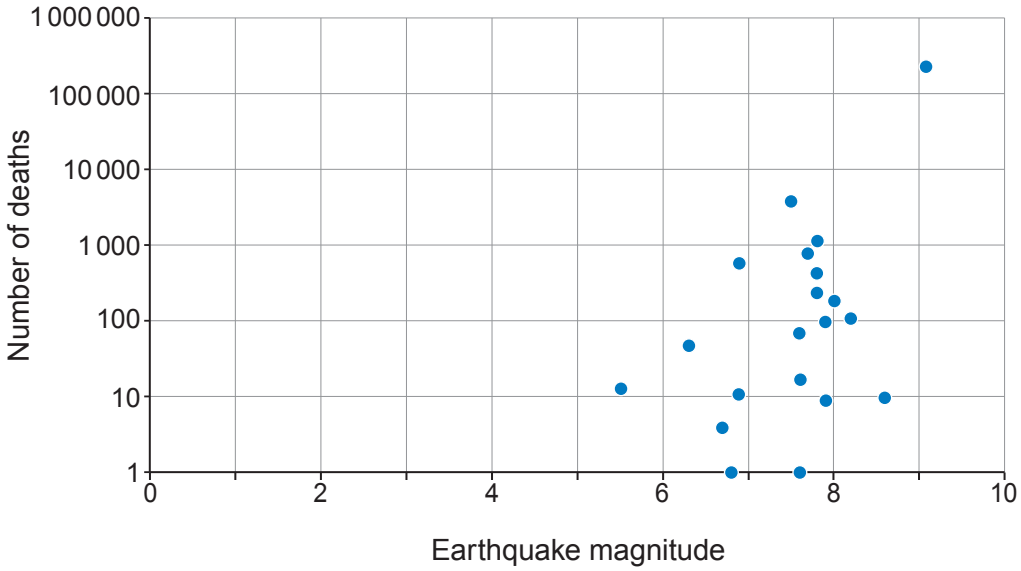
Figure 7: Number of deaths resulting from earthquakes of varying magnitudes in Indonesia, 1927 – 2018



(c) (i) Use **Figure 7** to estimate the magnitude of the earthquake that had the highest death toll. Give your answer to 1 decimal place. [1]

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(ii) Suggest **one** reason for the use of a logarithmic scale to display these data. [2]

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(iii) Explain why a scatter plot is an appropriate technique for displaying these data. [3]

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(iv) State and justify **one** alternative graphical technique that could be used to present the data for earthquake magnitude shown in **Figure 7**. [3]

Graphical technique .....

Justification .....

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(d) Outline the processes that operate at **one** of the following converging plate margin types: [8]

(i) oceanic / oceanic

or

(ii) oceanic / continental

or

(iii) continental / continental

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(e) 'Quality of governance significantly affects people's risk and vulnerability from volcanic events.' Discuss. [12]

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Additional space for Question **5***(e)*: .....

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6. *(a)* Examine the economic and social impacts of **two** tsunami events. [15]

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Additional space for Question **6***(a)*:

(b) 'Urban populations are more at risk from tectonic hazards than rural populations.' Discuss. [20]

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Additional space for Question **6***(b)*:

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QUESTION 7 CONTINUES OVERLEAF

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Section C: Challenges in the 21st Century

Answer **all** *questions.*

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

7. To what extent is place meaning altered by physical processes? [10]

In your answer to question 7, you may make use of the material in **Figures 8a** and **8b** and apply your own knowledge and understanding.

Figure 8a: Naples and Mt. Vesuvius, Italy

Figure 8b: Francois, a fishing village in a fjord, Newfoundland, Canada

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Additional space for Question **7**:

END OF PAPER

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For continuation only.

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