Surname	Centre Number	Candidate Number
First name(s)		2

GCE AS/A LEVEL

2110U10-1

S23-2110U10-1

TUESDAY, 16 MAY 2023 – AFTERNOON

GEOGRAPHY – AS unit 1
CHANGING LANDSCAPES

2 hours

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
Either 1 and 2 or 3 and 4	**16**	
	16	
	16	
	16	
5.	**27**	
6.	**21**	
7.	**16**	
Total	**96**	

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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.

Write your answers in the spaces provided in this booklet.

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

Answer **all** questions in Section B.

If further space is required you should use the additional page(s) at the back 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 answers. Sketch maps and diagrams should be included where relevant.

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

Section A: Changing Landscapes

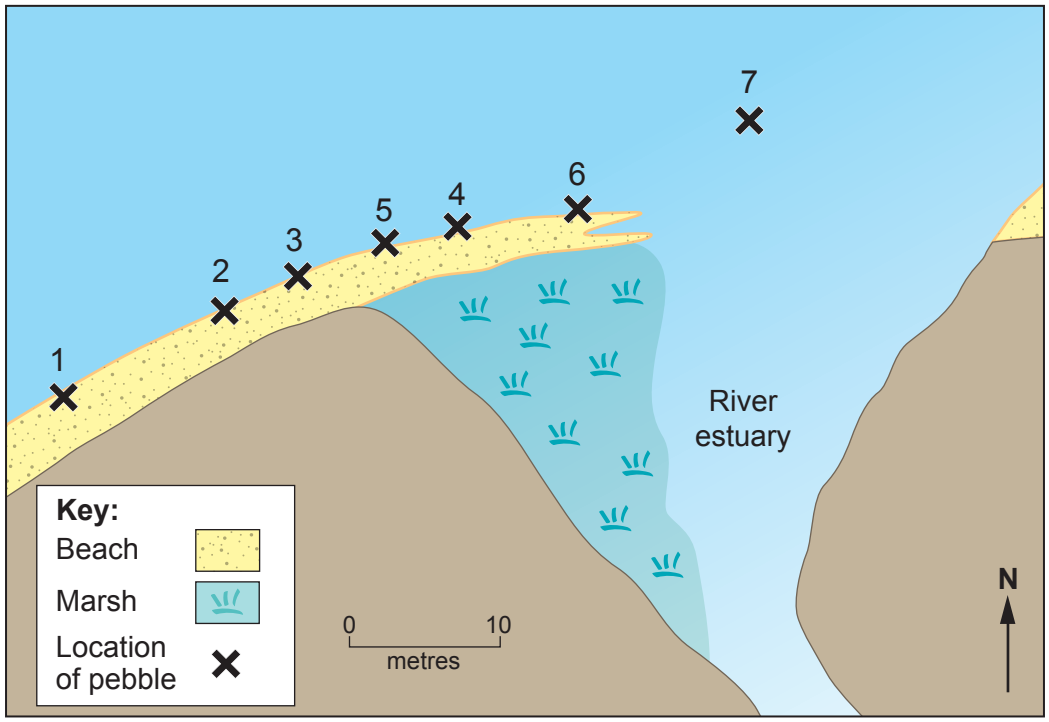
Answer **either** questions 1 and 2 **or** questions 3 and 4 from your chosen landscape.

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

Coastal Landscapes

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

Figure 1: An aerial view of the movement of a pebble along a coastline, November 2019



Date (November)	1	4	13	19	21	28	30
Location of pebble	1	2	3	4	5	6	7

Examiner only

1. (a) (i) Use **Figure 1** to describe the pebble's movement from 4 November to 30 November. [5]

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(ii) Suggest **one physical** reason for the rapid movement of the pebble from Location 1 to Location 2. [3]

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(b) Examine how constructive waves differ from destructive waves. [8]

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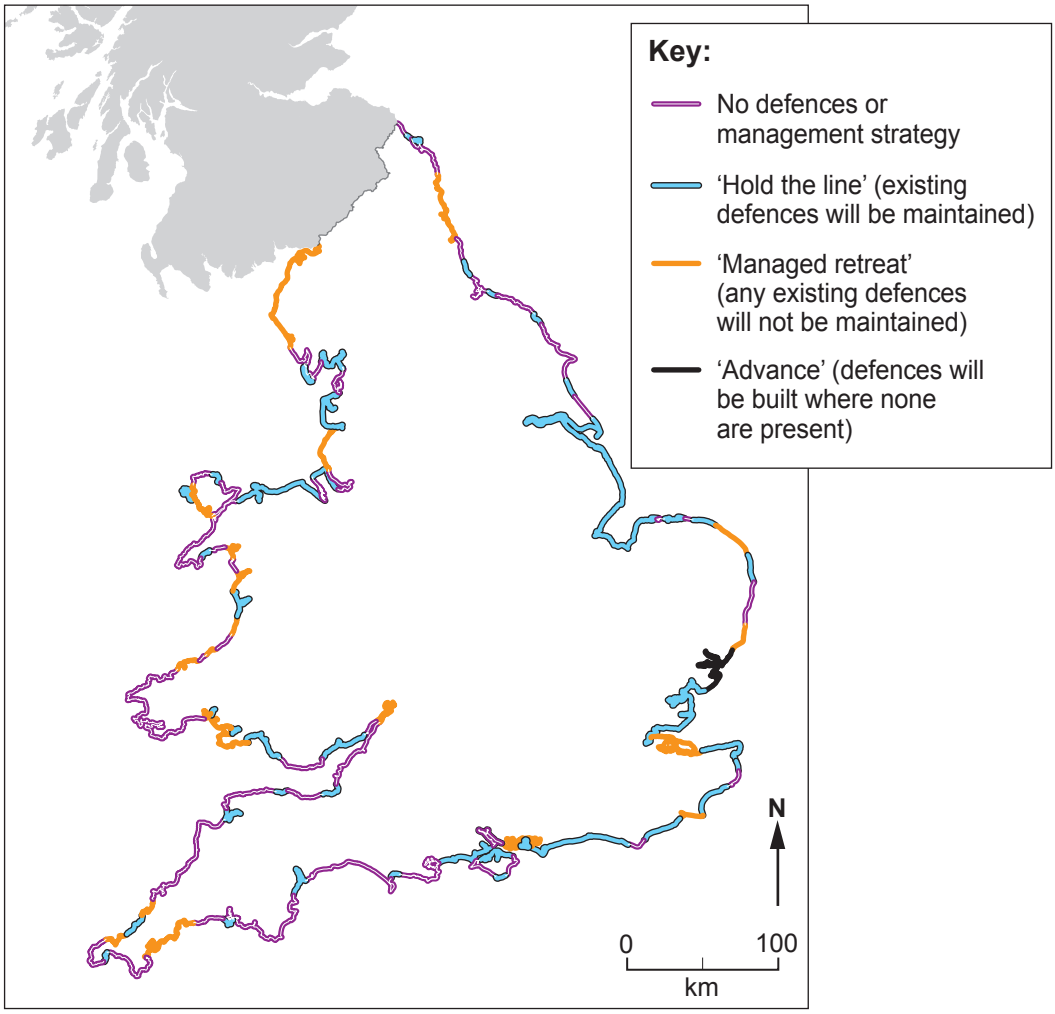
Figure 2: Planned levels of protection along coastlines in England and Wales, 2020–2030



Source: www.theguardian.com

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2. (a) (i) Use **Figure 2** to describe geographical variations in the level of protection along coastlines in England and Wales. [5]

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(ii) Suggest **one physical** reason why the option of 'managed retreat' has been chosen for some places. [3]

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(b) Examine the role of sea level change in the development of **one** coastal landform. [8]

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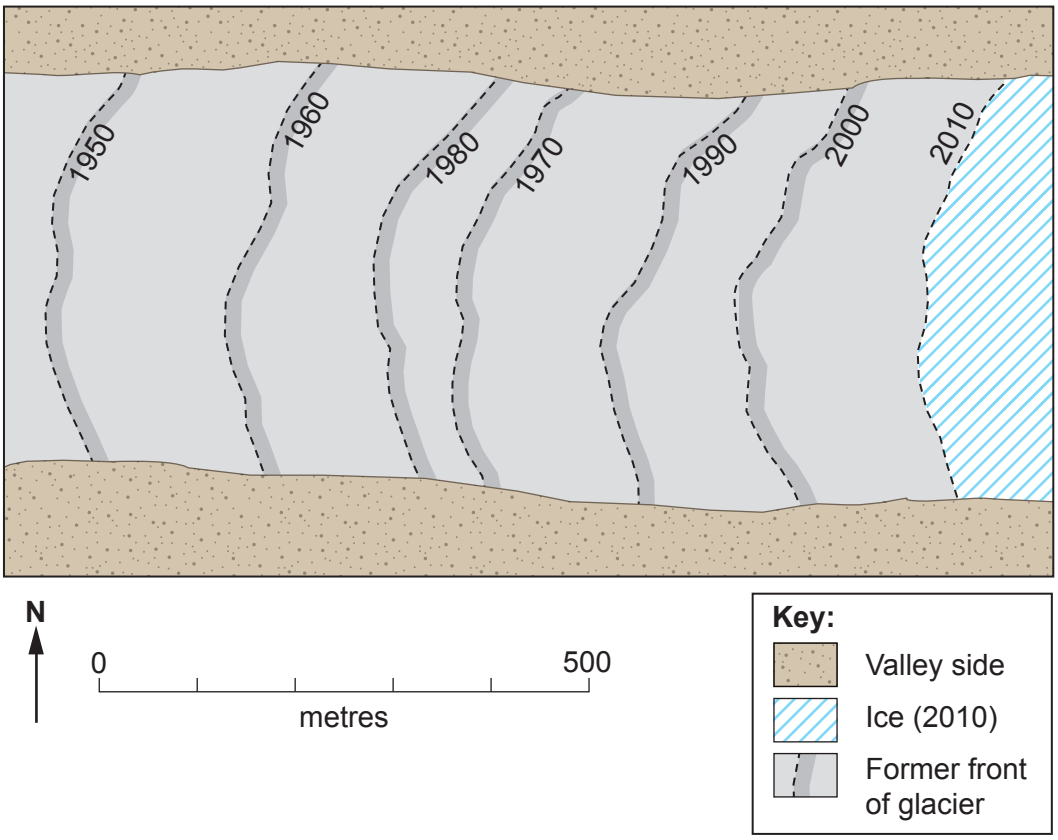
Glaciated Landscapes

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

Figure 3: A sketch map showing the changing position of the front of a glacier, 1950–2010



Examiner only

3. (a) (i) Use **Figure 3** to describe the movement of the glacier between 1960 and 2010. [5]

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(ii) Suggest **one** reason for the rapid retreat of the glacier during the 1950s. [3]

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(b) Examine how cold-based glaciers differ from warm-based glaciers. [8]

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

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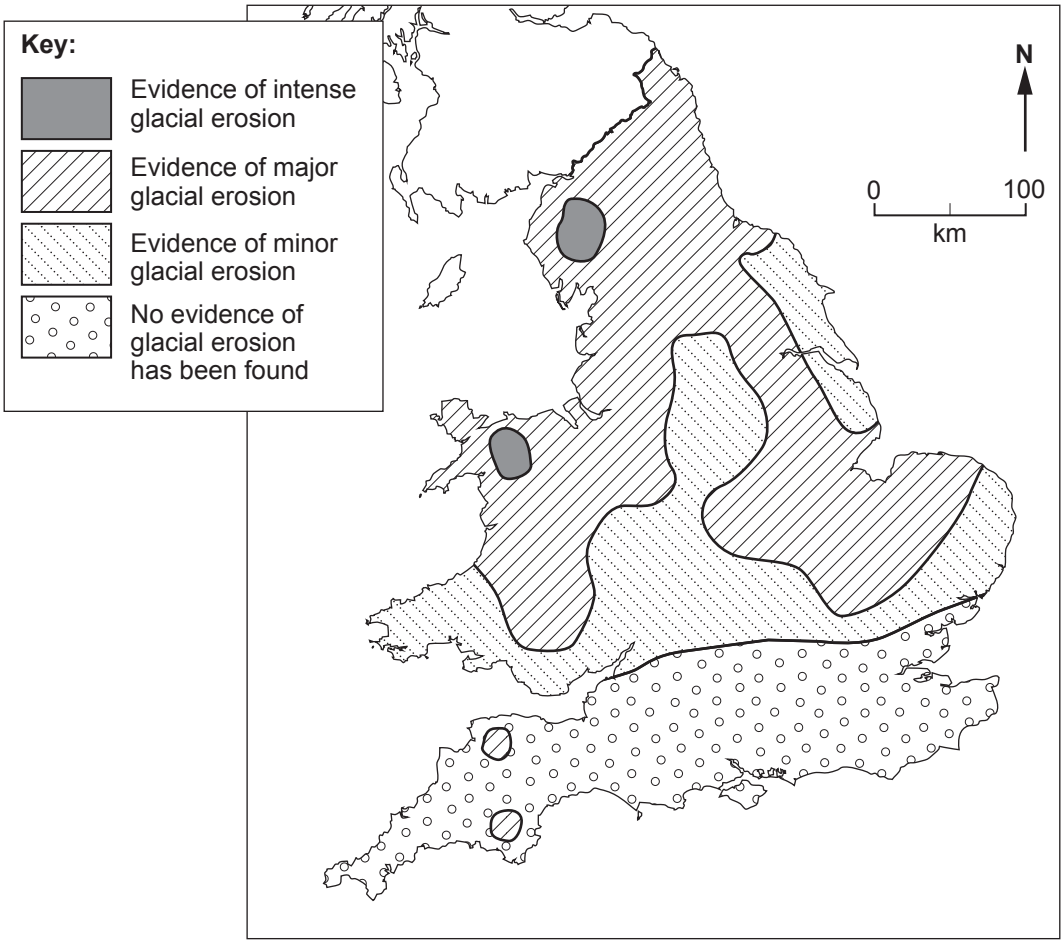
Figure 4: Landscape evidence showing the severity of past glacial erosion in England and Wales



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4. (a) (i) Use **Figure 4** to describe geographical variations in the severity of glacial erosion in England and Wales. [5]

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(ii) Suggest **one physical** reason why intense glacial erosion only occurred in certain areas. [3]

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(b) Examine the influence of post-glacial processes on **one** glacial landform. [8]

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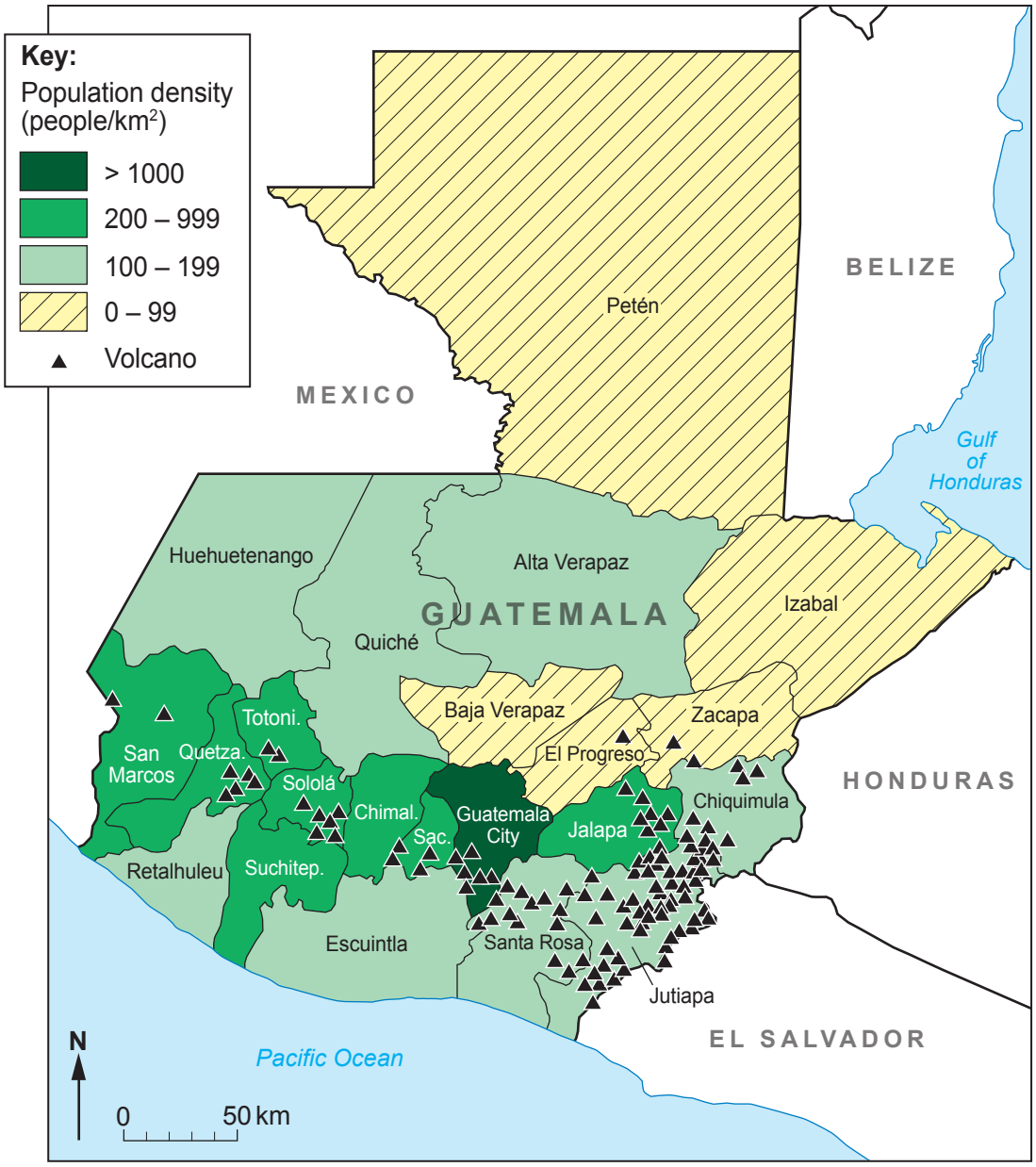
Section B: Tectonic Hazards

Answer **all** questions.

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

Figure 5: Population density and location of volcanoes by department in Guatemala



Abbreviations

Chimal:	Chimaltenango
Quetza:	Quetzaltenango
Sac:	Sacatepéquez
Suchitep:	Suchitepéquez
Totoni:	Totonicapan

Source: http://www.insivumeh.gob.gt/folletos/FVQGT.pdf

Examiner only

5. (a) (i) Use **Figure 5** to describe the distribution of volcanoes in Guatemala. [5]

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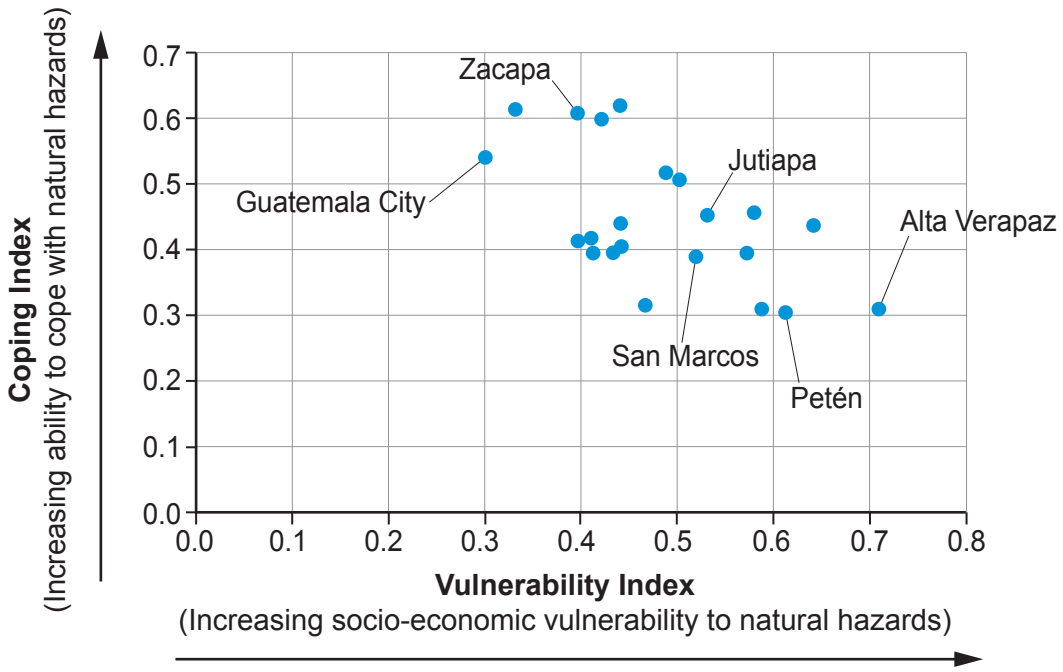
Figure 6: Indices of vulnerability and ability to cope with natural hazards for the departments of Guatemala



Source: www.pdc.org

(ii) State the nature of the relationship shown in **Figure 6**. [1]

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(iii) Name and justify a valid statistical test that could be used to analyse these data.

Name of statistical test : ..... [1]

Justification: [1]

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(iv) Use **Figures 5** and **6** to suggest why the impacts of volcanic activity may vary within Guatemala. [9]

Additional space for Question **5**(a)(iv) only:

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(b) Explain how volcanoes form at converging plate margins. [10]

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Volcanic ash is a major hazard in the form of both pyroclastic flows and volcanic ash fall

Figure 7: The settlement of San Miguel Los Lotes before and after the eruption of Volcán de Fuego in Guatemala, 2018

Figure 7a: San Miguel Los Lotes before the eruption

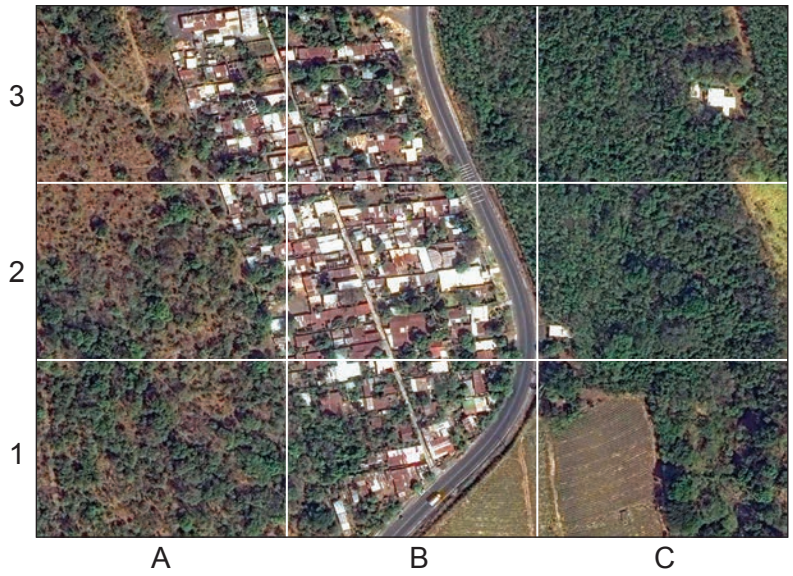
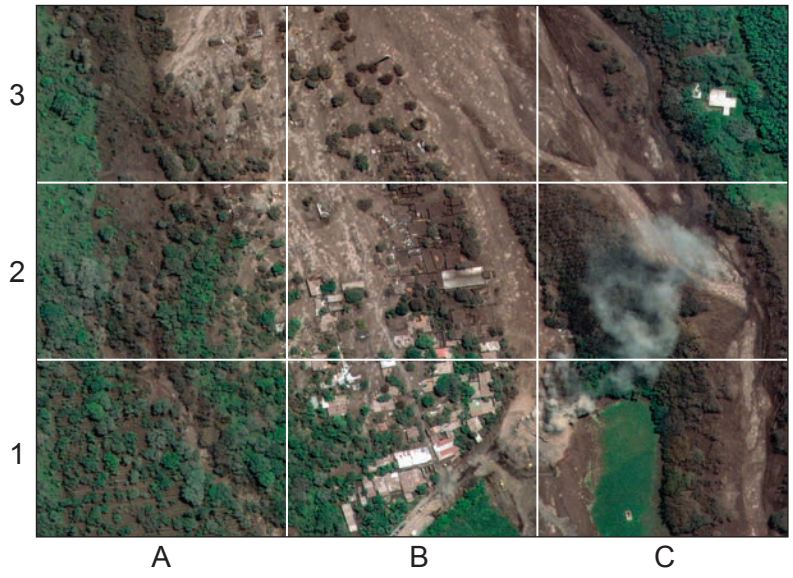


Figure 7b: San Miguel Los Lotes after the eruption



Source: https://www.nytimes.com

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6. (a) Use **Figure 7** to describe the impacts of the eruption on San Miguel Los Lotes. [5]

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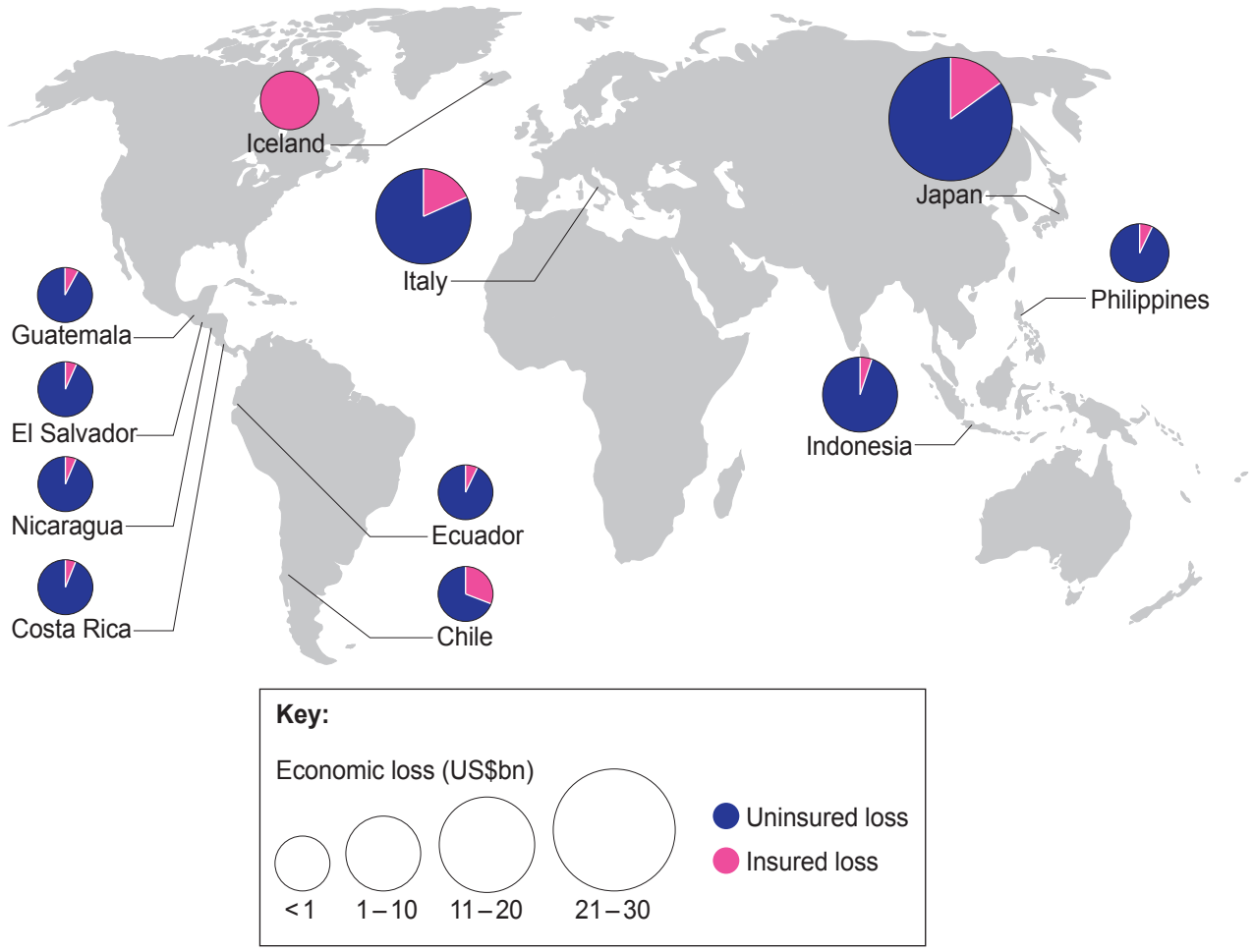
Figure 8: Potential economic losses caused by volcanic ash fall for selected countries



Source: https://www.preventionweb.net

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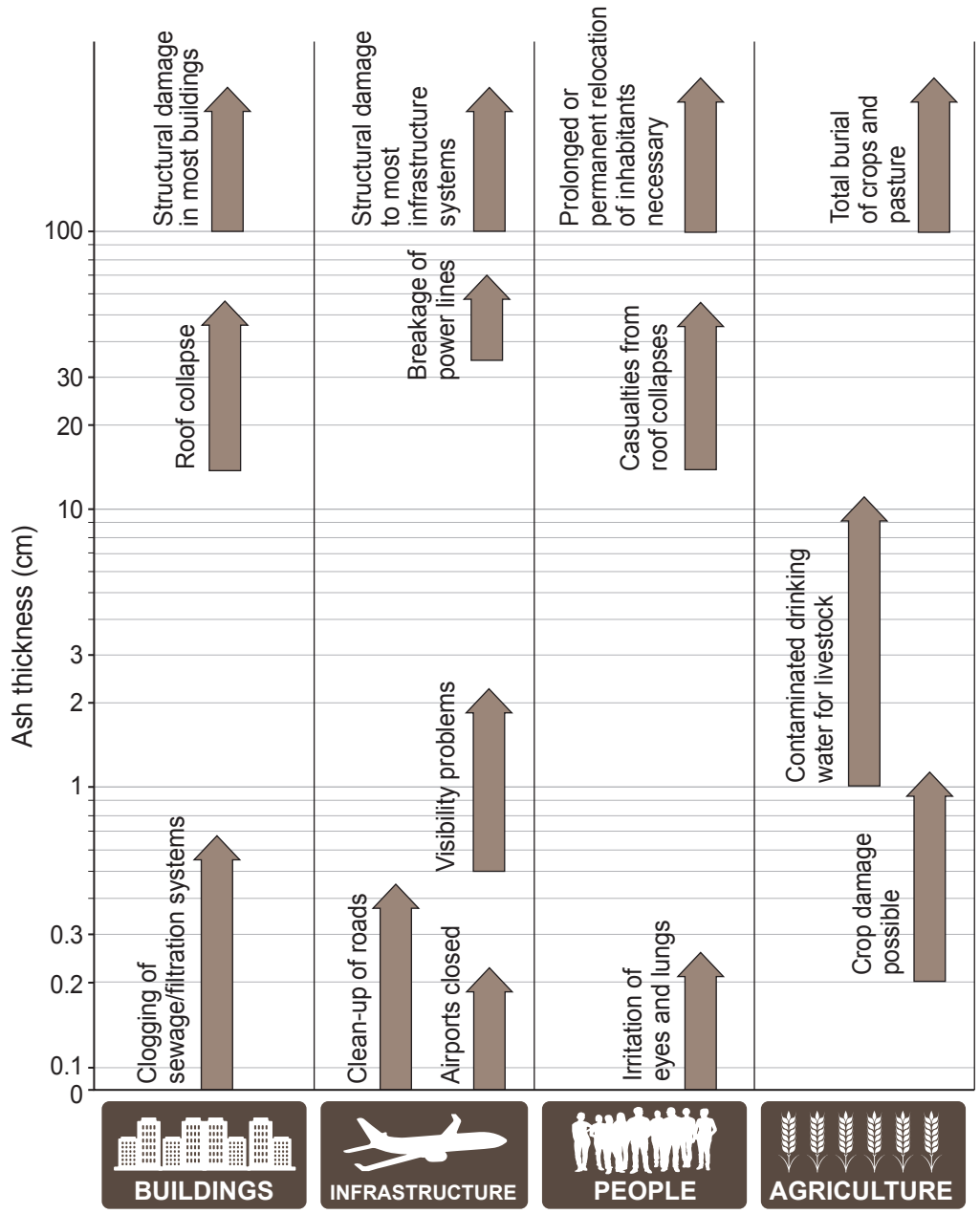
(b) Use **Figure 8** to outline variations in the potential economic losses caused by volcanic ash fall. [6]

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

Figure 9: Potential impacts of volcanic ash fall



Source: https://www.preventionweb.net

Examiner only

(c) Use **Figures 7** to **9** to examine why the impacts of volcanic ash vary. [10]

Additional space for Question **6**(c) only:

Examiner only

7. (a) Outline the local and global impacts of **one** earthquake event. [8]

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

Examiner only

(b) Examine the role of depth of focus in determining the impact of an earthquake. [8]

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

END OF PAPER

Question number	Additional page, if required for diagrams. Write the question number(s) in the left-hand margin.

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