

Surname	Centre Number	Candidate Number
First name(s)		2



GCE AS

B110U10-1



S25-B110U10-1



TUESDAY, 13 MAY 2025 – AFTERNOON

GEOGRAPHY – AS component 1
CHANGING LANDSCAPES

2 hours 15 minutes

ADDITIONAL MATERIALS

Resource Folder.
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.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	15	
2.	20	
3.	15	
4.	20	
5.	40	
6.	35	
7.	10	
Total	120	

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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.

1. (a) Use **Figure 1** in the **Resource Folder** to:

(i) State the six-figure grid reference of the Nature reserve. [1]

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(ii) Identify and locate, using four-figure grid references, **two** different landforms that indicate coastal deposition has taken place. [4]

Name of landform:

Four-figure grid reference:

Name of landform:

Four-figure grid reference:

(b) Examine the relative importance of longshore drift in the formation of **one or more** landforms of coastal deposition. [10]

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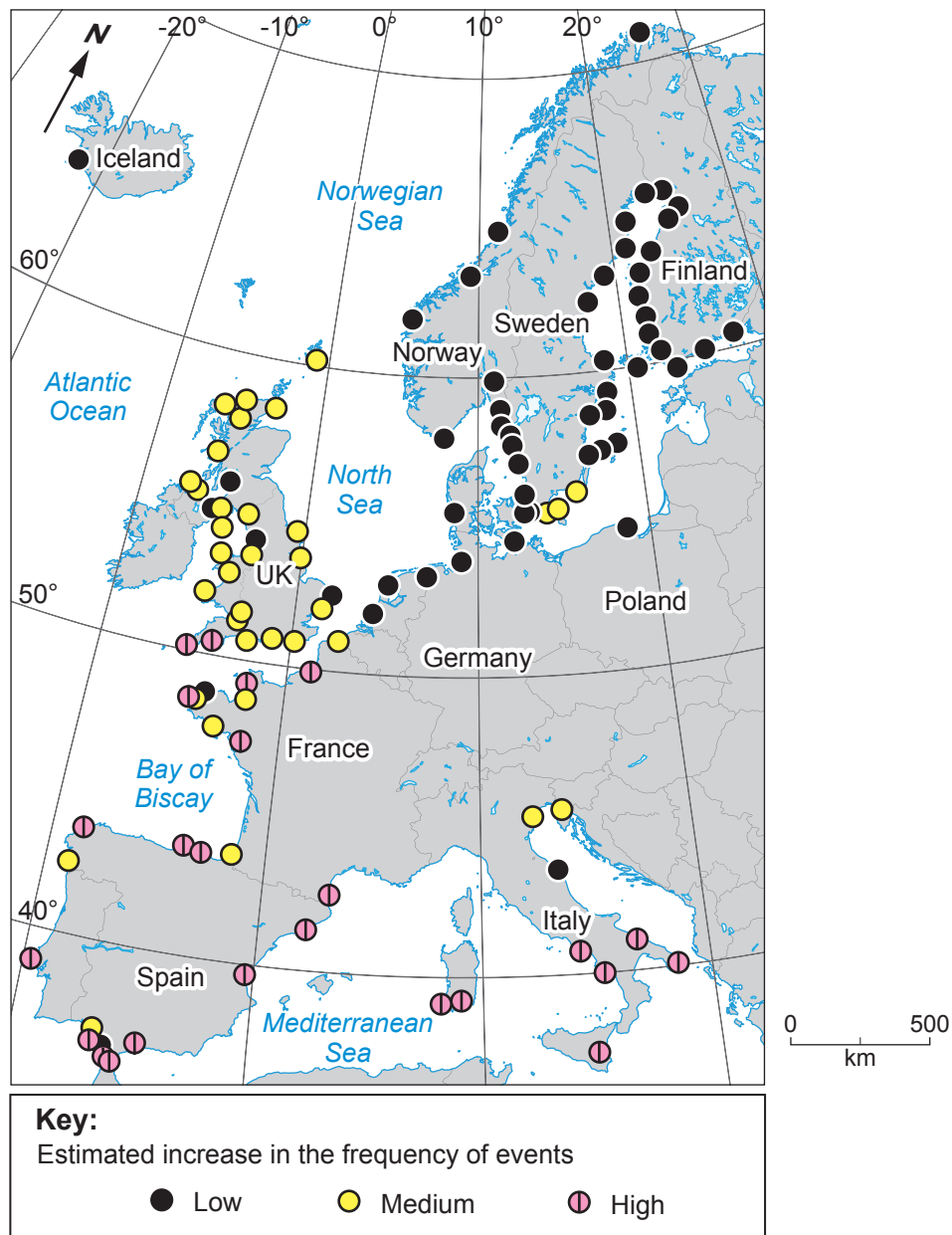
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Figure 2: Projected increase in the frequency of serious coastal flooding events in Western Europe by 2100



Source: <https://www.eea.europa.eu/publications/europes-changing-climate-hazards-1/coastal/projected-changes-in-the-frequency/view>



2. (a) Use **Figure 2** to analyse the pattern of projected serious coastal flooding.

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Or: Glaciated Landscapes

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

- 3. (a) Use Figure 3 in the Resource Folder to:**

- (i) State the six-figure grid reference of the Visitor centre.

[1]

- (ii) Identify and locate, using four-figure grid references, **two** different landforms that indicate glacial erosion has taken place. [4]

Name of landform:

Four-figure grid reference:

Name of landform:

Four-figure grid reference:

- (b) Examine the relative importance of weathering in the formation of **one or more** landforms of glacial erosion.

[10]



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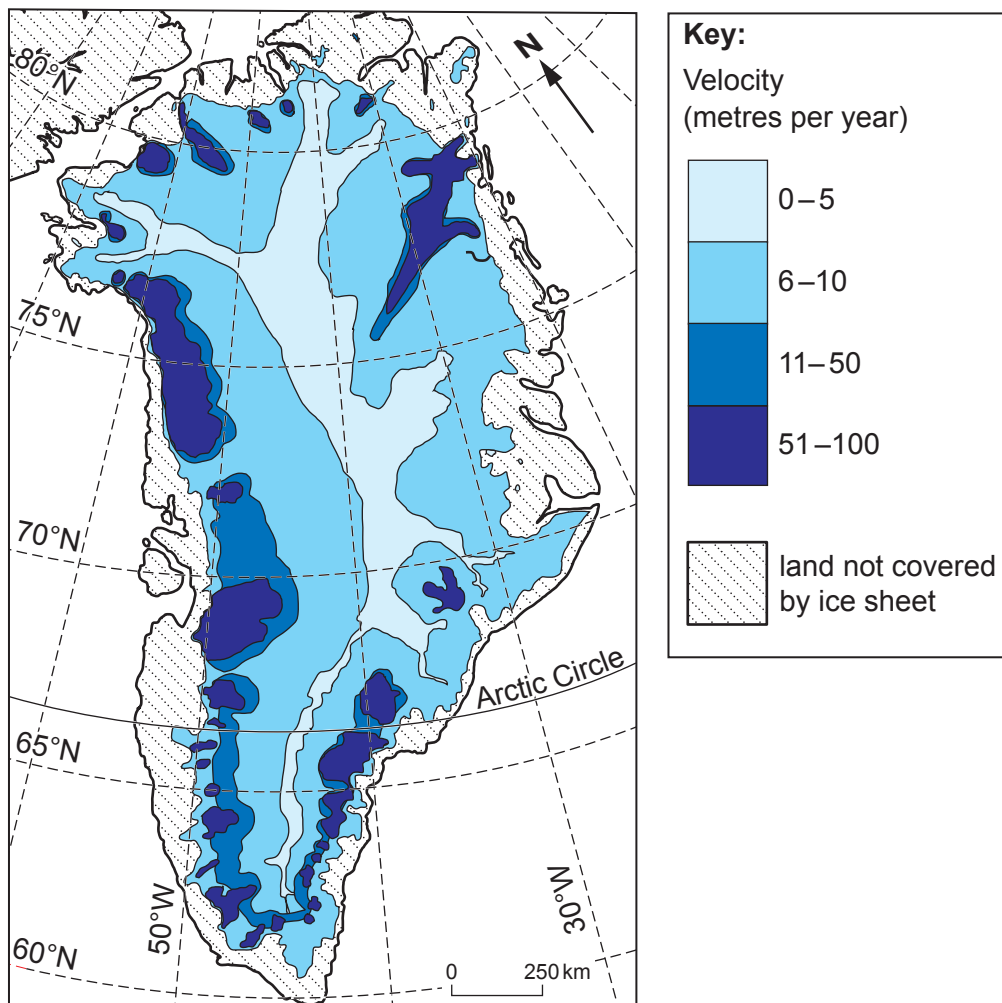
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Figure 4: Velocity of ice sheet, Greenland, 2016



Source: <https://www.eurekalert.org/multimedia/896126>



4. (a) Use **Figure 4** to analyse the pattern of ice sheet velocity.

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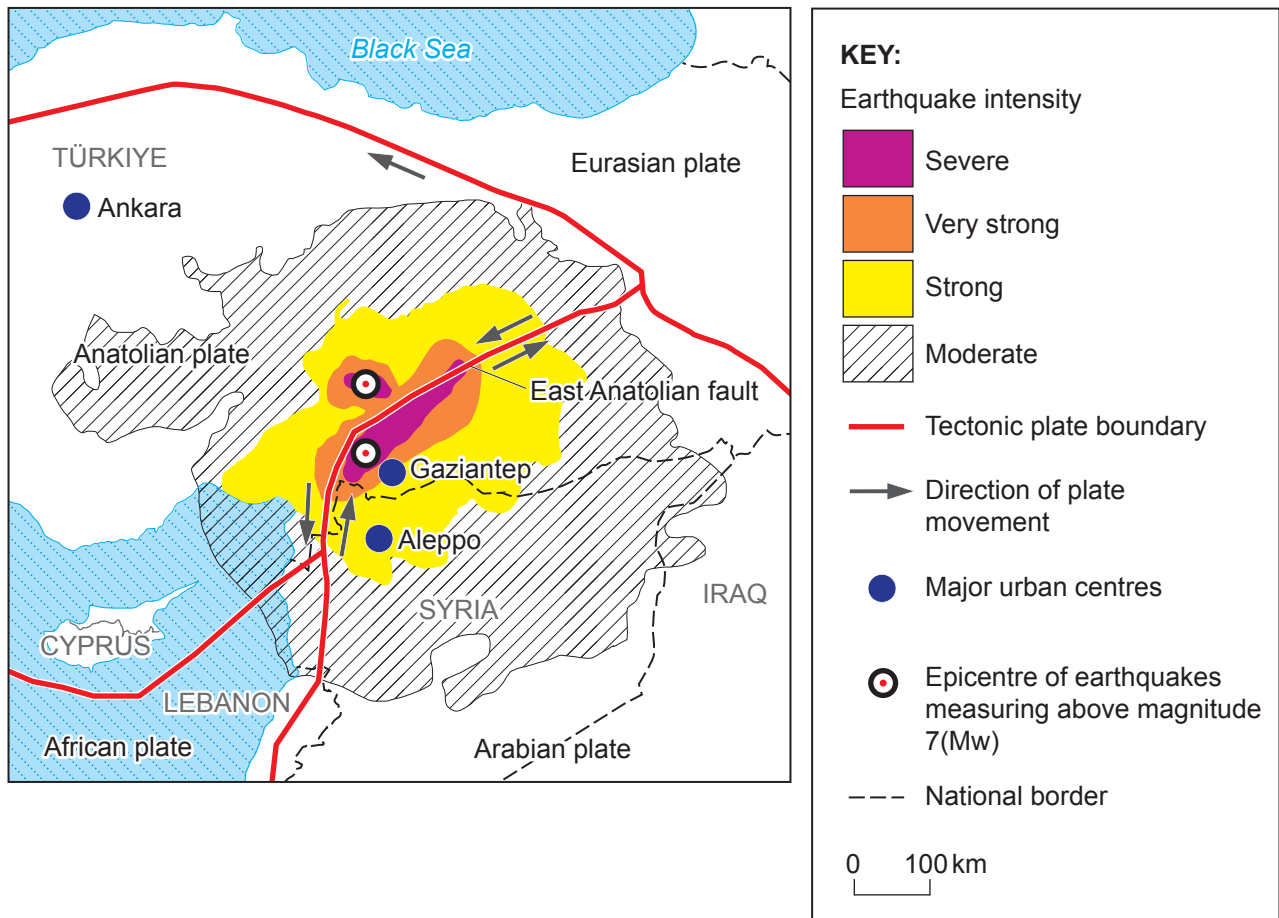


Section B: Tectonic Hazards

Answer **all** questions.

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

Figure 5: Intensity of earthquake activity in Türkiye and Syria, 6 February 2023



Source: <https://www.ft.com/content/337edef6-05c9-498c-a3f0-13776082f218>



5. (a) Use **Figure 5** to describe the pattern of earthquake intensity.

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Figure 6: Images of southern Türkiye after the earthquake, 6 February 2023



Source: <https://www.bbc.co.uk/news/world-europe-64544998>

(b) Use **Figure 6** to describe the short-term responses to the earthquake.

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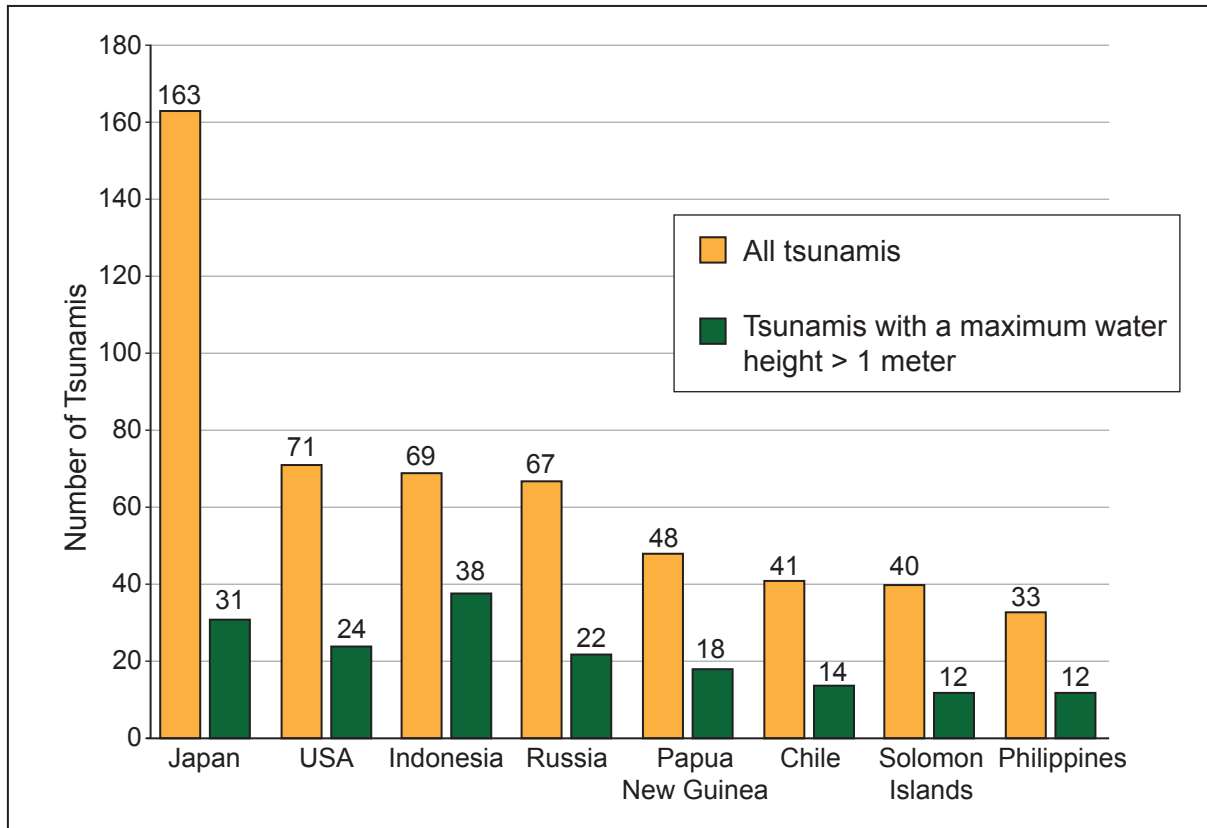
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Figure 7: Countries with the highest occurrence of tsunamis, 1900–2020

Source: <https://link.springer.com/article/10.1007/s00024-022-03057-1/figures/9>

- (c) (i) Use **Figure 7** to identify the country with the highest ratio of tsunamis over 1 m to all tsunamis occurring between 1900 to 2020. [1]

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- (ii) Use **Figure 7** to analyse tsunami occurrence. [4]

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Figure 8: Tsunami wave height and fatalities, Japan earthquake, 2011

Location	Tsunami wave height (m)	Rank order for wave height	Fatalities	Rank order for fatalities	Difference in ranks (d)	d ²
Soma	9.3	1	458	10	−9	81
Ishinomaki	7.6	4	3735	1	3	9
Otsuchi	8.1	2	1286	4	−2	4
Kesennuma	7.2	6	1356	3	3	9
Minamis	5.1	8	845	9	−1	1
Kamaishi	4.1	9	1047	6	3	9
Rikuzentakata	8.0	3	1846	2	1	1
Natori	6.3	7	966	7	0	0
Onagawa	3.4	10	915	8	2	4
Higashimatsushima	7.3	5	1105	5	0	0
				$\sum d^2 = 118$		

A Spearman's Rank Correlation Coefficient test has been started in **Figure 8** above.

Note: Rank order is descending with highest value ranked 1



- (d) (i) Use **Figure 8** and the data in the formula below to calculate the value of r_s to **two** decimal places. Show your working in the space provided. [3]

$$r_s = 1 - \left(\frac{6 \sum d^2}{990} \right) \quad \text{where } \sum d^2 = \text{sum of } d^2$$

$r_s =$

- (ii) Use the table below to interpret the statistical significance of the calculated value of r_s . [2]

Significance (confidence) level		
Number of pairs (n)	95% (0.05)	99% (0.01)
10	0.56	0.78

- (e) Explain why some tectonic processes occur away from plate margins. [5]



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Additional space for Question 6(a):

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This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

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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 are the challenges faced by places a result of human innovation? [10]

In your answer to question 7, you may make use of the material in **Figures 9a, 9b** and **9c** and apply your own knowledge and understanding.

Figure 9a: Dubai's artificial islands

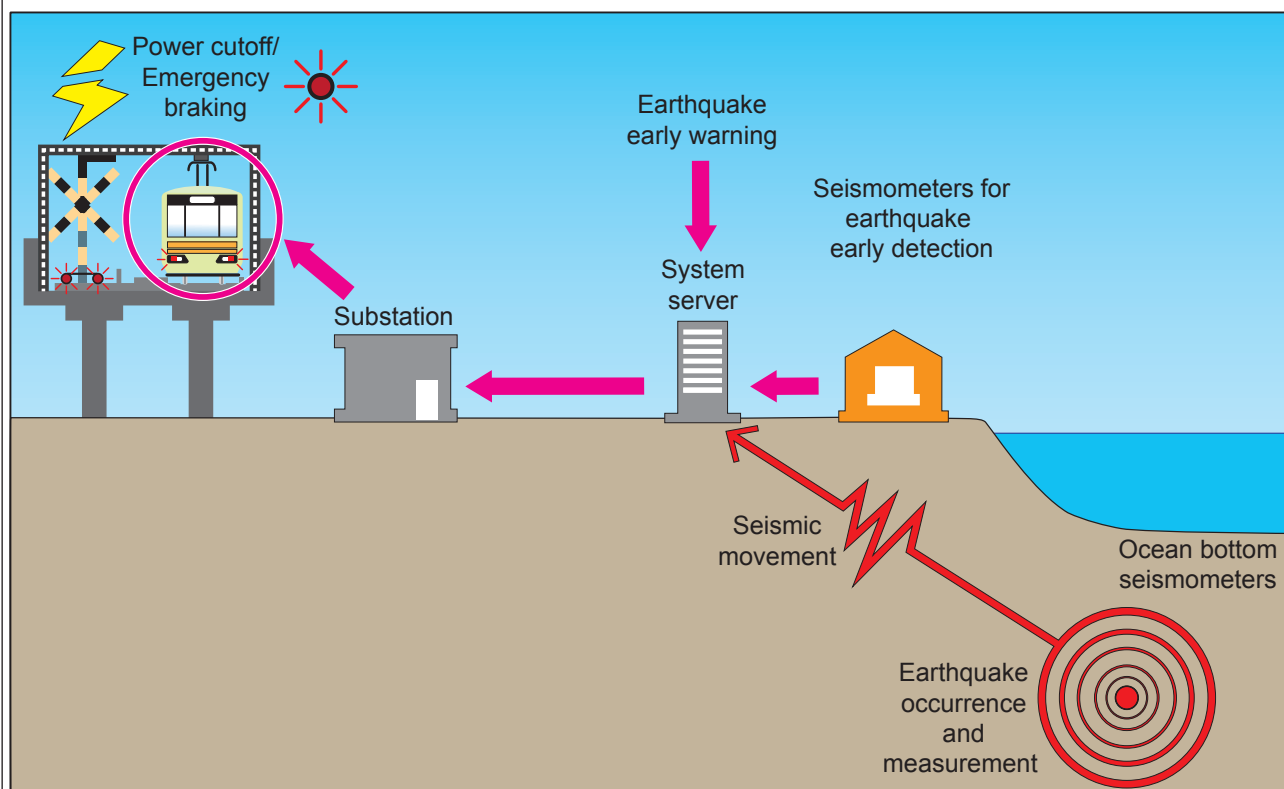


Source: <https://housing.com/news/palm-islands-dubai/>

Figure 9b: Dinorwig hydroelectric power scheme, North Wales



Figure 9c: Japan's earthquake-proof technology for railway systems



Source: <https://www.japan.go.jp/regions/resilientjapan/earthquake.html>



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