



GCSE
3110U10-1

FRIDAY, 17 MAY 2024 – AFTERNOON

GEOGRAPHY

Unit 1: Changing Physical and Human Landscapes

1 hour 30 minutes plus your additional time allowance

Surname

First Name(s)

Centre Number

Candidate Number

0

ADDITIONAL MATERIALS

In addition to this paper you may use a calculator and a ruler if required.

A Resource Folder.

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

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

Answer BOTH questions in Section A.

Answer ONE question from Section B.

Write your answers in the spaces provided in this booklet.

Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the additional 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.

Your ability to communicate and organise your ideas will be assessed in questions that are worth 6 or 8 marks. The accuracy of your writing will be assessed in your answer to question 2(b)(vi).

(Turn over)

SECTION A – CORE THEMES

Answer ALL questions in this section.

THEME 1: LANDSCAPES AND PHYSICAL PROCESSES

1 (a) Study the OS map and key in the Resource Folder.

(i) Give the grid reference for the bus station in Pontypridd.

Tick (✓) the correct answer from the box below.

[1 mark]

GRID REFERENCE	TICK(✓)
0789	
0790	
9007	
9107	

(Turn over)

- 1 (a)(ii) Estimate the size of Area A (woodland to the west of Pontypridd). Tick (✓) the correct answer from the box below. [1 mark]

SIZE OF AREA A	TICK (✓)
5 km ²	
1 km ²	
2 km ²	

- (b) Floods often happen when there is excess overland flow (surface runoff) in a drainage basin.
- (i) **Circle** TWO factors from the box below that are most likely to lead to increased overland flow. [2 marks]

Permeable rocks	Dense woodland
Steep slopes	Urban (built-up) area

(Turn over)

1 (b)(ii) Describe ONE impact on people of a river flood that you have studied. [2 marks]

1 (c) Study the information in the table below.

**NUMBER OF VISITORS TO BANNAU
BRYCHEINIOG NATIONAL PARK**

YEAR	NUMBER OF VISITORS (millions)
2013	4.88
2015	4.81
2017	5.05
2019	5.67

(i) Suggest ONE type of graph that would be most appropriate to represent this data and explain why you think it would be suitable. [2 marks]

(Turn over)

1 (c)(ii) What is meant by the term 'Honeypot site'?

[1 mark]

(Turn over)

END OF QUESTION 1

(Turn over)

THEME 2: RURAL-URBAN LINKS**2 (a) Study the table below.****UK INTERNET SHOPPING SALES 2012–2021 (billion £)**

YEAR	SALES (billion £)
2012	32
2014	45
2016	60
2018	70
2020	107
2021	120

(Turn over)

2 (a)(i) Calculate the percentage increase in UK internet shopping sales from 2012 to 2021. [2 marks]
Show your working.

Answer _____ **%**

(Turn over)

2 (a)(ii) Give TWO reasons for the growth in internet shopping. [4 marks]

Reason 1 _____

Reason 2 _____

(Turn over)

2 (a)(iii) Describe TWO impacts of increased internet shopping on UK high streets. [4 marks]

Impact 1 _____

Impact 2 _____

(Turn over)

2 (b) Study the map opposite.

- (i) Give the population of Tokyo. Tick (✓) the correct answer in the box below. [1 mark]

POPULATION OF TOKYO	TICK (✓)
Less than 10 million	
10 to 20 million	
20 to 30 million	
Greater than 30 million	

- (ii) Compare the location of the top ten global cities with the top ten largest cities. [3 marks]

(Turn over)

Study the map opposite.

2 (b)(iii) Suggest how the map shows that Paris is a global city. [2 marks]

**2 (b)(iv) Give TWO other features common to global cities.
[2 marks]**

Feature 1 _____

Feature 2 _____

END OF QUESTION 2

(Turn over)

SECTION B – OPTIONS

Answer ONE question in this section, EITHER Question 3 OR Question 4.

THEME 3: TECTONIC LANDSCAPES AND HAZARDS

3 (a) Study the information below.

The power of exploding volcanoes is measured using a scale from 0 to 8. The scale is called the Volcanic Explosivity Index (VEI).

VOLCANIC EXPLOSIVITY INDEX

VEI	HEIGHT OF SMOKE PLUME (km)	FREQUENCY OF ERUPTION
0	< 0.1	Persistent
1	0.1–1	Daily
2	1–5	Weekly
3	3–15	Few months
4	10–25	1 yr
5	20–35	10 yrs
6	> 30	100 yrs
7	> 40	1000 yrs
8	> 50	10 000 yrs

(Turn over)

3 (a)(i) Describe the relationship between the height of the smoke plume and the frequency of eruption. Use data from the table to support your answer.

[2 marks]

(ii) Explain why pyroclastic flows are a major hazard in highly explosive eruptions. [4 marks]

(Turn over)

3 (b)(i) Describe TWO strategies used to reduce the risks associated with volcanic eruptions. [4 marks]

Strategy 1 _____

Strategy 2 _____

(Turn over)

3 (b)(ii) Give ONE reason why it is often more difficult to protect people from earthquakes than from volcanic eruptions. [2 marks]

3 (c) Study the map opposite.

(i) Use the map to circle the correct answer in the sentences below. [4 marks]

The Philippines is located off the EAST / SOUTH / WEST coast of Vietnam.

The Philippines covers a distance of 1800 / 2000 / 2200 kilometres from north to south, between point X and point Y.

Manila is located at a latitude of 15° EAST / 15° NORTH / 121° NORTH.

Manila is located at a longitude of 15° EAST / 15° NORTH / 121° EAST.

(Turn over)

Study the information in the Fact Box below and opposite.

VOLCANIC ERUPTIONS IN THE PHILIPPINES

PHYSICAL FACTORS

- The Philippines consists of over 7500 islands, formed along a destructive plate margin.
- There are 23 active volcanoes. The eruption of Mount Pinatubo in 1991 killed 847 people and made approximately 10000 homeless.
- 100 000 people live in areas at risk from lahars, where heavy rain washes volcanic ash down from the mountains.
- The country experiences frequent earthquakes.

ECONOMIC FACTORS

- GDP per capita is \$3905 compared to \$35385 in Japan, which also has tectonic hazards.
- More than 20% of the population lives in poverty.
- Road networks and links between the many islands are poor.
- Farming and fishing are main sources of income in rural areas.

(Turn over)

SOCIAL FACTORS

- In some areas, only about 30% of children complete their education.
- Many people in the Philippines have no access to electricity, water, sanitation facilities and health care.
- Many of the poorest people live in poorly constructed homes. Around 4% of the population is homeless.
- Population density is very high around the capital city, Manila.

3 (c)(ii) Social and economic factors are more important than physical factors in making the population of the Philippines vulnerable to tectonic hazards. To what extent do you agree with this statement?

[8 marks]

Use the Fact Box to support your answer. You may refer to other examples you have studied.

(Turn over)

Additional space for Question 3(c)(ii) only:

(Turn over)

END OF QUESTION 3

(Turn over)

If you have answered Question 3 DO NOT answer Question 4

**THEME 4: COASTAL HAZARDS AND THEIR
MANAGEMENT**

4 (a) Study the data below.

**RETURN PERIODS FOR EXTREME SEA LEVELS (ESL)
AT LOWESTOFT, UK**

ESL (METRES)	2.02	2.38	2.55	2.77	2.93	3.10	3.50	3.69
RETURN PERIOD (YEARS)	1	5	10	25	50	100	500	1000

(i) Describe the relationship between the extreme sea levels (ESL) and the return periods. Use data from the table to support your answer. [2 marks]

(Turn over)

4 (b)(i) Describe ONE hard and ONE soft engineering strategy that can be used to reduce the risk of coastal flooding. [4 marks]

Hard engineering

(Turn over)

4 (c) Study the map opposite.

The location of the Philippines, a group of islands in the Pacific Ocean, means that it is in the path of frequent violent typhoons (hurricanes). These storms cause severe flooding, particularly in coastal areas.

- (i) Use the map to **circle** the correct answer in the sentences below. [4 marks]

The Philippines is located off the **EAST / SOUTH / WEST** coast of Vietnam.

The Philippines covers a distance of **1800 / 2000 / 2200** kilometres from north to south, between point X and point Y.

Manila is located at a latitude of **15° EAST / 15° NORTH / 121° NORTH**.

Manila is located at a longitude of **15° EAST / 15° NORTH / 121° EAST**.

(Turn over)

Study the information in the Fact Box below and opposite.

FLOOD AND STORM DAMAGE FROM TYPHOONS IN THE PHILIPPINES

PHYSICAL FACTORS

- **The Philippines consists of over 7500 islands. The country experiences at least 20 typhoons each year.**
- **Typhoons create storm surges raising sea levels. Strong winds drive massive waves onto the coastline. Typhoon Haiyan in 2013 caused 6352 deaths with a further 1771 missing.**
- **Climate change is increasing the strength and frequency of storms and severe flooding.**

ECONOMIC FACTORS

- **GDP per capita is \$3905 compared to \$35 385 in Japan, which also has coastal flooding hazards.**
- **More than 20% of the population lives in poverty.**
- **Road networks and links between the many islands are poor.**
- **Farming and fishing are main sources of income in rural areas.**

(Turn over)

SOCIAL FACTORS

- In some areas, only about 30% of children complete their education.
- Many people in the Philippines have no access to electricity, water, sanitation facilities and health care.
- Many of the poorest people live in poorly constructed homes. Around 4% of the population is homeless.
- Population density is very high around the capital city, Manila.

4 (c)(ii) Social and economic factors are more important than physical factors in making the population of the Philippines vulnerable to coastal flooding. To what extent do you agree with this statement?

Use the Fact Box to support your answer. You may refer to other examples you have studied.

[8 marks]

(Turn over)

Additional space for question 4(c)(ii) only:

(Turn over)

END OF QUESTION 4

END OF PAPER

(Turn over)

QUESTION NUMBER	ADDITIONAL PAGE, IF REQUIRED. WRITE THE QUESTION NUMBER(S) IN THE LEFT-HAND MARGIN.

(Turn over)

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(Turn over)

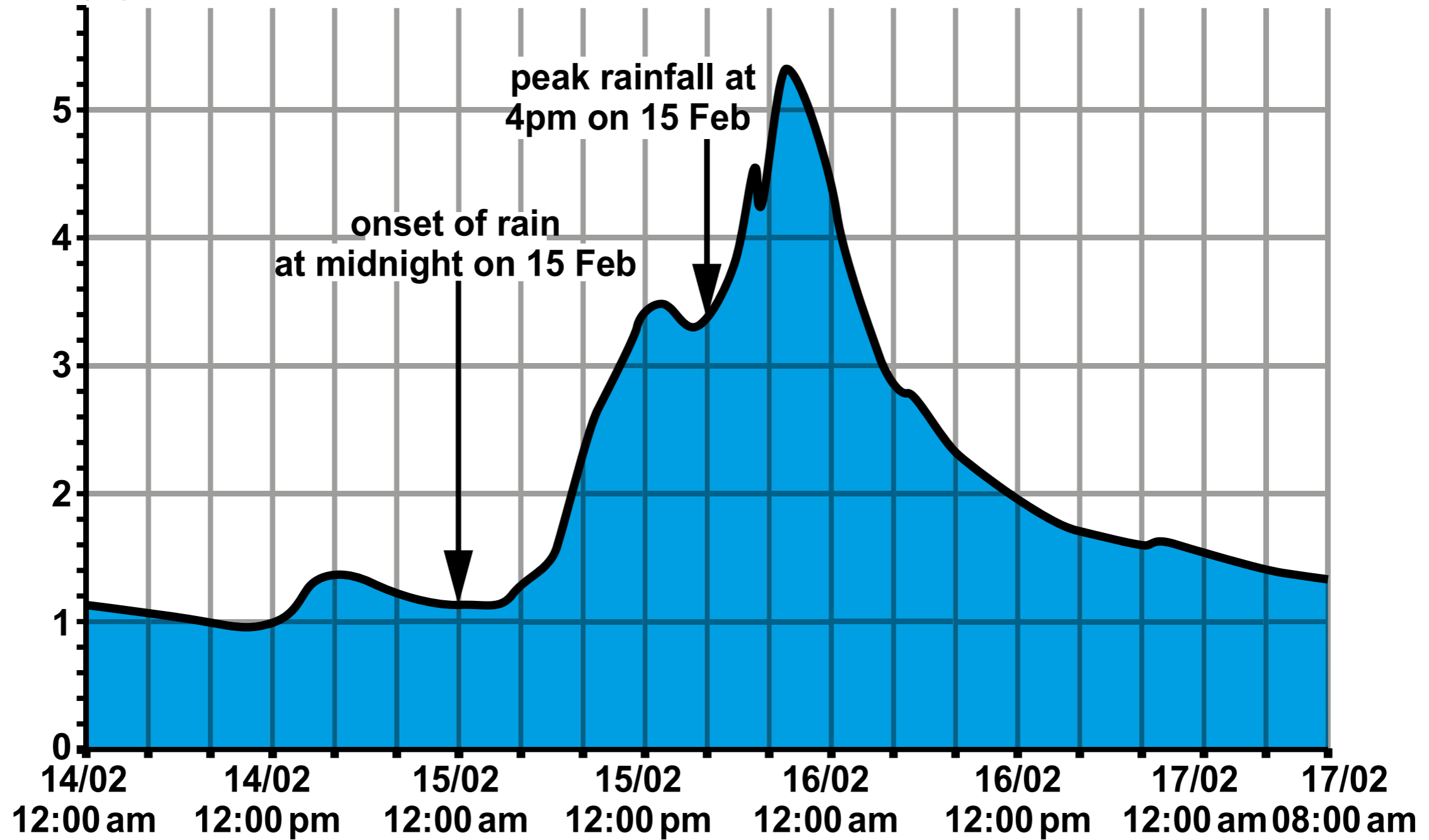
QUESTION NUMBER	ADDITIONAL PAGE, IF REQUIRED. WRITE THE QUESTION NUMBER(S) IN THE LEFT-HAND MARGIN.

For Examiner's use only		
	Maximum Mark	Mark Awarded
Question 1	28	
Question 2	28	
Writing accurately	3	
Question 3	24	
Question 4	24	
Total	83	

either
or

HYDROGRAPH FOR THE RIVER TAFF AT PONTYPRIDD DURING STORM DENNIS, 2020

River level (m)



Date and time

FLOODING IN PONTYPRIDD TOWN CENTRE FOLLOWING STORM DENNIS, 2020

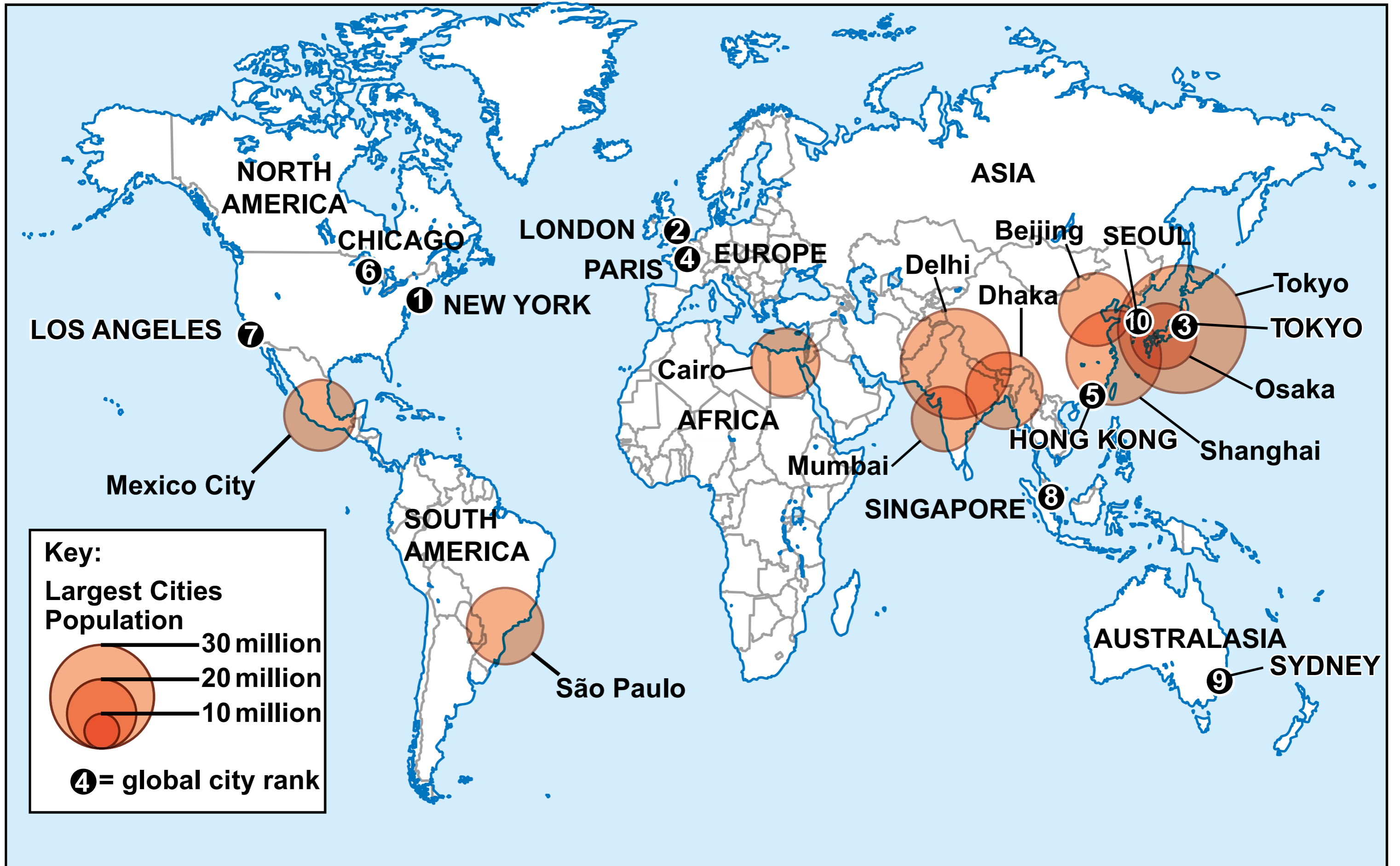


In February 2020, three severe storms affected Wales, Storm Dennis was the second storm.

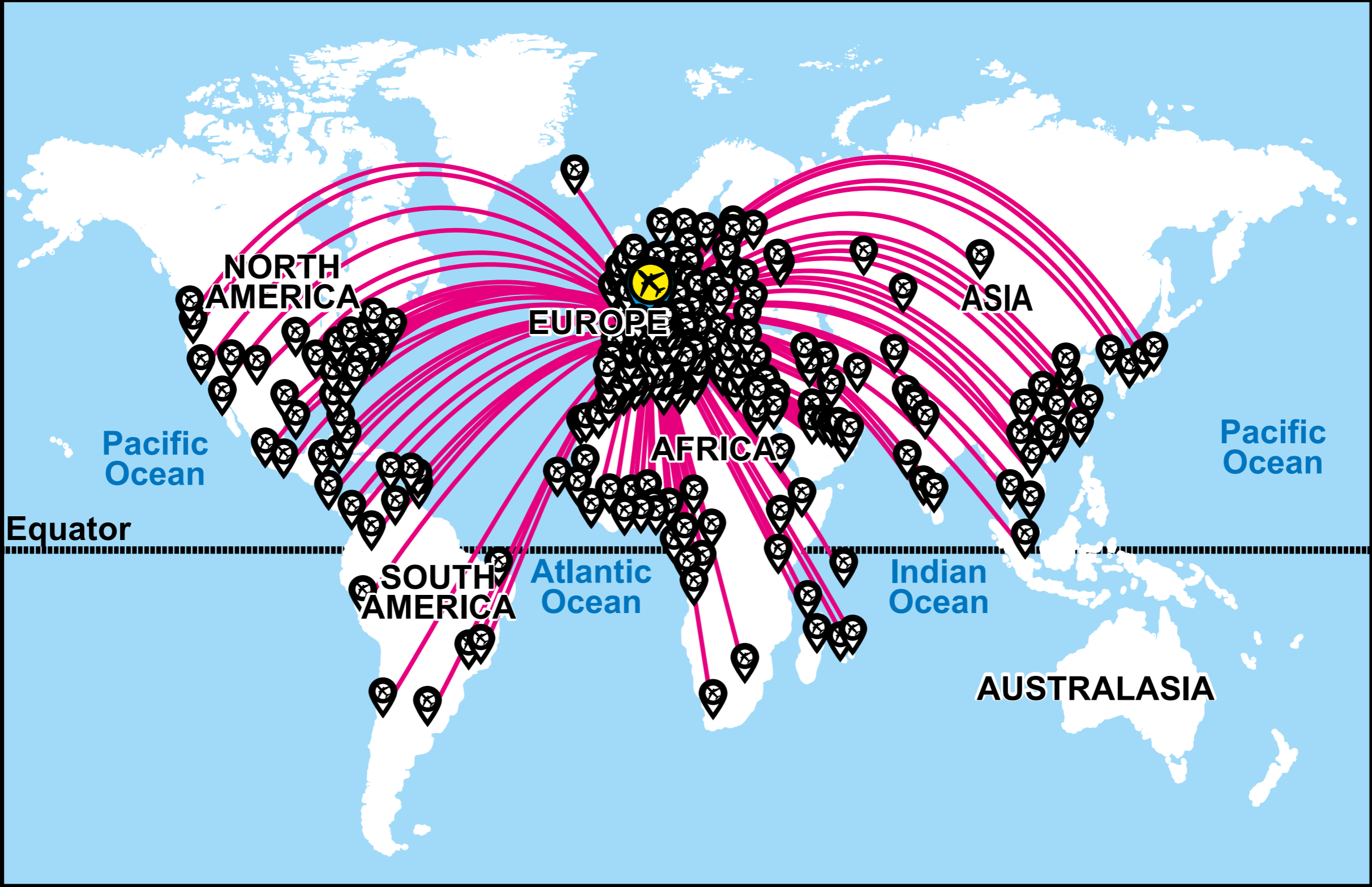
VISITOR PRESSURE IN BANNAU BRYCHEINIOG NATIONAL PARK



THE WORLD'S 10 LARGEST CITIES AND TOP 10 GLOBAL CITIES



FLIGHT PATHS TO AND FROM PARIS CDG INTERNATIONAL AIRPORT



CHALLENGES FACING GLOBAL CITIES

TOKYO, JAPAN



DELHI, INDIA



RIO DE JANEIRO, BRAZIL



LOCATION OF THE PHILIPPINES



VOLCANIC ERUPTIONS IN THE PHILIPPINES



LOCATION OF THE PHILIPPINES



FLOOD AND STORM DAMAGE FROM TYPHOONS IN THE PHILIPPINES

