



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 on 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).

(Turn over)

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)

5

**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 km²	
1 km²	
2 km²	

(Turn over)

1 (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]

(Turn over)

Study the hydrograph opposite.

1 (b)(iii) Use the hydrograph to describe how the river responded to Storm Dennis between 14th and 17th February. [4 marks]

(Turn over)

(Turn over)

Study the photograph opposite.

1 (b)(iv) Analyse the factors that may have contributed to the flooding in Pontypridd during Storm Dennis.

[6 marks]

Use evidence from the resources opposite pages 8 and 10 and the OS map in the Resource Folder.

(Turn over)

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

(Turn over)

1 (c)(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)

1 (d) Explain why strategies used to manage landscapes can cause disagreement between different users. [6 marks]

(Turn over)

Additional space for Question 1(d) only:

(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)

(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	

(Turn over)

2 (b)(ii) Use the map opposite page 27 to 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]

(Turn over)

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

Feature 1 _____

Feature 2 _____

(Turn over)

2 (b)(vi) Study the images opposite.

Evaluate the challenges facing global cities. [6 marks]

You may use the photos or other examples you have studied to support your answers.

The accuracy of your writing will be assessed in your answer to this question. [3 marks]

(Turn over)

Additional space for Question 2(b)(vi) only:

(Turn over)

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 on the following
page.**

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

(Turn over)

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]

(Turn over)

(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)

(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]

(Turn over)

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, opposite and on page 47.

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 10 000 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.**

(Turn over)

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.**

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.**

(Turn over)

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)

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

(Turn over)

4 (a)(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)

Soft engineering

(Turn over)

4 (b)(ii) Give ONE reason why some UK coastlines are protected from coastal flooding whilst others are not. [2 marks]

(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.

(Turn over)

**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 opposite, below and on the following page.

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.**

(Turn over)

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.**

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.**

(Turn over)

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)

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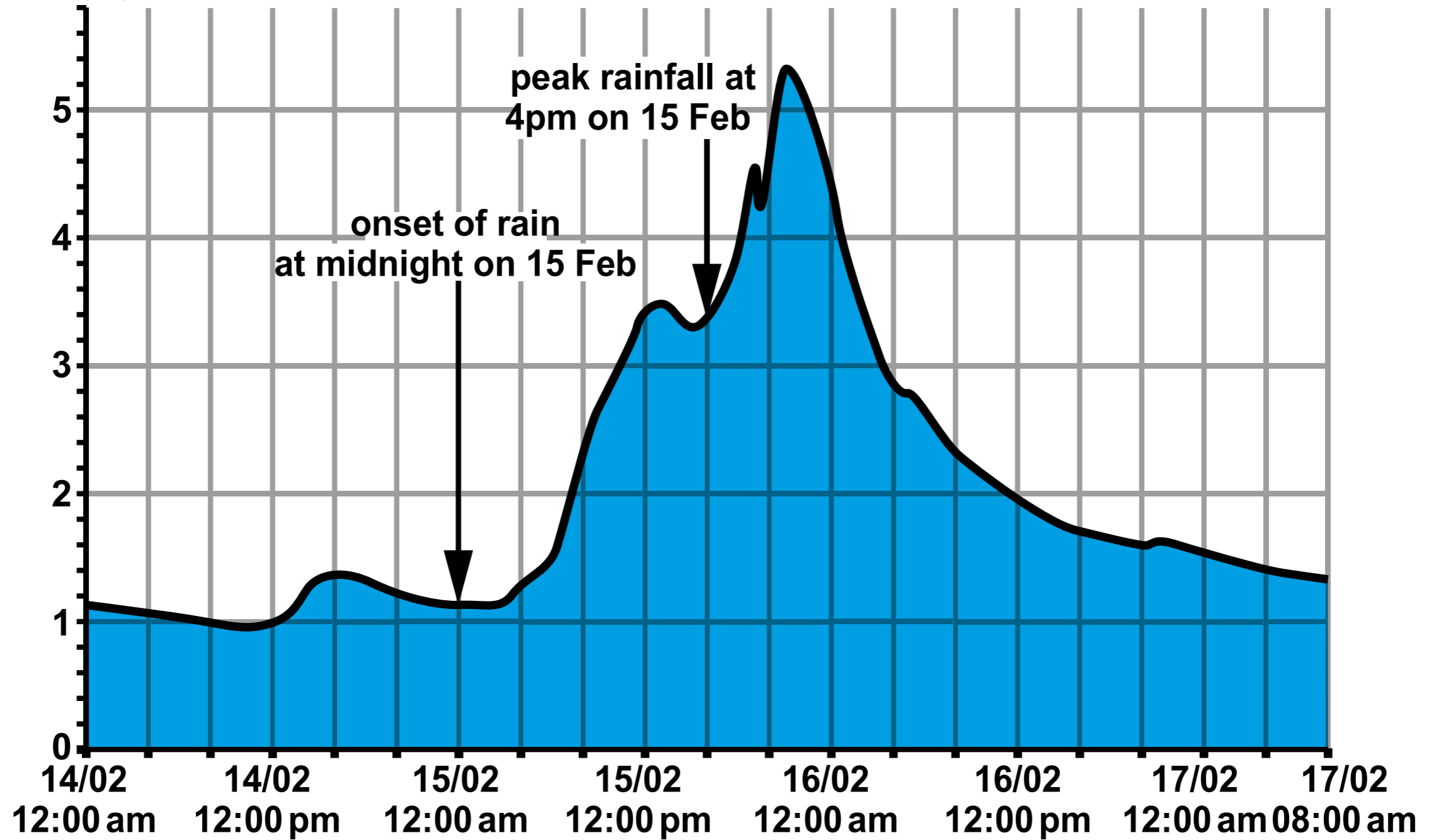
Question Number	Additional page, if required. Write the question number(s) in the left-hand margin.

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

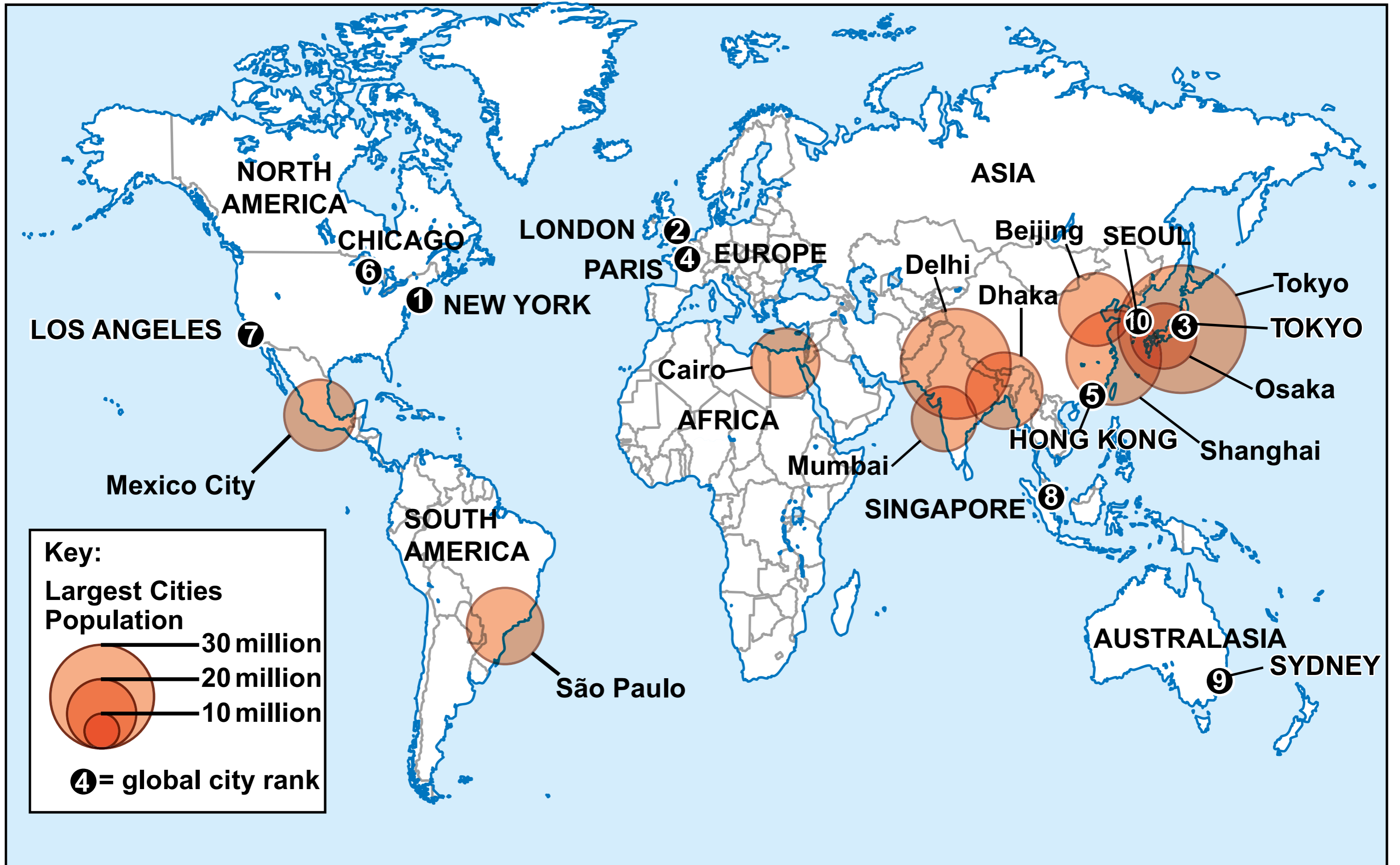


In February 2020, three severe storms affected Wales, Storm Dennis was the second storm.

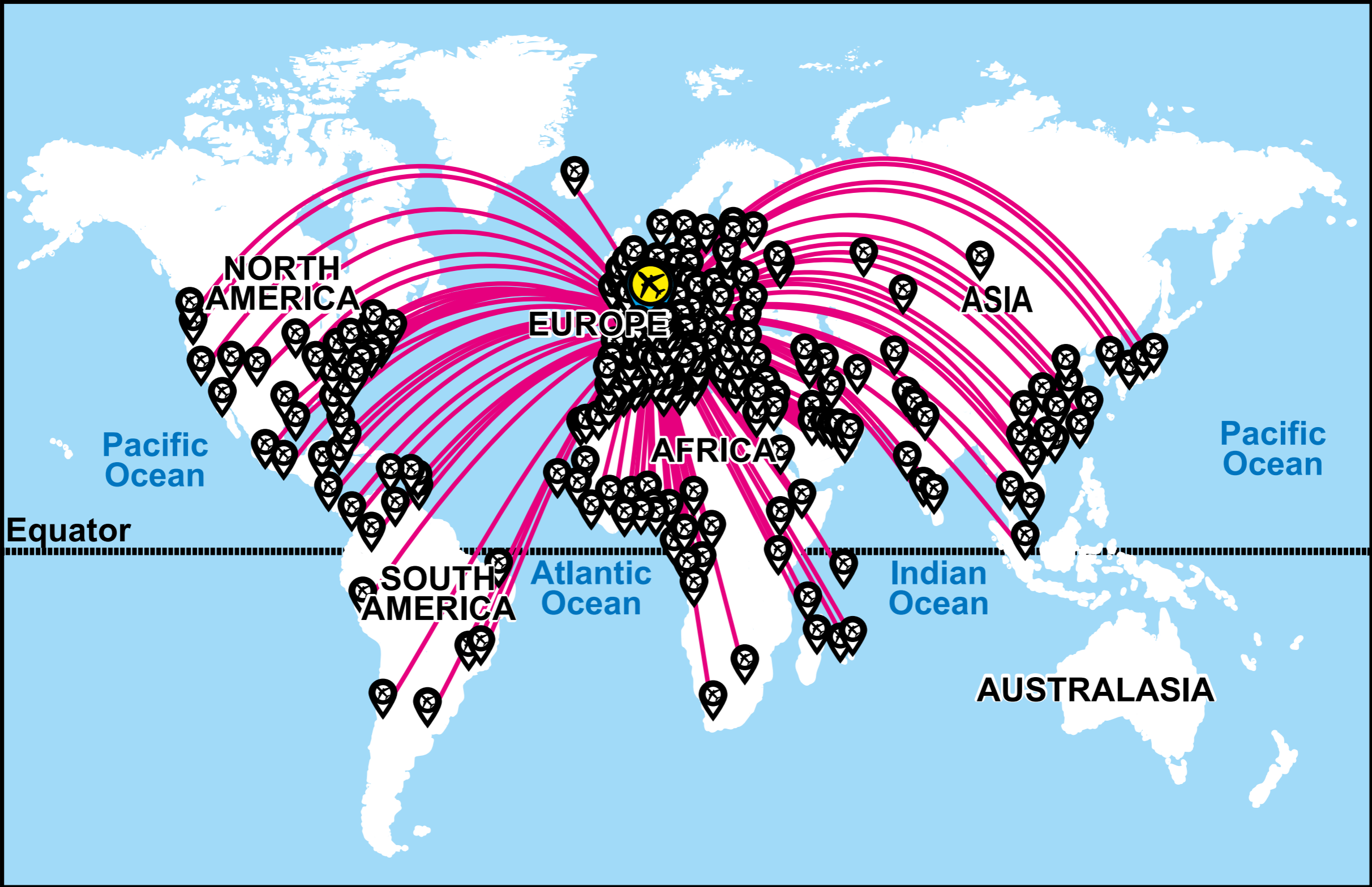
VISITOR PRESSURE IN BANNAU BRYCHEINIOG NATIONAL PARK



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

