



GCE A Level

A110U20-1

WEDNESDAY, 8 JUNE 2022 - AFTERNOON

**GEOGRAPHY – A level component 2
Global Systems and Global Governance**

2 hours plus your additional time allowance

ADDITIONAL MATERIALS

In addition to this examination paper, you will need ONE WJEC pink 16-page answer booklet and a calculator.

INSTRUCTIONS TO CANDIDATES

Answer questions 1 AND 2 and EITHER 3 OR 4 in Section A.

Answer questions 5 AND 6 and EITHER 7 OR 8 in Section B.

Answer ONE question in Section C.

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

Write your answers in the separate answer booklet provided.

Write your name, centre number and candidate number in the spaces at the top of the answer booklet.

(Turn over)

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.

(Turn over)

SECTION A: GLOBAL SYSTEMS – WATER AND CARBON CYCLES

Answer questions 1 AND 2 and EITHER 3 OR 4.

Make the fullest possible use of examples in support of your answers.

- 1 (a) (i) Use FIGURE 1 opposite to calculate the percentage of carbon consumed by grassland animals which is then transferred to the soil.**

Write the answer in your booklet. Show your working. [2 marks]

- (ii) Analyse the evidence in FIGURE 1 which shows the system is in equilibrium. [3 marks]**

- (iii) Suggest TWO reasons why carbon losses due to water flows may increase if the vegetation in FIGURE 1 is removed. [5 marks]**

(Turn over)

- 2 (a) Use FIGURE 2 opposite to analyse changes in the extent of Arctic sea ice over time. [5 marks]**
- (b) Outline how long-term changes in the size of Earth's cryosphere (ice store) affects the size of other major water stores. [5 marks]**

EITHER,

- 3 'Recent increases in the atmospheric carbon store are the main cause of local water shortages.' Discuss. [20 marks]**

OR,

- 4 'Climate is the most important factor influencing the formation of peatlands and their survival.' Discuss. [20 marks]**

(Turn over)

SECTION B: GLOBAL GOVERNANCE – CHANGE AND CHALLENGES

Answer questions 5 AND 6 and EITHER 7 OR 8.

Make the fullest possible use of examples in support of your answers.

- 5 (a) (i) Describe the pattern shown in FIGURE 3 opposite. [3 marks]**
- (ii) Outline ONE limitation of the choropleth map used in FIGURE 3. [2 marks]**
- (iii) Suggest ways in which poor quality internet connectivity could affect rural-urban migration flows for some countries in FIGURE 3. [5 marks]**

(Turn over)

- 6 (a) (i) Use FIGURE 4 opposite to calculate the value for X to two decimal places.**

Write the value for X in your answer booklet.

[1 mark]

- (ii) Use FIGURE 4 to analyse variations in the estimated mass of floating plastic waste.**

[4 marks]

- (b) Outline why large plastic garbage patches have developed in some ocean areas. [5 marks]**

EITHER,

- 7 'Powerful countries tend to ignore the international rules they have agreed to follow.' To what extent do you agree?**

Refer to both ocean governance and migration in your answer. [20 marks]

OR,

- 8 'International migration has always been the most important driver of global economic growth over time.' To what extent do you agree?**

Refer to both migration and ocean governance in your answer. [20 marks]

(Turn over)

SECTION C: 21st CENTURY CHALLENGES

Answer EITHER question 9 OR question 10.

In your answer to either question 9 OR 10, you should use FIGURES 5, 6, 7 and 8 and apply your knowledge and understanding from across the whole specification.

EITHER,

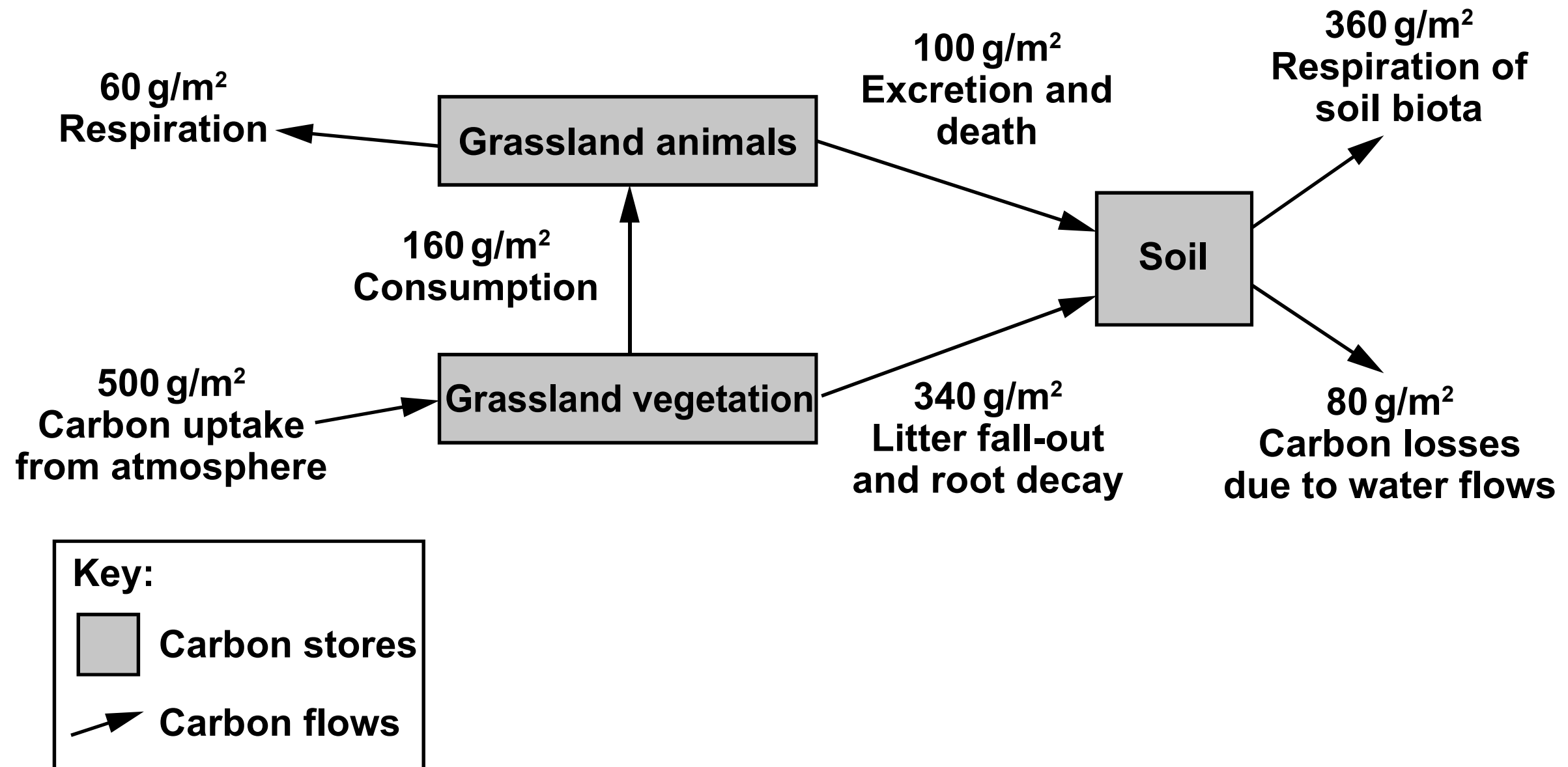
- 9 Evaluate the economic risks that globalisation brings to different places and societies. [30 marks]**

OR,

- 10 Evaluate ways of reducing people's vulnerability to the negative impacts of globalisation. [30 marks]**

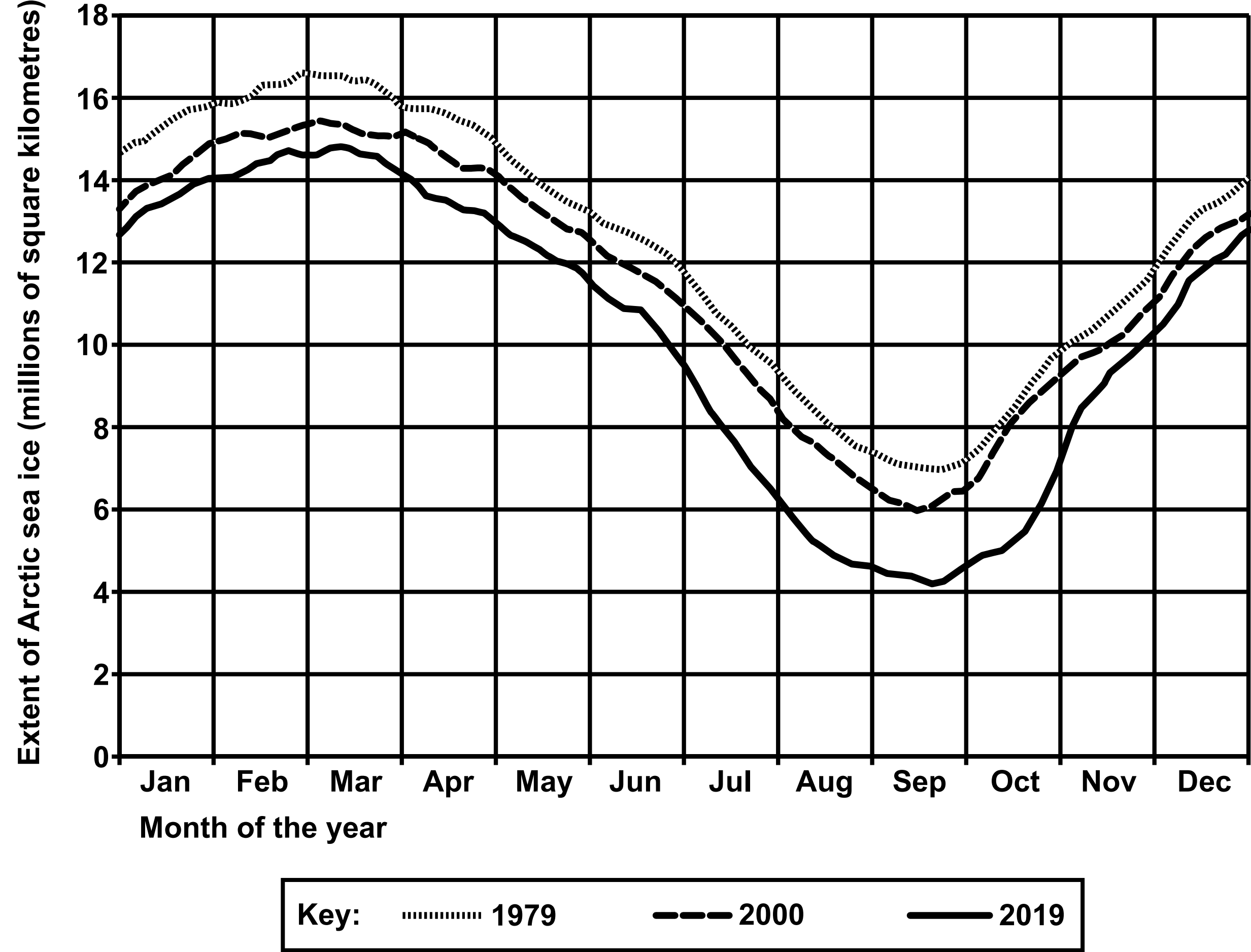
END OF PAPER

**FIGURE 1: ANNUAL CARBON FLOWS AND STORES IN A TEMPERATE GRASSLAND ECOSYSTEM
(GRAMS OF CARBON PER SQUARE METRE)**



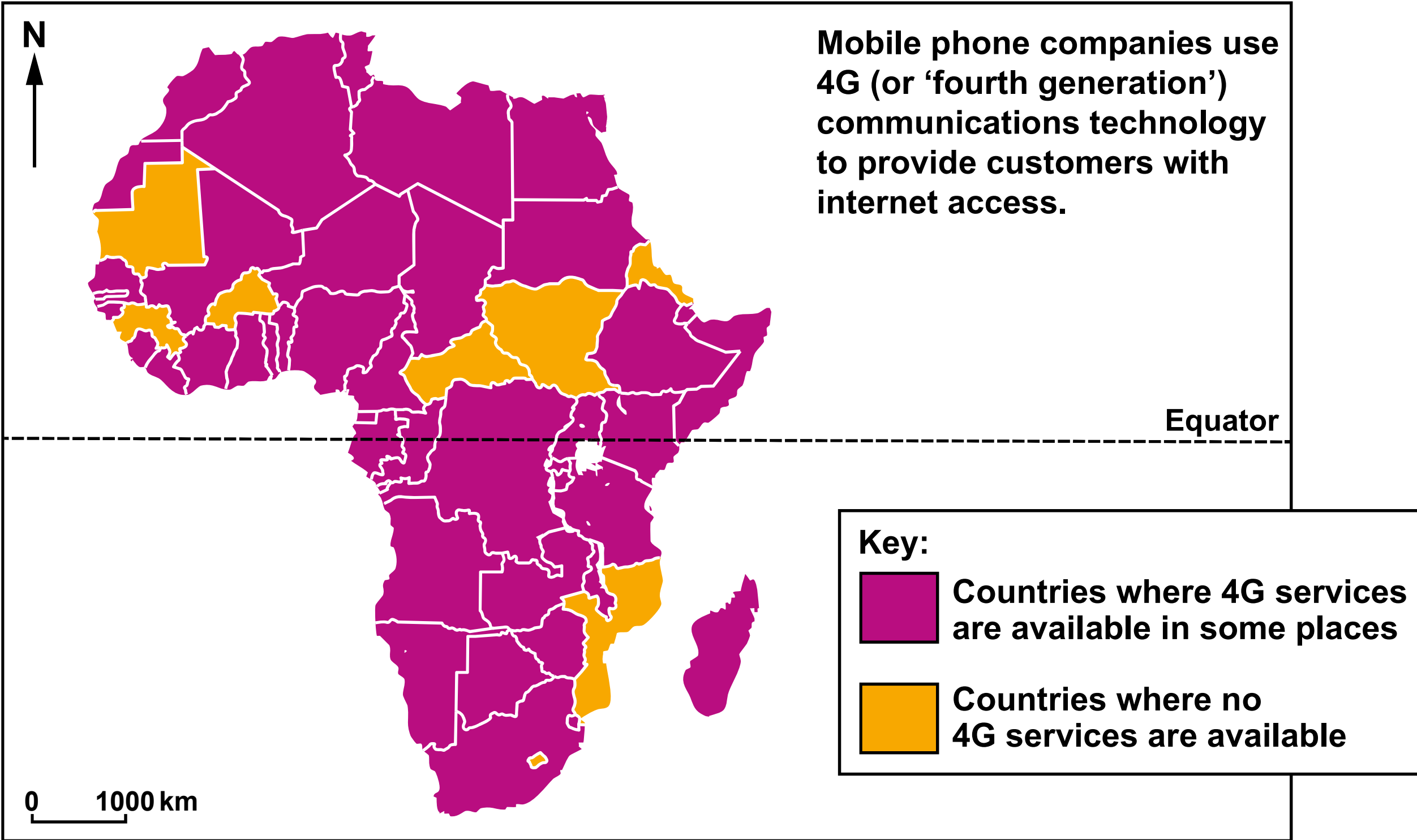
Source: Adapted from: <https://nature.berkeley.edu>

FIGURE 2: MONTHLY CHANGES IN THE EXTENT OF ARCTIC SEA ICE IN 1979, 2000 AND 2019



Source: Adapted from: <https://www.esrl.noaa.gov>

FIGURE 3: THE AVAILABILITY OF 4G COMMUNICATIONS TECHNOLOGY IN AFRICAN COUNTRIES, 2019



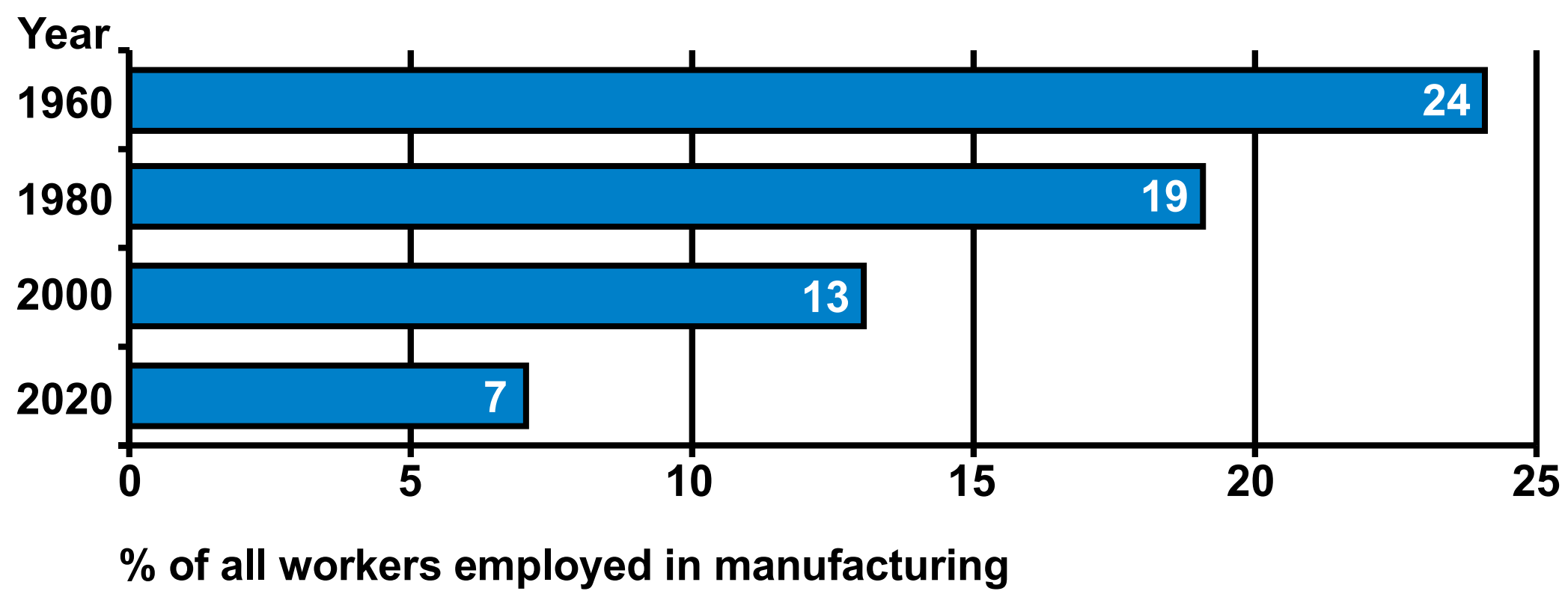
Source: <https://www.thefastmode.com>

FIGURE 4: ESTIMATED MASS OF FLOATING PLASTIC WASTE IN SELECTED MARINE AREAS

MARINE AREA	SURFACE WATER AREA (MILLION km²)	ESTIMATED MASS OF FLOATING PLASTIC WASTE (MILLION kg)	MASS OF FLOATING PLASTIC WASTE PER km² OF SURFACE WATER AREA (kg)
Indian Ocean	70.5	59.1	0.84
Mediterranean Sea	2.9	23.1	7.97
North Atlantic	41.5	56.4	1.36
South Atlantic	40.2	96.4	X
North Pacific	77.0	12.7	0.16
South Pacific	84.7	21.0	0.25

Source: Adapted from: <https://ourworldindata.org/plastic-pollution>

FIGURE 5: THE PERCENTAGE OF ALL WORKERS IN THE USA EMPLOYED IN MANUFACTURING, 1960 - 2020



Source: <https://fred.stlouisfed.org/series/USAPEFANA>

FIGURE 6: A RECENT JAMAICAN NEWSPAPER CARTOON ABOUT THE MIGRATION 'BRAIN DRAIN' AND JAMAICA'S ECONOMY



Source: www.jamaicaobserver.com

FIGURE 7: ANNUAL CHANGES IN GLOBAL GROSS DOMESTIC PRODUCT (GDP) AND ATMOSPHERIC CO₂ 1970-2019

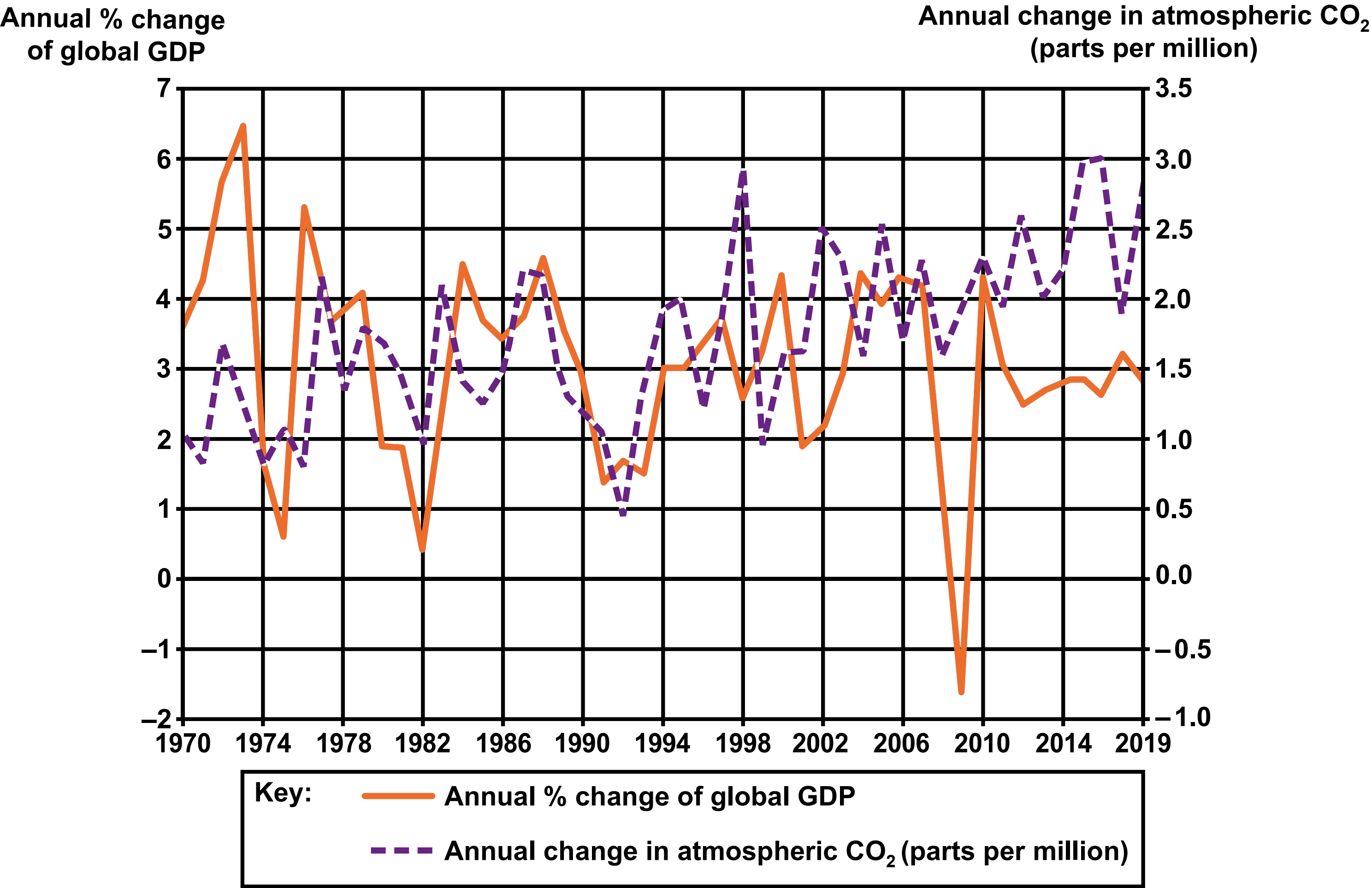
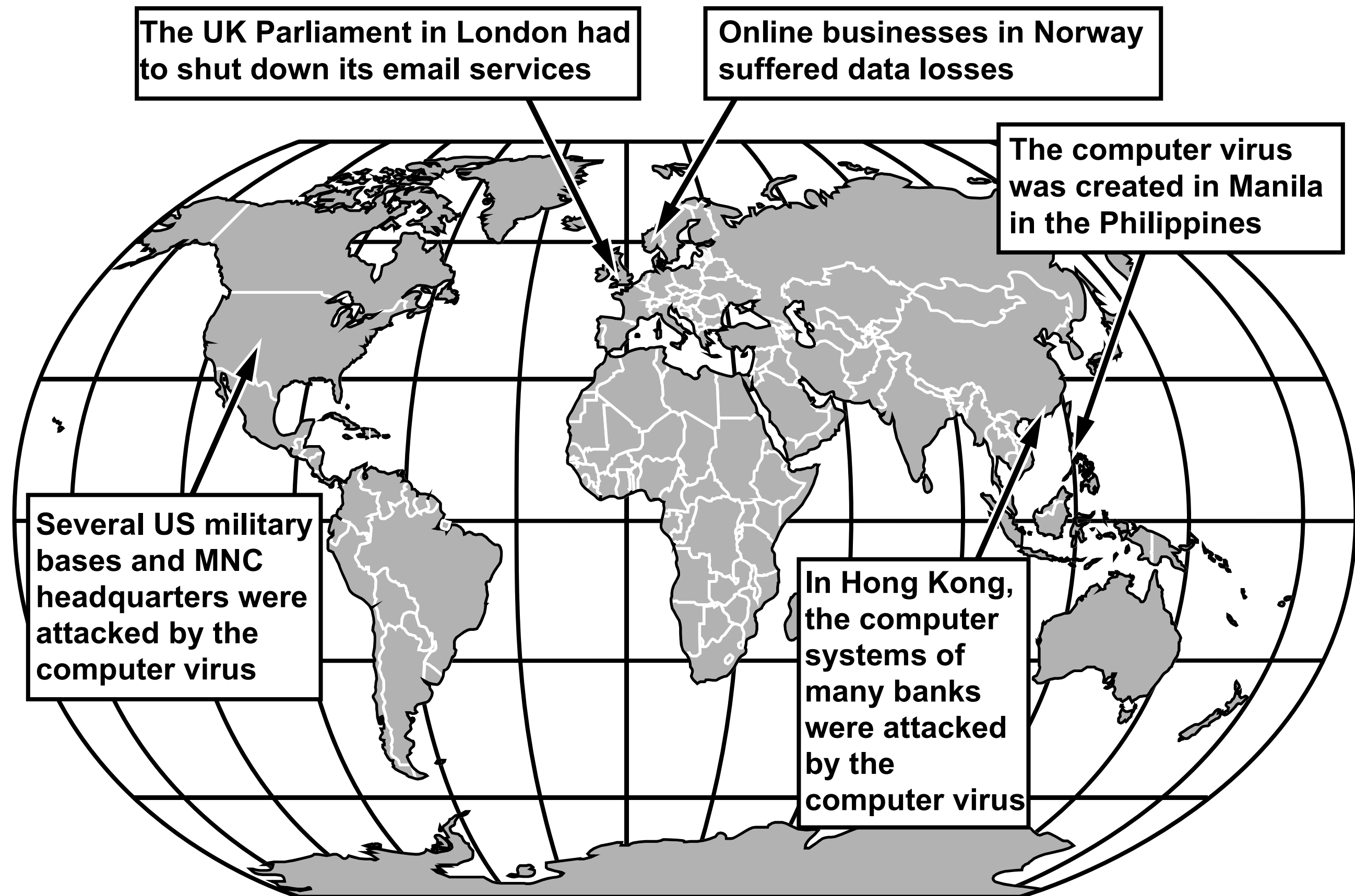


FIGURE 8: SELECTED IMPACTS OF THE SPREAD OF THE 'LOVE BUG' COMPUTER VIRUS, MAY 2000



'Love Bug' was a computer virus which infected up to 50 million computers during May 2000 in the form of an email message with the subject line 'I LOVE YOU'. The global economic cost is estimated to have been around US\$8 billion.