OXFORD

INTERNATIONAL
AQA EXAMINATIONS

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

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Forename(s) _____

Candidate signature _____

I declare this is my own work.

# INTERNATIONAL AS

# GEOGRAPHY

## Paper 1A Physical Geography 1 Hot Desert Systems and Landscapes

Monday 3 January 2022 07:00 GMT Time allowed: 1 hour 30 minutes

**Materials**

For this paper you must have:
- a ruler with millimetre measurements
- a calculator, which you are expected to use where appropriate.

**Instructions**
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- All working must be shown.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

**Information**
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

| For Examiner's Use | |
|---|---|
| Question | Mark |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| **TOTAL** | |

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## Section A – Living with Hazards

Answer **all** questions in the spaces provided.

You must answer **all** questions in **Section A**.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD 

WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

**0 1 . 1** Which of the following describes the theory of magma plumes?

**[1 mark]**

**A** Concentrated areas of radioactive decay in the mantle create localised thermal currents of magma. ⬭

**B** Divergence of tectonic plates causes a chain of submarine volcanoes on the ocean floor. ⬭

**C** Subduction of oceanic plates creates crustal melting, creating regions of low density magma. ⬭

**D** Tectonic plates diverge and magma rises. As the upper mantle and lithosphere are heated, they expand. ⬭

**0 1 . 2** Which of the following describes the characteristics of multi-hazardous environments?

**[1 mark]**

**A** Areas that receive aftershocks from an earthquake. These areas are prepared and deal with the hazards successfully. ⬭

**B** Places that are found away from tectonic plate margins that experience low magnitude earthquakes. ⬭

**C** Places that suffer yearly from the same type of hazard due to the nature or location of the landscape around them. ⬭

**D** Two or more hazards occur in these areas. Societies in these locations are vulnerable to the hazards presented. ⬭

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**0 1 . 3** Which of the following can **all** occur at conservative plate margins?

**[1 mark]**

**A** Earthquakes occur; rocks fracture creating fault lines; aftershocks happen until the crust settles. ⬭

**B** Mild volcanic eruptions of ash; fold mountains are created; subduction of oceanic crust occurs. ⬭

**C** Powerful shallow focus earthquakes occur; highly explosive volcanic eruptions happen; tsunamis are triggered. ⬭

**D** Seismic waves radiate into the focus; ground shaking occurs; fold mountains are created from the plate movement. ⬭

**0 1 . 4** The Park model outlines:

**[1 mark]**

**A** a cycle of events before, during and after a hazard, including mitigation and preparation. ⬭

**B** a timeline of a hazard and its impact on the quality of life following the hazard event. ⬭

**C** how rehabilitation and preparedness support those who have been affected by a tropical storm. ⬭

**D** the typical stages in preparing for a hazard in low income countries. ⬭

**0 1 . 5** The following two statements:

- developing planning regulations, such as building from natural products that would not pollute if they burn;
- allowing wildfires to take their natural course to benefit ecosystems;

are both examples of:

**[1 mark]**

**A** adapting to wildfires. ⬭

**B** mitigating against wildfires. ⬭

**C** preparing for wildfires. ⬭

**D** preventing wildfires. ⬭

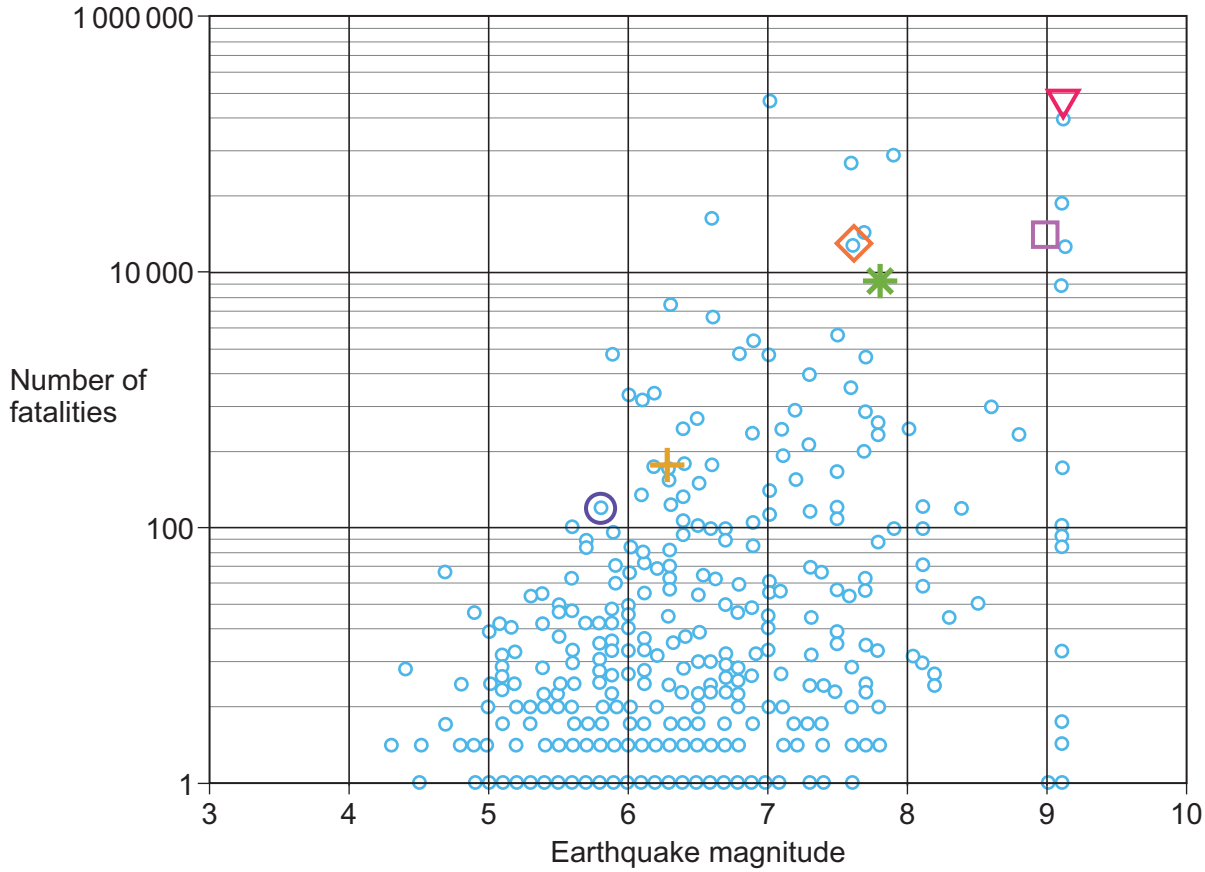
**5**

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**Figure 1** shows global data for earthquakes with at least one fatality between 1997 and 2018.

**Figure 1**




© Cardiff University

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**0 2** Analyse the data shown in **Figure 1**.

**[6 marks]**

Extra space

6

**Turn over for the next question**

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**0 3** ‘Types of volcanic eruptions can be explained through knowledge and understanding of tectonic plate margins.’

Discuss the extent to which you agree with this statement.

**[9 marks]**

Extra space

Do not write outside the box

9

**0 4** ‘The success of a response to a tropical storm is most influenced by hazard perception and its cultural determinants in the areas affected.’

Evaluate this statement with reference to **one or more** tropical storms you have studied.

**[20 marks]**

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Extra space

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20

**END OF SECTION A**

**Turn over for Section B**

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## Section B – Hot Desert Systems and Landscapes

Answer **all** questions in the spaces provided.

You must answer **all** questions in **Section B**.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≈ ✓

If you want to change your answer you must cross out your original answer as shown. ⊠

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⊠

**0 5 . 1** Which of the following describes weathering in hot desert environments?

**[1 mark]**

**A** Chemical processes dominate the disintegration of rocks at their origin as there are high rates of both evaporation and precipitation. ⬭

**B** Flash flood events and periods of snowmelt allow water action to erode landscapes, transport materials and deposit them elsewhere. ⬭

**C** Mechanical action caused by the expansion and contraction of rock surfaces is the dominant process. ⬭

**D** The winds present in deserts are responsible for the formation of many features and landscapes as particles in wind abrade surfaces. ⬭

**0 5 . 2** The areas most at risk from desertification are found in:

**[1 mark]**

**A** areas where vegetation cover has been increased. ⬭

**B** coastal deserts with low potential evapotranspiration (PET) rates. ⬭

**C** hyper-arid deserts, often in the most central regions. ⬭

**D** semi-arid regions, on the margins of existing deserts. ⬭

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**0 5 . 3** ‘Transported fluvial sediment that is washed out through adjoining wadis, forming continuous areas of lowland sediment.’

This statement describes the development of which of the following desert features?

**[1 mark]**

**A** Bahadas ⬭

**B** Deflation hollows ⬭

**C** Inselbergs ⬭

**D** Pediments ⬭

**0 5 . 4** Which of the following are **all** human causes of desertification?

**[1 mark]**

**A** Atmospheric cold currents; climate change; tourism in desert areas. ⬭

**B** Atmospheric high pressure; continentality; overirrigation of crops. ⬭

**C** Overcultivation; population increase; the collection of fuelwood. ⬭

**D** Overgrazing livestock; sand storms; food insecurity. ⬭

**0 5 . 5** Which of the following explains how continentality causes aridity?

**[1 mark]**

**A** Areas adjacent to coastlines can experience cold ocean currents leading to aridity. The air flowing to these areas is colder than the continent’s surface. This air sinks, creating fog. ⬭

**B** Aridity is higher within the interior of continents as there is little influence from airstreams over oceans. As air moves inland, it loses moisture and so there is less precipitation. ⬭

**C** Continental areas are more affected by the convergence of the air from circulation cells. These areas experience low pressure. The rising air warms and becomes more arid. ⬭

**D** The central areas of continents often have mountain areas. These mountains force air to rise and water vapour to condense. Rainfall occurs on the leeward side of these mountains. ⬭

5

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**Figure 2a** shows an area around the mouth of the Salado River in the Atacama Desert, Chile, before flooding in March 2015.

**Figure 2b** shows the same area after flooding in March 2015.

**Figure 2a**

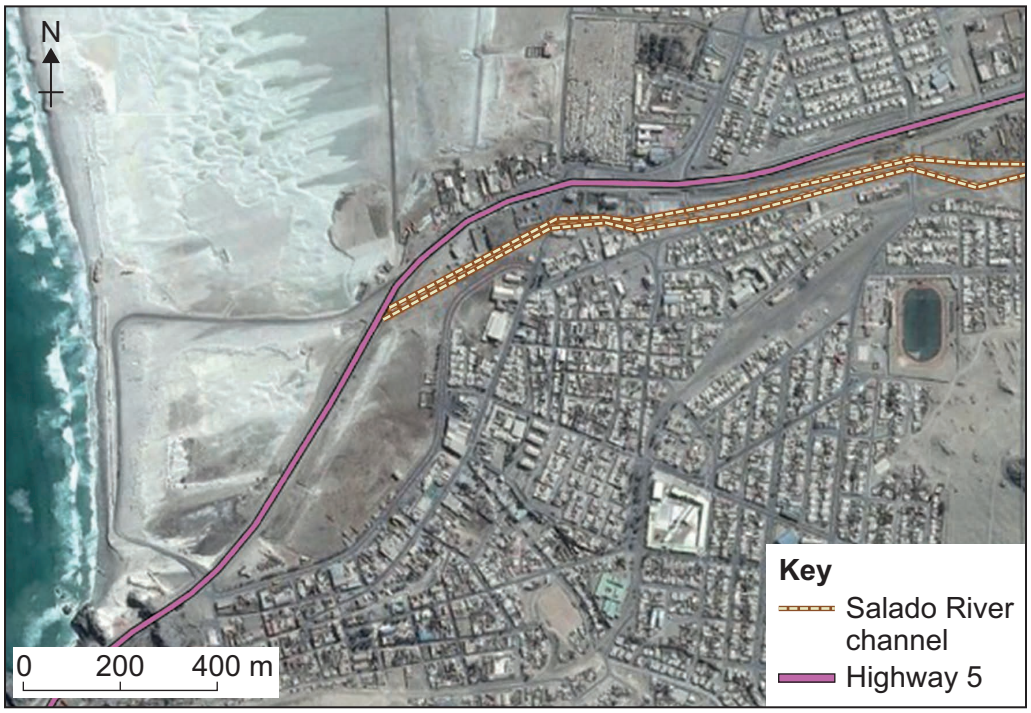
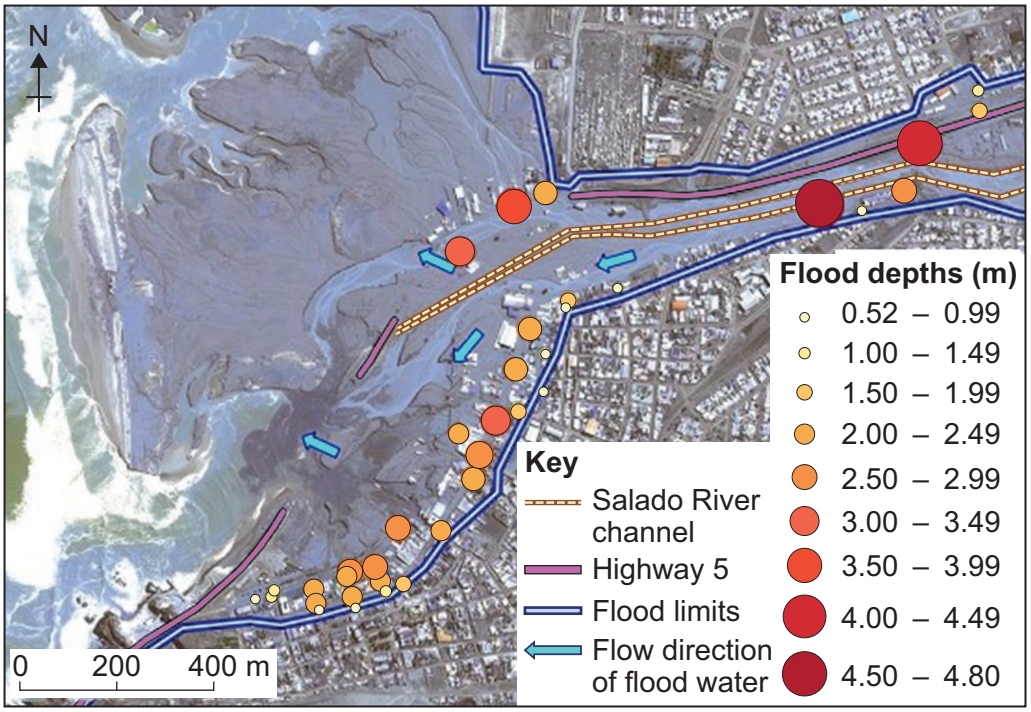



**Figure 2b**



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**0 6** Analyse the data shown in **Figure 2a** and **Figure 2b**.

**[6 marks]**

Extra space

6

**Turn over for the next question**

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**0 7** Evaluate the role of water in creating desert landforms.

**[9 marks]**

Extra space

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9

**0 8** ‘Current **and** future distributions of hot desert environments are shaped by natural causes, such as atmospheric high pressure, and not by human activity.’

To what extent do you agree with this statement?

**[20 marks]**

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**END OF QUESTIONS**

20

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**ANSWER IN THE SPACES PROVIDED**

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