



Oxford Cambridge and RSA

## A Level Geography

### H481/01 Physical Systems

**Monday 4 June 2018 – Morning**

**Time allowed: 1 hour 30 minutes**



**You must have:**

- the Resource Booklet (inserted)
- the OCR 12-page Answer Booklet (OCR12 sent with general stationery)

**You may use:**

- a scientific or graphical calculator
- a ruler (cm/mm)

#### **INSTRUCTIONS**

- The separate Resource Booklet will be found inside this document.
- Use black ink. You may use an HB pencil for graphs and diagrams.
- Section A: Choose **one** option and answer **all** parts of the question in the option.
- Section B: Answer **all** questions.
- Write your answers in the Answer Booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

#### **INFORMATION**

- The total mark for this paper is **66**.
- The marks for each question are shown in brackets [ ].
- Quality of extended responses will be assessed in questions marked with an asterisk (\*).
- This document consists of **8** pages.

## Section A – Landscape Systems

Answer **all** questions from **one** option.

### Option A – Coastal Landscapes

1 (a) Explain how a sediment cell can be viewed as a system. [8]

(b) Study **Table 1** which shows mean rates of shoreline retreat for 9 east coast states in the USA.

<b>Mean rate of shoreline retreat (m/yr)</b>	0.4	0.5	0.9	1.0	1.5	4.2	0.6	2.0	0.1
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**Table 1: Mean rate of shoreline retreat for 9 east coast states in the USA**

(i) Calculate the median for the data shown in **Table 1**.  
You must show your working. [2]

(ii) Calculate the interquartile range for the data shown in **Table 1**.  
You must show your working. [4]

(c) Study **Fig. 1**, Ediz Hook, Washington.

With reference to **Fig. 1**, explain the role of flows of materials in forming landform **A**. [3]

(d)\* Using a case study, assess the relative importance of the different physical factors influencing the landscape of a high energy coastline. [16]

**Option B – Glaciated Landscapes**

**2 (a)** Explain how a glacier can be viewed as a system. [8]

**(b)** Study **Table 2** which shows the mean rate of retreat for 9 glaciers in the Himalayas from 2000 to 2007.

S.R. Bajracharya and P. Mool, 'Glaciers, glacial lakes and glacial lake outburst floods in the Mount Everest region, Nepal', (2009) A. Glaciol., 50 (53), 81-86. Adapted from original material from the Annals of Glaciology with permission of the International Glaciological Society. Item removed due to third party copyright restrictions

**Table 2: Mean rate of retreat for 9 glaciers in the Himalayas (2000–2007)**

**(i)** Calculate the median for the data shown in **Table 2**.  
You must show your working.

[2]

**(ii)** Calculate the interquartile range for the data shown in **Table 2**.  
You must show your working.

[4]

**(c)** Study **Fig. 2**, Sierra Nevada, California.

With reference to **Fig. 2**, explain the role of flows of materials in forming landform **B**.

[3]

**(d)\*** Using a case study, assess the relative importance of the different physical factors influencing a landscape shaped by the action of ice sheets.

[16]

**Option C – Dryland Landscapes**

3 (a) Explain how polar drylands can be viewed as a system. [8]

(b) Study **Table 3** which shows mean rate of desertification for 9 countries.

<b>Mean rate of desertification (km<sup>2</sup>/yr)</b>	900	1350	154	1351	658	391	202	877	460
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**Table 3: Mean rate of desertification for 9 countries**

(i) Calculate the median for the data shown in **Table 3**.

You must show your working.

[2]

(ii) Calculate the interquartile range for the data shown in **Table 3**.

You must show your working.

[4]

(c) Study **Fig. 3**, Death Valley National Park, California.

With reference to **Fig. 3**, explain the role of flows of materials in forming landform C.

[3]

(d)\* Using a case study, assess the relative importance of the different physical factors influencing the landscape of a mid-latitude desert.

[16]

**Section B – Earth's Life Support Systems**

Answer **all** questions.

**4 (a)** Study **Fig. 4**, precipitation totals across mainland USA in August 2016.

(i) With reference to **Fig. 4**, suggest how variations in precipitation totals influence runoff processes in the water cycle. **[4]**

(ii) Explain **three** limitations of presenting rainfall data using choropleth maps. **[3]**

**(b)** Examine how feedback loops can affect the processes and stores within the carbon cycle. **[10]**

**(c)\*** Assess the extent to which deforestation and farming affect the water and carbon cycles of a tropical rainforest. **[16]**

**END OF QUESTION PAPER**







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