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Examiners' report

GEOGRAPHY

H481

For first teaching in 2016

H481/01 Summer 2022 series

Contents

Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. A selection of candidate answers is also provided. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

Advance Information for Summer 2022 assessments

To support student revision, advance information was published about the focus of exams for Summer 2022 assessments. Advance information was available for most GCSE, AS and A Level subjects, Core Maths, FSMQ, and Cambridge Nationals Information Technologies. You can find more information on our website.

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Paper 1 series overview

Following a two-year hiatus from candidates taking formal examinations, candidates had been well prepared for the format of the paper and in the most part able to use their time effectively to answer all questions. As in previous years, some candidates begin with the 16-mark essay questions, which suits their writing style.

As in previous years, Coastal Landscapes remains the most popular option, however, it is apparent this year that more centres are choosing Glaciated Landscapes. There are still a very small number of candidates that answer Dryland Landscapes.

Candidate responses demonstrate a familiarity with the assessment objectives; for example, within their essays, many candidates understand the need to include place specific detail for AO1 and analysis and evaluation for AO2. However, as has been the case previously, there are still a number of responses where it is evident that candidates have learnt exemplar essays for different questions and then used these anyway to answer the question set. For AO2 in particular, many candidates need to develop in this area and move beyond a sentence at the end of their paragraph linking back to the question. Rather there needs to be more detailed analysis, for example, a consideration of scale and time.

The examination also demonstrated a lack of familiarity among some candidates of Geographical skills and presentation techniques. Basic map skills such as calculating distances on an OS map proved a challenge for many, as did evaluating a scattergraph for displaying data. It is imperative that candidates are exposed to a range of skills in a range of contexts to make sure they are adequately prepared for these questions.

Assessment for learning
The geographical skills resources can be found on our [A level geography qualification page](#) and they include a Teacher Guide, Student Workbook and PowerPoints for use in teaching.

Handwriting continues to be a concern for examiners and while there is understanding that candidates are under time pressure, there continue to be times where writing is becoming illegible, which can risk work not being credited as a result.

Candidates who did well on this paper generally did the following:	Candidates who did less well on this paper generally did the following:
• used precise place specific detail to support the points they were making • tailored their responses to the question being asked • demonstrated detailed analysis and evaluation • used geographical skills accurately.	• wrote generic responses that lacked any place specific detail • shifted the focus of their response to a different one that they had prepared for such as a question from previous years • used map skills and statistical techniques incorrectly.

Section A overview

Candidates have a choice of three topics in Section A. There were very few rubric errors demonstrating the familiarity that candidates have with the paper. In the most part, candidates begun by answering Section A followed by Section B. Once again, the most popular choice was Coastal Landscapes with an increasing number answering Glaciated Landscapes, but very few continuing to answer Dryland Landscapes.

Option A overview

Coastal Landscapes was answered by many candidates. Many candidates were able to show comprehensive knowledge and understanding of different areas within this option. However, it is imperative that candidates include accurate place specific detail and move beyond general descriptions of processes at the coast which do not sufficiently demonstrate that they have developed knowledge and understanding that is beyond GCSE level. It was also clear that candidates were well prepared for the examination, however, too many did not tailor their understanding to the question asked and instead wrote responses to questions they have learnt. This was particularly evident in the responses to this option.

Question 1 (a)

Option A – Coastal landscapes

1   **(a)**   Explain how coastal landscapes can be viewed as systems.   **[8]**

Many candidates were able to demonstrate a sound understanding of how coastal landscapes can be viewed as systems. They were able to provide examples of inputs, outputs, processes and stores and refer to the open and closed nature of the system. Level 3 responses included reference to dynamic equilibrium and feedback, and then illustrated this through exemplification with a specific example linked to the coast (such as seasonal variations). In some instances, candidates stated terms such as 'dynamic equilibrium' but were unable to describe or explain these; inclusion of the words in themselves does not automatically equate to a high mark response. Furthermore, as there has previously been a similar question based on sediment cells, many candidates answered this rather than the question set. While preparation using past paper questions is to be encouraged and commended, it is imperative that candidates do not simply write out learnt responses to different questions.

Exemplar 1

| 1 | a | Coastal landscapes can be viewed as systems because of the way they have inputs, outputs, and throughputs, which are the distinct features of coastal systems. Inputs include flows of energy and material such as sediment that comes across at the boundary of an open system into another. This sediment can be inputted into the system by cliff collapse and mass movement, giving the system and landscape more erosive material. Similarly, coastal landscapes have outputs of beach material and energy as waves dissipate their energy either to other systems or if the swash is stronger than backwash, where ~~energy~~ kinetic and marine energy is lost from the landscape, making it a system. Furthermore, the way coastal landscapes have throughputs shows it can be viewed as a system; for example, the process of longshore drift means that material such as sand, small rocks, and other transported material is carried along a coastline in a cell as a throughput of the system. Material is carried through which means that the ~~sy~~ landscape can use this resource, as a system to balance the system and restore equilibrium. |
| | | Coastal landscapes can also be viewed as a system in the way that it is in a state of dynamic equilibrium where there is constant correction and self-regulation to ensure the coastline is in balance. For example, if positive feedback occurs where the balance and equilibrium is lost, it means that as a system, the landscape can readjust by through negative feedback. This could be in times of heavy rainfall where it causes a cliff face to experience slumping through |

saturation, causing a large increase in sediment to the
system. The coastal landscape can adjust by removing
the sedim excess sediment by carrying it as an output
and co transporting it to another system thus returning
to a state of equilibrium. In this way coastal landscapes
can be viewed as a system.

This exemplar demonstrates comprehensive knowledge and understanding that is specifically related to the coast and fully understands how systems operate including dynamic equilibrium and feedback. This response received 8 marks.

Question 1 (b) (i)

(b) Study **Fig. 1**, which shows the relationship between spending on coastal management and time in England.

(i) Comment on **one** advantage of this data presentation technique. **[2]**

Familiarity of data presentation techniques and their advantages and disadvantages was variable among candidates. The question asks for one advantage and candidates should be reminded therefore that for 2 marks, they must develop the first point that they make. In many instances, candidates were able to identify that this technique is clear and allows patterns/trends/relationships/anomalies to be identified. This was sufficient to achieve 2 marks.

Question 1 (b) (ii)

(ii) Describe the relationship shown. **[2]**

In the most part, candidates were able to identify that there was a positive correlation shown in the scattergraph with the best responses stating the strength of the correlation. The majority then went on to use data to support this point; this was a valid and sensible way of approaching this question. While it is understood that specific figures cannot be read due to the scale used on the axes, a number of candidates gave incorrect figures or rounded answers up to the next grid line which is not acceptable at this level. It is also important that candidates manage their time effectively as some wrote long paragraphs in response to this question that were unnecessary.

Question 1 (b) (iii)

Study **Fig. 2**, which shows a correlation coefficient calculated for the data in **Fig. 1** and a table of critical values for a significance test.

(iii) With reference to **Fig. 2**, test the significance of this relationship. **[3]**

There were clear and coherent responses to this from a number of candidates. They were able to accurately interpret the correlation coefficient and how it relates to the critical values to determine the significance of this relationship. Other candidates were unable to use the critical values correctly or missed this question out entirely.

Question 1 (b) (iv)

(iv) Suggest **one** reason for this relationship. **[2]**

A range of responses were accepted here and candidates that answered this question generally achieved 2 marks. Many focused on the increase in sea levels and the link to erosion but other responses such as land value or increased in tourism numbers were perfectly acceptable. It was often the case that those that had not answered 1 (b) (iii) also chose not to answer this question.

Question 1 (c)*

(c)* To what extent are long-term changes more influential on coastal landscape systems than short-term changes? **[16]**

Many candidates had been well prepared for the 16-mark questions. Answers were generally well structured and sufficient time was spent when writing responses. Successful responses to this question often discussed the influence of climate change as a long-term change and seasonal variation as a short term change. Detailed case studies at a range of scales helped elevate responses into the higher levels; popular examples focused on the Nile Delta and Flamborough Head. The best responses went beyond simply stating the change was/wasn't influential and explained how and why (as evidenced in Exemplar 2) with some going further and comparing the influence these changes have.

In some instances, candidates did not specifically state the change they were discussing and instead wrote a long response describing their case study without clearly addressing the question. These responses were missing a clear line of argument. In relation to this, it appeared that some candidates had prepared for other questions such as physical factors affecting the coast or differences between high and low energy coastlines; while some of these ideas had relevance (such as the influence of long/short term changes in different environments), they had to be tailored to the question being asked rather than the question candidates had learnt.

Assessment for learning

Place specific detail is required to access beyond Level 1 in this question; it is important that candidates are taught how to use their case studies within their responses rather than either simply naming them or neglecting to include them at all.

Exemplar 2

at faster rates than the ~~less~~ more resistant rock. This is significant because it creates irreversible change to the coastal landscape and has created an irregularly shaped coastline. As long term changes make it more difficult for the system to undergo self regulation and dynamic equilibrium as the changes are much more drastic than short term change.

Option B overview

Glaciated Landscapes is an increasingly popular choice and generally, candidates were able to respond effectively and demonstrate a good level of knowledge and understanding with reference to place examples to support their ideas.

Question 2 (a)

Option B – Glaciated landscapes

2　(a)　Explain how glaciated landscapes can be viewed as systems.　　　　**[8]**

Most candidates were able to articulate how glaciated landscapes can be viewed as systems with many referring to the ideas of open systems and the variety of inputs/processes/outputs that exist. They were able to give examples of these including inputs of energy and debris, processes such as plucking, and outputs in the form of meltwater. Some candidates were able to go beyond this and introduce ideas such as glacial mass balance and dynamic equilibrium; this was indicative of a Level 3 response.

Question 2 (b) (i)

(b)　Study **Fig. 3**, which shows the relationship between spending on oil pipeline management and time in Alaska, USA.

(i)　Comment on **one** advantage of this data presentation technique.　　　**[2]**

Many candidates were able to recognise that the presentation technique enabled clear trends or patterns in the data to be demonstrated. Some candidates went on to describe the relationship, which was not the focus of this question.

Assessment for learning

When analysing data from sources within lessons, it would also be beneficial to evaluate the presentation technique. This would enable candidates to be familiar with this style of question and evaluate techniques effectively moving forward.

Question 2 (b) (ii)

(ii)　Describe the relationship shown.　　　　**[2]**

Most candidates were able to recognise the positive correlation displayed in the scattergraph. A second mark was then achieved by describing the strength of the relationship or utilising data to support their ideas. Data used was generally correct, with candidates often selecting years/figures that were the clearest to read from the axes; this was perfectly acceptable.

Question 2 (b) (iii)

> Study **Fig. 4**, which shows a correlation coefficient calculated for the data in **Fig. 3** and a table of critical values for a significance test.
>
> **(iii)** With reference to **Fig. 4**, test the significance of this relationship. **[3]**

While some candidates answered this confidently, others were less able to use the critical values table effectively. Candidates should be familiar with statistical tests and be able to apply these to new situations.

Misconception

? While a number of candidates were able to demonstrate an understanding of 'n', they were then unable to use this successfully in answering the question. It was also clear that some were familiar with statistical techniques but there were misconceptions over what the values meant with some stating you could accept the null hypothesis for example, rather than rejecting it.

Question 2 (b) (iv)

> **(iv)** Suggest **one** reason for this relationship. **[2]**

A range of responses were seen for this question with 2 marks awarded for developed ideas. In some instances, candidates were able to provide a reason but did not attain the second mark as they did not explain why this would cause spending to increase. In many instances, those that did not answer 2 (b) (iii) also did not provide a response for this question.

Question 2 (c)*

> **(c)*** To what extent are long-term changes more influential on glaciated landscape systems than short-term changes? **[16]**

Candidates were able to demonstrate a good level of knowledge and understanding of at least one change influencing glaciated landscape systems. In the most part, this was with reference to climate change and glacial/inter-glacial periods. Candidates that performed highly were able to describe these changes and discuss how and why they influence the landscape system. Effective short term responses generally focused on seasonal variations and candidates were then able to compare the scale of influence these have compared to long-term changes. Many responses included reference to place detail including North America and the Lake District. For an evident line of reasoning, it was important that candidates made it clear the change that they were discussing; a number of candidates simply described examples of landforms and their creation without identifying the change that had caused these and the influence it had.

Option C overview

Dryland landscapes continues to be the least answered topic on the exam paper. For many, this remains a new topic that would not have been studied at GCSE. While some have been able to grasp the level of knowledge and understanding required for success at this level, for others, responses were rather simplistic and were limited in detail.

Question 3 (a)

Option C – Dryland landscapes

3 **(a)** Explain how dryland landscapes can be viewed as systems. **[8]**

Candidates demonstrated some understanding of how dryland landscapes can be viewed as systems and in most instances were able to give examples of inputs or processes. A deeper understanding was required, as many responses did not go beyond this.

Question 3 (b) (i)

(b) Study **Fig. 5**, which shows the relationship between spending on water supply management and time in the USA.

(i) Comment on **one** advantage of this data presentation technique. **[2]**

Generally, candidates were able to refer to the clear nature of the scattergraph and that it allowed you to visually see change over time. It is important that for 2 marks their point is developed.

Question 3 (b) (ii)

(ii) Describe the relationship shown. **[2]**

Many candidates achieved 2 marks for this question; first identifying that there was a positive correlation and then using data to support this. Alternatively, they achieved the second mark for identifying years that did not follow the overall trend displayed.

Question 3 (b) (iii)

Study **Fig. 6**, which shows a correlation coefficient calculated for the data in **Fig. 5** and a table of critical values for a significance test.

(iii) With reference to **Fig. 6**, test the significance of this relationship. **[3]**

Several candidates chose not to answer this question. Those that were successful were able to use the critical values table and compare the correlation coefficient to these to identify that there was a statistically significant relationship.

Question 3 (b) (iv)

(iv) Suggest **one** reason for this relationship. **[2]**

Those candidates that did not answer 3 (b) (iii) also often chose not to answer this question. However, for those that provided a response, many were able to achieve 2 marks. Many focused on the demand for water due to increased population, however a variety of acceptable responses were given.

Question 3 (c)*

(c)* To what extent are long-term changes more influential on dryland landscape systems than short-term changes? **[16]**

Responses to this question were variable in quality. It was apparent that candidates found it a challenge to write in detail about the changes that have influenced dryland landscape systems, and all too often gave a general overview of ideas without the in depth analysis required for a high mark response. Some candidates were able to describe changes such as pluvial periods and flash flooding with confidence but the influence of these on the landscape system was less well understood. Place specific detail was variable with all too often generic responses being provided.

Section B overview

The performance of candidates in Section B was generally to the same standard as that demonstrated in Section A. Candidates effectively managed their time and it was rare to see any questions missed out. Candidates demonstrated a familiarity with the water and carbon cycles, with some able to demonstrate comprehensive knowledge and understanding.

Question 4 (a) (i)

4 **(a)** Study **Fig. 7**, OS map of Wiston Park, UK.

      (i) Comment on **one** advantage of this data presentation technique. **[2]**

This question elicited a variety of responses and some candidates were unable to recall basic terminology linked to OS maps. For example, contour lines were described as 'orange lines on a map'. The clearest responses identified the advantage of the scale bar and exemplified this point by referring to the ability of measuring distances.

Question 4 (a) (ii)

      (ii) State the distance in kilometres between 145124 and 155124. **[1]**

While many candidates were able to state the correct answer, a number did not attempt this question or instead gave answers that were inaccurate with some calculating the distance as thousands of kilometres.

Assessment for learning
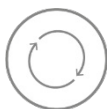
It is vital that candidates have sufficient practise at basic map skills such as measuring distance on a map or from a figure, using a scale bar.

If you would like to refresh these skills with your students, we have the GCSE Geographical Skills handbook and student workbook, as well as the A Level Geographical Skills mentioned earlier in the report.

Question 4 (a) (iii)

(iii) Suggest **two** reasons for differences in characteristics of the water cycle between **Area A** and **Area B**.   **[4]**

Many candidates were able to achieve full marks on this question by focusing on clear differences such as the vegetation and the relief of the land. They were subsequently able to link these differences to demonstrate how the processes within the water cycle would vary between the two areas. For example, in Exemplar 3, the candidate has clearly identified the difference between the areas and the links to the water cycle. In this exemplar, the candidate achieved 2 marks for noting this difference and recognising that it would result in higher evapotranspiration (1), due to interception (1). It is important that candidates do not simply write opposite ideas, as these do not earn credit. Instead, a second difference would need to be made with the impact on the water cycle discussed. Other candidates misinterpreted the map with some stating that Area B had steep relief and high levels of tree coverage when this was in fact Area A. Others stated that Area B was a cliff face or had no vegetation at all; both of which were incorrect interpretations of the resource. While many candidates were able to name processes in the water cycle such as transpiration, interception, infiltration, etc. these terms were not always used correctly in their responses and it was apparent that while they knew the term, they didn't necessarily know the meaning.

Exemplar 3

Another difference is that A is a vegetated area of non-coniferan trees and so will experience higher evapotranspiration from from intercepted precipitation and from plants leafs' pores to the atmosphere due to the deciduous tree trees which can intercept and store water. At oppositely, Area B is a less densely vegetated area without trees and so has a less significant role on the water cycle.

Question 4 (b)

(b) Examine the extent to which the developing oil and gas industry affects the water cycle in the Arctic tundra. **[10]**

Responses to this question were variable; almost all candidates could identify the melting that can occur because of the developing oil and gas industry. Some candidates were able to talk in depth about the industry and explain in detail how it has affected the water cycle. This included a discussion of the impact on the water cycle processes and stores such as the influence of dust on the albedo effect, the extraction of gravel from water sources, and the development of infrastructure. For example, the extract below demonstrates the industry impact and makes clear reference to water cycle in this specific environment. The candidate has correctly identified a specific idea linked to the industry in this environment by discussing the dust deposition. They have developed this idea to explain how it would impact the water cycle by discussing the increasing overland flow. More importantly, they demonstrate further analysis by explaining this in relation to the environment; that the water cannot infiltrate due to the impermeable permafrost. Alongside this, the most successful responses truly 'examined the extent' and analysed the impact considering factors such as the growing season, the extent and rate of melting, the general climate of the tundra and so on. Other responses talked more generally and either just described the activity that would occur without sufficient links to the impact on the water cycle or gave a general response about melting that was not linked to the industry.

Exemplar 4

deal with more run-off. Similarly, the dust that is deposited on the roads means that the permafrost absorbs solar radiation, causing it to melt. This means there is more overland flow as water cannot be infiltrate or percolate the permafrost. With more ow permafrost being melted, in th hotter periods like in summer, this increases precipitation as cause there is a large store of water liquid water.

Question 4 (c)*

(c)* Assess the importance of carbon to humans. **[16]**

Most candidates were able to articulate ways that carbon is important to humans. These included, but were not limited to, it being 'the building block of life', for photosynthesis and food supply, climate regulation, and fossil fuel use. At times, candidates provided these in a list format with a sentence stating, 'this shows it is important for AO2'. These responses tended to achieve Level 1 as they did not have any further exemplification. In the most part, however, candidates were able to explain in more detail.

For the assessment of importance, the highest performing responses considered this in relation to different countries as well as the scale of importance (e.g., global or local) as per Exemplar 5 below. Many were also able to discuss fossil fuels and thus carbon reducing in importance because of the investment in renewable energy. As was the case in Section A, it was evident in some responses that candidates had prepared for a different question and were too focused on the ways carbon emissions were managed; they wrote extensively on points such as wetland restoration, however made no links to the question.

Several candidates also wrote that it wasn't important because it was causing damaging effects; this was contradictory and often led to muddled ideas. It is important that candidates remember the wording of the question as they write, in this instance it was 'importance' rather than a discussion over whether its use had a positive or negative impact on humans. The amount of place specific detail was variable within responses, but several candidates were able to refer to its importance to specific countries or people, which was an acceptable approach.

Exemplar 5

As a whole, on a global scale, 87% of energy consumption comes from the burning of fossil fuels, making carbon very significant. Although this may only be important in EDCs and ACs, where carbon is used most, compared to LIDCs which do not rely on fossil fuels and are not as polluting. Also, the use of fossil fuels may only be important in the short term as the globe is slowly introducing more renewable energy, and lots of countries are aiming to reduce their emissions, for example Denmark who want to become net zero for carbon emissions, and so in the long term carbon may become less important.

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