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Introduction

This was the sixth series for Pearson Edexcel GCSE (9-1) Geography although two of these involved very small numbers of candidates. This Examiner's report is intended to provide an insight into performance on Paper 1: The Physical Environment component – in particular, analysing the majority of questions in terms of what went well and where common mistakes and under-performance were evident. Exemplar responses from 'real' scripts have been used to demonstrate good practice and highlight common pitfalls encountered by candidates.

The structure of the paper remains the same and is outlined below; please note that this (and future) question papers are based upon Issue 3 of the Specification.

This paper consists of three 30-mark sections. Of the 94 marks, up to 4 marks are awarded for spelling, punctuation, grammar and use of specialist terminology. The exam includes multiple-choice questions, short open, open response, calculations and 8-mark extended writing questions. The exam command words which are used in this paper are defined on page 43 of the Specification. Each of the questions is mapped to one or more of the Assessment Objectives (AOs).

In **Section A** (The Changing Landscapes of the UK), candidates are required to answer all the items in Question 1. They are also required to have studied two optional sub-topics from a choice of Coastal Landscapes and Processes, River Landscapes and Processes and Glacial Upland Landscapes and Processes. In addition, candidates are required to answer two questions from Questions 2, 3 and 4.

In **Section B** (Weather Hazards and Climate Change), candidates are required to answer all the questions.

Section C (Ecosystems, Biodiversity and Management), has a mark tariff of 34, including 4 marks for spelling, punctuation, grammar and use of specialist terminology. In this section, candidates are required to answer all the questions.

In general, the assessment of application and interpretation (AO3) and the addressing of the command words 'assess' and 'evaluate' once again appear to have proven challenging for a significant proportion of candidates. In relation to the 8-mark 'examine' questions in Section A, it was clear that candidates are becoming better at using evidence from the resources in their responses and therefore gaining more of the AO4 marks.

I hope that you find reading this document useful and that it helps you to improve the performance of your candidates in future examination series.

Question 1 (a)(ii)

Most candidates were able to identify a characteristic of an igneous rock. However, some candidates stated characteristics of metamorphic rocks (eg formed by pressure) or sedimentary rocks (eg in layers) and were not awarded a mark.

(ii) State **one** characteristic of igneous rocks.

(1)

More resistant to erosion.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has given a characteristic of igneous rock (1).

ResultsPlus
Examiner Tip

The command word 'state' does not require a lengthy response. Often one or two words or a phrase are sufficient.

Question 1 (b)(i)

This question involved assessing the candidates' ability to use 4 figure grid references and interpreting the map key. While many candidates were awarded the mark, this is a skill which needs to be practised.

(b) Study Figure 1 in the Resource Booklet.

(i) Identify the type of woodland in grid square 7084.

(1)

Mixed wood

ResultsPlus
Examiner Comments

This response was awarded one mark as the candidate has identified the type of woodland in the grid square.

(b) Study Figure 1 in the Resource Booklet.

(i) Identify the type of woodland in grid square 7084.

(1)

Non-coniferous wood

ResultsPlus
Examiner Comments

This response was not awarded a mark. The woodland in the grid square included both coniferous and non-coniferous trees and this type of land use is labelled as 'mixed wood' on the OS map key.

Question 1 (b)(ii)

This question involved assessing the candidates' ability to use 6 figure grid references. While many candidates were awarded the mark, this is a skill which needs to be practised.

(ii) Name the settlement at 723828.

(1)

Greys Green

ResultsPlus
Examiner Comments

This response has the correct answer and was awarded 1 mark. It should be noted that a minority of candidates gave 'Greys Court' as their answer. This was incorrect as, although it is shown on the map, it is not located at this grid reference.

Question 1 (c)

This question proved challenging for some candidates. While many were able to gain one mark by referring to characteristics of specific rock types (eg igneous rocks are hard/resistant), relatively few were able to gain the second mark by linking this to its impact on the UK landscape (eg leading to upland areas). The term 'geology' is in the Specification and candidates need to be familiar with all the key terms within this document.

(c) Explain **one** way that geology has affected the development of UK landscapes.

(2)

in the north the rock is ignius meaning more mountins and in the south it is sedimentry meaning flat land.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has made a basic point that igneous rocks lead to mountains (1), but there is no development of the reason for this (eg in terms of the hardness of the rock). They have made a second statement about sedimentary rocks leading to 'flat land', but this is essentially a 'mirror' of the first point. To get the second mark, they needed to develop either of these statements.

(c) Explain **one** way that geology has affected the development of UK landscapes.

(2)

Upland landscapes are usually made up of igneous or metamorphic rock as they are less easily eroded and are more resistant. ✓✓

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that igneous/ metamorphic rocks are more resistant (1) and this leads to them forming upland landscapes (1).

ResultsPlus
Examiner Tip

Underline key words in the question (eg geology).

Question 2 (a)

This question was answered well with the majority of candidates naming a correct mass movement process. A small minority of candidates named an example of a process of erosion or transportation which was incorrect.

2 Coastal landscapes are constantly being changed by different processes.

(a) Name **one** type of mass movement.

(1)

Saltation

ResultsPlus
Examiner Comments

This response was not awarded a mark.

The candidate has named a transportation process rather than a mass movement process.

2 Coastal landscapes are constantly being changed by different processes.

(a) Name **one** type of mass movement.

(1)

landslides

ResultsPlus
Examiner Comments

This response was awarded one mark.

An example of a mass movement process was given (1). It should be noted that while only a relatively small number of mass movement processes are listed in the Specification, a mark would have been awarded for other processes not listed as long as they were correct.

Question 2 (c)

This 'explain' question had 2 marks available. Candidates were required to identify a reason why rates of coastal erosion may change over time (eg storms are more powerful in winter) and then develop their answers. This could be by linking it to how it would affect the rate of erosion (eg storms are more powerful in winter (1) so the rate of erosion is reduced (1)) or by developing their initial point (eg storms are more powerful in winter (1) which provides them with more energy (1)).

(c) Explain **one** reason why rates of coastal erosion may change over time.

(2)

One reason in where coastal erosion may change is that different sea defences are being built.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified that coastal defences are being built (1), but has not then linked this to the decrease in the rate of erosion or developed the initial point further.

(c) Explain **one** reason why rates of coastal erosion may change over time.

(2)

More coastal defences may have been installed, reducing the amount of coastal erosion occuring.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that new coastal defences may be built (1) which will reduce erosion (1).

Question 2 (d)

The command word in this 8-mark question is 'examine' which requires candidates to break something down into individual components/ processes, say how they individually contribute to the question's theme and how the components and processes interrelate.

The level descriptors are the same for all the 'examine' questions (Q02(d), Q03(d) and Q04(d)) within this paper and also across all the papers in both GCSE Geography specifications. In the case of these questions, the AOs which are being examined are AO3 (4 marks) and AO4 (4 marks). To secure the AO4 marks, candidates are required to use geographical skills to extract information from the figures in the resource booklet which will help them answer the question.

In the case of this particular question, relevant content relating to the AO4 marks could have included details regarding the length/width of the spit as well as its orientation; the direction of the prevailing wind; the location of features on the spit (using grid references) as well as description of features shown on the photograph. It was pleasing to see many candidates making use of evidence from the map and photo, but this is an area which still needs to be developed. Answers which discuss generally the processes involved in spit formation, but which did not make reference to evidence from the figures will not be awarded any of the AO4 marks. The key to securing the AO4 marks is therefore to make sure that evidence is included from the resources which are in front of the candidates. They need to write about what they can see and infer from the resource, rather than simply writing about what they have learnt in class. It was evident that many centres are taking this advice on board, but there are still many responses where the use of evidence is limited.

In relation to the AO3 marks, candidates were required to explain the processes involved in the formation of the spit shown in the resources. This part was done well by many candidates with a good understanding shown of the role of longshore drift. Some candidates were able to link this to the direction of the prevailing wind shown on the map and were able to develop their process understanding still further through the appreciation of the role of swash and backwash. There were some very good answers where candidates also identified the role of the river in stopping the continued extension of the spit (including providing information about the direction of river flow) and the role of the groynes which they had identified on the map in maintaining the spit.

(d) Study Figures 2b and 2c in the Resource Booklet.

Examine the role of physical processes in the formation of the spit shown in Figures 2b and 2c.

You must use evidence from Figures 2b and 2c in your answer.

(8)

Figure 2b shows that the prevailing wind is coming from the North East which means the sediment will be travelling down the coast and then gaster on the spit as the direction of beaches changes to match the prevailing wind. We can see that this is a problem as there are multiple sets of groynes along the spit to stop longshore drift whereas the main coast does not have any because there is a slower rate there.

The end of the spit at Spurn head is also slightly curved due to wave refraction which leads to greater deposition and a larger landform being created where more infrastructure has been built such as a pier.

A salt marsh has formed behind this spit due to the sea water and fresh water mixing where nutrients from the river are deposited allowing for plant and animal life to thrive, protected from the waves by the spit.

ResultsPlus
Examiner Comments

This response was awarded Level 2 – 4 marks.

The candidate has included a reasonable range of evidence from the resources (prevailing wind direction, groynes and saltmarsh). They have attempted to integrate the evidence into their answer, but their understanding of the sequence and processes involved in spit formation is limited. For example, although they have mentioned longshore drift, they have not explained how it operates.

ResultsPlus
Examiner Tip

Make sure that you use a range of evidence from the figures in both the 8-mark questions which you answer.

(d) Study Figures 2b and 2c in the Resource Booklet.

Examine the role of physical processes in the formation of the spit shown in Figures 2b and 2c.

You must use evidence from Figures 2b and 2c in your answer.

(8)

The first step in spit formation, is the movement of sediment along the coastline by longshore drift. This happens where sediment is washed against the coastline at the angle of the prevailing wind; in figure 2b (showing Spurn Head spit), the prevailing wind direction can be seen coming from the North Sea to Easington at a south-westerly direction. The backwash of sediment then happens at 90° as waves always follow gravity. The longshore drift moves the sediment along the Easington headland, depositing the sediment when the waves loose energy. This builds up the beach which can be seen clearly in figure 2c. When the headland changes shape, the waves continue to deposit the sediment, which creates the spit that can be seen in figures 2b and 2c (spurn head spit). Spurn Head Spit seen on Figure 2b is around 2 km long according to the scale.

Where there is a river mouth opening the other side of the headland, energy from the river current pushes against the sand being deposited; this stops prevents the spit from following the headland round and makes it stick out into the ocean, with the slight curved appearence. Spurn Head is curved due to the river flow seen in figure 2b, in a south-easterly direction, which pushes against the tip of spurn head in grid square 3910.

Behind the spit, the waters are calm as the spit shelters it from the sea. This can lead to the formation of a salt marsh as said in figure 2c. The salt marsh is made up of clays, that can be seen in figure 2b like kilnsea

days, and provides a crucial habitat for many sea creatures.

ResultsPlus
Examiner Comments

This response was awarded Level 3 – 8 marks.

The candidate has included a range of evidence from the resource (prevailing wind direction, change in the shape of the coastline, reference to the river current, location of the end of the spit). They have used this information well to support their explanation of the processes involved in the formation of the spit. They also have a clear knowledge and understanding of the sequence and processes involved in spit formation.

Question 3 (a)

This question was answered well with the majority of candidates naming a correct erosion process. A small minority of candidates named an example of a process of mass movement or transportation which was incorrect.

3 River landscapes are constantly being changed by different processes.

(a) Name **one** type of erosion.

(1)

Solution

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has named a correct erosion process. Note that 'corrosion' would also be accepted instead of 'solution'.

Question 3 (c)

This 'explain' question has 2 marks available. Candidates were required to identify a reason why there is a lag time between peak rainfall and peak discharge and then develop their answers. Many candidates were able to gain the initial mark by stating that this is because it takes time for the water to reach the river. The development mark was in terms of explaining why this was the case (eg the water falls on the ground and infiltrates into the soil).

(c) Explain **one** reason why there is a lag time between peak rainfall and peak discharge following a storm.

(2)

This is due to the soil soaks up the water first and only once the soil is fully saturated does the excess water flow to the river - so it takes time for the discharge in the river to increase

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that it takes time for the water to reach the river (1) and has developed this through their explanation that the soil soaks up the water (1).

(c) Explain **one** reason why there is a lag time between peak rainfall and peak discharge following a storm.

(2)

One reason [redacted] is because [redacted] it takes time for the rain and water to reach the rivers and increase the discharge and volume of water of rivers.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified that it takes time for the rain to reach the river (1), but has not developed this point further in terms of a reason for this.

Question 3 (d)

Q03(d) focused on the advantages and disadvantages of the reservoir and dam shown in the two figures. The candidates who answered this question more effectively were able to obtain a range of evidence from the OS map and photograph and were able to use this to support their explanation. Some candidates were able to gain a limited number of AO4 marks by mainly focusing on the information in the text boxes, although their points were often not well developed. The candidates who gained 3-4 of the AO4 marks were likely to have used evidence from both resources with map evidence being used (eg the length of the dam/reservoir; using grid references to identify the location of features such as the hotel).

As mentioned above, one of the key discriminators between answers was the range of evidence extracted from the resources. However, it is also important that this evidence is used to support the answer, rather than simply being a list of features. Where these connections were made, candidates could put together a well-argued and supported answer which helped them access the higher levels. In terms of the AO3 marks, the candidates were required to explain the advantages and disadvantages of the reservoir and dam. This was done best when the candidates divided their answers up into paragraphs focusing separately on the advantages and disadvantages.

(d) Study Figures 3b and 3c in the Resource Booklet.

Examine the possible advantages and disadvantages of the reservoir and dam shown in Figures 3b and 3c.

You must use evidence from Figures 3b and 3c in your answer.

(8)

If; In figure 3b We can see things like nature reserves near the dam. Having a ~~dam~~ reservoir is a disadvantage as it also increases the risk of flooding which would kill many of the animals in the nature reserves and their habitats. Figure 3c also backs up this point as we can see it says the village of mardale green was flooded when the reservoir filled. This would have a very negative social and economic impact as it means people homes and property would be damaged and businesses would have to close so nobody would go to work.

On the other hand, the Figure 3c states that the ~~dam~~ reservoir is 27.5m high. This would have a good economic and social impact as it means there is plenty of water for farming (which can be used to make money) and it can be used for things like boilers and other uses of water in the home. Figure 3c states the reservoir has a stream of water at the base of the dam. This would have a postive environmental impact as it would provide animals and ecosystems with water that they need.

Overall ~~thinks~~, the reservoir has some downsides as it can flood the local area ruining things like homes and the environment however it is more good than bad because It is able to provide high amounts of useful water to the people of the town and the environment.

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Examiner Comments

This response was awarded Level 2 – 4 marks.

The candidate has included a limited range of evidence from the resources (eg identified a nature reserve, some reference to information from the text boxes). They have also identified a limited range of advantages and disadvantages with some explanation. To improve their mark within the level, they could have included some additional evidence such as locating the nature reserve using a grid reference.

(d) Study Figures 3b and 3c in the Resource Booklet.

Examine the possible advantages and disadvantages of the reservoir and dam shown in Figures 3b and 3c.

You must use evidence from Figures 3b and 3c in your answer.

(8)

Reservoirs and dams are management schemes which aim to reduce flooding but can also be useful for many services. However, there are advantages and disadvantages to their use and structure.

disadvantage
~~Are~~ of the reservoir and dam is that it can cause severe flooding in surrounding areas. In figure 3c it says that the village of Mardale Green was flooded as the reservoir filled. This shows that the reservoir and dam can be dangerous for people and animals. People may lose their houses and possessions and be forced out of areas. Businesses can lose money and can go out of business. Also animal habitats can be destroyed and rivers further downstream can be starved causing the loss of fish habitats.

An advantage of the reservoir and dam is that the natural lake widens and the channel can hold ~~a~~ a greater volume. In figure 3c it states that the natural lake was made larger by the dam. This shows that flooding can be prevented as ~~the~~ the channel can hold a greater

discharge. This can be important as there are many forests and settlements surrounding the dam and reservoir. In figure 3b, square 5015 shows ~~a~~ a non-coniferous forest and square 4813 shows a hotel. This can show that the area of the Lake District is a tourist destination and flooding could significantly decrease economical income. Also, too much water can have a negative effect on trees, perhaps making them die out if they are too saturated so having a lake with the ability to hold a greater discharge ensures these are protected.

(Total for Question 3 = 12 marks)

Another ~~advantage~~ advantage is that the dam is a secure water source for people and nature. As seen in grid square 4914, there is Noddle forest which requires water to saturate tree roots and keep other plants alive. Also, a clean water source is important for the hotel in grid square 4813 as many people visit and need access to basic necessities, showing how essential and important the dam and reservoir is.

In conclusion, the dam and reservoir have positive and negative attributes but mostly advantageous as they increase survival of nature and provides goods for humans, boosting tourism.

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Examiner Comments

This response was awarded Level 3 – 7 marks.

The candidate has extracted some evidence from the resources (eg information from the text boxes relating to the flooding of Mardale Green/ the expansion of the natural lake; the use of grid references to locate some features). They have used this evidence to support their explanation of a variety of advantages and disadvantages of these features. The response has not been awarded the top mark because the range of evidence extracted from the resource was not wide enough. They could, for example, have also included details on the length/width of the reservoir.

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Examiner Tip

Make sure that you use a range of evidence from the figures in both the 8-mark questions which you answer.

Question 4 (a)

This question was answered well with the majority of candidates naming a correct weathering process. A small minority of candidates named an example of a process of erosion or transportation which was incorrect. There were also some references to 'storms' and 'heatwaves' which suggest that the candidates were confusing 'weathering' and 'weather'.

4 A variety of processes interact to shape glaciated upland landscapes.

(a) Name **one** type of weathering.

(1)

Tropical Storms

ResultsPlus
Examiner Comments

This response was not awarded a mark.

It is an example of where the candidate has not understood the term 'weathering'.

4 A variety of processes interact to shape glaciated upland landscapes.

(a) Name **one** type of weathering.

(1)

mechanical weathering.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has named 'mechanical weathering' which is correct. If they had simply written 'mechanical', this would also have been awarded a mark as 'weathering' was referred to in the question. As with mass movement processes, while there are only a relatively small number of weathering processes listed in the Specification, a mark would have been awarded for other processes not listed as long as they were correct (eg carbonation).

Question 4 (c)

This 'explain' question had 2 marks available. Candidates were required to explain how arêtes are formed. While there were some very clear answers which gained two marks, a significant minority of candidates did not appear to know what an arête is or how they are formed. This landform is listed in the Specification and needs to be covered by centres. Where marks were awarded, these were normally for candidates who had identified that arêtes are 'knife like ridges' (1) which are formed by corries meeting back-to-back (1).

(c) Explain how arêtes are formed.

(2)

Arêtes are formed when two corries are back to back.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified that arêtes are formed where two corries are back-to-back (1). However, there is not any further development.

(c) Explain how arêtes are formed.

(2)

when two corries form back-to-back, a steep back wall is formed which is called a ridge. This is an arête.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that arêtes are formed where two corries meet back-to-back (1) and has then developed their answer further through the link to the steep back wall forming a ridge (1).

Question 4 (d)

In Q04(d), candidates could have included evidence extracted from the map (eg use grid references to locate features such as the ski resort and the car parks) and from the photograph (eg describing the volume of traffic in the car park). While many candidates were able to include details from the text boxes in their answers, they often did not really link the evidence which they copied to their discussion. The use of evidence from the photograph was also more common than using map evidence. Many candidates therefore provided quite generalised answers, which could apply to any tourist area rather than focusing on the evidence which was shown on the resources. In cases where no evidence was provided, the response was limited to Level 1 – 2 marks even if the explanation was very good.

In relation to the AO3 marks, the candidates were required to explain the advantages and disadvantages of the ski resort shown in the figures. Many candidates were able to identify and explain at least some of these and were, therefore, able to access some of the AO3 marks. In order to reach Level 2, they required a reasonable range of evidence which was used to support their explanation. The top-level answers included a good range of evidence, normally from both resources, which was used effectively to support their explanation.

(d) Study Figures 4b and 4c in the Resource Booklet.

Examine the possible advantages and disadvantages of the development of the ski resort shown in Figures 4b and 4c.

You must use evidence from Figures 4b and 4c in your answer.

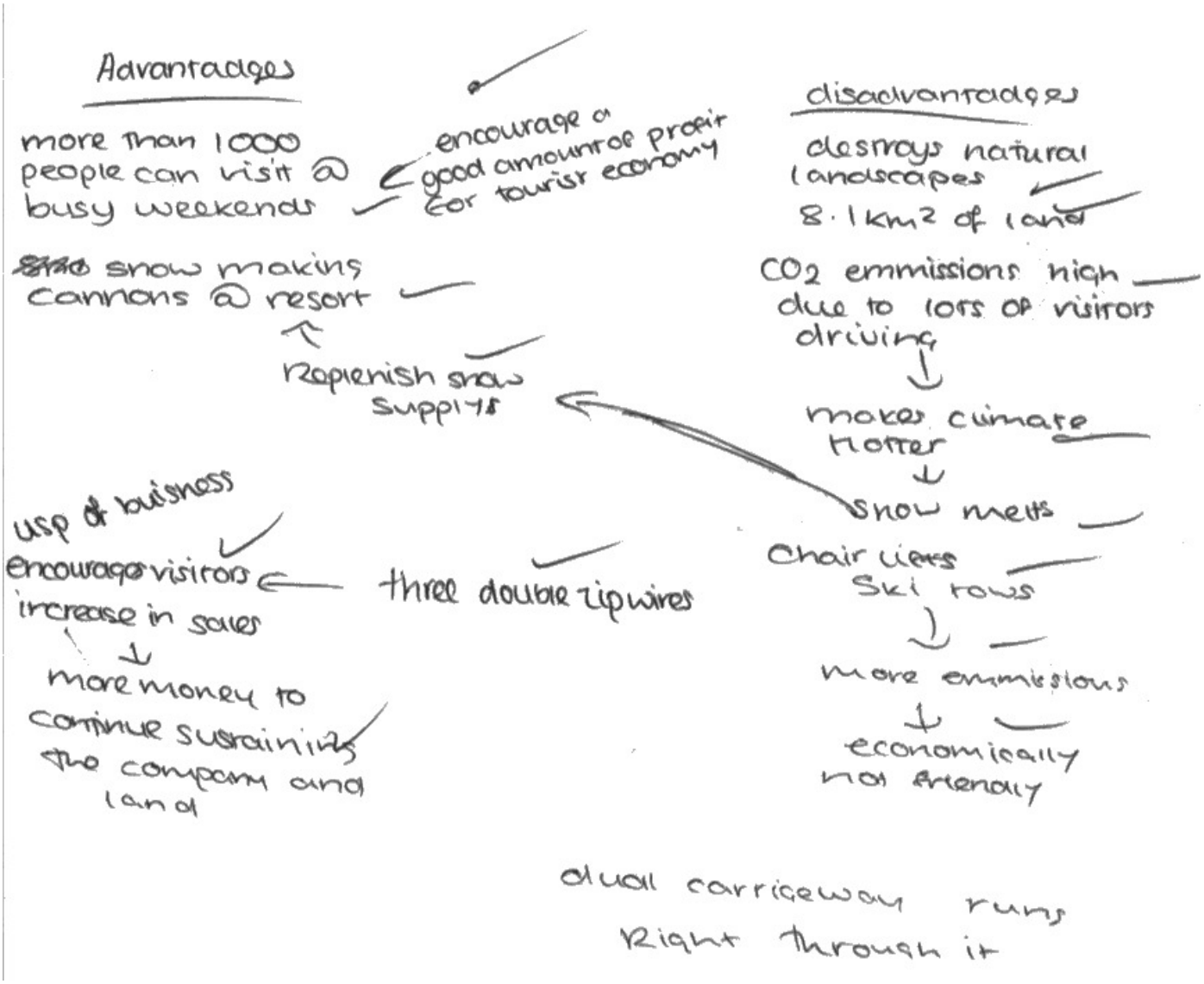
(8)

Some advantages of ski resort are more than 1000 people visit on busy weekends this is vital in the sustainins of this buisness , however the tourists drive vehicles which create high co2 emmissions , warms the climate causing snow to melt but they have a snow ~~&~~ cannon which can help to replenish snow levels .

Throughout the resort there are a lot of ski ~~lifts~~ tows and Chair lifts once again creating emmissions so economically this resort isn't very friendly .

They plan to bring three double Zip wires this encourages visitors as a form of pressure an increase in visitors means more money to keep sustainins company and land .

Some may say natural landscapes have been destroyed a grand total of 8.1km^2 aquired by the ski resort Aswell as this a dual carriseway runs directly through resort (more emmissions) but also this creates convienience for people wanting to visit as it makes it easy to get there.



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Examiner Comments

This response was awarded Level 2 – 5 marks.

The candidate has largely used evidence from the text boxes (eg the number of visitors) although there is also reference to the amount of traffic. They have also identified a range of advantages and disadvantages, although these are not well developed. In order to increase their mark within the level, they could have used evidence from the map (eg locating the ski resort using grid references).

(d) Study Figures 4b and 4c in the Resource Booklet.

Examine the possible advantages and disadvantages of the development of the ski resort shown in Figures 4b and 4c.

You must use evidence from Figures 4b and 4c in your answer.

(8)

An advantage of the Glenshee ski resort is that it attracts tourism as many individuals seek areas such as the Ski Centre in 138778 and the statues in 141784. This benefits the local economy due to the influx of money paid by visitors in the skiing season. It also offers job opportunities to local residents of the Cairngorms. However, disadvantages include the danger to human life of steep cliffs, such as the Craigie Doubs in 1776. The resort also contains a main road (A93), which could cause air pollution to the local area from cars emitting CO_2. Also, the ski resort is out of use for many months of the year, making it an inefficient development in terms of constant benefits.

Figure 4c shows that over 1000 people can visit, which is a large capacity and presents large potential economic benefits, and there are plans to build three double zip wires, which could attract more tourists to the resort, but could also ~~cost~~ be expensive to build and maintain; also posing a threat to human life. Another disadvantage shown in Figure 4c is that the ski area covers 8 km^2, which removes a large area of natural ecosystems, and

can cause lateral erosion of the Cairngorm valleys from over-use of land and skis digging into the ground.

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Examiner Comments

This response was awarded Level 3 – 8 marks.

The candidate has included a range of evidence from the resources (eg grid references locating features, identifying the main road, using evidence from the text boxes). They have also provided a clear explanation of the advantages and disadvantages of the development of the ski resort. The evidence from the resources is integrated clearly into their explanation with logical connections being made.

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Examiner Tip

Make sure that you use a range of evidence from the figures in both the 8-mark questions which you answer.

Question 5 (a)

This question required candidates to define the term 'drought'. While most candidates were able to identify the role of a lack of rainfall, the mark was only awarded if this was qualified in relation to a period of time/ comparison with normal. Thus, a candidate who stated that 'drought is due to very low rainfall' was not awarded the mark, but a mark would have been awarded if they had stated that 'drought is due to very low rainfall over a period of time'.

5 The causes of drought are complex.

(a) Define the term **drought**.

(1)

when a place is dry due to lack of precipitation

ResultsPlus
Examiner Comments

This response was not awarded a mark.

Although the candidate has an idea of low rainfall, they have not qualified this through referring to a period of time. This could simply refer to a period of dry weather over a few days.

ResultsPlus
Examiner Tip

Ensure that you can define all the key geographical terms in the Specification.

5 The causes of drought are complex.

(a) Define the term **drought**.

(1)

drought is a prolonged period ~~of no~~ without rainfall in an area.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified that the low rainfall is over a (prolonged) period (1).

Question 5 (b)(ii)

In this question, candidates were required to calculate the range of winter rainfall shown on the figure. This question required mathematical workings to be shown for 1 mark and the other mark was given for the correct answer. In the case of candidates who used the correct method to calculate the range (highest-lowest figure) but had misread the graph, 1 mark was given for the correct workings as long as the figures from the graph included the maximum figure (400mm) and the lower figure was between 150mm and 200mm. In this case, the second mark for the correct answer was not given.

(ii) Calculate the range of winter rainfall.

You must show your working in the space below.

(2)

highest - 400 lowest - 175

400 - 175 = 225

255 mm

ResultsPlus
Examiner Comments

This response was awarded one mark.

Although the answer given was incorrect, a mark was awarded for the working (1) as the candidate had shown that they understood how to work out the range (and the figures they used were within the accepted range).

(ii) Calculate the range of winter rainfall.

You must show your working in the space below.

(2)

lowest = 175mm

Highest = 400mm

400 - 175 = 225

225 mm

ResultsPlus
Examiner Comments

This response was awarded two marks.

The correct answer (1) and workings (1) are shown.

Question 5 (c)

This 3-mark 'explain' question required the candidates to explain one reason why some locations are more vulnerable to drought than others. Most candidates who were awarded marks approached this from the angle of the meteorological causes of drought linking it to low rainfall. In order to be awarded the development marks, their chain of explanation needed to explain the reasons for low rainfall (eg high pressure (1) leads to sinking air (1) which means there is little rainfall (1)). There were some very good answers which included these linked points, but some candidates were unable to get beyond stating that rainfall is low. A relatively small number of responses focused on the vulnerability of areas to drought due to low levels of development, which was acceptable, while others looked at human causes of drought (eg construction of dams).

(c) Explain **one** reason why some locations are more vulnerable to drought than others.

(3)

one reason is ~~temperature~~ rainfall because if a location doesn't get enough rainfall then the water will eventually run out and therefore cause drought.

ResultsPlus
Examiner Comments

This response was awarded one mark.

This response was typical of those being awarded one mark with the candidate identifying a lack of rainfall as a cause – but not going beyond this in terms of their explanation.

(c) Explain **one** reason why some locations are more vulnerable to drought than others.

(3)

Some areas are located in the high pressure zones, this causes air to sink and ~~brings~~ dry and hot air (arid areas) It means clouds won't ~~form~~ form (as they form in low pressure zones) therefore there will be ~~less~~ less precipitation.

ResultsPlus
Examiner Comments

This response was awarded three marks.

The candidate has identified that drought is found in areas of high pressure (1) which is linked to sinking air (1) and therefore to less precipitation (1).

Question 6 (a)

This question involved the candidates stating one cause of natural climate change. This was answered correctly by many candidates.

6 The global climate was different in the past.

(a) State **one** cause of natural climate change.

(1)

Sea level rising.

ResultsPlus
Examiner Comments

This response was not awarded a mark.

The candidate has identified an effect of climate change rather than a cause.

6 The global climate was different in the past.

(a) State **one** cause of natural climate change.

(1)

sun spots

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has correctly named sunspots as a cause of natural climate change (1). They were not required to develop this in terms of variation.

Question 6 (b)

This 2-mark 'explain' question required the candidates to explain one way that tree rings can provide evidence of natural climate change. While many candidates were able to show that they understood the link between the thickness of the tree rings and the past climate, only a minority of candidates were awarded the second development mark for linking this to the growth of the trees. An answer which stated that 'warmer temperatures led to thicker tree rings' was awarded one mark while two marks would have been awarded for a developed answer – 'warmer temperatures led to thicker tree rings (1) due to the growth of the trees (1).

(b) Explain **one** way in which tree rings can provide evidence of natural climate change.

(2)

Tree rings are larger when it is hotter so we can look at them, count back the number of years and get an idea of how the global temp changed, even before the industrial revolution began

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified the link between warmer temperatures and the tree rings being 'larger' (1), but has not made the further development point linking this to the growth of the trees.

(b) Explain **one** way in which tree rings can provide evidence of natural climate change.

(2)

When a tree is cut by the stump, you can count the rings, every year a ring grows, so you are able to work out how the temperature has changes because the ~~rig~~ rings would be further apart if its hotter as they grow faster.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has made the link between warmer temperatures and thicker rings (1) and has made the development point that this was due to more rapid growth (1).

Question 6 (c)

This 3-mark 'explain' question required the candidates to identify one reason for the changes in the global temperatures shown on the resource. An AO3 mark was awarded for using evidence from the resource as part of their answer – this was focusing on the change in the temperature shown on the graph. They could have been awarded this mark for identifying the overall increase, or for using data to show the change. Candidates were then required to develop their answer to explain why the global temperature has increased over the time period (eg linking it to the burning of fossil fuels and the release of greenhouse gases). Some candidates made reference to natural causes of climate change (eg volcanic eruptions), but these were not awarded a mark as they did not explain the changes across the whole time period.

(c) Study Figure 6a in the Resource Booklet.

Explain **one** reason for the changes in global temperatures shown on Figure 6a.

You must use evidence from Figure 6a in your answer.

(3)

Due to access of fossil fuels, homans have burnnte them over the years which increases the global tempretures. From a stable 0.0 from 1950 - 1975, to an increase of 1.0 from 1975 - 2020.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified the overall increase in temperature (1) and has made a link to the burning of fossil fuels (1).

(c) Study Figure 6a in the Resource Booklet.

Explain **one** reason for the changes in global temperatures shown on Figure 6a.

You must use evidence from Figure 6a in your answer.

(3)

Human activity. Human activity such as the burning of fossil fuels ~~has~~ has increased the ~~Greek~~ greenhouse effect, increasing global temperatures ~~over~~ overtime.

ResultsPlus
Examiner Comments

This response was awarded three marks.

The candidate has identified the increase in temperature (1) and has linked this to the burning of fossil fuels (1) leading to the greenhouse effect (1).

Question 6 (d)

Q06(d) required candidates to calculate the mean number of deaths per tropical cyclone using the data set provided. They were therefore required to add up the total of deaths and divide by the number of tropical cyclones. They were required to show their workings with one mark being awarded for the correct workings and one mark for the final answer. If they simply wrote the answer without showing any workings, they were awarded one mark. Candidates should be encouraged by centres to write their answers on the answer line provided. However, if it is not written in this space but it is clear that the correct answer has been given, this will be credited.

(d) Tropical cyclones are extreme weather events.

Study Figure 6b in the Resource Booklet.

Calculate the mean number of deaths per tropical cyclone shown on Figure 6b.

You must show your working in the space below.

1303 + 50 + 91 + 63 + 22 + 38 (2)
+ 50 ÷ 7 = 1574.1

Mean number of deaths 1574.1

ResultsPlus
Examiner Comments

This answer was awarded one mark.

The candidate has shown the correct working (1), but has not given the correct answer.

ResultsPlus
Examiner Tip

Remember to bring a calculator into the exam.

(d) Tropical cyclones are extreme weather events.

Study Figure 6b in the Resource Booklet.

Calculate the mean number of deaths per tropical cyclone shown on Figure 6b.

You must show your working in the space below.

(2)

1303 + 50 + 91 + 63 + 22 + 36 + 50 = 1617

7 Tropical cyclones

1617 ÷ 7 = 231 deaths

Mean number of deaths 231

ResultsPlus
Examiner Comments

This response was awarded two marks.

The correct answer is given (1) and workings shown (1).

ResultsPlus
Examiner Tip

It makes it much clearer if your final answer is written on the answer line provided.

Question 6 (e)

This 4-mark question required candidates to explain one reason why some tropical storms lead to more deaths than others. They were required to identify an initial reason (eg some storms are more powerful than others) and then develop their answer through explanation with three further linked points being required for full marks. Some candidates identified several different reasons, but they were only awarded marks for the one with the most linked development points.

(e) Explain **one** reason why some tropical cyclones lead to more deaths than others.

(4)

One reason is Some tropical cyclones are bigger and more powerful than others this causes more damage to the defences against cyclones and buildings this causes buildings to collapse on people and homes being destroyed and people being lifted into the air.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that some storms are more powerful than others (1) which causes more damage to buildings (1).

(e) Explain **one** reason why some tropical cyclones lead to more deaths than others.

(4)

One reason is that some are more intense than others. This means the more intense ones ~~can~~ results in higher winds and more floods. The increase in floods causes more diseases like cholera and typhoid to spread which may infect and kill people if left untreated. Additionally many people can't get food or basic supplies when floods are more severe causing more deaths.

ResultsPlus
Examiner Comments

This response was awarded four marks.

The candidate has identified that some storms are more intense than others (1) which leads to more flooding (1) and then to diseases such as cholera/ typhoid (1) which will infect people and kill them if left untreated (1).

ResultsPlus
Examiner Tip

Use connective terms such as 'therefore' and 'this means that' to help link points.

Question 6 (f)(ii)

This 2-mark question required candidates to identify a reason for the link between ocean surface temperatures and the location of tropical storms. The command word was 'suggest' and candidates were directed to use evidence from the resource in the answer in order to be awarded an AO3 mark. For example, they could have identified the range of latitudes where the track of tropical cyclones were shown on the map or identified the ocean temperature ranges in these areas. The second (AO2) mark was for a linked development point which might, for example, be related to the link between the ocean surface temperature as a source of energy for the storm.

(ii) Suggest **one** reason for the link between ocean surface temperature and the location of tropical cyclones.

You must use evidence from Figure 6c in your answer.

(2)

Tropical cyclones occur at warmer temperatures at the equator more frequently temperatures at the equator are around 25 - 30°C

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified an area, using the ocean temperatures from the map, where tropical cyclones are shown (1), but has not developed this point. Although there is a reference to 'warmer temperatures', this was not sufficient for credit to be given.

(ii) Suggest **one** reason for the link between ocean surface temperature and the location of tropical cyclones.

You must use evidence from Figure 6c in your answer.

(2)

Generally, ~~it is~~ ~~or~~ tropical cyclones are located in the area where it is indicated as 25 - 30 °C of ocean surface temperatures. This is because tropical cyclone need higher heat energy to be able to move and form the winds.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified a range of ocean surface temperatures shown on the map where cyclone tracks were evident (1) and has made a further linked point to the need for tropical cyclones to be provided with heat energy to be able to form (1).

Question 6 (g)

The command word of this 8-mark question is 'evaluate'. This requires candidates to use evidence to determine the relative significance of something, giving consideration to all factors and identifying which are the most important. The AOs being examined are AO2 (4 marks) and AO3 (4 marks).

To secure the AO2 marks on this specific question, candidates were required to identify and explain the different responses made to tropical cyclones in different categories of countries. Most candidates structured their answers by focusing on one category of country first and then moving onto the other category in a separate paragraph. The most successful candidates were also able to distinguish within the categories between different groups of people involved in the responses (eg individuals, organisations and local/national governments). The range and depth of located knowledge was good in many cases. but it is important to remember that there is a focus to the question and the evidence being presented needs to support the argument being developed.

In relation to the AO3 marks, the command word 'evaluate' required candidates to write a balanced argument which addressed the question. They needed to make sure that their answer developed in a logical fashion and was supported by the evidence presented. They were also required to come to a definitive conclusion. In the context of this question, the conclusion would involve making a judgement about which category of country has the most effective responses.

Overall, many responses were well structured and a concluding judgement was made. A key discriminator was whether there was a clear understanding shown about why the impact of the responses varies between the different categories of country.

(g) Evaluate the following statement.

'Responses to tropical cyclones are more successful in developed countries than in emerging or developing countries.'

(8)

a category 5 storm

Typhoon Haiyan occurred in 2013 in the Philippines, southern Asia and led to 6000 casualties and $2 billion in damage. Responses to this Typhoon Haiyan included 250,000 Litres of water and 1 million food packets sent to to provide for families who had their Settlements destroyed. Furthermore, a St Top-Down strategy called 'Build Back Better' set out to rebuild devastated areas with adequate foundations that can withstand natural disasters. Hurricane Sandy occurred in late October 2012 amassing $65 billion in damage, 165 fatalities and was a category 2 Storm that affected 24 States and was 1100km wide. Responses to Hurricane Sandy included the cleaning of the New York City Subway system reopening on November 1st causing little disruption, a long-term response was building Sea defences in the

River Hudson to reduce storm surge flooding. Therefore, responses to Tropical Cyclones are more successful in developed countries as there is more money to provide however, responses in emerging countries such as the Philippines are ~~effective~~ successful in educating people how to prepare in the future.

(Total for Question 6 = 23 marks)

ResultsPlus
Examiner Comments

This response was awarded Level 2 – 5 marks.

The candidate has contrasted the responses made to two different tropical storms in contrasting locations. They have included a range of located knowledge and have made some limited contrasts in terms of the level of income/wealth. There is an overall judgement at the end. To reach Level 3, the candidate could have focused more on the reasons for the varying success of the responses.

(g) Evaluate the following statement.

'Responses to tropical cyclones are more successful in developed countries than in emerging or developing countries.'

(8)

This statement is true for several reasons. Firstly, developed countries can afford satellite technology that can warn them of cyclones forming. This means they can evacuate people more effectively and reduce the amount of deaths. Furthermore, in developed countries the government have more money. This means that they can spend more money on helping rebuilding houses and compensating people for damages. Moreover, more people in developed countries are likely to have house insurance. This means they can get their houses rebuilt more quickly and therefore, improving the response to the tropical cyclone. An example of this is hurricane Sandy that hit the USA in 2012. People were able to evacuate and the government and insurance companies could fix the damages quickly.

However, this is not true for developing countries. Developing countries do not have access to satellite technology and therefore cannot warn their citizens of a cyclone which may lead to more deaths. Furthermore, the governments in developing countries ~~cannot~~ do not have as much money so they cannot spend as much money helping their people as they cannot afford it. This will cause a less successful response. An example of this is hurricane Sandy that hit Cuba in 2012 as well and the Cuban government had to spend 5% of their

network to help with some of the damages. Furthermore, people in developing countries do not have have insurance. this means they have to rebuild their houses themselves, which will take longer and result in a less successful response

In conclusion, this statement is true as developing countries do not have the same facilities as **(Total for Question 6 = 23 marks)**

developed countries ~~and~~ which requires **TOTAL FOR SECTION B = 30 MARKS**
them to rely on Charities to help ~~beside~~ cities that occur and results in ~~a~~ less successful responses to disasters and emergencies. Like cyclones,

ResultsPlus
Examiner Comments

This response was awarded Level 3 – 7 marks.

The candidate has made clear contrasts between the responses in developed and developing/ emerging countries. They have linked this to the amount of wealth available in contrasting countries and the impact this has on infrastructure. They have made judgements through their answer with an overall conclusion at the end. To reach the top of Level 3, they could have looked at the different responses from the point of view of the different groups involved.

ResultsPlus
Examiner Tip

Make sure that you know what the differences are between the command words 'assess' and evaluate'.

Question 7 (a)(i)-(ii)

Q07(a)(i) required candidates to plot the precipitation figures for May and September on the climate graph. It should be noted that the use of climate graphs is an integrated skill in this part of the Specification. The bars needed to be accurately plotted, although they did not need to be shaded in. Although some responses drawn freehand were awarded the marks, this was much less likely than when they were drawn with a ruler. Some candidates completed the bars in pen and then tried to change them which they found difficult. Centres should be encouraged to get their candidates to plot such graphs with a sharp pencil.

Q07(a)(ii) required candidates to calculate the median precipitation using the data provided. While the majority of candidates were able to complete this calculation successfully, a significant minority were only awarded one mark as they did not show their working as requested. Some candidates were also unsure about how to deal with the fact that there was an even number of values and that the mean of the two middle numbers needed to be calculated as well.

7 Large-scale ecosystems are found in different parts of the world.

(a) Study Figure 7a below.

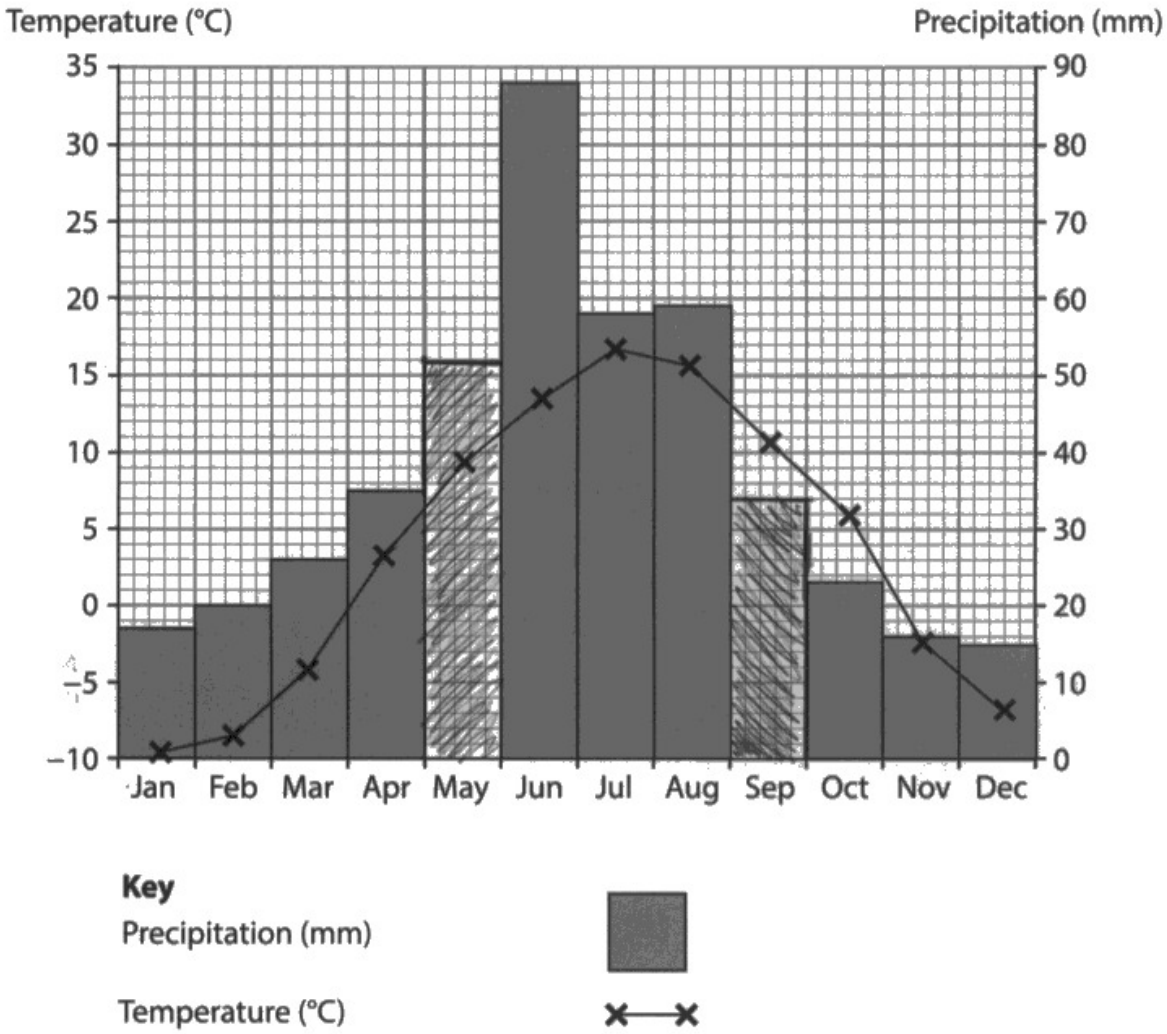

Figure 7a

Climate graph showing mean monthly data for an area of boreal forest in Alberta, Canada

(i) Plot the precipitation data for May and September to complete Figure 7a.

(2)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	−9.9	−8.8	−4.4	3.6	9.8	13	16.7	15.1	10.9	5.4	−2.2	−6.6
Precipitation (mm)	17	20	26	35	52	88	58	59	34	23	16	15

(ii) Calculate the median precipitation using the data table above.

You must show your working in the space below.

(2)

15 16 17 20 23 26 34 35 52 58 59 88

26 + 4 = 30

m.p. = 30

30 mm

ResultsPlus Examiner Comments

This response was awarded two marks for 7(a)(i) and two marks for 7(a)(ii).

The bars for May and September were accurately plotted.

The median has been calculated correctly (1) and accurate working is shown (1).

ResultsPlus Examiner Tip

Candidates should be provided with the opportunity to practise all the geographical and mathematical skills listed on p.32-33 of the Specification (Issue 3).

Question 7 (b)

Q07(b) was not answered well. It required candidates to explain one way that climate can influence the distribution of large-scale ecosystems. Many candidates seemed unclear about both the terms 'distribution' and 'large-scale ecosystems' and struggled to pull these two parts of the question together. This is an area which is clearly listed in the Specification and candidates are expected to know the distribution of the large-scale ecosystems listed in the Specification – and to understand the role of climate and local factors in influencing it.

(b) Explain **one** way climate can influence the distribution of large-scale ecosystems.

(3)

A humid climate ~~climates~~ can lead to a tropical rainforest as that is the condition needed for one to grow, this is because the wet and warm weather allows plants to grow at a rapid rate as photosynthesis needs water + heat to ~~a~~ work.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that tropical rainforests are found in areas with warm/wet climates (1) which leads to rapid rates of photosynthesis (1). However, the third mark was not awarded as they have not made the link to where the tropical rainforests are distributed (along the equator).

(b) Explain **one** way climate can influence the distribution of large-scale ecosystems.

(3)

The species of plants that grow in tropical rainforest need high temperatures, humid conditions and frequent rainfall. So they often form around the equator where the climate is warm due to a high concentration of the suns rays, while also with high levels of precipitation.

ResultsPlus
Examiner Comments

This response was awarded three marks.

The candidate has identified that tropical rainforest is distributed along the equator (1) and has then linked this to the climate being warm (1) due to the high concentration of the sun's rays (1).

Question 7 (d)(i)

In this question, candidates were required to calculate the percentage decrease in the estimated forest cover between 1900 and 2000. The data to allow them to calculate this change was included in the text in the resource. One mark was awarded for the correct answer and the second mark was for the correct workings. The question required that candidates gave their answer to one decimal point. If they did not do this, they could still be awarded the mark for showing their workings but not the one for the actual answer.

(d) Study Figure 7c below.

In 1900 Indonesia had an estimated tropical rainforest cover of 170 million hectares. By 2000, deforestation had reduced this forest cover to 100 million hectares.

Reasons for this deforestation included:

- Rising demand for goods such as medicines and timber
- Uncertainty about who owns the land
- Political corruption
- Population growth
- Conflicts between local communities and large companies
- Mining for gold
- Oil palm plantations

Figure 7c

Information about deforestation in Indonesia

(i) Calculate the percentage decrease in the estimated forest cover in Indonesia between 1900 and 2000.

Answer to **one** decimal place.

You must show your working in the space below.

(2)

41.2 %

ResultsPlus
Examiner Comments

This response was awarded one mark.

The correct answer has been given (1), but the candidate has not shown any workings.

(d) Study Figure 7c below.

In 1900 Indonesia had an estimated tropical rainforest cover of 170 million hectares. By 2000, deforestation had reduced this forest cover to 100 million hectares.

Reasons for this deforestation included:

- Rising demand for goods such as medicines and timber
- Uncertainty about who owns the land
- Political corruption
- Population growth
- Conflicts between local communities and large companies
- Mining for gold
- Oil palm plantations

Figure 7c

Information about deforestation in Indonesia

(i) Calculate the percentage decrease in the estimated forest cover in Indonesia between 1900 and 2000.

Answer to **one** decimal place.

You must show your working in the space below.

(2)

$$\frac{170 - 100}{170} \times 100 = 41.2\%$$

41.2 %

ResultsPlus
Examiner Comments

This response was awarded two marks.

The correct answer has been given (1) and workings shown (1).

Question 7 (d)(ii)

Q07(d)(ii) required candidates to explain two economic reasons for deforestation in Indonesia. The marks for this question were divided between two AO2 marks and two AO3 marks. The AO3 marks were reserved for the candidates being able to select economic reasons from the resource. If the candidates identified reasons which were not economic (or were not included in the resource), these were not credited. The AO2 marks were awarded for further development through explanation making it clear why these were economic reasons. For example, if a candidate has stated that 'there is rising demand for goods like medicine and timber (1) which can be sold (1)', this would have been awarded two marks. Simply stating that there is 'rising demand for medicine and timber' would have been awarded one mark.

(ii) Explain **two** economic reasons for the deforestation of tropical rainforest in Indonesia.

You must use evidence from Figure 7c in your answer.

(4)

1 There have been rising demand for goods such as medicines and timber

2 Another reason is population growth so needing more space.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The first reason is an economic one (1), but further development was not given.

Although the second reason, population growth, is from the resource it was not awarded a mark as this is a social rather than an economic reason – and no further development was given to explain how it might be considered an economic reason.

(ii) Explain **two** economic reasons for the deforestation of tropical rainforest in Indonesia.

You must use evidence from Figure 7c in your answer.

(4)

1 One reason is mining for gold to make money. People mine land which is often covered by forest to find gold. This leads to deforestation

2 Rising demand for goods like medicine and timber. More people need these neccessities and more people means more needed to sell to them.

ResultsPlus
Examiner Comments

This response was awarded four marks.

Both reasons are from the resource and both are clearly economic with further linked development being given to show why they are considered economic reasons.

Question 7 (e)

Many candidates were able to gain the mark on this question by stating an example of a service provided by deciduous woodland ecosystems. Some candidates, however, listed goods (eg timber) rather than services and were not therefore awarded a mark.

(e) Deciduous woodlands are common in temperate areas.

State **one** example of a service provided by deciduous woodland ecosystems.

(1)

timber

ResultsPlus
Examiner Comments

This response was not awarded a mark.

The candidate has stated a good rather than a service.

(e) Deciduous woodlands are common in temperate areas.

State **one** example of a service provided by deciduous woodland ecosystems.

(1)

~~Timber for Building~~ Recreation purposes

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has given an example of a service (1). It is important to note that if the candidate had not crossed out their original answer and had left both answers, they would not have been awarded a mark as their first response would have been the one that was marked and this is incorrect. However, as it had been crossed out and the second answer was given, this was the one which was marked.

Question 7 (f)

Many candidates were able to gain both marks on this question. They were able to identify an example of an adaptation and develop it further. It should be noted that some candidates gave examples of animals which do not live in deciduous woodlands (eg chameleons) and these answers were not awarded a mark.

(f) Explain **one** way in which animals adapt to the environment in deciduous woodlands.

(2)

Animals adapt to the environment in deciduous woodland through hibernation during winter.

ResultsPlus
Examiner Comments

This response was awarded one mark.

The candidate has identified that animals adapt by hibernating in winter (1), but has not explained why (eg due to a shortage of food).

(f) Explain **one** way in which animals adapt to the environment in deciduous woodlands.

(2)

Squirrels bury their food in summer so that in winter when it becomes cold ~~and~~ they still have food saved to get them through the cold and resourceless winter

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified that squirrels bury their food (1), so they have food available when it gets colder (1).

ResultsPlus
Examiner Tip

Read the question carefully and try to leave time at the end of the examination to check your answers.

Question 7 (g)

Q07(g) required candidates to explain one approach to the sustainable management of deciduous woodlands. The Specification requires that centres have taught this content within the context of a named region and many answers included good located knowledge. The initial mark was for giving the approach (replanting after trees have been felled) and the further three marks were for linked development points. If a candidate gave two or more approaches only, the one with the most development points was credited as the question required candidates to explain one approach.

(g) Explain **one** approach to the sustainable management of deciduous woodlands.

(4)

replanting trees that have been cut down due to deforestation. & Therefore deciduous woodlands can still be. And so habitats can be restored and wildlife is not endangered.

ResultsPlus
Examiner Comments

This response was awarded two marks.

The candidate has identified replanting trees as their approach (1) and then made the linked point that this restores habitats (1).

(g) Explain **one** approach to the sustainable management of deciduous woodlands.

(4)

Controlled felling is where deforestation of the woodland is only allowed in certain areas and of certain tree species. This means a variety of trees will stay alive and one species won't become extinct. It also preserves the newer trees that have just been planted and allows sunlight to reach them as they are not blocked by the older trees. It is only allowed to take place at certain times as well which limits disruption to animals.

ResultsPlus
Examiner Comments

This response was awarded four marks.

The candidate has identified controlled felling as their approach (1) and have further developed this through links to keeping a variety of trees alive (1) preserving newer trees that have just been planted (1) and allowing sunlight to reach them (1). All of these development points are linked to the approach identified at the start of the response.

ResultsPlus
Examiner Tip

It is important that you focus on both the command word and the number of marks available.

Question 7 (h)

The last question on the paper continues to prove challenging for some candidates. It is the case that the papers are constructed in a way that ramps up the level of challenge through the paper. However, it is important that all candidates at least attempt the final question – in part because there are 4 SPaG marks available on this question. Even if the candidates had only scored Level 1 – 1 mark for the content, they are likely to gain some of the SPaG marks and should be encouraged by centres to attempt it.

For the AO2 marks, the candidates were required to describe and explain the reasons for the variation in biodiversity between tropical rainforests and deciduous woodlands. Most candidates focused solely or largely on the role of climate. It was possible to achieve four AO2 marks for an answer focusing on a single reason, if the depth of explanation was sufficient. However, this became more limiting in relation to the AO3 elements. Other reasons which candidates focused on included the role of time (with tropical rainforest ecosystems being much less disturbed over longer periods of time) and human activity.

In relation to the AO3 elements, the command word for this question was 'assess'. Unlike a question with the command word 'evaluate', this question stem does not require an overall concluding paragraph with a judgement about which reason is more or less important overall. Instead, candidates are required to make judgements about the relative importance of the reasons through their answer. A good approach to this is to add judgement comments at the end of each paragraph. The candidates can also finish off with an overall concluding paragraph to support these judgements, but it is not required.

The question also has 4 marks allocated for the assessment of spelling, punctuation, grammar and use of specialist terminology (SPaG). Candidates were not awarded any of these marks if they did not answer the question or if their response was not awarded any of the marks for the 8-mark part. It was pleasing to see a wide range of specialist terms being used by some candidates and these, combined with accurate spelling and punctuation, allowed many candidates to achieve 3 or 4 marks on this element.

(h) Assess the view that climate is the most important reason why tropical rainforests have higher biodiversity than deciduous woodlands.

(8)

Ear I agree with the statement 'climate is the most important reason why tropical rainforests have higher biodiversity than deciduos woodland' one reason is; tropical rainforests have a better ability to grow plants, this is due to the damp, humid conditions of the tropical rainforest. The warm, damp floor means decomposition occurs a lot faster, meaning plants grow a lot faster. The more diversity there is in plants, the more diversity there is in animals as there are more types of food for them to eat.

However, I also believe that tropical rainforests are more protected than deciduos woodland, this means that people are more likely to go into a deciduous woodland and cause harm to the plants or animals than they are to do the same thing, but in a tropical rainforest.

In conclusion, I agree that climate is

an important factor as to why tropical rainforests have higher biodiversity, but it is definately not the only reason.

ResultsPlus
Examiner Comments

This response was awarded seven marks – Level 2 – 4 marks for the content and 3 marks for SPaG.

The response is structured using paragraphs and is focused on the question. The candidate has included two factors (climate and levels of protection) and there is some description and explanation of both. However, the depth of explanation and use of supporting evidence is quite limited. The candidate has made some basic statements about the importance of the different reasons, but these are not qualified in terms of the relative importance of the reasons. In terms of the SPAG, the spelling and punctuation are largely accurate and some specialist terms have been used.

(h) Assess the view that climate is the most important reason why tropical rainforests have higher biodiversity than deciduous woodlands.

(8)

Climate is a very important factor in increasing the biodiversity of a tropical rainforest (TRF) relative to a deciduous woodland as the temperature range - 30°C - 20°C and the 2000 - 2200 mm of annual rainfall provide optimum growing conditions for the plants all year round. This means that the animals in the ecosystem always have enough food and so are abundant, this means that the biodiversity is high throughout the year as the TRF has a lack of seasonal variation. Whereas in a deciduous woodland during the winter months biodiversity significantly decreases as many plants die and many animals hibernate or migrate to other countries. Therefore climate is a very important factor in the high rate of biodiversity in a TRF.

However the TRF is a very old ecosystem, this means species have had lots of time to develop and evolve and create new species - so biodiversity increases. In deciduous woodland the ecosystems is much younger this means it has had less time to create new species and so it inevitably has a lower biodiversity. This factor is quite important as if the deciduous woodland was older it would have a significantly higher biodiversity than it does now.

Overall I do think that climate is the most important reason for a TRF higher biodiversity than a deciduous woodland as even if deciduous woodland was the same age the it's seasonal variation would severely limit its biodiversity during the winter and so ~~it would~~ this

shows that at TRF's permanent state of hot and humid due to it's location on the equator allow optimum growing conditions all year round making plants & animals & other biotic factors permanently abundant all year round, helps increase its biodiversity. the TRF's climate is largely due to its location, suggesting that ~~area~~ location too is an important factor in making it's biodiversity [+ this is due to its location on the equator] higher than a deciduous woodlands

ResultsPlus
Examiner Comments

This response was awarded the full twelve marks – Level 3 – 8 marks for the content and 4 marks for SPaG.

The response is clearly structured using paragraphs and is focused on the question. Although the candidate largely focuses on climate, other reasons have been given (eg the age of the ecosystem). There is good supporting evidence and a good range of key terms is included. Judgements about the relative importance of the reasons have also been included.

ResultsPlus
Examiner Tip

Use paragraphs to help you structure your response in the 8-mark questions.

Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

- Ensure that you are familiar with the command words used in the specification. For example, the difference between what is expected for 'assess' and 'evaluate'. Candidates should be reminded that 'assess' questions require evidence to determine the relative importance of the reasons/ factors under consideration in the question – while they do not require an overall concluding paragraph, candidates do need to make judgements about the relative importance of the reasons/ factors through their response. In the case of the 'evaluate' questions, while judgements can be made through the answer, there is also a requirement that candidates provide a substantiated judgement/conclusion which would normally be found at the end of the response.
- In the 8-mark 'examine' questions in Section A, candidates must use evidence from the resources in their answers rather than simply repeating what they have learnt and revised. The information extracted from the resources should be used to support their answers.
- In questions where there is reference to a resource, it is important that evidence from the resource is used to answer the question as these are targeting AO3 (application of knowledge and understanding). This is flagged up in the questions where this is required.
- Developed points are needed on 3 – or 4-mark 'explain' questions. These types of questions require an initial point to be made in response to the question which should then be developed through the 'chain of explanation'. Only the most well-developed point and its links will be credited, so if a candidate makes several points, each of which are not developed, this may limit the mark they are awarded.
- It is important that centres incorporate the 'integrated skills' into their delivery.
- There will always be a few questions that require candidates to perform a calculation (AO4). It is essential that candidates have a calculator with them. It is also important to read the question carefully. For example, if the question states that they give the answer to one decimal place, it is important that they do so.
- Centres should spend time reviewing the specimen and live papers to ensure that they are familiar with the key vocabulary which is being used in the questions – both in terms of key geographical terms (eg 'biodiversity') and words which provide the 'slant' to the question (eg 'characteristics', 'distribution' or 'vulnerable'). This will also ensure that candidates are familiar with the structure of the paper and will hopefully avoid situations where the rubric has not been followed.

Grade boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

https://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

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