

# ResultsPlus

## Examiners' Report January 2011

### GCSE Geography 5GA2H 01

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## Introduction

This paper was in its second outing and proved to be well received by centres. The number of candidates sitting in this session was reduced, however, this is due to a sound performance by candidates in last summer's series and the fact that many centres submitted retake students in this session.

The paper provides little issue in time constraint as most candidates comfortably complete the paper in the allotted time. While most candidates were able to use the space provided for their answers some still wrote answers outside the allocated space. If candidates are to do this they must ensure that they clearly direct the examiner to the location of their extra writing.

The popularity of questions followed a similar pattern to the summer with Coastal Landscapes and Tectonic Landscapes proving to be the most popular responses. Although Glacial Landscapes is by far the least popular option it is clearly being well taught by centres and candidates performance achieves high marks. The River Landscapes option was less popular than the summer.

In part B the Wasteful World option proved to be very popular, possibly owing to the good performance of candidates in last summers series. However, it was pleasing to see a good performance from those centres on the Watery World option.

Overall students have shown a competence with the physical geography topics as the performance by many candidates remains at a high level.

### ***Question 1 (a) (i)***

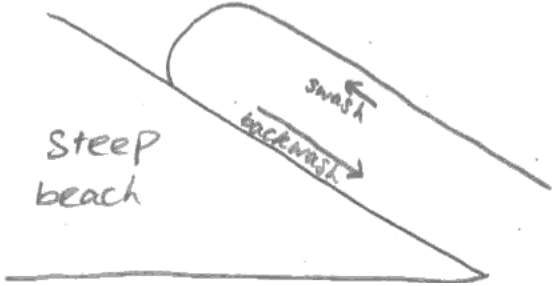
Many candidates were able to correctly identify the answer as slumping, with some referring to acceptable answers such as slide or landslide. There was some confusion with most notably soil creep, however cliff retreat or erosion were common also. Candidates need to familiarise themselves with the command of mass movement to point them to the correct answer.

### ***Question 1 (a) (ii)***

The intended answer of Beach (Y) and Cliff (Z) were outdone by bay and headland which were also acceptable answers. Clearly without an arrow directing candidates to a specific landform the interpretation of the landform was unclear, and therefore a wider range of answers were deemed acceptable.

**Question 1 (a) (iii)**

The majority of candidates were familiar with the correct swash/backwash relationship, with tall waves (relative to length) and powerful waves also common responses. Fewer picked up on the notion of frequency or plunging motion of these waves. Candidates could improve if they were to learn specific facts regarding waves such as above 1m high, or 10-14 waves breaking per minute.



Steep beach

swash

backwash

- High in comparison to length
- Backwash stronger than swash
- Frequent (10-15 /minute)
- Occur on steep beaches

More sand and sediment is washed off the beach than onto it because the backwash is stronger than the swash.


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Examiner Comments

This was a good answer, albeit bulleted, with specific characteristics of destructive waves including some specific numerical data to support. Steep beach was allowed even though this is not a specific characteristic of the wave itself.


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Examiner Tip

Use of a diagram in such a question with the features labelled on, will help the examiner understand clearly what you mean in your written points.

**Question 1 (b) (i)**

The majority of candidates understood the difference between hard and soft engineering and were able to correctly identify this as hard engineering.

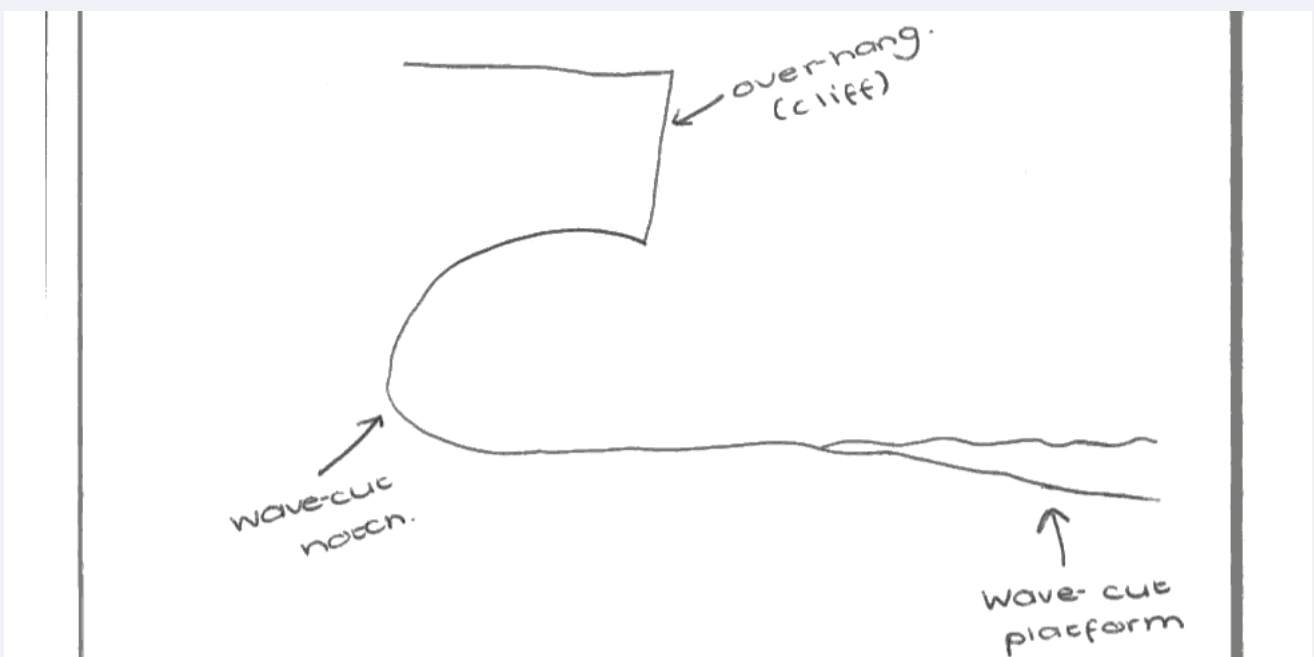
**Question 1 (b) (ii)**

This question proved to be a good discriminator as a significant minority mistakenly identified the groynes breaking the waves and therefore stopping erosion. Many candidates were able to make the link to groynes preventing longshore drift, but fewer developed this point to suggest that this led to the beach building up. Some candidates understood how the beach absorbed wave energy. A minority achieved the full three marks as the application of knowledge in this circumstance proved tricky.

**Question 1 (b) (iii)**

Candidates generally were familiar with cliff formation but struggled with the concept of a wave cut platform. To gain full marks students were required to identify a whole sequence, including an element of retreat of the cliff face. In addition students were required to use annotation in their answer. Many were held at three marks as they labelled rather than annotated. In this circumstance annotation required a basic sentence. Students need to learn to differentiate between annotation and labelling.

Additionally students must learn not to be too descriptive in their answer, and to include explanation. In this item, the most common explanations related to the collapse of the cliff face due to gravity, but explanation could also be reached with a development of the erosional process or an explanation of the defensive mechanism of the wave cut platform. In order to achieve full marks students were required to explain, include process, include full sequence and have annotations.



Due to erosion by hydraulic action, the cliff is eroded at the bottom which forms a wave-cut notch. As the wave-cut notch increases, the overhang above it becomes unstable and eventually collapses because of gravity. The wave-cut platform, (which is under the sea at high tide) is formed from the overhang and is made up of all the stone/pebbles that used to be on the cliff.

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## Examiner Comments

This is a good example of a response which includes a process, has some explanation and has some sequence. However, to get to full marks it would need to use annotation, not labels as shown here and would need to complete the sequence.

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## Examiner Tip

Ensure you understand the difference between annotation and labelling.

**Question 1 (c)**

Although many candidates achieved more than two marks it is clear that they do not have a complete understanding of the terms. Some candidates muddled fetch and geology, though a more common mistake was that fetch was the strength of, or size of, the wave. Some candidates misread the question and only answered on one of the factors, while many candidates did not appreciate the idea of rate of recession; therefore answers which referenced coastal defenses were common. Some candidates believed that a longer fetch produced a lower energy wave and therefore reduced the rate of recession. Overall it is clear that a better understanding of these terms will help improve candidate performance.

(c) Explain how variations in the length of fetch and the geology might increase the rate of coastal recession.

(4)

The further the length of the fetch, the more energy the waves contain. This means that if the fetch is long the waves become destructive due to the build up energy. However like the South west of England the rocks can be made of resistant materials like granite, which resist the forces of the waves slowing down the recession. But weak geological structures such as ~~the~~ the cliffs at Holderness are ~~eroded~~ eroded quicker due to the reasonably long fetch but also the weak clay structure, so the longer the fetch and the weaker the rock the quicker coastal recession takes place.



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Examiner Comments

This is an example of a candidate who has a clear understanding of both fetch and geology. The points on fetch are well explained and the relationship between fetch and geology is well developed in reference to south west of England.



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Examiner Tip

Ensure you understand the terms fetch and geology. This will avoid unnecessary mistakes.



### Question 1 (d)

Candidates tended to provide generalised answers to this question as factual recall of specific points was disappointing. Those that focused on the examples of Happisburgh, Walton, and Westward Ho produced some of the best results. Use of coastal management examples were inappropriate in this case. A limited number of candidates provided excellent answers with a range of different place examples and a wide range of effects. Candidates need to be prepared for case study questions which refer to a range of examples, as well as the classic management case study.

Coastal recession, affects everything and everyone. It affects residents who have to gradually retreat because of coastal recession. It affects tourists because the landscape goes. It affects the environment because, farms, houses and buildings will be gone because of lack of land, which is taken by coastal recession. Coastal recession will also affect confidence, because people will be upset. It can affect the environment by ~~destroying~~ schools simply taking away land.



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Examiner Comments

This is an example of a top level one answer which typified a generalised response. Here the candidate is descriptive, meaning that they are unable to access level two.



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Examiner Tip

On the case study questions to reach level 2 marks you need to include a specific point or generalisations that are explained. To get to level 3, candidates need to include a range of explanations and specific points. In such a question more than one located example with specific effects would be appropriate for a high level mark!

**Question 2 (a) (ii)**

Candidate responses varied on this item. Some candidates simply described the route of the river, or spent needless time describing the characteristics of the river at point R. A number of candidates focused their answer on river landforms such as river meandering or valley type, raising the question whether they understood the term river characteristics. Candidates with clear focus easily picked up the marks with reference to depth, width, discharge and velocity. It was pleasing to see some candidates mention sediment size or roundness, or even channel roughness. Some candidates were able to collect extra marks with explanation of their characteristics.

The river becomes much more straight with less tributaries along the way. The river flows further south before coming to an end. There are less meanders between these two points.

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Examiner Comments

This was a typical response describing the route of the river and the landforms found. It is questionable whether the candidate understands the term characteristics.

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Examiner Tip

Ensure that candidates understand the difference between river characteristics and landforms.

**Question 2 (a) (i) X**

Many candidates were able to identify this as watershed. Some confused it with drainage basin.

**Question 2 (a) (i) Y**

The majority of candidates identified this as mouth.

**Question 2 (a) (i) Z**

Due to the positioning of the arrow there was some confusion between confluence and river channel, yet both were acceptable. There was some confusion by candidates who thought this was a meander.

**Question 2 (b) (i)**

The vast majority of candidates identified this as hard engineering.

**Question 2 (b) (ii)**

In this question candidates were required to apply their knowledge of river management. Many candidates were able to recognise that concrete provided a more resistant barrier than the earthen banks. However, few candidates linked this to erosion and were therefore limited to two marks. Some candidates became obsessed with the notion of flooding and therefore lost focus.

(ii) Explain how the management shown in Figure 2c could help to reduce erosion.

(3)

We can observe that the management ~~tech~~ technique used here is of concrete embankments. Concrete is harder and more resistant than normal earth river banks. This means that hydraulic action and other river processes will erode the banks less. More resistant material. Erosion to channel reduced.

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Examiner Comments

This was a good example of a response that had clear link to the action of the concrete, and then linked it back to the the reduction of erosion.

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Examiner Tip

Ensure that you fully answer the question, and in this case explain how the management reduces erosion.

**Question 2 (b) (iii)**

Many candidates were able to access three marks but found the final mark elusive. The annotation was often the reason for not reaching full marks with candidates instead providing simple labels. In this circumstance annotation required a basic sentence. Students need to learn to differentiate between annotation and labelling, and should practise this.

Candidates were commonly let down by not having sufficient explanation in their answer. In such a question candidates could explain the process, or explain the cause for collapse. Candidates must also ensure that they complete the sequence, but in doing so avoid being descriptive.

(iii) Explain how a waterfall is formed.

Use an annotated diagram or diagrams in your answer.



In number one the water is running over the side. In number two the water is eroding the soft rock to ~~make~~ make a plunge pool. In number three the soft rock has been eroded and the weight of the hard rock is too great so it falls by gravity and the water falls backwards and makes a lagoon.

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## Examiner Comments

Here the candidate shows a series of stages in waterfall formation but lacks annotation therefore limits themselves to three marks.

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## Examiner Tip

Practise annotating diagrams when explaining the formation of a landform.

**Question 2 (c)**

Candidates showed a clear understanding on this question. The only mistakes involved confusion between human and physical factors. It was nice to see candidates refer to hydrological process to explain their factors such as deforestation leads to decreased interception and increased surface runoff.

(c) Explain **one** human and **one** physical cause of flooding. (4)

A <sup>physical</sup> ~~human~~ cause of flooding is <sup>a saturated ground.</sup> ~~poor canal planning.~~ By when the ground is highly saturated with water it cannot absorb any more and ~~with~~ water will run across the surface into the river <sup>when it rains</sup> easily causing a flood.

A human cause of flooding is <sup>deforestation</sup> ~~urbanisation.~~ By cutting down trees in the catchment area of the river there are less trees to intercept and absorb the water during rainfall. This means that water can quickly enter the river and cause a flood.



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Examiner Comments

This is a good response with the candidate demonstrating a clear understanding of how the factor leads to flooding with reference to process.



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Examiner Tip

Try to avoid using the same reasoning for each factor e.g. leads to increased surface run off.

**Question 2 (d)**

Although many candidates adopted the correct focus, many answers were too generalised and lacked specific points, or a range of examples. Therefore answers struggled to get out of lower level 2 even if they had some explanation. Good answers focused on the Boscastle flood, Blandford Forum and some even on the recent floods in Pakistan. Some candidates limited their performance with reference to management case studies.

(d) Explain the effects of flooding on people and the environment.

Use examples in your answer.

(6)

When a flood has occurred there are many effects on people such as loss of possessions, homes and death. Flood water can even peoples homes and all their loved belongings. Sometimes loved ones.

effects on the environment can also be very bad. floods can wash animals homes down knock trees over and drown our plants and crops. leaving nothing left.



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Examiner Comments

This is an example of a typical generalised response which lacked sufficient explanation to get to level 2. Candidates need to have both explanation and specific facts to reach level 3.



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Examiner Tip

Try to learn more than one example when referring to effects, this way you will have more to talk about. The examiners like to see reference to recent topical examples if you can fit them in



### Question 3 (a) (ii)

This proved a tricky question for many candidates as they did not fulfil the requirements of the question. Many candidates focused simply on outlining the process of freeze thaw weathering. Few went on to suggest how such material was then used to undertake abrasion. Candidates were required to suggest that the glacier transports weathered material and that it can be used to scrape along the valley sides or base in the process of abrasion. Some candidates simply said that material carried abraded the valley, but this did not gain credit as an outline of the process was required to gain the mark.

(ii) Outline how freeze-thaw weathering can provide material for abrasion. (3)

As ~~the~~ water freezes in cracks it expands and makes the cracks wider.  
 Over time as the process occurs again and again pieces fall off which  
 could then get embedded or stuck into the glacier. Once the material is  
 stuck it rubs against the land as the glacier moves downhill.



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Examiner Comments

This is a concise response which briefly summarises the process of freeze thaw but doesn't take up all the answer space in doing so. They then clearly show that the glacier is responsible for moving material and then how this transported material abrades by 'rubbing against the land'.



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Examiner Tip

Read the question carefully, this question did not require a definition of the freeze thaw process but an understanding of how such weathered material can be used.

### **Question 3a (i) J**

Some candidates confused the corrie lake with the corrie, however the majority of answers were correct.

### **Question 3 (a) (i) K**

Most candidates were able to identify feature as arete.

### **Question 3 (a) (i) L**

Initially this was considered to be a difficult landform to recognise, yet a surprising number correctly identified this as a pyramidal peak. There were some who repeated the term arete, though we would not ask for two of the same answers on one picture.

### **Question 3 (b) (i)**

A disappointing number of answers did not manage to get two correct, but often got one of the two. Many candidates were giving ground or terminal moraine from the photo but these are clearly not evident. Many candidates scored one on this response.

### **Question 3 (b) (ii)**

Candidates did not have to stick to the lateral or medial moraine shown in the picture, yet many did. Many had a good understanding of the type of moraine, but failed to link it to deposition therefore limiting themselves to two marks. There were however some excellent answers from students who have learnt glaciation, a testament to some good teaching.

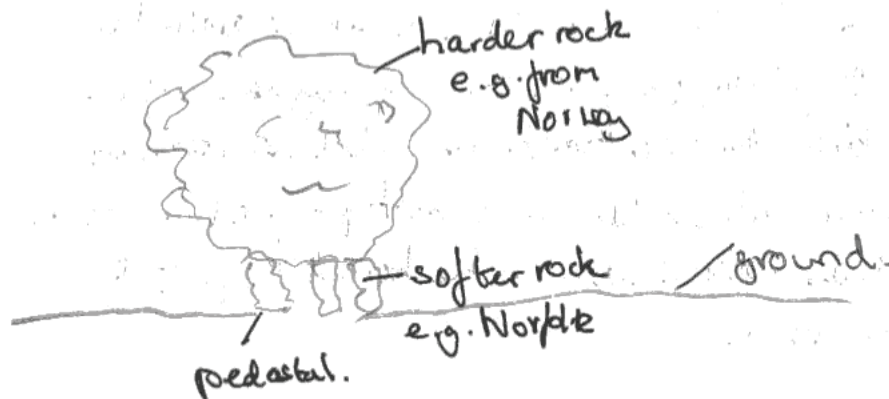
**Question 3 (b) (iii)**

This question produced a variety of responses from the candidates. Many failed to annotate their diagrams and therefore limited themselves to three out of four marks available. Students need to practise drawing annotated diagrams, with more than simple labels. The explanation of landforms is a good opportunity for this. It was pleasing to see that many students recognised erratics as having a different rock type from their surrounding and that they had travelled great distances. Students must ensure that they explain, as some answers were a little descriptive. Some candidates could not differentiate between normal material carried by the glacier and erratics. There was also a need to mention the deposition element of the process as the glacier ablates.

(iii) Explain how an erratic is formed.

Use an annotated diagram or diagrams in your answer.

(4)



An erratic is formed when the glacier picks up huge pieces of rocks by plucking <sup>or freeze thaw</sup>, and could cover great distances but in ~~the~~ carrying its way creating U shaped valleys. And in some cases it can travel huge distances. When the glacier begins to melt or it simply cannot take any more weight it can dump the rock, in some case the erratic will be harder rock landing on smaller rock so over the years the smaller rock will erode by weathering and will create a ~~pedestal~~ pedestal for the Rock.

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## Examiner Comments

This is a typical answer where the candidate writes a fair response with some explanation but does not give annotations therefore would be unable to access full marks.

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## Examiner Tip

Be able to differentiate between annotations and labels. Practise learning landform formation with annotated diagrams!

### Question 3 (c)

There was a mixed response to this question. Candidates had a clear understanding of a range of methods to reduce the effects of avalanches, however, answers were often descriptive, therefore limited to two marks. Candidates need to ensure they write sufficient development to explain exactly how their chosen method can reduce avalanche effects. Try not to generalise the method either. For example some candidates used the same reasoning for avalanche fencing and afforestation, i.e. to slow the flow of snow, however avalanche fences actually build up snow behind them, therefore the same reasoning is not applicable for both.

(c) Explain how the effects of avalanches can be reduced.

(4)

The effects can be reduced by putting up snow fences, these will disrupt the flow of snow. People can also plant trees, although they are easily broken they will help slow down the avalanche. Avalanche proof houses can also be built to minimise the damage done.



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Examiner Comments

Here the candidate recognises three methods to reduce avalanches, but only correctly develops one of them, the 'planting trees'. Without two pieces of explanation the candidate is restricted to 3 marks.



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Examiner Tip

When focusing on a question requiring methods or reasons it is best to choose two or three and fully develop each rather than list off a series of methods.

### Question 3 (d)

This question provided some excellent answers, especially from those who cited the Galtur case study and could explain the complex weather systems and the 'melt crust'. Some of the less able candidates quickly skated over the causes and devoted their answer to the human effects, though this was in the minority of answers. Although a tricky concept, many of the candidates were able to explain the intricacies of weather systems in answer to this question and were able to include multiple pieces of specific information.

(d) Choose an avalanche you have studied.

Explain the causes of the avalanche.

(6)

Chosen study Galtur, Austria.

On January 1999 a series of snowstorms hit the town of Galtur and the surrounding areas. 4m of snow fell and coupled with winds of up to 100 km/h <sup>there were</sup> large accumulations of snow on the slopes surrounding Galtur. The ~~avalanche~~ snow held out for a long while because the snow melted during the day and at night it ~~rose~~ again bonding <sup>with</sup> the snow which had fallen on top of it. This meant that snow kept accumulating. This special layer called ice crust was unlike other weak layers in that it did not give out when it was supposed to so more snow built up. Eventually the ice crust layer gave out and sent <sup>20</sup> tonnes of snow and ice down the slopes headed straight for the town. The town had no ~~the~~ protection systems in place so the avalanche built up speed and hit Galtur with full impact killing 31 people. Roads were blocked in and out of the town so the injured survivors had to be airlifted to the nearest hospital. The last body was found 4 days after the avalanche on February 27<sup>th</sup> 1999.

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## Examiner Comments

This is an example of a clear level 3 response with inclusion of specific points and some explanation. Although the candidate is side-tracked at the end with reference to effects they have a good understanding of the causes.

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## Examiner Tip

Learn the avalanche case studies in two parts, causes and effects. Hopefully this will avoid any confusion in the exam.

**Question 4 (a) (i)**

Most candidates correctly identified Alaska.

**Question 4 (a) (ii)**

Although there were still errors by some there seems to be a significant improvement in candidates ability to answer distribution questions. Many candidates were able to identify the location of earthquakes near plate boundaries, or by the coast, with many also picking up anomalies such as near Hawaii, or some in inland USA. Some impressive candidates quoted longitude and latitude data in locating earthquakes. However, there are still centres whose candidates looked to give explanation and did not identify the command describe. A great overall improvement on describing distribution.

(ii) Describe the distribution of earthquakes shown on Figure 4a.

Use evidence from Figure 4a in your answer.

They are distributed <sup>around</sup> ~~around~~ on the plate <sup>(4)</sup> boundaries. There mostly on the west side of North America and ~~they~~ some are dotted round ~~in~~ the west side of USA. There is a cluster of earthquakes on the caribbean islands.



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Examiner Comments

This candidate picks up marks for link to plate boundaries, map evidence (west of North America) and a clustering in Caribbean. They could have identified an anomaly to take them to 4.



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Examiner Tip

Candidates should try to use words like clustered, dispersed or linear in their descriptions to allow more succinct answers.



**Question 4 (a) (iii)**

Many candidates were able to recognise the difference between the focus and the epicentre. However, many candidates still describe the epicentre as above the crust, which is incorrect. They should take more care in the wording of their answers in this respect. Some good answers focused on the difference in location, i.e. focus below crust, epicentre on the crust above the focus, while some outlined the difference in action. A common mistake was mixing of focus and epicentre definitions.

(iii) Outline a difference between the focus and epicentre of an earthquake.

(2)

The focus is the point below the ~~surface~~ crust where the earthquake is caused, whereas the epicenter is the point directly above on land, directly above the focus. The epicenter is usually where most damage is caused.

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Examiner Comments

This is a good clear answer with precise definitions of both location and action differences. This is well worth full marks.

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Examiner Tip

Learn the specific terms in tectonics such as focus and epicentre.

### Question 4 (b) (i)

For what was meant to be a straight forward question many candidates did not understand the term human activity, instead putting a land use. Therefore a surprisingly large number of candidates failed to score one mark. Common mistakes were answers such as buildings, towns or houses.

### Question 4 (b) (ii)

This was generally answered very well by the majority of candidates who could give a wide range of reasons. Although this was an outline question many felt the need to explain therefore resulting in a wide range in the depth of the answer but a lack of variation in marks awarded. Some good responses linked to fertile soils, or social reasons.

People may continue to live on volcanic islands such as Lanzarote, because the volcanic rocks provide minerals such as copper, gold and diamonds, but they could also prefer to stay because of their family and friends and because the place could attract tourism, so there will be more jobs and money available, therefore people can provide for themselves and family. People may also want to stay because it is highly unlikely that the volcano would erupt any time soon.



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##### Examiner Comments

This typified a very detailed response with a wide range of reasons. This candidate even offered explanation, adding to the quality of their answer.



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##### Examiner Tip

Be sure to be able to differentiate the reasons why people live near volcanoes from the reasons why they live near earthquakes. Reference to examples always makes responses seem more realistic.

**Question 4 (b) (iii)**

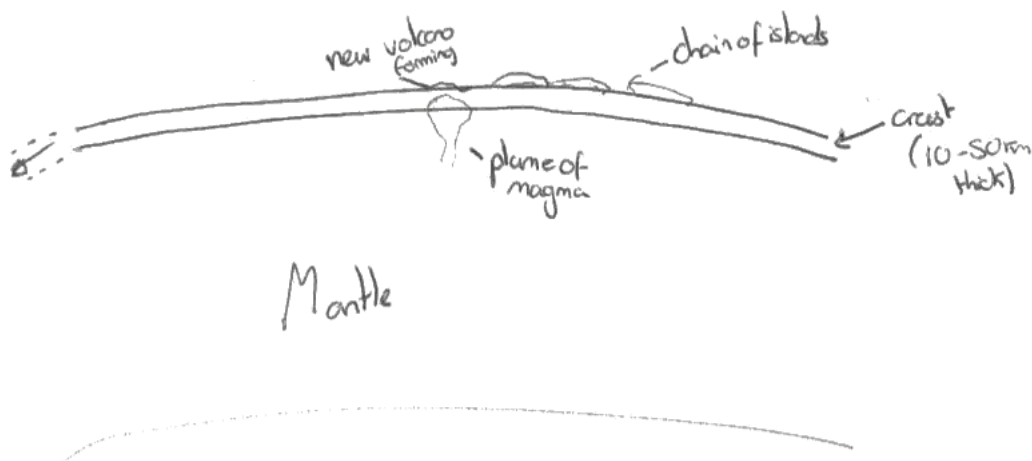
This question proved to differentiate really well as many candidates could not distinguish between volcanism at plate boundaries and volcanism associated with hotspots. Compounded by lack of annotated diagrams few candidates accessed full marks on this question. Of the relatively few good responses, the idea of a convecting mantle plume or movement of the oceanic plate over a stationary hotspot leading to the formation of island chains were a pleasant surprise when read. Candidates need to understand the differences in eruption mechanisms at plate boundaries and hotspots which ultimately lead to different types of volcanism. This is an area which requires improvement for the future.

(iii) The island of Lanzarote has been formed over a hotspot.

Explain how volcanoes form over hotspots.

Use an annotated diagram or diagrams in your answer.

(4)



Volcanoes form over hotspots as hot plumes of magma from the mantle are close to the surface (usually), making the crust thin. So as the magma rises it breaks through the crust. As the magma escapes it builds up over thousands/millions of years, so forming an volcanic island like Lanzarote. Hotspots are stationary, so as the plates above move due to convection currents, new islands (volcanoes) are formed in a chain like Hawaii.

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## Examiner Comments

This response, albeit rare in appearance, was excellent as the candidate clearly understands the concept of hotspots, uses processes such as convection and develops their formation sequence. Although the annotations were in teetering on being labels, they were considered more than one word labels therefore were acceptable to take this to four marks.

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## Examiner Tip

Be able to differentiate between volcanism at plate boundaries and at hotspots. Also, practise annotated diagrams when explaining landforms.

### Question 4 (c)

Candidates showed a great understanding of the methods to reduce the effects of earthquakes but varied in their ability to explain them. Building design was a common response, though some generalised by suggesting that earthquake proof buildings could reduce effects. Good answers focused on aspects of building design such as cross-bracing or window shutters and then explained how these specific methods were able to reduce the effects. Some candidates were still under the belief that scientists can accurately predict earthquakes, yet some excellent answers recognised that although scientists couldn't predict earthquakes that their trial and error had led to improvements in emergency response or building design.

(c) Explain how the effects of an earthquake can be reduced.

(4)  
The effects of an earthquake can be reduced by the way buildings are built, if buildings and houses are built stronger then the people have less chance of being badly effected. Also people should be prepared for an earthquake therefore when it occurs people know what to do and how to do it.



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Examiner Comments

This was an answer which was too descriptive and generalised both points made. It could have been improved with clarification on how building design could be improved or exactly what people should do in preparation for earthquake events.



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Examiner Tip

Try and learn a series of different building modifications which can reduce earthquakes. Look at buildings in San Francisco and Tokyo as there are great examples there.

**Question 4 (d)**

This question produced a range of responses with the most common mistake being that candidates superficially covered causes and then detailed the effects. There were some great examples of the Haiti earthquake and the Montserrat volcanic eruptions. Some answers relating to the Icelandic volcano Eyjafjallajökull missed the opportunity to avoid generalisations and simply described eruptions at divergent plate boundaries. Reference to glacial interaction would have given such answers more specific detail. Of those who did manage to focus on causes, some only referred to plate setting, while the best answers included all such information and then explained the mechanism of either the earthquake or volcanic event. The best explanations were often associated with earthquakes as the mechanism for most of these is fairly generic. Although some centres tried their luck moving away from the texts, it would be nice to see a few more recent examples especially given much more recent activity reported in the news.

(d) Choose a volcanic eruption **or** an earthquake you have studied.

Explain the causes of the volcanic eruption **or** earthquake.

(6)

Chosen study Mt. St. Helens

The volcano is on a destructive plate boundary -

~~the~~ the Juan de Fuca plate and the North

American plate. The oceanic plate was being

subducted and the friction had caused an

earthquake months before. This dislodged the

cap, trapping the magma under a lot of pressure.

A bulge started to develop on one side of the

volcano. The bulge grew 6ft a day. This amount

of pressure caused the ~~earthquake~~ <sup>eruption</sup> to be much

bigger than it was originally supposed

to be. Some people refused to leave, causing

more deaths eg for example, Harry Truman.



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Examiner Comments

This is an example of a good response, reaching level 3. It has accurate plate setting and can explain the subduction occurring. This response has specific information relating to the Mt. St. Helens event and includes the 'bulge' and the pressure build up, leading to the lateral blast. If the candidate had developed these themes they could have pushed for full marks.



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Examiner Tip

Ensure you can differentiate between cause and effect. Don't just learn effects as they are easier. Causes of tectonic events relate to plate setting and trigger mechanism of event.

**Question 5 (a) (i)**

The vast majority of candidates correctly identified Bexley has having the highest recycling rate.

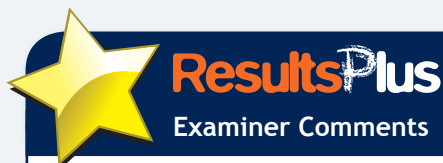
**Question 5 (a) (ii)**

This question proved to be a good discriminator. While some centres had clearly taken on board the advice from the summer series regarding describing distribution, some centres clearly still need to practise. Common mistakes included describing other recycling rate percentages, which returned no credit, or trying to explain their findings. Many candidates were able to identify that the distribution was around the centre of London, or focused on the river Thames. Some good answers identified the north east, south west trend. This is certainly the type of question which will be likely to appear again in the future. Centres should ensure that candidates are well prepare for such a question.

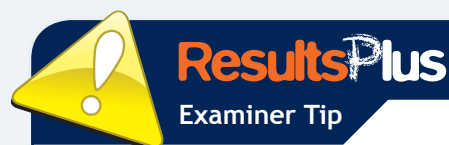
(ii) Describe the distribution of Greater London boroughs below 24% recycling rate.

(3)

The distribution of boroughs with an recycling rate of below 24% is mainly to the centre of all the boroughs. With of of them connected and non isolated ~~apart~~ apart from Havering. The majority <sup>are</sup> north of the river (10-6). like Brent and Newham. But some exceptions are ~~Kingston upon Thames~~ <sup>Croydon</sup> as its south of the river and not actually on the river edge unlike the majority of the rest.



This response is a good example of identifying the main pattern of location around the centre, backing this up with map evidence and then going on to identify that there are some exceptions to the edge of London.



Remember on distribution questions, identify the main pattern, then try and identify an exception. Then use map evidence to support your findings.

**Question 5 (a) (iii)**

Many candidates had little trouble in identifying two types of domestic waste. However, centres should be aware of first rule, which means that if a candidate writes two answers on one line that their first answer will be taken, especially if they then go onto write another answer on the second line.

**Question 5 (a) (iv)**

This question was well answered probably owing to its repeat appearance on the paper. The majority of answers were focused on Germany or the UK and many of the German examples had excellent specific information. However, candidates commonly described what Germany was doing rather than clearly explain why they undertake such measures. Good answers on German waste management explained by commenting on the ideal geology for landfill, or the need to export waste due to insufficient facility currently within the country. Answers focusing on the UK tended to be generalised and many focused on the local area. More specific information would certainly improve such answers. Another issue with this question was candidates desire to write excessive amounts on this four mark question. Candidates are provided with sufficient space in the paper to write a good answer.

(iv) Explain how **one** High Income Country (HIC) disposes of its waste.

(4)

Chosen HIC Germany

Germany uses three ways to dispose the 60 million tonnes of waste it produces each year. They are incineration, landfill, and recycling. In the incinerator Germany burns RDF's and uses the energy to heat up surrounding homes and the plant itself. Due to the naturally impermeable ground and old mineshaft Germany is able to store toxic waste and rubbish safely however sites are running out which has left Germany to export 10 million tonnes to countries such as Spain and China.



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Examiner Comments

This was an example of a candidate who was clearly able to explain their points. They avoided the common mistake of being too descriptive. The answer is supported by some clear specific information.



**ResultsPlus**

Examiner Tip

Ensure that when referring to an example or a case study, that your answer is not descriptive and clearly gives reasons for the measures given in your answer.



**Question 5 (b) (i)**

The majority of candidates identified this energy type as wind or renewable.

**Question 5 (b) (ii)**

This was well answered by the majority of candidates. Some made the mistake of mentioning that wind turbines make the area colder. Many identified the issues with bird migration or the noise pollution.

**Question 5 (b) (iii)**

A generally well answered question with many candidates achieving two or three marks. Common responses included the long lasting supply (renewable), the lack of emissions associated with the turbines, or the ability to place on land or sea. Some candidates limited their answer by repeating the point on renewable energy, however, these were in the minority.

### Question 5 (b) (iv)

Although this posed little difficulty for many candidates, some did turn the question around to describe measures to reduce energy wastage. There was often a lot of repetition in students' answers, it would be nice to see more of a range of methods. A minority of candidates focused on waste not energy, but this was not a common occurrence. It would be nice to see candidates write full answers not just bullet points.

(iv) Describe how energy is wasted in the home.

(3)

Energy is wasted a lot in the home, this is because people leave devices on, such as leaving their TV's on standby and keeping their lights on. Also people do not do things such as recycling.



**ResultsPlus**

Examiner Comments

Here the candidate gives two valid points such as leaving the TV on standby and leaving the lights on. The candidate then mentions recycling which in this circumstance was not credited. The candidate could improve their response by focusing on what type of energy is lost, or where it is lost.



**ResultsPlus**

Examiner Tip

When describing write full sentences and separate each point so the examiner can clearly see each point made.

### Question 5 (c)

This question proved to be a real challenge for many candidates, many of whom had scored well across the rest of the question. The majority of answers tended to generalise and lack any clear explanation or specific points. The question came directly from the specification therefore centres need to guide students to be able to identify the requirements of the questions based on this specification language.

Many candidates gave reference to measure such as double glazed windows, or cavity wall insulation but lacked any specific information to take their answer beyond level 2. Many of the better answers stood clear above the rest, therefore this question differentiated well. Level 3 answers often referred to CHP schemes, or local authority schemes. An alarming minority of candidates still confuse energy wastage with recycling, and gained no credit unless they made specific link back to the energy saving component of the scheme. Overall it seemed that many candidates were unfamiliar with the notion of local scale and therefore just focused on general points to do with the home.

The solutions to Energy wastage at a domestic and local scale is that more people should recycle to dispose of there waste, as it is used again, also to save energy they should turn off the t.v's properly and ~~to~~ swap light bulbs for energy saving ones. For example in some HIC countries they have recycling bins for different types of waste, eg. Glass, Paper and cardboard and plastic.



**ResultsPlus**

Examiner Comments

This was a typical of candidates who gave generalised responses to domestic waste. Here the candidate also has confused the answer with recycling therefore limiting their overall score to level 1.



**ResultsPlus**

Examiner Tip

Be clear on the difference between domestic and local scale waste schemes. Ensure that you use specific information to support your answers as this will enable you to reach level 2 marks.

**Question 6 (a) (i)**

The majority of candidates scored well on this question.

**Question 6 (a) (ii)**

This distribution was far better answered than the corresponding question in the waste section. Many candidates used map evidence well in support of their answers and many identified close proximity to the equator or the prevalence of cholera in Africa or Asia. Some good answers noted that although cholera was rife in Africa that there were some exceptions such as Egypt and Libya.

(ii) Describe the distribution of the outbreaks of cholera shown in Figure 6a. (3)

The outbreak of cholera is distributed mainly in the East of the World in the African and Asian countries. It is also distributed close to the Equator and the Tropics. These countries are mainly LICs.



**ResultsPlus**

Examiner Comments

Although this response is concise it covers enough in three lines to easily get full marks. The candidate uses map evidence well.



**ResultsPlus**

Examiner Tip

Remember to identify the main trend and the exceptions to help you score well on describing distribution questions.

### Question 6 (a) (iii)

Responses to this question were varied as it required candidates to apply their knowledge of water-borne disease to a lack of clean water. Weaker answers tended to repeat the question without clearly explaining why the lack of clean water led to increased disease. Some good answers focused on the reasons for lack of clean water such as inadequate sewerage facilities or inability to purchase pipelines. Some candidates could explain how drinking dirty water led to increased disease with reference to bacteria formation in stagnant water. Many candidates mentioned the idea of being forced to drink dirty water as they had little other choice, yet were unable to expand upon this.

### Question 6 (b) (i)

This question proved to be a tricky one leading to a variety of responses. A common mistake was that candidates focused on flooding subsequent to reservoir creation, which did not gain credit. Good answers focused on the issues of flooding with the creation of the reservoir, such as land loss, damage to animal habitat or forced migration. Some good responses related to the issues associated with the building of the 3 Gorges project in China. Many candidates overlooked the instruction of 'reservoirs such as Bewl Water'.

Reservoirs such as this may be prone to flooding which could destroy the crops surrounding the reservoir. Due to a high surface area and temperature lots of water can be lost in the summer months leading to water scarcity. This type of water storage also takes up a lot of space which could be used for farming and agriculture.



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Examiner Comments

This response has made the mistake of mentioning flooding subsequent to creation of the reservoir. Seeing as dams are able to release excess water this was not credited. However, credit is gained at the end in reference to land lost.



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Examiner Tip

Read the question carefully to pick up on the exact demands.

**Question 6 (b) (ii)**

Many candidates provided a creditworthy response to this item, many quoting aquifers as a correct answer.

**Question 6 (b) (iii)**

This was fairly well answered dependent on the focus of the response. Candidates who focused on the Spanish example tended to easily amass three marks. However, common mistakes made by candidates involved writing about spatial imbalance as opposed to seasonal. In such circumstances the focus was about a rainfall and population imbalance rather than different amounts of rainfall across the year. Candidates who did write about seasonal imbalance need to ensure that they comment on the effect of the imbalance. Good answers using the Spanish example were able to mention the farmers purchasing water from the black market to meet their needs.

It is clear that centres need to help their candidates differentiate between seasonal and spatial rainfall imbalance.

Seasonal Rainfall imbalance & can cause water supply problems in HICs like in the Spanish Costa Del Sol region. In Malaga a booming tourist destination, much water is used to supply water for swimming pools and golf courses. From May - October in 2006 <sup>there is</sup> only 70 mm of rainfall, whereas in the other 6 months when water is not needed 375 mm ~~of~~ rainfall is recorded. This is a water deficit in Summer. Seasonal imbalance in rainfall can & cause problems for farmers like in Spain where they do not receive enough water for crops.



**ResultsPlus**

Examiner Comments

This is a good answer using specific information to support their points. There is a clear recognition of the seasonal imbalance, the problems associated with tourism and the impact upon farmers.



**ResultsPlus**

Examiner Tip

Ensure candidates understand the difference between seasonal imbalance and spatial differences between population and rainfall.

**Question 6 (c)**

This question proved to be a good discriminator in that candidate understanding of appropriate technology was highly varied. Many candidates were able to recognise a variety of appropriate technology methods but failed to explain how they provide water to small communities. This question generated a lot of definitions from candidates therefore often limiting them to two marks. Some candidates did not understand the difference between appropriate technology and large scale irrigation schemes. The best answers were often focused on hand-dug wells or boreholes as candidates were able to explain how the methods produced clean water to locals.

(c) Explain how Low Income Countries (LICs) use appropriate technology to provide water for small communities.

(4)

Hand dug wells are most commonly used to supply water. These are built 1.2 m in diameter and 5 to 20 m in depth. They are then lined with concrete to avoid pollution and provide support. Water can then be obtained from the water table.

Water can also be collected from rain in rainfall harvesting. Rain falls on special clean roofs and are sent to treatment works through pipes, and then to pump stands in villages.

Water can also be recycled from sewage and used water. For example in India, Bangalore, where 600 million l of recycled water has been promised.



**ResultsPlus**

Examiner Comments

An excellent response which explains how hand-dug wells operate and how their construction reduces pollution. This candidate has a clear understanding of a range of appropriate technology methods.



**ResultsPlus**

Examiner Tip

Ensure you can differentiate between appropriate technology and other water provision schemes.

### **Question 6 (d)**

This question produced some excellent responses with many candidates reaching level 2 or 3. The best answers were focused on the Colorado river or the Tigris/Euphrates scheme. What differentiated between level 2 and 3 responses were the details given about the conflict. Many candidates gave great detail on the scheme but some gave little on the subsequent conflict therefore were limited to level 2 marks. A few candidates focused their answer on the 3 Gorges project which received little credit unless conflict was the focus. Overall, this was a significant improvement on last summer's case study question, with good reference to specific detail.



## Paper Summary

This paper highlighted a strong performance across the options. In part A the Glacial Landscapes option was taken by relatively few candidates but there were some excellent performances by candidates. This is testament to the specialist teaching of Glaciation in some centres. Tectonic Landscapes proved to be the most popular option in part A but performance was more variable. In part B the performance on Wasteful and Watery Worlds was relatively equal.

In summary to the paper, there are some key areas which could help improve candidate performance. Annotated diagrams of landform formation clearly need practise, and candidates need to be able to distinguish between annotations and labels. Description of distribution was generally improved since the last exam series, but candidates still need to focus on identifying the overall trend, use map evidence to support and then identify the exceptions to the overall pattern. In case study questions students must ensure that they use specific information to enable them to reach Level 2 or even Level 3 responses. This is important especially where the question asks for a range of examples. Finally candidates could improve by practising questions which require them to apply their knowledge as these were the ones which candidates struggled with most.

I hope that candidate performance continues to remain at a high standard for the upcoming summer series and that the papers continue to be well received by centres.

## Grade Boundaries

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

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>



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