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Examiners' Report
June 2017

GCE Geography 8GE0 01

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Introduction

This is the first sitting of 8GE01, under the new specification for AS Geography, beginning in 2016. This is the first time since 2008 that exam papers have not integrated human and physical geography. There is significantly more OfQual prescribed content now, and this paper reintroduces many physical sciences concepts to these topics, as well as reintroducing glaciation to AS Geography, having previously been part of A2. This particular paper tests candidates' knowledge of tectonics, and gives them a choice between glaciation and coastal landscapes, asks them to respond to unfamiliar fieldwork scenario, and think about the synoptic links between tectonics and their chosen topic.

Question 1 (b) (i)

Most candidates were able to make clear sense of the data presented in 1bi. Many stated that EQ magnitude, deaths and damage were higher in Ecuador. Some candidates commented that the EQ magnitudes were similar, however an increase of 0.8 on a base-10 scale is considerably higher. A small number of candidates did not use specific comparative terminology (larger/smaller) so did not achieve full marks.

(b) Study Figure 1 in the Resource Booklet.

(i) Compare the data on the two earthquakes.

(2)

Ecuador earthquake was worse in most ways having 7.8 compared to Japans 7.0 magnitude and having 661 deaths compared to Japans 40

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Examiner Comments

This response scored no marks, even though the candidate quoted data.

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Examiner Tip

At A level make sure you use comparative language - in this case 'higher', 'lower'.

(b) Study Figure 1 in the Resource Booklet.

(i) Compare the data on the two earthquakes.

(2)

Japan had a ~~higher~~ lower total energy released compared to Ecuador. the magnitude was 0.8 larger in Ecuador. However, the deaths were in 661 ~~deer~~ compared to Japan of 40 deaths, which suggests it most vulnerable even as access to education

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Examiner Comments

This was a much clearer answer, scoring 2 marks. The candidate used comparative language to write about differences in earthquake energy and human consequences.

Question 1 (b) (ii)

Three mark explain answers require candidates to make one accurate reaction to the information (AO2) in the figure, before going on to use two pieces of recalled knowledge (AO1) to explain. Most responses to 1bii achieved that by focusing on hazard resistant building designs or evacuation procedures. They then provided specifics of building regulation, design and education strategies. A few candidates simply listed several strategies and, as a result, achieved less marks. Equally some candidates were not able to achieve a 3rd mark because their explanation did not continue to develop with more recalled knowledge. Centres are advised to find ways to help students develop the right kind of thinking process for these questions - one sensible reaction, followed by two recalled bits of factual knowledge to explain the reaction.

(ii) Suggest **one** way hazard management strategies may have affected the earthquake impacts in Japan.

(3)

Hazard management strategies would have made the population less vulnerable with a higher capacity to cope and more resilience as they have knowledge as to what to do in a disaster event and are more protected by the strategies

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Examiner Comments

This is a one mark answer.

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Examiner Tip

There is only one statement that is a sensible reaction to the question (knowledge of what to do). The statement is not developed using the candidate's own knowledge about hazard management strategies.

~~plans have stronger buildings~~

(ii) Suggest **one** way hazard management strategies may have affected the earthquake impacts in Japan.

(3)

One hazard management is to reduce the damage. This may be done by having building codes and restrictions, that mean when an earthquake happens they can withstand the shaking or there is no buildings on areas that are at high risk of impact from an earthquake. Therefore damage is reduced as less buildings are damaged and damage costs are lower.

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Examiner Comments

This response is much clearer, and was awarded 3 marks. There is a sensible suggestion (building codes and restrictions) to the data presented. The answer is then developed using the candidate's own knowledge.

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Examiner Tip

'Suggest' questions do not require data and evidence. Candidates just need to start with a sensible suggestion (reaction) to the data and explain their suggestion with two further ideas.

Question 1 (c)

Question 1c was answered well. Most candidates were able to identify a good range of hazards and explain one feature of why they posed a hazard. The majority of candidates seemed to write about liquefaction and tsunamis, although some wrote about after-shocks without clear understanding of how they occurred. A number of candidates referred to unemployment and economic loss as secondary hazards. These were not creditable on the mark scheme. Other ideas about famine, drought and disease were only creditable with clear reference to why an earthquake might cause them.

(c) Explain **two** secondary hazards caused by earthquakes.

(4)

1 one secondary hazard could be a tsunami if the earthquake were to happen in the ocean, e.g. the Boxing Day tsunami 2004.

2 another secondary hazard could be the destruction of power supplies, e.g. the nuclear powerplant in Tohoku in the earthquake of 2011 which resulted in untold amounts of environmental damage.

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Examiner Comments

This response scored 2 marks. It identifies tsunamis and damage to power supplies as secondary hazards. It does not develop either idea and explain how the earthquake causes them.

(c) Explain **two** secondary hazards caused by earthquakes.

(4)

1 One secondary hazard is landslides. These occur as a result of the shaking as sediment becomes lose and begins to fall down a slope.

2 Tsunami's are also secondary ~~impacts~~ hazards. When

earthquakes occur underwater they have a subduction zone and this can cause large amount of water to be displaced resulting in a tsunami as the two plates move.

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Examiner Comments

This response scored 4 marks. Two hazards are identified (landslides and tsunamis). Both are explained.

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Examiner Tip

There is no need to rewrite the question. For this question, tell the examiner what the hazard is and explain how it is formed.

Question 1 (d)

On question 1d, most students reached level 2, scoring 4 marks out of 6. There was broadly a good understanding of volcanic hazards (e.g. pyroclastic flows, jokullhaups, lava flows), but they were rarely developed in detail. Candidates achieving level 3 tended to write clear answers with locational detail, particularly about the Iceland eruption (accurate detailed knowledge), or detailed explanation of tectonic processes, particularly the nature of tephra, or the temperature and speed of pyroclastic flows. Some candidates misread the wording of the question and explained why plate boundaries caused volcanic eruptions. Some candidates were also distracted by the phrase tectonic hazards, and wrote about earthquakes and tsunamis. There was some credit for these ideas (both can occur because of volcanoes), however they tended to be self-penalising because candidates rarely knew sufficient detail to explain how volcanoes caused these tectonic hazards.

(d) Explain the tectonic hazards that may result from volcanic activity.

(6)

Volcanic activity can lead to hazards such as jökullhaups which is when a volcanic eruption melts snow & ice causing an extreme rapid flooding. Volcanic activity can also lead to tsunamis as the volcanic eruption can cause a large area of land to move which in turn will displace large amounts of water causing a tsunami.

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Examiner Comments

This response was awarded level 2 because the hazards stated can occur as a result of volcanic activity. However it does not explain how, or indeed provide detail about tectonic processes.

(d) Explain the tectonic hazards that may result from volcanic activity.

(6)

Volcanoes have a number of hazards. Pyroclastic flows are flows moving at up to 450 km/h of hot gases that come out of the ~~earthquake~~ volcano and move down it very fast and can spread for miles around, in the Mount Pinatubo eruption pyroclastic flows

caused $8 billion worth of damage. Lava flows are another hazard from volcanoes as lava flows out of it, at volcanos at destructive plate boundaries the lava is more acidic and explosive but more viscous so doesn't flow as far as lava from a constructive plate boundary volcano. Also ash from volcanoes and other tephra is a serious tectonic hazard, this is measured on the VEI and can have impacts on peoples breathing and air travel, ash travelled 50km away from Mount Pinatubo when it erupted and 11 airports had to be closed.

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Examiner Comments

This answer was awarded level 3. It is clear both about how volcanic eruptions had actual impacts in two locations and also has conceptual detail about a range of hazard (pyroclastic flows, lava flows and ash).

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Examiner Tip

Accurate geographical knowledge (level 3) could include both place-specific knowledge or conceptual detail.

Question 1 (e)

There were many good responses to 1e. The very best answers were clear about the differences between development and governance and explained the consequences of countries with high and low levels of each. Some candidates made good choices about place example detail and then considered whether other factors (e.g. magnitude, plate boundary location) were more important. For example, the Japan EQ and tsunami with higher magnitude challenged the assertion that high levels of governance were enough to reduce the impact of earthquakes. Other common examples included the earthquakes in Haiti and Christchurch. Not being able to identify other factors meant a fair number of candidates struggled to 'assess'. This feature of high-tariff questions is perhaps new to AS Geography, but should be familiar to candidates from reformed GCSE papers. For example, some responses compared earthquake events with similar magnitude but different levels of governance of development. In addition, there was quite narrow interpretation of the term 'scale' (e.g. beyond casualty figures, aerial extent and financial cost are additional measurements). Not many considered volcanic hazards and indeed better responses broke down the components of governance, contrasting the impact of different aspects for the scale of the hazard experience. In some cases, candidates misinterpreted the question - for example, writing about the ability of the government to see the scale of the disaster. Centres are also reminded that marks are available for coherence of argument; a brief moment to plan helped candidates write clearer, more structured answers.

(e) Assess whether development and governance are the most important factors in understanding the scale of tectonic disasters.

(12)

The development of a country is an important factor in determining the scale of a tectonic disaster. This is because in more developed countries there will be better infrastructure and in earthquake prone areas there will be aseismic buildings such as the Sky Tree in Japan meaning during an earthquake the buildings must collapse and kill people and every most earthquakes in Japan in the last 20 years haven't killed more than 200 people. However in less developed countries with worse governance such as Haiti the majority of the buildings are poorly ~~built~~ built but the areas ~~densely~~ such as Port all

Price are densely populated meaning when earthquakes such as the 2005 one occur there is ~~more~~ significantly greater deaths as more people are crushed and the lack of infrastructure makes it harder to rescue them, which is why tectonic events in developing countries have much more loss during tectonic events. Poor governance can also increase the scale of a tectonic disaster, this was seen in Italy when corrupt politicians let the mafia build public buildings such as schools, however when there was an earthquake in 2001 the school collapsed killing over 100 children due to the building not meeting health and safety requirements because of poor governance.

Other factors such as the magnitude and intensity of a tectonic event aswell as its duration can affect the scale of it. In Iceland when Eyjafjallajökull volcano erupted in 2012 although it's a developed country with good governance it still had large scale effects such as costing airline companies over $1 billion due to flights being cancelled.

In conclusion governance and development are some of the most importants factors in determining the scale of tectonic hazards however there are other factors aswell.

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Examiner Comments

This is a level 3 response. It makes well-chosen reference to specific locations where development and governance affected the response to hazards and comments how the scale of disaster was affected. It goes on to write about other factors (magnitude and intensity of the Eyjafjallajökull eruption) but holds back from making a clear judgement at the end.

ResultsPlus
Examiner Tip

Make explicit judgements in 'Assess' questions, with clear reasons and evidence.

Question 2 (a)

Question 2a posed few problems.The majority of candidates were able to identify a factor that altered the rate of glacier movement.

Question 2 (b) (i)

Question 2bi also created few problems.However, some candidates did not note the instructions to round up their answer to the nearest full number. This replicates the Pearson Maths approach to answering these kinds of calculations.

Question 2 (b) (ii)

Question 2bii was poorly answered. Many candidates mistook the information in the figure and did not appreciate that the data referred to a cold-based glacier. Others got confused about whether speed increased or decreased with depth. This information was also highlighted in the introduction to the question, and meant that many candidates were not awarded marks for writing about basal melting. Candidates who had a clear grasp of the differences between cold-and warm-based glaciers were able to interpret the data better and wrote clearer responses as a result.

(ii) Suggest **one** reason why velocity changes with depth.

(3)

Internal deformation is occurring closer to the top of the glacier which is where the glacier is almost bending forward and is edging down a slope through gravity. The bottom of the glacier has a lot of friction with the ground, especially with cold based glaciers which would act more way from in terms of the base.

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Examiner Comments

This is an example of a good response that identifies realistic reasons for a cold-based glacier and develops the response using two pieces of own knowledge.

Question 2 (c)

Question 2c was answered well with the majority of candidates writing about abrasion and plucking. Most were also able to write clear explanations of how they occurred. However, some candidates struggled to explain and needed clearer terminology to outline the way that ice interacts with surrounding rock. There was occasionally some confusion about where erosion occurs - some candidates implying that ice is eroded, rather than the surrounding land that the glacier comes into contact with.

(c) Explain **two** processes of glacial erosion.

(4)

1 Plucking is where the meltwater freezes to the rock then rips it off the valley sides as it moves down.

2 Abrasion is when rocks frozen into the bottom of the glacier act like sand paper along the valley floor ~~scraping~~ as scraping a path for the glacier

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Examiner Comments

This is a clear response that scored full marks. Two processes have been explained correctly.

ResultsPlus
Examiner Tip

Make sure you can define key words without using the key word, e.g. plucking needs to be explained with other words than 'pluck'.

(c) Explain **two** processes of glacial erosion.

(4)

1 Ablation. This is where ~~the~~ glacial erosion occurs and this process eats away (erodes) ~~the~~ landscape and glacial environments, however leaves ~~the~~ area looking roug

2 Plucking - Plucking is ~~the~~ term used for wearing away the glacial environment, smoothing one side.

ResultsPlus
Examiner Comments

This response scored fewer marks. Only one of the two processes has been correctly identified and the descriptions are unclear and indistinct.

Question 2 (d)

There was a mixed response to 2d. Many candidates clearly knew about depositional features, but struggled to explain how they were formed. A high number of candidates focused on roche montenee and outlined erosional processes. In addition, candidates did not make full sense of the word 'factors', which means that answers that focused purely on processes did not score well. As with the legacy 6GE04 Cold Environments option, the new specifications do encourage centres to study landscapes as an assemblage of landforms, rather than just one landform in isolation. Better responses came from candidates who had a better grasp of a range of deposition that occurs in both glacial, periglacial and fluvioglacial processes - in which cases it becomes easier to (1) identify the bigger-scale factors that explain the types of landscapes that result and (2) write about variety of landscapes.

(d) Explain the factors that create a lowland depositional landscape.

(6)

One of the factors that creates a lowland depositional landscape is the size of the glacier. If the glacier has a very large mass then the subglacial streams will be under more pressure and will therefore move with more velocity and energy. As a result they will be able to pick up more material such as large rocks and transport them further when they reach the snout of the glacier because [illegible] then. This leads to longer and more spread out depositional landforms in an outwash plain such as eskers and kame.

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Examiner Comments

This is a level 2 response. Although it has some correct information about a factor and some specific landforms, it does not fully focus on how lowland landscapes are created.

ResultsPlus
Examiner Tip

Make sure you distinguish between processes as a single factor and individual processes (e.g. plucking/abrasion).

(d) Explain the factors that create a lowland depositional landscape.

(6)

Melt water from glaciers contributes significantly to lowland depositional landforms. The mixed moraine carried by meltwater streams form sandur plains where sediment is sorted, larger/heavier rocks are left closer to the glaciers snout, whereas small rocks progressively land closer to the nearest body of water, ~~usually a river~~. Blocks of ice left behind can melt to form kettle holes (circular shaped depressions in the ground), if this happens then the moraine carried within it is deposited around the kettle hole to form kames. The base of a glacier can also effect deposition. Wormbased glaciers can contain tunnels with water flowing within. These meltwater tunnels deposit sediment on their sides leaving long sediment strips (known as Eskers) in the area the glacier retreats.

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Examiner Comments

This is clearer level 3 response showing a range of factors, in a number of locations, and the specific landforms that result. A sense of the interlinkage between them would have gained full marks.

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Examiner Tip

Remember that the detailed content in the specification is always linked together by the key idea.

Question 2 (e)

Many candidates struggled to write good responses to question 2e. There were many responses that did not identify threats to glaciated landscapes and, therefore, could not comment on whether sustainable management strategies were the appropriate way to deal with them. As a result, candidates often found it hard to 'assess' the value of schemes like the 'Antarctic Treaty', Alpine Convention, National Parks, and therefore get into the top-band. A number of centres seemed to have prepared candidates to write about overfishing, which might be a legacy of the GCSE B Extreme Environments topic. This material was not applicable to a specification about glacial (rather than cold) environments. Although very few candidates expressed much of the indicative content in the mark scheme, many had a clear understanding of the various forms of sustainability. Centres could therefore help students by getting them to structure the paragraphs of extended responses. This would make it easier to get top-band marks by comparing the different strategies. Again, candidates need to remember small amounts of location-detail are a helpful way to demonstrate accurate geographical knowledge.

(e) A range of threats affect glaciated landscapes.

Assess whether sustainable management schemes are always the most appropriate approach to dealing with these threats.

(12)

We can argue that these sustainable management strategies are appropriate because they aim to reduce the number of people and visiters in glaciated locations. It allows indiginous people in relict landscapes to live in their way without tourists.

However this is not always the case the Antartic treaty system had conflict with the indiginous people and have been unable to reduce the ~~a~~ ever increasing numbers of tourists. Today americans "do" Alaska by car or cruise ship because they want to see the wildlife, such as polar

bears, and do specialist things they can't do at home such as riding in a sleigh pulled by huskeys

We could argue that there are other ways to approach dealing with with the threats. For example we could just completely section off certain areas of these places and make

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Examiner Comments

This response scored a mark in the middle of level 2. It correctly focused on sustainable management strategies, but did not have accurate geographical detail and was not wholly clear about why they were appropriate for the locations that were mentioned.

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Examiner Tip

Be clear about the logic of your answer - in this case: identify a location, threat, management strategy and decide if it is a sustainable approach.

sure that they are not used for tourism, forestry and mining like places in Svalbard are. This way the area would be protected and there would be little pollution and rates of ablation may be lower.

Overall I do believe management schemes are helpful but they need improvement to properly reduce certain threats.

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Examiner Comments

This is a level 3 response. The candidate has clear understanding of the threats facing the Arctic, and the conceptual framework surrounding management, from the specification. Although it only focuses on the one example, it makes a clear judgement at the end, although a conclusion is not necessary for this command word.

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Examiner Tip

Remember the 3-legged stool of sustainability - economic, social and environment.

Question 3 (a) (i)

The vast majority of candidates answered 3ai with little difficulty. However, a minority struggled to plot the data accurately, either getting the bar height wrong, or placing the bar in the wrong location along the x-axis.

3 (a) Study Figure 3 in the Resource Booklet.

The student collected data about the different clast (sediment) size in the Upper layer and Middle layer of glacial till deposits at Aberogwen, North Wales, as part of an investigation about glacial deposition.

(i) Complete Figure 3a below by adding the following data for the Upper layer.

(1)

Clast Size (cm)	Number recorded
5.1–7.5 cm	11
15.1–17.5 cm	20

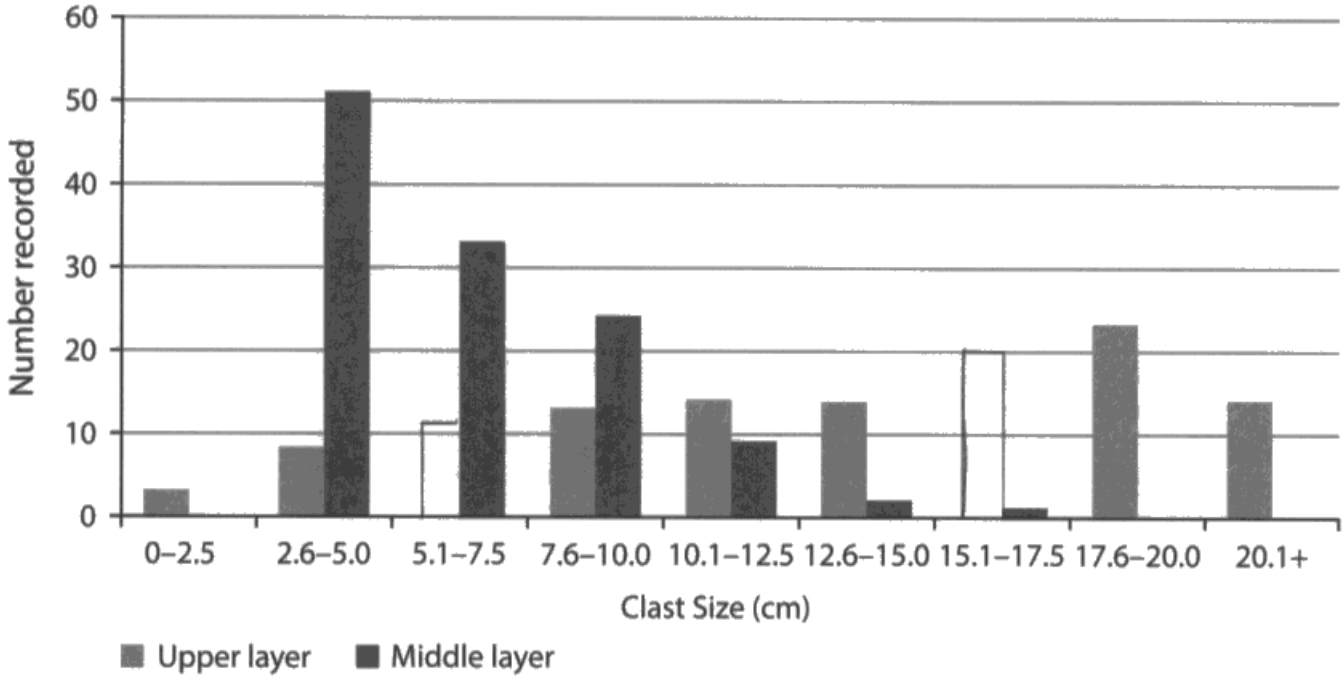

Figure 3a

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Examiner Comments

This response correctly and accurately plotted the data, so scored 1 mark.

Question 3 (a) (ii)

Candidates struggled with 3aii for two reasons. The first was due to poor understanding of stratified sampling, with many making incorrect references to removing bias (reducing bias was acceptable). The second was an incorrect application of this idea to the fieldwork scenario presented. The analysis of an unfamiliar fieldwork context is a required part of new GCSE and AS-Level examinations, and the best preparation for this kind of question is experience utilising or at least evaluating all 3 kinds of sampling strategy (if appropriate) in the context of the centre's own fieldwork.

(ii) The student decided to use a stratified sampling approach to collect their data.

State **two** reasons why this could be an appropriate approach.

(2)

1) It minimize sample selection bias

2) It ensures certain segments of the data are not overrepresented

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Examiner Comments

This answer scored 1 mark for making the point about reduced bias. The second point was not clear enough, particularly given the fieldwork situation presented.

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Examiner Tip

Read through the fieldwork situation carefully. Your answers need to be realistic, based on the information provided.

Question 3 (a) (iii)

Again, very few candidates scored well on 3aiii. The best answers discussed different timings, locations and type of material in two different flows. Some candidates suggested that the deposits in the middle layers might be fluvioglacial, but most needed a better understanding of the reasons why glacial landscapes might have stratified till sequences. Centres are advised to think about the range of possible fieldwork scenarios outlined in the specification on page 8. If possible, students should be exposed to fieldwork that covers all three, and adjustments might be needed to chosen locations to achieve this. The fieldwork was based heavily on real fieldwork conducted by A-level students in the UK.

(iii) Suggest **one** reason why the clast size in the Upper layer is different to that in the Middle layer.

(2)

The middle layer may have been deposited from a summer - a time of high meltwater, suggesting larger sediment could be carried further and more small sediment deposited overall.

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Examiner Comments

This clear answer was awarded 2 marks. The suggestion (summer) was followed up by a clear reason from the candidate's own knowledge.

(iii) Suggest **one** reason why the clast size in the Upper layer is different to that in the Middle layer.

(2)

There are more large clasts in the upper layer (e.g 17.6 - 20 and 20.1+). This is because they are more recent deposits and have had less time to be eroded.

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Examiner Comments

The first sentence of this response was not necessary. The second sentence is a sensible and valid suggestion, so this response scored 1 mark.

Question 3 (a) (iv)

Again, there were mixed responses to 3aiii, although slightly better than the previous two questions since many students were able to identify different techniques that might have been used in this fieldwork context. Although the mark scheme was very broad in what was allowed (e.g. statistical techniques were included), it would be worth noting this type of question is assessing a candidate's capability to react to the unfamiliar fieldwork scenario presented by suggesting another technique (perhaps those used in their own fieldwork experience) that would improve it, rather than generic fieldwork for depositional, or even glacial environments. Equally, ideas about sampling strategies were not credited as fieldwork techniques.Better candidates were able to make links between their suggested techniques and the fieldwork context - i.e. identify what kind of information would additionally be yielded.

(iv) The student collected this data to investigate the differences between glacial sediment.

Explain **two** other techniques the student could have used as part of their investigation.

(4)

1 How far the sediment is down slope, this will give an idea of ice extent.

2 How long the stones are, this will show size of sediment and what has been dropped first.

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Examiner Comments

Although this response considers the situation, no techniques are stated, so the response did not score any marks.

(iv) The student collected this data to investigate the differences between glacial sediment.

Explain **two** other techniques the student could have used as part of their investigation.

(4)

1 Orientation. The orientation of the clast

would show the direction of the glacial movement.

2 Roundness. Using the Power scale the roundness of clasts could be determined. This would show any agents of glacial erosion e.g in meltwater streams.

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Examiner Comments

This response clearly identifies two techniques and why they are appropriate in this fieldwork situation.

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Examiner Tip

Candidates are being tested on an unfamiliar fieldwork scenario. Suggestions made must be relevant to that situation.

Question 3 (b)

There was a varied response to 3b. This 9-mark question typically examines the candidate's ability to 'assess' their own (familiar) fieldwork. The fieldwork enquiry process encompasses a series of stages that are outlined on page 10 of the specification. Questions might be asked about any aspect of this process. Some candidates were clearly prepared for this, writing clear answers about types of secondary data and judging their value in terms of how they supported different aspects of the enquiry process.

There are many possible sources of secondary data that candidates could make use of in their fieldwork. In particular, the use of GIS and wealth of apps available make easy reference to iGeology, ArcGIS online or Digimaps possible. GoogleEarth is a popular and effective way to review changes to coastlines over time, or gather contextual information about the planned fieldwork. Some candidates commented on academic papers, clearly defined (not generic) websites, and specific geodemographic data as well as the use of OS maps. There was no credit given for primary research done by other groups of students from the same school on the same day. However reference to contrasting information from other groups (e.g. in a different season, staying at the same field studies centre) was appropriate.

Even those candidates who were able to write about secondary data still needed to consider both the limitations of their work and make specific judgements about their relative value in order to access all of the higher band marks.

(b) You have carried out **secondary research** to investigate glacial landscapes and change.

Assess the value of **secondary research** in undertaking your geographical investigation.

(9)

Geographical enquiry question:

Does the size of scree increase towards the corrie floor?

Secondary research allowed me to compare my results to the results collected from other corries to see if they had a similar pattern or trend.
Collecting secondary data before undertaking my investigation prepared me for what I could expect my results to look like.
This added a lot of value as it could

help lead me to ensuring my personal data was accurate.
However the person collecting the secondary data to may have used a different meathod than I did so result may vary too much to make a good comparison to my own data.

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Examiner Comments

This response scored low within level 1. Although it correctly notes some of the main uses for secondary data, it is not clear about the actual sources and, because the enquiry question is also not precise, is not able to comment on their value.

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Examiner Tip

When completing your fieldwork, be sure to have a clear, testable hypothesis/ enquiry question for a specific location.

(b) You have carried out **secondary research** to investigate glacial landscapes and change.

Assess the value of **secondary research** in undertaking your geographical investigation.

(9)

Geographical enquiry question:

How reliable is the evidence of the last glacial maximum reaching Pembrokeshire?

~~I~~ one piece of secondary research which was used to determine ~~the~~ the enquiry question was a range of photographs of different ~~glaci~~ relict glacial landscapes in North Pembrokeshire & (Manorbier, Priselli ~~Bosher~~ and Foel Cwm) ~~and a range~~. These were reliable as ~~it did~~ they did clearly show the different glacial

processes ~~however, these particular photograp~~ and landforms (whas, glacial troughs) therefore being very useful in our fieldwork as it proved that there is evidence of the Devensian reaching Pembrokeshire.

Dr Brian John, who ~~was~~ is one of example of many theori we have studied for our field work, wrote a book on the last glacial maximum reaching Pembrokeshire. This was incredibly useful, however, as it was produced and published in the 1970s, ~~(what~~ more recent studies have been published which argue that the last glacial maximum did not reach Pembrokeshire, revealing that Dr Brian John's theory is outdated and ~~it~~ was not as reliable as the photographs that were shown ~~in~~ during our fieldwork to Pembrokeshire. This therefore means that our secondary research was quite valuable in determining our geographical investigation.

(Total for Question 3 = 18 marks)

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Examiner Comments

This is a level 3 response. It writes about different secondary sources (photos and academic literature) and begins to comment about their usefulness. The first point about determining the enquiry questions is particularly strong. A stronger answer would have commented on what the candidate found out.

ResultsPlus
Examiner Tip

The best way to evaluate fieldwork is to consider the stages of the fieldwork enquiry process.

Question 4

There were some good answers to question 4. Although there was some evidence that timing was an issue for some candidates, most wrote lengthy, well developed answers that made clear sense of the materials presented. Most candidates understood the issues facing local communities and caribou migration routes. They also noted the ways engineering had adapted to protect from the threat of earthquakes. Although a few believed the ANWR to be a type of hard engineering, a good number were able to compare the strategies and comment on the relative contribution of hard engineering design in environments like Alaska.The best candidates also focused on the idea of fragile environments, a term that does appear in the specification in key idea 2a.11, 2a.12, and specifically in 2a.11b and 2a.11c. They also went on to make evaluative judgements at the end, perhaps through a conclusion, which is a feature of the LBMS on evaluate questions. The absence of judgements prevented access to the higher level marks.

Use your knowledge and understanding from across the course of study, along with the information in Figure 4, to answer this question.

4 Study Figures 4a, 4b, 4c and 4d in the Resource Booklet.

Evaluate the contribution of engineering solutions to managing Alaska's fragile environment.

(16)

To protect the environment OBama banned exploration for oil in the Arctic National Wildlife refuge. This protects endangered species such as the grizzly bear and means that certain parts of the natural landscape are not destroyed. However at some point the world will begin to run out of oil and the 20 bn barrels may have to be exploited, especially when 80% of Alaskas revenue comes from oil.

One aspect that Alaska have created is the Trans-Alaskan pipeline, which transports oil to the south of the country. It runs through the caribous migration route however they

have adapted it, so it is 3m above the ground so caribou are still free to migrate. This allows Alaska to still exploit its oil supplies and also aim to protect its environment. The only downside to this is that it will have created disturbances to wildlife during construction and it does ruin the look of the landscape.

Along with protecting the enviroment they have also planned for tectonic activity because Alaska lies on the north American and pacific collision plate boundary. They have built the Trans-Alaskan pipeline to allow movement both vertically and horizontally. This means the country is not spending money repairing it after every earthquake and it is economically sound.

Alaska have also made sure the pipeline does not run through the ANWR region as certain campaign groups feel very against this. An example would be the native Gwichin people. They need the caribou to survive and they have ~~as much~~ right to protect these resources because this is how they survive.

ResultsPlus
Examiner Comments

This is a level 2 response. It uses information from the booklet and comments on what it might mean for judging whether the engineering solutions are appropriate. It addresses the tectonic and glacial situation. The lack of depth, detail and comment about the impacts means it cannot go into level 3.

ResultsPlus
Examiner Tip

Remember to write about both the glacial and tectonic situation in response to the question.

Use your knowledge and understanding from across the course of study, along with the information in Figure 4, to answer this question.

4 Study Figures 4a, 4b, 4c and 4d in the Resource Booklet.

Evaluate the contribution of engineering solutions to managing Alaska's fragile environment.

(16)

The ANWR is fragile because it contains fragile species therefore and have Native Alaskan people living there, the natural water and carbon system created by tundra and taiga vegetation mean that adding a pipline could negatively impact the environment and therefore because the construction of the pipline would destroy this therefore it hugely contributes to the vulnerability of the Alasha's environment.
A positive impact of the pipline/engineering solution is that residents will positively impact from the pipline because oil creates industrial jobs which boost the economy of Alasha which the governments want as well as && creating energy.
A negative impact of the engineering solution is

that it will be built on a fault line which mean the area will be susceptable to tectonic hazards like earthquakes which could ~~rupture the base~~ rupture the pipeline and therefore cause oil spills which could harm the natural habitats around the engineering project and cause an even higher ~~bad~~ negative contribution to the fragile environment of Alaska. It will also be in the way of an important Caribou migration route which will, if the migration fails due to the obstacle, decrease the biodiversity of the area and disrupt the food chain in Alaska which could increase or decrease a species' population size. Wildlife is already at risk from the tectonically active area of Alaska therefore the engineering solution of a pipeline will negatively impact its fragile landscape. However, 80% of Alaska's revenue comes from oil so by not adding a pipelane, the economy could face an economic decrease which may effect the funds towards wildlife conservation so this suggests that a pipeline to generate more money would contribute to a better environment for the fragile area of Alaska. The insulated supports prevent the permafrost in Alaska from thawing and solifluction which is a positive contribution in aiding Alaska's

vulnerable habitats because there will be no ~~too~~ glacial outburst flood generated by ~~the~~ the heat ~~and~~ that melts glaciers. This will also mean no disruption in cycles will occur which is a negative impact of the project. In conclusion, the pipeline ~~has~~ has negative and positive contributions to the fragile environment of Alaska but the negatives outweigh the positive

(Total for Question 4 = 16 marks)

ResultsPlus
Examiner Comments

This is a level 4 response. As well as reflecting on the information given, and interpreting its significance for judging the engineering design, it also uses its own knowledge to consider the physical and human environments and starts to reach a judgement at the end.

ResultsPlus
Examiner Tip

Avoid making 'pseudo-judgements' - get off the fence and state your belief (positive or negative in this case, for example), with reasons and evidence.

Question 5 (a)

Most candidates achieved one mark on 5a, although a few simply stated 'waves', or 'wind', which lacked sufficient clarity.

Question 5 (b) (i)

Question 5bi created few problems, although some candidates did not note the instructions to round up their answer to the nearest full number. This replicates the Pearson Maths approach to answering these kind of calculations.

Question 5 (b) (ii)

Many candidates recognised prevailing wind and fetch as factors in question 5bii. However, relatively few went on to identify and explain the link to increased wave frequency in location A. Although it is not necessary to quote the data, as with question 1bii there is a need for candidates to demonstrate logical thought in response to a AO1+ AO2 question. For example, the best responses tended to make clear that longer fetch meant the transfer of wind energy to waves was sustained or occurred over a longer-distance resulting in higher energy waves (recalled AO1 understanding).

(ii) Suggest **one** reason why the wave frequency at the two locations differ.

(3)

Wave frequency differs as the two locations are to the direction of the prevailing wind of the area in location relative to this.

eg location A directly ahead of prevailing wind
location B other side of the headland – wind blocked, decreases frequency

ResultsPlus
Examiner Comments

This response was awarded 2 marks. It recognises the prevailing wind and the geographical situation (headland) as a reason for the different wave frequency.

(ii) Suggest **one** reason why the wave frequency at the two locations differ.

(3)

Location B has a lower wave frequency as it has a smaller fetch of 190km compared to >4500km of

A. The fetch is the uninterrupted distance wind blows across the sea to create waves. It is higher at location A as the prevailing wind is in the direction of location whereas location B is more protected from the prevailing wind by St Alban's head

ResultsPlus
Examiner Comments

This response was awarded full marks. Many candidates achieved this by writing about the transfer of wind energy to the sea, although this was not the only route to 3 marks.

Question 5 (c)

There were many good responses to question 5c. The majority of candidates identified longshore drift and constructive waves as the processes. Most were also able to explain how the processes worked, but did not manage to explain which aspect of longshore drift was linked to deposition (i.e. the backwash). Two other popular answers were flocculation and gravity settling, which although they do not appear as specific ideas in the specification, do appear in some textbooks and are correct. Others talked about different forms of deposition on the coasts, e.g. in river estuaries. A small number of candidates mistook the question for writing about depositional landforms. Some also talked about landslides - which was rejected from the mark scheme as it is not strictly a coastal process.

(c) Explain **two** coastal depositional processes.

(4)

1 Longshore drift: sand and sediment is
carried by the wind and travels at 45° to
the coastline it is then deposited at the
end of the coast which creates a spit.
2 ~~An offshore~~ A bar is created by the transportat-
ion and deposition of material, like longshore
drift where the sediment connects two
headlands together, creating a bar.

ResultsPlus
Examiner Comments
Although longshore drift and its explanation is correct, this response only scored 2 marks because the key explanatory concepts are repeated.

(c) Explain **two** coastal depositional processes.

(4)

1 One depositional process is a constructive wave,
where waves hitting the beach have a large swash
leaving deposit and a small backwash not taking
away much sediment.
2 Another depositional process is flocculation which
suspended

is where suspended clay particles join together due to chemical attractions and once they are heavy enough they will fall to the sea bed.

ResultsPlus
Examiner Comments
This response scored 4 marks.

Question 5 (d)

Question 5d caused few problems, possibly because the relative importance of different factors is covered at GCSE. Many candidates were able to identify a variety of reasons, for example wave types, erosion processes, lithology and geology. Stronger answers often also talked about geological orientation (e.g. seaward and landward dip). However, many responses lacked sufficient quality of explanation to access level 3. Often there was a need to write about different locations, or why these factors resulted in more erosion (e.g. specifics about rock type).

(d) Explain the factors that create an erosional coastline.

(6)

Destructive waves have a larger/more powerful backwash than swash, meaning as they leave the beach and return to the water, they have a greater energy, and will therefore carry sediment away from the beach. Attrition is when little stones, rocks + materials are thrown at high power towards the bottom of cliffs, ~~th~~ overtime this will damage the bottom of the cliff, leaving cracks and holes in it. A greater windspeed will provide waves with a greater energy, and will therefore hit the cliffs at a higher power, this will weaken the cliffs. Finally if there are no coastal defences e.g beach norishment, sand dunes, sea walls. The cliff will constantly be attacked and it will become weaker and weaker.

ResultsPlus
Examiner Comments

This is typical of many responses that reached the top of level 2. It recognises some main factors, but does not have sufficient details and accurate geographical knowledge to go any higher.

ResultsPlus
Examiner Tip

Explain what is meant by key geographical terms - a good explanation is made up of a number of points that together show how a factor, or processes, work.

(d) Explain the factors that create an erosional coastline.

(6)

The erosion resistance of the ~~rocks~~ strata in a cliff profile; for instance, sedimentary rocks (e.g. limestone) are much softer and weaker than hard igneous rock (e.g. granite), so are much more vulnerable to erosion and therefore erode at a faster rate than erosion-resistant rocks. Additionally, the type of wave that a coastline faces is very important; destructive waves have high energies and so will be much better (than constructive waves) at eroding coasts through abrasion and (the) hydraulic action and also have stronger backwashes than swashes and so remove sediment from beaches and provide coasts with less protection from erosion. Furthermore, coastal defences can also have an impact; for example, groynes can trap sediment & and stop Longshore Drift from occuring and as a result, a beach further down the coastline is starved of sediment and so provides less protection against erosion.

ResultsPlus
Examiner Comments

This is a slightly clearer answer that achieved a level 3 mark. Accurate geographical knowledge about rock type, swash and backwash helped clarify the answer.

Question 5 (e)

Question 5e was relatively more challenging to students. In the absence of named specific sustainable management schemes, the specification refers to sustainable management in very broad terms, allowing candidates the opportunity to question the sustainability of different coastal management strategies. Like the counterpart in 2e, sustainability could have been in different ways, e.g. costs vs. benefits, long-term durability of defences, or opinions of stakeholders. The best answers examined different threats found at coasts, and broadened their answers to include coastal flooding, tsunamis, as well as coastal recession. They also covered different types of coastal management, recognising this included hard, soft and often bioprotection or mangroves (e.g. 'Mangroves for the Future' was a popular example). There are Globed Case studies in the specification for 2B.11c and 2B.12c; centres should note the need for a range of detailed context knowledge in 12-mark questions, but also the continued need for detail about different examples.Weaker answers tended to focus on everything they knew about Mappleton and were able to pick up credit for noting that terminal groyne syndrome perhaps suggested hard engineering was unsustainable. However, in the absence of comparative examples, these type of answers struggled to show how other types of management were sustainable. Others mistakenly assumed that soft engineering is automatically sustainable. Stronger candidates noted that soft engineering often needs to be replenished, and questioned its sustainability.

(e) Assess whether sustainable management schemes are always the most appropriate for managing the risks to coastlines.

(12)

Many sustainable management schemes are an effective way of protecting the coastline. However any management scheme can be sustainable if you are willing to pay for it. This means that although it may cost alot of money to keep renewing a scheme, it may be effective in the long run. Sea walls are not sustainable, as ~~you~~ they are unable to look after themselves, however at coastlines they seem to be a very effective way of protecting the land behind. Sea walls are very expencive, and cost alot to look after, but they are very protective and do what they are supposed to do. On the other hand a

Sustainable method like beach nonishment proves to be just as effective at protecting a coastline. Nonishing a beach does not cost alot of money Plants will be planted and their roots will grow, this will provide strength + stability for the cliff, so they are less likley to collaps. Also they will repoduce themselves, seads will fall and new plants will grow, providing even more stability. On top of that it also provides an ecological nyche for new or current species, so it may also increase biodiversity which in turn could increase the popularity of the area, resulting in a greater number of tourists and therefore an economic increase.

ResultsPlus
Examiner Comments

This is a good level 2 response. The lack of geographical knowledge held it back from achieving higher marks within that level. However it does highlight some of the key ways to establish whether a management scheme is sustainable or not.

(e) Assess whether sustainable management schemes are always the most appropriate for managing the risks to coastlines.

(12)

Sustainable management schemes are appropriate ways of managing coasts however they do have some drawbacks. There are also other ways of managing coastlines.

Sustainable management schemes on coastlines are an appropriate way of managing coasts because they manage the coastline sustainably

there they are. Incorporating management strategies like bullnose sea walls, rock armour and groynes can help keep a coastline from retreating. On the Holderness coast where coastal retreat had been the fastest in the UK on the beach they introduced rock armour as well as groynes which did help slow down the rate of coastal retreat here. However, coastal management schemes have limitations in how appropriate they are because they can upset the equilibrium of the coastal system meaning erosion and coastal retreat can increase in places they aren't protecting. Also the schemes can be really quite expensive which is another drawback.

The risks to the coastline can also be managed by a strategy of doing nothing. In some places this can work like in parts of Bangladesh where mangrove forests have not be cut down because they naturally ~~cause~~ cause the energy of the sea and waves to dissipate. However, on the whole this is not an appropriate way of managing the risks to coastlines because in places with high levels of coastal retreat where buildings and property are near to shore then they are at risk so a management scheme is required.

In places that frequently suffer from coastal flooding the most appropriate thing to do is not a big sea wall because it could easily be inundated. But in countries like Kiribati many houses are built on stilts. This protects peoples houses from the frequent floods and is the most appropriate in this case.

In conclusion on the whole sustainable management schemes are the most appropriate for managing the risks to coastline because they sustainably manage it. In a minority of cases doing nothing and

protecting property rather than the coast against the risks are more appropriate, however, this is only a very small number.

ResultsPlus
Examiner Comments

This mid-level 3 response makes better use of location-specific information to show different management strategies to different threats, whilst also considering different aspects of their sustainability. It holds back from making a comparison between them though.

ResultsPlus
Examiner Tip

Be explicit and compare different ideas, e.g. which one is better or worse?

Question 6 (a) (i)

The vast majority of candidates answered 6ai with little difficulty. However, a minority struggled to plot the data accurately, either getting the bar height wrong, or placing the bar in the wrong location along the x-axis.

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

The student collected data about clast (sediment) size at two sites in Porlock Bay, Somerset, as part of an investigation about coastal deposition.

(i) Complete Figure 6a below by adding the following data for Site X.

(1)

Clast Size (cm)	Number recorded
5.1–7.5	13
15.1–17.5	11

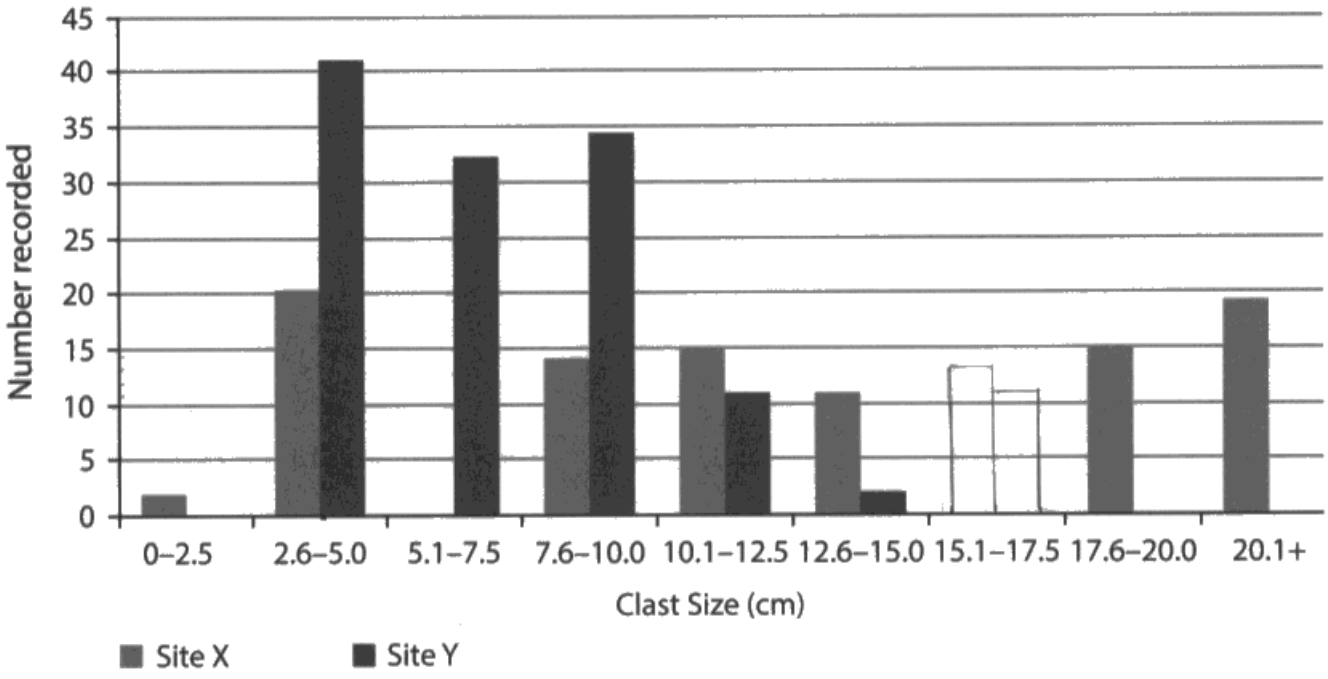

Figure 6a

ResultsPlus
Examiner Comments

This response scored 0 marks, because of the inaccurately placed bars on the graph.

Question 6 (a) (ii)

As with 3aii, candidates struggled with 6aii for two reasons. The first was due to poor understanding of stratified sampling, with many making incorrect references to removing bias (reducing bias was acceptable). The second was an incorrect application of this idea to the fieldwork scenario presented. The analysis of an unfamiliar fieldwork context is a required part of new GCSE and AS level examinations, and the best preparation for this kind of question is experience utilising or at least evaluating, all 3 kinds of sampling strategy (if appropriate) in the context of the centre's own fieldwork.

(ii) At both sites, X and Y, the student decided to use a stratified sampling approach to collect their data.

State **two** reasons why this could be an appropriate approach.

(2)

Because this gives a representative sample of the whole site and because it reduces any chance of bias in picking which areas to collect data on me dast size.

ResultsPlus
Examiner Comments

Two clear reasons are presented - about the whole site, and reducing bias.

Question 6 (a) (iii)

There were many good answers to this question. Most candidates identified longshore drift or prevailing wind direction as the most likely cause of changes to sediment size. They went on to offer reasons why this would cause the change in data presented. However, a number of candidates misinterpreted the data in the graph and suggested sediment size was smaller at size X.

(iii) Suggest **one** reason why the clast size at Site X is different to that at Site Y.

(2)

The clast at Site Y is smaller than site X because of longshore drift because the smaller bits of clast get transported by longshore drift to site Y because the prevailing wind takes it that way.

ResultsPlus

Examiner Comments

This response scored 2 marks for suggesting that longshore drift and associated sediment sorting was an explanation for the data.

Question 6 (a) (iv)

There were mixed responses to 6aiv. Many students were able to identify different techniques that might have been used in this fieldwork context. Although the mark scheme was very broad in what was allowed (e.g. statistical techniques were included), it would be worth noting this type of question is assessing a candidate's capability to react to the unfamiliar fieldwork scenario presented by suggesting another technique (perhaps those used in their own fieldwork experience) that would improve it, rather than generic fieldwork for depositional, or even glacial environments. Equally, writing about sampling strategies does not count as fieldwork techniques. Better candidates were able to make links between their suggested techniques and the fieldwork context - i.e. identify what kind of information would additionally be yielded.

(iv) The student collected this data to investigate changes to coastal sediment.

Explain **two** other techniques the student could have used as part of their investigation.

(4)

1 The student could have looked at the roundness of the pieces of coast between the two sites.

ResultsPlus
Examiner Comments

This response scored 1 mark. The technique suggested is appropriate, but the candidate has not explained how it would help with the investigation.

(iv) The student collected this data to investigate changes to coastal sediment.

Explain **two** other techniques the student could have used as part of their investigation.

(4)

1 Students could have looked at the change in rock shape eg roundness / sphericity to show the effect of transportation / erosion. eg Angular / rounded (this is done through observation).

2 Students could have also looked at the length of the coastline cliff to sea in order to see how much of the cliff face / headland had been eroded

ResultsPlus
Examiner Comments

This response was clearer; for example it noted that changes in rock shape would reveal the impact of transportational processes.

Question 6 (b)

There was a varied response to 6b. This 9-mark question typically examines the candidates' ability to 'assess' their own (familiar) fieldwork. The fieldwork enquiry process encompasses a series of stages that are outlined on page 10 of the specification. Questions might be asked about any aspect of this process. Some candidates were clearly prepared for this, writing clear answers about types of secondary data and judging their value in terms of how they supported different aspects of the enquiry process. There are many possible sources of secondary data that candidates could make use of in their fieldwork. In particular the use of GIS and wealth of apps available make easy reference to iGeology, ArcGIS online or Digimaps possible. GoogleEarth is a popular and effective way to review changes to coastlines over time, or gather contextual information about the planned fieldwork. Some candidates commented on academic papers, clearly defined (not generic) websites, and specific geodemographic data as well as the use of OS maps. There was no credit given for primary research done by other groups of students from the same school on the same day. However reference to contrasting information from other groups (e.g. in a different season, staying at the same field studies centre) was appropriate. Even those candidates who were able to write about secondary data still needed to consider both the limitations of their work and make specific judgements about their relative value in order to access all of the higher band marks.

(b) You have carried out **secondary research** to investigate coastal landscapes and change.

Assess the value of **secondary research** in undertaking your geographical investigation.

(9)

Geographical enquiry question:

~~we~~ On febuary the 5th ~~of~~ we vent on to the walton on the Naze. ×Essex To gaid more infarnation we used secondary reseach, which is data that was alreoey been collected. One secondary research we used is igeology apple store app. this showed us the different types of geology along the coast. For example: at walton on the Naze it ~~all~~ showed that ~~60%~~ 70% ~~of~~ was boulder clay. which

ResultsPlus

Examiner Comments

This is a level 3 response, based on a clear location and different types of secondary data. There are examples of sources used at different stages of the enquiry process and how that information was used. There is some evaluation of the sources by themselves, but it would be useful for a comparative judgement to be made as well.

Question 7

Although there were some rushed answers, many candidates engaged well with the resources for question 7 and demonstrated a clear understanding of the strengths and weaknesses of the MOSE project. There were some good answers that explored the issues of tectonics in some detail and many wrote logical, structured responses that considered both the positive/negative impacts of the project, before stepping back to consider the wider situation. Many candidates achieved the top of level 2 by using the resource booklet well, with a clear conclusion, lifting the answer into level 3. The very best answers reflected (and evaluated) the seriousness of the impacts they had identified, particularly given the seriousness of different aspects of the ecological, economic, coastal and tectonic situation that Venice finds itself in. A small number of weaker candidates made indirectly linked points about protection against tsunamis, or how the weight of the flood gates might cause subsidence.

Use your knowledge and understanding from across the course of study, along with the information in Figure 7, to answer this question.

7 Study Figures 7a, 7b, 7c and 7d in the Resource Booklet.

Evaluate the contribution of hard engineering approaches to managing Venice's fragile environment.

(16)

Venice's fragile environment is definitely in need of managing and the hard engineering ~~of~~ approaches will contribute a bit to the issues in the environment.

Venice, on the Adriatic Plate is ~~subsiding~~ subsiding around 2-3mm per year, which combined with global sea level rising means the city is vulnerable to sinking. By ~~2100~~ 2050 in some places sea level will have risen by 50 cm and only 20-30 cm is needed in Venice for it to be above the proposed gates. Meaning they would contribute for a number of years to the problem then the gates would flow ~~other~~ over them anyway. Also it would be expensive for the 79 steel gates to be constructed and would also reduce the £150 million a year the city gains from tourism as they would be closed preventing tourists entering at high tide.

The gates would also not contribute to the issues of the earthquakes that occur in Venice. Declared a heritage site 30 years ago the building in

Venice are very old and vulnerable to the impacts and earthquake would have in Venice. There are no hard engineering approaches that can prevent the earthquakes or even reduce the impacts that they have. Even though they have been reducing in magnitude another big one could easily happen on this active fault and have a big impact on the city. The fragility of Venices environment in regard to tectonic processes is fairly ~~was~~ unmanagable and the hard engineering approaches do certainly not contribute to managing this.

The steel gates proposed as the hard engineering approach to manage Venice's fragile environment would contribute to reducing the flooding in all the land around the Venice Lagoon as the lagoon would no longer be tidal. This would allow steps to be taken in Venice to protect the city against flooding and the subsidising of the Adriatic Plate such as raising the height of some buildings. Also this would benefit the vineyards as they would'nt get flooding and can make money to make up for the probable loss of tourism. However tourism wouldn't drop too far as the gates would protect the Venice airport as well. All this is contributed ~~the~~ to by the hard engineering approaches.

In conclusion the hard engineering approaches do have some beneficial contributions. But also they have negative ones (pollution drop in tourism). And they do not protect against the other fragile environment conditions such as tectonic ones so overall their contribution is limited.

ResultsPlus
Examiner Comments

This was a level 4 response, with clear reference to different aspects of the situation (tectonic, coastal and economic) as well as judgement about the role of hard engineering. It recognises the complexity of the consequences of engineering (e.g. the impact of tourism).

Paper Summary

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

- Prepare yourself for a range of fieldwork scenarios - refer to page 8 of the AS specification, picking locations for fieldwork that allow coverage of at least all 3 bullet points. This will help prepare you for the unfamiliar fieldwork scenarios.
- Capitalise on your own fieldwork experiences, especially when considering secondary data - refer to page 10 of the AS specification, which provides an overview of how a fieldwork enquiry process works.
- Ensure that your own fieldwork enquiry is guided by a clear, even testable, hypothesis, that you can state as the question. Link the rest of your answer back to this clear statement.
- Make use of comparative language in shorter answers.
- Plan your essays carefully before you start writing - remember that 'assess' questions require an alternative perspective.
- Accurate geographical knowledge is one requirement of the higher levels. Recognisable detail about different locations is one way to achieve this.
- Learn what is meant by key geographical terms in the specification. Many can be split up into 5 key points, which can be linked together. The definitions of key terms in the brackets need to be learnt.

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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