Examiners' Report
Principal Examiner Feedback

Summer 2019

Pearson Edexcel GCE in

AS Geography (8GE0/01)

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Summer 2018
Publications Code 8GE0_01_pef_2010815

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Introduction
This is the third year of examiners for 8GE01. The paper saw the cotninued assessment of earth sciences ideas, testing knowledge of tectonics, with a choice between glaciation and coastal landscapes. Candidates have to respond to unfamilair fieldwork scnearios in both glacial and coastal environments. Candidates were aso asked about the sampling strategies they used in their own primary fieldwork, as well as to look at the synoptic links between physical geography processes in the Swiss Alps (Glaciation) and Aqaba, Jordan (Coastal landscapes) and to evaluate how well different threats to these landscapes had been managed.

The performance of candidates seems to have been higher than in previous years. They are clearer abou t expectations for 'Compare' and 'Suggest' and 'Explain two' questions – ideas have been extended and explained well. There were some lovely responses to the synoptic questions with clear understanding of how to evaluate different strategies and apply synoptic frameworks to structure the response, e.g. around the hazard response cycle. Cnadidates struggeld a little more to explain to differentiate between the impacts of long and short-term climate change in both coastal and glacial landscapes. They also continued to struggled with statistical techniques, which indicates a need for ore direct teaching about the differences between them, perhaps in terms of the type of geography they assess.

Question 1 (a)
This item posed few difficulties for most candidates, with most answering p-waves or primary waves. However a sizeable number gave incorrect answers (L-waves) or seemed ot have no knowledge of the type of earthquakes, and referred to 'shockwaves' and 'tsunami' waves. The 3 types of waves are clearly referred to in the specification (1.3a, on page 17).

Question 1bi –
This item was generally answered well. Most candidates have learnt, from previous series, about the importance of comparative language required by the 'Compare' command word. The inclusion of the word 'distribution' required a broader interpretation in the MS to include an interpretation of the question that was based on comparing the maps as a whole (i.e. credit was given for 'more' and 'more intense'). However the best candidates focused on comparing the location of the EQ and their intensity in different parts of Taiwan.

Question 1bii
In 1bii, most candidates were able to suggest sensible basic reasons for the pattern. Equally, most struggled to extend these suggestions, and reach full marks. There were some strange misconceptions about how earthquakes travel through land differently to the ocean (this didn't receive credit). The best candidates remembered to focus on developing an explanation for the basic idea, e.g. the importance of proximity to the epicentre was explained by the lack of dissipation of EQ waves, and why that meant shaking would be noticed. Other errors were linked to suggestions about plate boundaries, not noting that the pattern was strongly skewed towards the West of the island.

Question 1c
1c was answered well. There were many possible answers in the specification that covered modifying the event, vulnerabiltiy, resilince and loss. Most candidates rememebred to make sure their responses began with an expanation (rather than simply stating a strategy) - and the best candidates developed a further explanation

of how they might reduce hazrd lsos, or how the strategy might be implemented, or used detail from a located example. a. Candidates should note that marks are not given in these questions for simply stating a location (e.g. 'Japan')

Question 1d

1d was answered relatively well. Almost all candidates were able to utilise knowledge about plate boundary types or the structure of the Earth (perhaps recycled from GCSE). Better responses extended these explanations about convection currents to include more recent thinking about Slab-Push and Ridge-Pull. Other candidates approach the questions differently, providing interesting and informative explanations about paleomagnetism and biological evidence for plate movement. Without reference to the causes of plate movement, it was hard for these answers to reach full marks. However with significant detail and range of ideas, it was easy for many candidates to reach 5 or 6 marks.

Question 1e

There were a range of responses to 1e, the first time a resource has been used in a 12-mark tectonics 'assess' question - although candidates have been exposed to this in 8GE02. Putting aside some misinterpretations of areal exent (it does not mean material that is in the air), most candidates correctly explained how other factors might also be important, e.g. other factors in hazard profile or management. The best answers made use of the data to identify evidence of high/small areal extent, and then made judgements about the relative impact of the consequent eruption was bigger or smaller. Some of the best also wrote paragraphs focussing on different types of impact (e.g. ash / landslides / tsunamis etc). A few candidates incorrectly wrote about earthquakes, but most reached opinions about the most important factor, and the best responses justified the situation in which areal extent would or wouldn't be improtant

Question 2a

2a caused few problems for the vast majority of candidates.

Question 2b

2b had a mixed response from candidates. Most (but not all!) had no problem identifying the ablation zone, but many candidates struggled to identify the equilibrium line. The glacial system is outlined in the specification - 2A.4a on page 22.

Question 2c

2c was also answered well by candidates who had a good knowledge of glacial systems. The majority of answers fosused on insolation and temperature changes, or the accumulation of snow, or tectonics creating steep gradients or earthquakes. A few candidates suggested loose snow as an explanation and this was also credited. Similarly to 1bii, the best responses then developed their suggestions into full explanations of how an avalanche would then occur. For example, temperatures rises were linked to meltwater, whilst ground shaking disledge snow leaving it vulnerable to gravity. Candidates must stick to that one explanation and develop it fully in order to gain 3 marks.

Question 2d

Many candidates focussed on subglacial and englacial flow to answer 2d with many high scoring responses. Even though they are not mentioned on the specification, there some lovely explanations of moulins! Candidates must remember there are no marks for stating single-word processes, e.g. basal slip. Explanation most often had

to locate the flow, and provide explanation. Some candidates mistakenly wrote about glacial erosion processes, or in some cases about glacial landforms. The movement of the glacier itself was not counted, but the wording of the speicifcation 'within the glacial system' was likely to introce supraglacial flow so too was credited as was the accumulation of water in proglacial lakes.

Question 2e

This question was answered well. Most candidates correctly explained the role of water in changing the size and shape of deposits. Many others wrote about the different landforms, with better candidates often developing their responses into explanation of the landforms (although this was not the only way to get 6). Where candidates were able to explain about stratification of deposits, e.g. varves, they also tended to have enough detail to score the highest marks. Weaker responses often confused some of the characeristics.

Question 2f

There were some good responses to what proved to be quite a demanding question. Many candidates provided very good explanations of how long-term climate change ocucred (e.g. Milankovitch). There is some debate about how 'long-term' is defined and the specification creates some ambiguity here. Nevertheless, volcanic eruptions and sunspot cycles were generally written about as short-term change. Whereas very good explanations of Milankovitch cycles were unlikely to score more than about 5 or 6, as they provided very little assessment either - i.e. what other factors are responsible? Some candidates provided this by writing about feedback cycles. Many candidates struggle to explain how climate change causes glacial landscape distribution to change. A simple link would have been to write about glacial retreat, or latitudinal shift in the extent of ice cover. This would have been enough to achieve level 2, with other factors helping candidates achieve higher in the level. As always candidates are reminded that they need located examples to show geographical knowledge, with accurate geography knowledge being shown through location specific detail. For example, one very good candidate provided interesting detail about changes in the ice cover at Mt Everest.

Question 3ai

3ai created no problems for the majority of candidates. Where candidates scored 0 it was because they hadn't understood the fieldwork scenario, or tried to provide explanation for the results, rather than suggesting an aim.

Question 3aii

3aiii generally caused no problems. Where candidates scored 0, they seemed to be making too much use of the equation, rather than just calculating the single step required to find $(O-E)^2$.

Question 3aiii

3aiii was poorly answered. The answer was a simple addition of the bottom row of the table. However, like 3aii, some candidates got carried away with using the formula to produce a variety of responses. Minor mistakes in calculation resulted in incorrect final answers, even if perhaps this sometimes looked like a rounding error. There are now a number of examples of questions about Chi^2 across the 8GE0 and 9GE0 papers. Centres can prepare their students for these questions by giving them these questions. Often simple steps are needed - candidates can prepare by working out which step is needed on each questions to increase their familiarisation with the Chi^2 steps.

Question 3aiv

3aiv was poorly answered. This follows a similarly poorly answered questions on statistics in the June 2018 series. The specification lists just 4 statistical techniques and candidates need to appreciate that Chi^2 is useful for categorised data, whereas T-test looks for difference and Spearmans Rank for relationship. These basic characteristics of statistical tests were enough for gaining the first mark on this item.

Question 3av

3av was answered well. Most candidates could explain two technicques and explain why they were relevant for extending this type of fieldwork investigation. Counting straiations was a common response. However not all were able to fully develop the response to show how ice-flow direction would have been established. Indeed many simply repeated the idea that it would show ice-flow, which is a repeat of the question wording. Examiners were often left asking 'but how...'?

Question 3b

The standard of responses to 3b varied greatly. Some candidates had well rehearsed explanation of sampling procedure and sample size for their fieldwork (often reaching level 2), with a good number able to comment on how these affected their results. The better responses noted that despite flaws in the strategy, the overall approach was enough to show clear differences and conclusions. The very best probably wrote about 2-3 different aspects of their investigation, evaluated sampling and then made a judgement about which fieldwork was the most useful. By contrast weaker students over fixated on accuracy and precision of the fieldwork technique, neglected sampling, or did not write clearly about any fieldwork at all. That said it was pleasing to see the vast majority of centres have helped candidates write about very clear geographical enquiry questions.

Question 4

There were many good responses to question 4. Candidates engaged well with the ifnromation. Howver there were signs that time management was a bigger issue this year than in previous. Weaker responses tended to be rewrite of some of the material in the resource booklet. Stronger (level 2) responses focussed on management strategies rather than causes of risk. Even stronger wrote about the positve and negative impacts of these strategies, often covering 3-4 types of management in their answer with judgements about the best. The very best responses went further, and thought about the nature of the threats, and whether management helped. This gave focus to the conclusion at the end. Alternative approaches made good synoptic links from acorss the course, commenting on the importance of meltwater and feedback processes, or the role of the Swiss Government. Others categorised their writing into stages of the hazard response cycle, e.g. prediction, prevention etc. These responses were the most coherent arguments, particularly when combined with evidence from across the figures, with a real grasp of the geographical situation.

Question 5a

5a caused very few problems for candidates, most answering longshore drift.

Question 5b

5b produced a variety of responses, with many candidates struggling to identify A as 'Sediment source' or something similar. Sediment cells are described in the specification (2B.5c) as a system, and candidates should be able to recognise these different components.

Question 5c

5c caused very few problems for candidates. Many provided sensible suggestions, the most popular being subaerial processes, water saturation and coastal erosion at the base of the cliff. A few noted that the groynes probably resulted in terminal groyne syndrome, and there were many pleasing responses about the type of rock (presumably chalk). Similarly to 1b, candidates must fully develop 1 suggestion, and the first mark is not awarded for single words. Better responses extended the ideas fully, but many left examiners thinking 'but how…' for the final mark.

Question 5d

5d similarly posed few difficulties for candidates. However sometimes those writing about freeze thaw for physical weathering and then plant roots for biological weathering ended up writing a similar explanation for both points and these repeated ideas were only creditted 3 marks. The mark scheme allows for plant roots as biological or physical weathering - however there are many other ways biological weathering occurs at coastlines, and these are referred to in the mark scheme.

Question 5e

There were some clear and good responses to 5e. Many candidates appreciated that rock type and wave type had different characteristics and were able to make links between different factors and also write about different landforms too. This complexity helped the very best responses get full marks. The level of development in the explanation helped discriminate between level 2 and level 3. In some weaker responses, candidates had confused plains and rocky coasts, or perhaps just focussed on one difference between them. It was not necessary to write about located examples to show accurate geographical knowledge and get six marks on this response.

Question 5f

There were some interesting responses to 5f, with many candidates noting many alternative factors that would explain the risks. It was pleasing to see 'assess' and 'different coastlines' interpereted in many ways - emergent coastlines were just as valid as submergent, whilst many candidates wrote about coastal recession vs. coastal flooding vs. coastal management. These represent different scales and factors, creating clear ways for candidates to make their judgements about the importance of long-term sea-level change. Similarly to 2f, there is some ambiguity in geographical thinking about what counts as longer-term sea level. The specification notes that sea-level rise due to climate change is long-term change. Shorter-term change is characterised more as coastal flooding due to storm surges, and this was a valid way to approach the 'assess' component of the question. Weaker candidates focussed on one side of the discussion with isolated ideas about places like 'Bangladesh', or coastal cliff collapse in Holderness. The best utilised a variety of locations and knew location-specif cdetail about the causes and risks being faced.

Question 6ai

6ai was mainly answered well - many candidates identified changes in sediment size due to longshore drift. Similarly to 2ai a sizeable number of candidates wrote things that were unrelated to the fieldwork scenario.

Question 6aii

Similarly to 3aii, almost all candidates answered this response correctly.

Question 6aiii

6aiii was poorly answered. The answer was a simple addition of the bottom row of the table. However, like 3aii and 6aii, some candidates got carried away with using

the formula to produce a variety of responses. Minor mistakes in calculation resulted in incorrect final answers, even if perhaps this sometimes looked like a rounding error. There are now a number of examples of questions about Chi^2 across the 8GE0 and 9GE0 papers. Centres can prepare their students for these questions by giving them these questions. Often simple steps are needed - candidates can prepare by working out which step is needed on each questions to increase their familiarisation with the Chi^2 steps.

Question 6aiv

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Question 6v

6av was answered well. Most candidates could explain two technicques and explain why they were relevant for extending this type of fieldwork investigation. Looking for the evidence of longshore drift using corks and oranges was a common response, together with measuring the size of the beach using beach profiles. Other common responses included the use of photos, but some candidates focussed their responses solely on historical photos (the questio nis about primary data) and some misinterpreted the fieldwork scenario to include questionnaires about coastal management defences, or indeed questionnaires about coastal deposition, which were confusing.

Question 6b

The standard of responses to 6b was very good. Many candidates had been to standard coastal fieldwork locations size (e.g. Walton on the Naze, Slapton Sands etc) and had clearly integrated discussion of sampling procedure and sample size into their fieldwork - these explanations were well reheased, often reaching level 2), with a good number able to comment on how these affected their results. The better responses noted that despite flaws in the strategy, the overall approach was enough to show clear differences and conclusions. The very best probably wrote about 2-3 different aspects of their investigation, evaluated sampling and then made a judgement about which fieldwork was the most useful. By contrast weaker students over fixated on accuracy and precision of the fieldwork technique, neglected sampling, or did not write clearly about any fieldwork at all. That said it was pleasing to see the vast majority of centres have helped candidates write about very clear geographical enquiry questions.

Question 7

There were many good responses to question 7. Candidates engaged well with the information about Jordan. Weaker responses tended to be rewrite of some of the material in the resource booklet with brief mention of Marine Protected Areas, or oil pollution ships. Stronger (level 2) responses focussed on management strategies rather than causes of risk. Even stronger wrote about the positve and negative impacts of different strategies, often covering 3-4 types of management in their answer with judgements about the best for either coastal erosion or pollution. The very best responses went further, and thought about the nature of the threats, and whether management helped. There were some lovely responses that considered the funnel-shape of the Gulf of Aqaba, and whilst tsunamis were unlikely, this showed good synoptic links and application the information in the scenario. By focussing on tectonic vs. coastal vs. tourism vs. pollution, candidates were then able to give a

clear conclusion at the end. Alternative approaches considered the management of environment, then social and economic risks, or in a few cases categorising their writing into different stages of the hazard response cycle, e.g. prediction, prevention etc. These responses showed a real grasp of the geographical situation.

Paper Summary

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

- Understand the differences between different statistical techniques
- Understand how coastal and glacial systems work
- Concentrate on the sampling strategies in their geographical fieldwork
- Understanding how their pirmary fieldowkr method influences their results and conclsuions