GCE A LEVEL EXAMINERS' REPORTS

GEOGRAPHY
A LEVEL

SUMMER 2022

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GEOGRAPHY

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COMPONENT 1: CHANGING LANDSCAPES

General Comments

- Analysis of coastal and glacial maps was usually satisfactory. Candidates were able to identify differences between the time periods although there did seem to be a focus on individual elements rather than an overview. In the map showing the distribution of population of population aged over 65 the general pattern was more effectively discerned
- Analysis of graphs again was related more to specifics of the sediment size rather than a general distribution of sediment size. Candidates need to give more attention to patterns of distribution shown by bar graphs.
- Analysis of patterns on tabulated data need to pay more attention to overview rather than isolated comparisons
- The use of case studies in the essays was generally sound and appropriate but candidates should try to integrate and apply them in 8 tariff questions.
- There was some use of diagrams in the glaciated and coastal landscapes essays, but they need to have clearer and more focused annotation.
- Candidates should identify their selected questions on the front sheet of the answer booklet.

Comments on individual questions/sections

Coastal landscapes was the most popular with 76% of the candidates choosing this option. Mean marks for the glaciated landscapes option were generally higher than those for the coastal landscapes option.

Q.1 **(a)** The majority of candidates were able to access the resource, and many were able to describe the changes in the coastal environment between 1984 and 2019. The better answers took a holistic view and referred to overall changes with many commenting on the changing proportions of deep and shallow water or the different areal extent of the islands. Less frequently candidates commented on the separated nature of North Beach in 2019 compared to 1984. Good answers used the grid to support these general points with located information, although only a limited number used the scale to back up their descriptions. Most answers however did not address the overall changes and elected to give isolated statements that compared individual or groups of grid squares. As such they did not address the whole of the coastal environment shown in the resource and thus did not provide the overview required.

(b) The question required consideration of both coastal process and economic impact to gain full credit. In the short time available to answer the question detailed analysis of process was not expected but some recognition formed the basis of good responses.

Successful answers made brief comment on the formation of beaches, dunes or coastal cliffs before linking these features to economic impacts related to tourism. Many answers were structured around positive and negative impacts focussing on the economic advantages of tourism and the costs associated with coastal erosion. However equally accomplished were responses that addressed two positive or negative impacts. Some answers were limited by a superficial or non-existent reference to process, for example a number discussed fishing as an economic advantage but failed to link this to processes which gave a sheltered site for a port. Many answers integrated examples in support of the points made with erosion in eastern England a popular case study for negative impacts or the beaches of Devon, Dorset, Sussex and Pembrokeshire used to enhance positive impacts.

Q.2 **(a)** **(i)** There were some good responses that addressed the variations in grain size in the beach and dune sequence shown. Those who directed their comments at the overview of variation usually mentioned the way in which the sediment samples become finer in nature or that coarse sand was the largest grain size in each sample. Few examined the variation in the range of sediment size or commented on the increased sorting of sediment between Sites 1 and 3. Most answers were based upon isolated statements that were unsuccessful in their discussion of change along the transect. Frequently candidates gave a site-by-site description of the grain size distributions or referred to the presence or absence of particular grain sizes. In a number of instances candidates introduced explanatory information which is not required by the question.

(a) **(ii)** Good answers tended to base their explanations around the characteristics of the sediment samples in the resource. The identified that range and size of grains in the samples changed from mean low water to the dunes and used knowledge of marine and aeolian transport and deposition to discuss the link. Explanations referred to the variations in energy between the required processes and the size of the sediment transported. However, many answers did not address the whole question and made little reference to the variations in grain size shown in Figure 2. These answers concentrated on a description of process without a clear link to sediment. There were some candidates who focused on marine erosion processes that had a very tenuous link to the sediment characteristics shown in the resource.

Q.3 This was the most favoured of the coastal landscape essays and in general candidates had been well prepared for this topic with responses showing good knowledge and understanding. The processes of marine erosion were usually developed in appropriate detail and the better responses were able to explain how they operated in the development of landforms of coastal erosion. Many answers focussed on the cave-stack-stump sequence although a significant number broadened their focus of discussion to wave-cut platforms and bays. When examining the relative importance of erosional processes many responses chose to integrate other processes and factors into the sequential development of selected landforms. Thus, many examined the initial role played by geology or the subsequent impacts of weathering.

In other approaches candidates examined two different locations and reflected on the relative impact of different factors on the development and characteristics of erosional landforms.

Good answers were case study lead with soundly annotated diagrams, a range of processes/formations covered, and a clear relative level of importance discussed Many answers focused on landforms of the Jurassic Coast but case studies of erosional landforms from Yorkshire, Devon and Pembrokeshire were equally successful. Some less successful answers confused erosional and weathering processes, and some did not give enough attention to the characteristics of their selected landforms.

Q.4 This was the less popular choice of the coastal landscape essays. Candidates were confident with the knowledge and understanding required and often approached the essay using a case study to support their discussion. Sand dune management was a favoured environment used to discuss a range of management strategies to restore and stabilise these coastal systems. The detail of the strategies varied with example with Studland, Braunton Burrows, Sefton, Northumberland and Morfa Harlech used extensively. The better answers integrated their assessment into the outline of methods used and built up a position on the positive and negative elements of the strategy which enabled a summary to be made towards the end of the essay.
Another popular approach was to discuss the management of coastal erosion, often using a SMP to allow the opportunity to broaden the dialogue. Answers that examined the issue of coastal erosion used a range of strategies that covered both hard and soft engineering as well as hold the line versus managed retreat. Good answers included judgements within the structure of the response that examined economic, social and environmental positives and negatives but also analysed impacts on other locations. Case study material frequently came from southeast or eastern England. Where candidates were less successful, they often lacked the required depth and application of knowledge or gave answers that were purely descriptive.

Q.5 **(a)** Many candidates saw the general changes in the glacial environment shown in Figure 3. Good answers referred to the overall, shrinkage of Glacier Steffen with many using the scale to give detail on the actual extent of ice loss. In addition to this, answers also directed attention to the growth in the size and number of lakes. Good responses usually supported the points they made citing grid evidence from the resource. As in Q1(a) a significant minority of candidates did not address the overall changes and elected to give isolated statements that compared individual or groups of grid squares. These answers examined the retreat of the terminus, commented on individual lakes or made specific points about the supraglacial moraine.
Again, they did not address the whole of the glacial environment shown in the resource and thus did not provide the overview required.

(b) There were some good responses to this question. Candidates who did well gave a crisp summary of the nature of selected glacial processes and then continued to outline their impacts referencing economic, social and demographic effects. Answers were probably most effective when discussing the impacts of hazards where GLOFs and avalanches were frequently cited.

The use of case study materials often made the answers more authoritative. Examples of GLOFs from Peru, Iceland and Nepal were discussed whilst avalanches were illustrated by Galtur and more up to date examples such as Panjshir and Badakhshan in Afghanistan and the collapse of the Kolka glacier in North Ossetia.

Other successful approaches examined the production and economic value of sands and gravels and the production of glacial troughs that could be used to site HEP schemes. Some candidates did consider less direct impacts of glacial processes such as the provision of water supplies via meltwater and coastal flooding due to glacial melting. Whilst acceptable candidates spent a long time outlining the processes involved and had little time for development of the impacts

Q.6 **(a)** **(i)** As in Q2 (a) (i) here were some good responses that addressed the variations in grain size in the sequence shown from the terminal moraine to the sandur. Those who directed their comments at the overview of variation usually mentioned the way in which the sediment samples become smaller in nature or that there was a decreased range of sediment size from terminal moraine to sandur. However, many answers were based upon isolated statements that were unsuccessful in their discussion of change along the transect. Frequently candidates gave a site-by-site description of the grain size distributions or referred to the presence or absence of particular grain sizes. In several instances candidates introduced explanatory information which is not required by the question.

(a) **(i)** Good answers tended to base their explanations around the characteristics of the sediment samples in the resource. The identified that range and size of grains in the samples changed from terminal moraine to sandur and used knowledge of glacial and fluvioglacial transport and deposition to discuss the link. Explanations referred to the variations in energy between the required processes and the size of the sediment transported. Explanations were more successful when considering fluvioglacial processes and the impact of loss of energy across the sandur plain. Some even referred to hydrostatic pressure in streams as they emerge from the glacier. Answers were less successful in explaining the role of glacial processes in the formation of a coarser, less sorted sediment sample at the terminal moraine via glacial transport or being pushed in front of the glacier.

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Q.7 This was the most popular of the glacial landscape essays. Many candidates answered this essay using the development of corries as the landform of glacial erosion with examples taken from the Lake District or Snowdonia. There were some good responses that outlined the nature of glacial weathering and then applied this to the stages of corrie development highlighting the role played in the provision of weathered material for erosion and the characteristics of the backwall, aretes and pyramidal peaks. Good answers usually discussed the role of geology in facilitating or hindering the process. Several answers looked at the importance of glacial weathering in in post glacial landforms such as scree slopes and blockfields. Weaker responses often confused and conflated weathering and erosional processes and therefore the relative importance was difficult to emphasise.

Some answers drifted into depositional landforms and others were ineffective in the use of examples.

Q.8 There were generally two approaches to this question: managing landscapes or managing hazards. When looking at the management of landscapes candidates generally used a named glaciated area as the basis of their answer and discussed how management could address the pressures of human activity. Examples used included Banff, the Lake District and the Alpine skiing resorts.
Often this approach had sustainable management at the core of the argument with candidates reflecting on how this could confront the issues that were the result of human use of the landscape. Whilst being a valid approach answers often strayed from the glacial nature of the landscape to management techniques could be used in any physical or human landscape. The need to focus on the special glacial or glaciated nature of the environment needs to be kept in mind. Where answers addressed glacial hazards, focus was much clearer. Many answers concentrated on avalanches and the strategies used to manage them with reference made to hard and soft engineering with an explanation of how the strategy tackled the hazard. Good answers often had a case study at the centre of the response and the assessment was related to economics, society and environment.

Q.9 **(a)** The resource was generally well used with most candidates able to identify and describe at least one of the overall distribution patterns. Many commented on the concentration of population aged over 65 in the northern coastal region of Norfolk, supporting their description with reference to named places. The low percentage found in settlements over 24,000 was also frequently quoted with reference to relevant towns and cities. It was evident that candidates had also been instructed to look out for anomalies as comment was made on the area to the northwest of Norwich that had a high population of people over 65 years of age. There were still some candidates who structured their answers around isolated statements but more concentrated on the overview and thus accessed Band 3 credit

(b) Candidates often took Figure 5 as a starting point for their explanation of why age characteristics vary between places. Although the reasons put forward were in most cases valid the level of reasoning was frequently sketchy. It was often stated that more young people lived in cities because that is where the jobs were found or that is where entertainment was found. This is true but is quite simplistic. Similarly rural areas were described as areas with higher percentages of older age groups as that was where they went to retire. Few candidates took time to give a more nuanced description of the age characteristics of specific places they had studied with reference to Focus box 1.3.1. Places were often seen as either rural or urban rather than a specific location, for instance students lived in cities rather than a specific area of a city.

Q.10 **(a)** Candidates found this resource the most difficult to access for the purpose of general analysis. There were a few good responses that reviewed the table in the context of structural characteristics of employment and compared the older industrial towns with London in the context of services and manufacturing or commented on the overall dominance of services in the whole economy. These were able to use data from the table to back up their observations.

Conversely the majority of the answers gave basic descriptions of differences in the individual sectors which did not address the command to analyse variations which requires interpretation, as well as recognition, of differences.

(b) In the main candidates seemed to be confident with the content required by this question. The majority were secure with the purpose of re-imaging as the re-invention of a place to differentiate it from past negative impressions. Many good answers included reference to past images as a prelude to an outline of methods by which re-imaging could be achieved.

There was an impressive range of methods which included re-imaging by the development of cultural quarters, flagship developments, sports stadia, entertainment and heritage development. Most of these were augmented using examples from Liverpool, Manchester, Sheffield, London, Birmingham and Cardiff. Good answers were careful to keep to the command of outline giving detail on how the method was able to re-image an area by concentrating on the details of the method. However, some answers did diverge into the impacts of the chosen method with some discussing gentrification as the driver of re-imaging rather than a consequence. Some answers also drifted from the urban setting into rural places as their case study looking at music events that take place in the countryside.

Q.11 This was the most popular choice of essay for the Changing Places unit of the specification. Many answers used case study material from the UK including Cambridge Science Park, Corridor Manchester, Knowledge Quarter Liverpool and East London Tech City whilst others commented on Silicon Valley. The better answers concentrated on the nature of the clusters and the impacts that they created on both people and places whether positive or negative. These were seen mainly as the impacts on skills, job prospects, cost of accommodation for people and infrastructure development, integration of university and industry and gentrification for places. A number of responses drifted from impacts to factors that encouraged the growth of quaternary clusters which tended to dilute the quality of the essay. When assessing the impacts good answers tended to do this in an integrated fashion rather than an overarching comment at the end of the discussion. Some drifted from the specification definition quaternary and looked at clusters that were predominantly financial or creative in nature, although the impacts on place and people were similar.

Q.12 An unexpected and common problem was the misreading of the word recreation. A significant number of students did not examine it in the context of Focus box 1.3.7 i.e., a pastime but saw it as re-creation, an update or modification. This meant that the content of a number of essays was extraneous as it did not address the question. Many good answers had a tourism focus and related to the Eden Project or Cornwall in general but there were other appropriate case studies including the Lake District and Arran. Often these answers displayed a good knowledge base of the specific tourist activities that had enabled the rebranding of the selected rural place. More could have been said about the nature of the rebranding with answers concentrating on the ‘after’ element to the detriment of what the place was like before recreation become important. However, some did include this and were given due credit. Other methods of rebranding tended to concentrate on festivals, usually related to music or food festivals such as Glastonbury or Abergavenny. It is a pity other drivers of rebranding such as heritage centres e.g., Glastonbury, were not addressed. Because most essays were based on tourism assessment came mainly as comment on the success of the example rather than a more rounded appraisal of recreation in general.

Summary of key points

- Candidates may benefit from a more analytical study of the key geographical features displayed in images.
- Time taken in the analysis of questions will provide more focussed answers.
- The assessment element of the essay questions could be improved by an examination of temporal and spatial characteristics as well as processes.
- Where handwriting is clear it is easy to follow the arguments made in an answer. Examiners reported that it was sometimes very difficult to read candidates' handwriting.
- Lengthy introductions to essays are not required.

GEOGRAPHY

GCE A LEVEL

Summer 2022

COMPONENT 2: GLOBAL SYSTEMS AND GLOBAL GOVERNANCE

General Comments

Candidate performance overall was similar in profile to June 2019. Now, as then, the mean mark for all 20-mark questions was around 11 (apart from Question 8, which rose to 12 in 2022). The mark distributions for questions 1, 3, 5 and 6 were also similar, with mean marks in the range 5.6 to 6.6 in 2019 and 5.6 to 6.3 in 2022. The mean mark for Question 9 in 2022 was 19 compared with 18 in 2019. In both years, Question 9 was answered by more than two-thirds of all candidates.

Very few candidates appeared to make little effort when answering the paper. Most scripts showed candidates working their hardest to engage with the questions and provide substantial answers.

A minority of candidates struggled to answer all the questions in the time allowed. Some ran out of time in Section C. Some others, who began answering the exam by tackling the essay questions, left inadequate time to attempt all the short answer questions. In either case, overall performance was negatively affected. Please refer to the summary section below for recommendations for preparing future cohorts for their examination.

Comments on individual questions/sections

Q.1 (a) (i) Most candidates answered this question successfully and gained both marks. One mark was given for evidence of valid data extraction (when the relevant figures of 160 g / m^2 and 100 g / m^2 were identified). The second mark was allocated for the successful completion of the calculation.

(a) (ii) The best responses to this question provided a brief analysis of Figure 1 which demonstrated that the system in its entirety is in a state of balance. Responses scoring full marks referred explicitly to the numbers 60, 100, 360 and 80. These are the four respective outputs of the system which, when added together, are equivalent to the input of 500 g / m^2. A minority of candidates demonstrated equilibrium or balance in relation to a part of the system, for example by showing that the outputs from the grassland vegetation store are equivalent to the 500 g / m^2 uptake. Responses such as these typically gained 2 out of the possible 3 marks. They showed conceptual understanding of equilibrium but did not analyse the system as a whole, in line with the question asked.

(a) (iii) Only a minority of responses were awarded full marks; 3 marks was a far more common outcome. This reflected the fact that although candidates applied knowledge of water flows to this answer, they typically showed no applied understanding of how carbon losses might occur.

Typically, such responses explained that the loss of vegetation increases run off because interception storage has been lost 'and therefore carbon is removed from the system'. Here, the loss of carbon has not been fully explained. In contrast, the best responses usually made some explicit reference to dissolved carbon lost in solution, or they explained that plant litter and leaf debris are washed away, all of which are organic materials that contain carbon.

Q.2 **(a)** The strongest responses to this question were often concise. They offered a narrative which was strongly and simply focused on changes over time. Some of the very best answers were couched in terms of change and continuity. For example: 'Over the last 40 years, Arctic Sea ice cover has gradually been reducing. However, seasonal changes remain visible every year, even as the overall ice cover decreases.' In other words, a strong 'headline' story was presented at the outset, and then supported with key data. In contrast, weaker responses often relied instead on the excessive listing of numbers, with little or no overview (other than the odd passing remark). Typically, such answers begin with a sentence such as: 'In January 1979 ice cover was 15 million square kilometres, rising to 16.5 million at the end of February and then falling in September of that year…' In answers such as this, it is difficult to see the wood for the trees. This question and its mark scheme could serve as a good example to use with future cohorts when preparing them for their examinations.

(b) Responses scoring full marks typically outlined changes in several major water stores including oceans, large surface water bodies such as lakes, the atmosphere and groundwater. Brief explanations were provided to explain the changes. High-scoring answers typically outlined the closed nature of the system also. Responses gaining around 3 marks, of which there were a great many, focused mainly on changes in the oceans. In essence, they provided an answer to the narrower question: 'Why does climate change lead to sea level changes?'

Q.3 The strongest answers to this question made good use of one or two case studies of local water shortages arising due to poor local management. These were contrasted with examples and explanations of recent droughts which have most likely been caused or exacerbated by long term atmospheric climate change. Those candidates who maintained a strong focus on the question asked, and who were able to support their arguments using a small range of contexts and examples, were able to access the higher mark band. At the very top of the Band 3, responses typically ended with a final conclusion which properly synthesised and evaluated the information contained in the body of the essay. For example, some candidates argued that periods of lower than expected rainfall need not necessarily be experienced as water shortages by local populations provided there is good governance of water resources. In the UK, good long-term water management generally ensures that taps continue to run even during periods of unexpectedly low rainfall. Thus, one possible conclusion is that the statement applies mainly to places where there is weaker water governance and insufficient infrastructure to maintain supplies during temporary periods of unexpectedly low rainfall.

In contrast, responses scoring less than the mean mark of 11 typically were lacking in both range and depth of information. Some candidates only provided one or two paragraphs of information, at times dealing with only one side of the argument, for example by writing exclusively about the Aral Sea. A minority of candidates attempted to discuss an alternative proposition, namely that increases in the atmospheric carbon store can be a cause of increased water supply. Strictly speaking, this is not a valid way to tackle the question asked. Question 3 is framed as a causal proposition: 'A is the main cause of B - do you agree?' In this generic example, candidates are expected to apply their knowledge and understanding in ways which explore other possible causes of B. They are not expected to argue that A leads to outcomes other than B: the point of the exercise is to focus on what the main cause of B is.

Q.4 This year, as in previous sessions, peat was a popular theme with candidates. Around 55% of candidates opted for this question and the majority engaged with the topic in a good or satisfactory way. The strongest responses to this essay made good use of case studies showing the disproportionate influence of humans on the health of peatlands, thereby providing examples of degradation and/or restoration. This material was typically used to argue against the proposition that climate is the main factor. High-scoring responses tended to show greater knowledge and understanding of physical factors, including geology, relief and drainage. Responses rewarded with a single-digit mark lower typically showed far more fragmented and/or inaccurate knowledge of peatlands. They were far less likely to use terminology such as 'anaerobic conditions'.

Q.5 **(a)** **(i)** The majority of candidates provided an effective description of the pattern. Only a small minority failed to offer an overview of the pattern by acknowledging from the outset that the vast majority of countries possess 4G services. Most answers contained a spatial element, typically a reference to the majority of exceptions being found north of the equator.

(a) **(ii)** The majority of candidates correctly outlined a limitation of the map, with the most popular theme being that 4G services may only be available in some places within the countries which are coloured purple on the map. This may mean that the map is misleading if, for example, one capital city has services, but the majority of the country does not.

(a) **(iii)** Most candidates suggested the poor-quality internet connectivity might in itself promote migration given how important connectivity is for modern-day work, education and social participation. Some candidates were able to develop this theme further by using specific examples to support their argument, for example by outlining access to higher education or the ability to participate in the knowledge economy. Many responses additionally acknowledged the key role of information for migration decision-making; if potential migrants are unaware of the opportunities that exist in other places, they may be less likely to move.

Q.6 **(a)(i) and (ii)** Most candidates performed the calculation correctly. Answers to the second part of the data analysis tended to fall into one of two groups. The first group of responses, which scored 2 or 3 marks, showed limited analytical sophistication and simply listed the information appearing in the second and third data columns. Maxima and minima were dutifully identified, but no additional evidence of geographical analytical skills was evident. In contrast, the second group of responses - which scored full marks - provided a more holistic analysis of the three data columns. This often included explicit acknowledgement that the highest density of waste is found in the area of water with the smallest surface area, namely the Mediterranean.

(b) Most responses outlined both physical and human reasons why large garbage patches have developed in ocean areas. Popular themes included poor governance of waste in the Global North and rising affluence and consumption in the Global South. Most candidates understood the importance of ocean gyre currents. Unfortunately, a sizable number of candidates were side-tracked into writing lengthy descriptions of the size of plastic garbage patches, rather than addressing the keyword 'why' which appeared in the question.

Q.7 Around 15% of candidates attempted this question. Of these, most demonstrated conceptual understanding of power by writing about soft and hard power in their responses. Widespread use was made of China in a maritime context and the extent to which UNCLOS provisions are respected or ignored by different countries. Surprisingly little reference was made to United Nations agreements pertaining to refugees, however. The best answers maintained a focus on countries that may legitimately be regarded as superpowers including China, the USA and Russia. Candidates often used the contemporary example of Russia's invasion of Ukraine to support their arguments.

Weaker responses, in contrast, did not always maintain a focus on 'powerful' countries nor were they secure in their knowledge of the international rules they were trying to discuss. This was especially true in relation to migration: some candidates wrote about the immigration policies of sovereign states as if they contravened international rules. However, although international rules protect the rights of refugees there is no formal global agreement on the rights of economic migrants (other than within some regional contexts, such as the European Union). Some candidates argued incorrectly that the UK was now breaking international rules in relation to economic migration.

Q.8 Most candidates answered this optional question rather than Question 7. The majority provided a satisfactory or good response to the question which combined knowledge and understanding with an evaluative weighing-up of the relative importance of different drivers of global economic growth. Strong answers gave an overview of the world economy as a whole and the role that migrants play in a global context. As a counterargument they explored the growth over time of international shipping and data networks supporting trade and financial exchanges. Some arrived at a strong conclusion which disagreed with the statement (for example by pointing out the very important role that data networks have played during and after the COVID-19 pandemic).

A few outstanding responses argued that while migration can be a driver of growth in local or national contexts, the internet is far more important when viewed at a global scale. In contrast, weaker responses said little or nothing about 'global growth'. One or two case studies of migration supporting national growth were described, with little knowledge of alternative drivers provided, nor any real evaluation of the role of migration in a global context.

Q.9 This was by far the most popular of the two questions in Section C and was attempted by over 90% of candidates. Most experienced little difficulty in working sequentially through the four resources and analysing the risks shown. The strongest responses were created by candidates who were clearly well-versed in the assessment objectives (AOs) of Section C. They showed good judgement when it came to making links between each figure and their own applied knowledge and understanding. For example, some candidates provided brief examples of places in the UK which they had studied that had been adversely affected by global shift before experiencing positive 'rebound' effects following successful rebranding and reimaging. Similarly, they briefly compared the problems that Jamaica might be experiencing in Figure 6 with challenges for Poland which they had studied as part of their course. In contrast, less well-prepared candidates often wrote far too much about a single theme, such as the rebranding of places in the UK. Sometimes this led to them running out of time before they had begun to address Figures 7 and 8. In such cases the result was invariably a lower mark than the candidate might have obtained if they had approached the task in a way that better reflected the weighting of AOs.

The highest-scoring answers provided a more sophisticated evaluation of the risks. Sometimes this was evidenced by the way candidates recognised that although Figure 8 portrayed the 'love bug' computer virus as a global risk, the costs cited on the map were all for high-income countries or major emerging economies. They rightly concluded that the risks of this virus were spatially uneven because large areas of the Global South would have been relatively less exposed to this danger back in May 2000. Similarly, they framed Figure 5 and Figure 6 as risks disproportionately affecting the Global North and Global South respectively. This led to a nuanced final conclusion which acknowledged that some risks affect some parts of the world more than others, depending on local contexts, economic resilience and possible mitigation strategies.

In contrast, lower-scoring responses were more likely to finish abruptly with a short formal conclusion which asserted that many risks exist which can all harm the world's countries (the inference being that levels of risk and exposure are uniform and affect all countries and contexts in the same way).

Q.10 Fewer than 100 candidates answered this question. Those that did typically applied their own knowledge and understanding well to the question. Popular themes included the importance of rebranding in relation to Figure 5, and the role which remittances play offsetting the negative 'brain drain' effects shown in Figure 6. Candidates also wrote about climate change mitigation in relation to Figure 7 and the need for improved cybersecurity and virus checking in relation to Figure 8. Answers were sometimes descriptive insofar as candidates suggested ways of reducing vulnerability without actually evaluating them. They asserted that rebranding and reimaging might help places adversely affected by manufacturing losses shown in Figure 5. Yet they did not evaluate the extent to which such strategies actually work or are applicable or affordable in all places and local contexts.

Credit could still be given under AO1 to candidates applying their own knowledge to describe possible solutions. However, in order to gain a Band 3 mark it was important to also acknowledge possible strengths and weaknesses of the proposed solutions.

Summary of key points

- Candidates are reminded to underline key words and phrases in short answer questions and to ensure their response is addressing the question in full. This year, the majority of candidates made little reference to 'carbon losses' in 1(a)(iii). In question 2(b), the phrase 'other major water stores' was inadequately addressed by the majority of candidates (who instead produced a response focused entirely on sea level changes).

- Candidates are reminded to use their time wisely. A minority of this year's candidates probably spent around 90 minutes answering the three essay questions (70 marks) before rushing to complete the short-answer questions (40 marks) in their remaining 45 minutes. Any additional marks gained by writing longer essays came at the cost of failing to answer some short-answer questions in their entirety. Overall, the impact of this approach of those candidates' final cover marks was most likely negative.

- Candidates need to be very familiar with the weighting of the assessment objectives in Section C of the examination. A minority of candidates still write in greater depth about a narrow range of points that is ideal and do not work sequentially through all the resources.

- Candidates should approach the data skills questions on this paper by viewing the tasks first and foremost as an exercise in communication. Which key ideas do they need to communicate to the reader? What are the most important trends, patterns or stories shown by the data?

GEOGRAPHY

GCE A LEVEL

Summer 2022

COMPONENT 3: CONTEMPORARY THEMES IN GEOGRAPHY

General Comments

- The component places considerable demands on candidates, both in terms of its breadth of subject content and the challenging nature of the questions set. Advance information was released to allow candidates to focus their final preparation.
- As in previous years, the paper proved to be accessible to almost all candidates with no common misinterpretation of any of the questions and few rubric errors.
- Most candidates were able to answer all three questions within the time allocated. There was some evidence that candidates spent too long on Section A and therefore had to rush their last question. Candidates from some centres had obviously been briefed to do Section A last in recognition of its lower mark tariff, and this strategy seemed to work well.
- The paper differentiated effectively, with substantial numbers of candidates displaying both an impressive level of knowledge base (AO1) combined with sophisticated skills of analysis, synthesis and evaluation (AO2).
- Smaller numbers of weaker candidates found some questions challenging and experienced considerable difficulties with structuring their answers and applying their often over prepared learning to fit the question. In a minority of cases, candidates from sometimes whole centres had prepared an answer to a question which was different from the one on the paper.
- Whilst the paper, as expected, differentiated by candidates' performance, it also differentiated markedly between centres, possibly because of the way preparation was managed in the final revision period. It was a learning experience for all.

Preparation needs to focus on two facets:

- Revising the knowledge and understanding as suggested by the advance information
- Honing the candidates' essay writing skills

Revising the content

A number of the following activities may prove useful:

- Checking out the specification to ensure students understood all the relevant concepts and key terms, e.g., physical profile (Q1) or increased energy efficiency (Q12)
- Revising specialised concepts which had relevance for the chosen option of Globalisation (Q5 & 7) or Adaptation and Mitigation (Q14) or Sustainable (Q12)
- Explaining complex concepts and geographical terminology (e.g., Energy Crisis Q12)

- Updating case studies, for example, studying examples of recent tectonic hazards (e.g., White Island 2021) or reading summaries of relevant reports (e.g., Dasgupta Report on Biodiversity 2020) and the results of the IPCC and ISBES reports from the most recent COP conferences at Glasgow and Bonn.
- Encouraging the candidates to work on their case studies and research to identify possible relevance. A brief fact file on location, causes, impacts etc is often useful, with records of any noteworthy features.
- Preparing easy to draw diagrams which might be relevant frameworks, (e.g., Degg or Parks Models, Risk Equation, Hazard Management Cycle for Section A and Spectrum of Biodiversity or Kuznet's Curve for Section B), as well as precise statistics and data, for example, of energy use or urban air pollution.

Essay writing skills

Some suggestions:

- Practise planning essays effectively with clear plans for paragraphs, not based on case studies, but on arguments for and against etc, i.e., establishing a structure.
- Developing the skill of writing an introduction which defines the issues and introduces key terms from the title. Far too many essays began with the 'I am going to do or tell you' style or 'I agree with the statement' before they had written the essay. A better style would say 'Arguments for..'
- Practise using evaluative language – as these are evaluative essays.
- Ensure that case studies are used effectively to add precision to general frameworks.
- Practising and allowing time for conclusions.
- Thinking about where to insert useful diagrams and prepared statistics as well as to use specialised concepts in a natural as opposed to contrived way.
- Making candidates familiar with the generic mark schemes so they understand how their essays will be assessed.

It was apparent from the scripts that certain very successful centres had embedded these essay writing skills in their teaching and learning and it made a huge difference to their candidates.

Comments on individual questions/sections

Section A

Theme 1 – Tectonic Hazards
In many ways this was the most disappointing section of the paper for a number of reasons:

- Many candidates spent far too long on this section, frequently writing longer answers than the more heavily mark weighted Section B questions.
- Many answers were extremely descriptive with knowledge of case studies not matched by an understanding of their importance in contributing to an evaluation of the question.

- Around 40% of candidates concentrated on a two case study only approach, one to agree with the question and another to disagree, e.g. HIC/LIC. Whilst depth can be re-warded as well as breadth, long descriptive case studies disadvantage the candidate, often with a failure to extract key features such as the importance of tsunami at Tohoku 2011.
- There were frequent case study inaccuracies, for example, on magnitude, (VEI or MM), numbers killed/casualties or the type of lava ejected or operation of ground shaking.
- A few candidates muddled up earthquakes and volcanoes.

Q.1 This question was done by a minority of candidates. Comparatively few candidates understood the term 'physical profiles' (in the specification and pre- release information). Physical profiles of volcanoes traditionally include magnitude, frequency, spatial predictability, areal extent, speed of onset etc, but could include physical factors such as type of eruption, nature of materials ejected and type of plate boundary. Some even drew volcano shapes to aid definition of profile! To these intrinsic factors could be added extrinsic factors which could also be key – level of development, location, technology, quality of governance, management of risk for prediction and monitoring, and time of occurrence - all of which could be supported by a range of examples including recent eruptions at White Island, NZ, Taal (Philippines) and Fire Mountain (Guatemala) and Fagradalsfjall (Iceland).

Q.2 Question 2 was easily the most popular question with a very wide range of performance. Only the very top end candidates were able to separate the impact of risk from hazard, and vulnerability of people, which could be defined using a Degg model or the Risk Equation. Most candidates opted for a very basic HIC (usually Japan Tohoku) and LIC (usually Haiti) approach which lacked sophistication. The best candidates were aware that not only was level of development an overarching factor which impacted before, during and after the earthquake events (Hazard Management Cycle) but also could affect quality of governance, level of technology, quality of buildings, levels of health and education of population etc, all key factors influencing risk and vulnerability. Nevertheless, there was a case for arguing against the statement, looking at the intrinsic factors of the earthquake itself such as magnitude, frequency, depth of focus as well as other independent extrinsic factors such as location (population density, rural/urban, isolation and accessibility). A further important point made by many candidates and related to specific earthquake events could also be a useful argument: resultant secondary hazards including liquefaction (Christchurch 2010-11), landslides (Nepal Gorkha 2015) or tsunami (Tohoku or Indian Ocean). Candidates who broadened out their answers to use a wide range of extended examples (3-4 key sentences) raised their marks considerably especially for AO2. One common mistake was a failure to understand about the lack of precise prediction of earthquakes and how truly unpredictable they can be. Seismic monitoring could at best act as a warning. Gap theory and seismic frequency maps are also of long-term significance.

Section B

Theme 2 – Ecosystems

Although Ecosystems is a very popular option, candidates' performance in both ecosystems and biodiversity continues to be variable with many candidates achieving sound results but very few achieving top band marks. There is a need for centres studying the importance of biodiversity to update their student's knowledge using the 2020 Dasgupta Report as well as the findings of ISBES on biodiversity (equivalent to IPCC for climate change) and the results of COP/biodiversity conference at Bonn 2022. Biodiversity has come to the fore in the battle against the impacts of climate change, and because of the rapid rate of destruction of many of the world's most important ecosystems. For both questions there was no restriction as to the choice of ecosystems, although guided by the pre- release, Arctic tundra, tropical rainforest, coral reefs and wetlands were the most popular choices with coverage of two or three contrasting ecosystems working well. An in-depth study alone, usually the Arctic tundra, proved too narrow, especially for Question 4, to provide a full evalution of the question. Overall, Question 4 was noticeably more popular than Question3.

Q.3 For Question 3, a high-quality answer included three elements: -
The first part of the analysis could include an in-depth study of the enormous value of ecosystems to human well-being. Frequently the MEA classification of services was used as a successful structure. Some students discussed conflicts between people's subsistence or commercial exploitation (wood, palm oil, fish etc) which caused the exponential rates of destruction in some ecosystems (Tropical Rainforests in Brasil or Indonesia or coral reef ecosystems to feed Far East fish consumption).
The second part of the essay could then explore the nature of the destruction with direct human threats usually operating at local to regional scale and indirect threats such as climate change operating at a global scale.
The third evaluative part of the essay could focus on a number of strands:

- Not all the threats are the result of human actions, for instance, volcanic eruptions, storms and wildfires (quasi-natural) also cause a huge amount of destruction.
- Equally good answers considered the positive impacts of humans through a spectrum of management of ecological resources from protection through to various forms of sustainable management, again operating at a range of scales from local through to global. Only a minority of answers explored these counter arguments to the question statement. Examples such as Costa Rica or African national Parks such as Korup or Udzungwa were useful mini case studies.
- High quality answers were often concluded with an evaluation of the statement looking at spatial and temporal variations in the degree of destruction and assessing the reasons for this.

Q.4 Although candidates could choose their own ecosystems, it was imperative with this question that, as a comparative analysis of risk was required, they did not just write about the tropical rainforest or the Arctic tundra.

A useful framework used by one centre looked at intrinsic risks related to the fragility and vulnerability of the ecosystem itself and then went on to consider extrinsic risks from the environment and threats from human exploitation.

There was no one right answer – what was required was a justified assessment. Some actually said that all ecosystems were at equal risk from the climate emergency. Only the very best candidates distinguished between destruction and damage. For example, destruction of a forest would involve its removal and replacement for palm oil plantations or cattle grazing whereas damage could be from disease or pollution such as acid rain.

Some candidates sensibly considered ecosystems which could be at less risk, for example, deserts, tropical grasslands or even some forest ecosystems such as the taiga and tried to explain why.

Where some answers went wrong was with overly descriptive and frequently inaccurate accounts of exploitation, but without details of the precise impact of the damaging actions on the ecosystem and no mention of specific places. Extended examples which worked well included the impact of bleaching on the Great Barrier Reef, the draining of peatlands (Fens, Flow Country) or the destruction of the Amazon rainforest.

Theme 3 - Economic Growth and Challenge

This theme enables a choice of options from either India, China or development in a sub-Saharan Africa context. The questions for India and China are identical, with those for sub-Saharan Africa broadly parallel as permitted by the specification. The most popular option is sub-Saharan Africa, followed closely by China and then India. In all these questions, wider reading on the current state of affairs greatly enhanced performance in all the options, for example, reference to the Modi Plan or China's latest global ambitions.

India

Q.5 After a definition of globalisation (a specialised concept) the vast majority of candidates were able to develop good quality answers in which they evaluated what were the key drivers of economic growth in India. Most came to the conclusion that there were a number of factors which have facilitated India's economic growth, such as resource base, positive population dividend of well-educated, English-speaking workforce, but above all policies developed by India's National and State governments.

The catalyst was the decision by the National Government in response to having to carry out economic reforms in 1991 as demanded by the IMF to get the country out of a financial debt crisis which allowed FDI by foreign transnational companies, so opening up the Indian economy to economic globalisation. Many high-quality answers cited the establishment of SEZ to encourage economic growth and offshoring and outsourcing with the emphasis on hi-tech industries typified by developments at Bangalore as well as other government decisions to develop India's important role in global governance.

Some very comprehensive answers also looked at soft power and the spread of Indian culture (cultural globalisation) via Bollywood and yoga as well as the impact of diaspora who had migrated to many cities around the world, e.g., Southall, London. Answers were usually of good quality as most attempted to 'debate' the role of globalisation and came to the conclusion that in India it was a 'facilitator' of the rise of India's economic growth and trade.

Q.6 This was a less popular, but less high scoring question. An ideal model to act as a framework (used by one very large centre) was the Kuznets Curve. Many candidates could write in general terms about all the damage that continued economic growth (usually 7-8% p.a. of GDP) had done to the environment, including destruction of natural habitats, pollution of land, sea and air, development of waste etc, with India's National and State governments prioritising economic growth (Modi Plan 2020). What the answers lacked was precise locational detail of this damage.

The counter argument was often not mentioned; that as the Indian economy matures with tertiary and quaternary sector dominant, India has the technology to make this growth more sustainable and to manage environmental damage (as is happening at Coca Cola factories in Kerala). The best answers included mention of long-standing grass roots environmental movements (Chipko) and government initiatives such as sustainable cities. Some students argued that the poverty and inequality were at the root of India's environmental damage and that reducing inequalities could reduce damage, for instance providing alternatives to fuelwood used by most rural populations.

China

Q.7 Overall, there were many highly competent responses to this question as candidates were able to provide excellent chronological details of China's move to benefit from globalisation, beginning with Deng's Open Door policy in 1978 to attract FDI for China to become the 'Workshop of the World'.

Other government decisions included (similar to India) the establishment of SEZ as well as making SOEs more efficient and developing joint ventures, e.g., with German car companies. Subsequent Regional Policies aimed to spread the growth from the coastal axis inland along the Yangtse.

Other aspects of China's embrace of globalisation included joining the WTO in 2001 and the development of a huge container shipbuilding industry. Many candidates cited other favourable factors, to include the quality of the workforce, the increasingly strong internal market and various Chinese strategies to train and educate the workforce. However, the best answers went a stage further and looked at modern China and China's drive towards global power, including FDI into Africa and South America to secure resources, as well as the huge Belt and Road Initiative. Some wondered whether it could continue as a sustainable model and looked at potential deglobalisation, based on COVID 19 issues and concerns over China's territorial ambitions.

Q.8 As with the India section, this question was less popular and less well done. Most candidates could provide details of the general impact of economic growth, but also could analyse the impacts of land degradation, water shortages and urban sprawl, and, above all, air pollution. In contrast to India responses, many China answers offered greater detail, frequently located.

Those candidates who had kept up to date were able to discuss China's desire to be a green leader in the world and could quote examples of this, including future emphasis on renewable/recyclable power sources.

Equally, there are China's schemes in response to problems of deforestation, desertification and soil erosion, all of which suggest that slowly, China is moving towards a sustainable economy (Kuznets Curve). Particular progress on pollution issues has been made in the cities with the need to build new sustainable cities.

Development in Sub-Saharan African Context

Whilst there was only one recorded incidence of a candidate going outside the confines of sub- Saharan Africa (into Egypt) many centres do not manage the dictum 'with reference to two or more sub -Saharan countries' easily. Several answers in the sample seen were so generalised they could not offer any relevant place specific exemplification. As SSA has 54 countries, there will be huge variations between them, so when describing socio-cultural factors or the impact of designated economic sectors on the environment, it is vital that candidates can discuss both an overview and also detailed examples within the chosen two or three countries (a successful example seen was a discussion of the environmental impact of Kenya's flower industry. It was notable that in this section many candidates seem to have prepared for questions other than the ones on the paper, so achievement overall was varied with considerable numbers of weaker answers.

Q.9 In this question, the chosen focus was on socio-cultural factors <u>not</u> political or economic factors. This question required candidates to concentrate specifically on education, health, gender, ethnic groups/divisions and welfare and to assess the equation of constraints and opportunities. Whilst examiners were prepared to accept other factors for which the candidate made a strong case to be social or cultural, for example, issues related to corruption or tourism, many candidates wrote irrelevantly about trade (economic) or neo-colonialism (political). What most candidates lacked was detailed country related information, for example, on the role of women, or quality of health and education systems in designated SSA countries for example, Rwanda.

Q.10 Problems also occurred with this question as many had expected a broader question on 'the environmental impacts of economic development are inevitably negative' whereas this question required them to focus on the different sectors of SSA countries. The candidates from one centre began with the Clark Fisher model and emphasised the importance of the primary sector within SSA. There were a few good answers on the environmental impacts of natural resource exploitation (oil in Nigeria), extractive industries (diamonds in Sierra Leone), agro-industrialisation (Kenya) as well as manufacturing (South Africa) and tourism (Kenya and Tanzania), all of which provided useful examples. Whilst few could make a positive case for mining and extractive industries, many were able to look at positives for tourism or manufacturing or even agro-industrialisation. Credit was able to be given to candidates who wrote about a range of economic activities but did not specifically assign them to a sector. Answers were differentiated by depth of knowledge of environmental impacts and level of place specific exemplification.

Theme 4 – Energy Challenges and Dilemmas

This theme is a very popular option, and many candidates answered the questions confidently and competently. However, many candidates did need to study more up to date case studies and also read more widely (e.g., Economist) on technological developments in the energy industry.

Q.11 Most candidates wrote very competently on the physical factors such as geology, relief, climate, ecology and how they affected **the distribution** of various energy sources – fossil fuels, recyclables and renewables. The top-level candidates then went on to explain how a range of other factors impacted on the **use** of energy supplies including economic, technological and environmental factors and made a very useful distinction between distribution and use.

Q.12 This question was also quite well done with some outstanding answers which defined the energy crisis in both environmental and economic terms and then went on to consider not only increased efficiency of use, but also demand reduction, alternative energy sources and using clean technologies for fossil fuels as sustainable options. It was disappointing that so many candidates did not understand what increased energy efficiency was, and therefore only partially answered the question.

Theme 5 – Weather and Climate

Q.13 A common mistake made by candidates was a failure to focus on **urban** areas and to write about general issues associated with greenhouse gas emissions. Whilst there is an overlap with GHG emissions with **urban** pollutants, there is a clear distinction and for this question there needed to be a focus on urban pollution issues, such as particulate pollution, photochemical smog, acid rain etc and then detailed examples of measures to manage and reduce these issues.

A wide range of solutions is available ranging from technological solutions, which largely tackle pollution sources, to political solutions through legislation (Clean Air Act) and attitudinal fixes by educating and rewarding urban dwellers for good energy use habits (walking/biking etc). Many essays lacked detailed exemplification of cities where solutions were being developed and failed to evaluate whether management and reduction were feasible.

Q.14

Despite the advance information and the fact that adaptation and mitigation are specialised concepts, many candidates were confused between the two solutions. Once the candidates established a clear distinction between <u>adaptation</u> which involves living with various impacts of climate change such as extreme weather events (droughts, floods, heatwaves etc) and the impact of various tipping points, and <u>mitigation</u> which involves attempting to manage greenhouse gas emissions and control them at a certain level, the resultant essays were both structured and focused. Many answers needed more wide-ranging exemplification at a variety of scales and for countries at different levels of development. It was a little disappointing that there was little mention of the growing importance of adaptation, first mentioned at COP 25 Paris 2015 and more importantly at COP 26 in Glasgow 2021where there was emphasis on lower cost solutions for developing nations. Some of the best answers were able to consider the need for both solutions, in very focused conclusions.

Summary of key points

Candidates should:

- Carry out individual research to bring each theme up to date – latest hazards, key reports, e.g., on biodiversity, latest technological innovations in, for example, earthquake prediction.
- Take opportunities to develop their essay writing skills, paying attention to style, structure, introduction, conclusion, paragraphs etc, with a brief plan before they start.
- Make themselves familiar with the concepts embedded in the specification as all questions will be based on this.
- Develop their geographical terminology and be familiar with specialised concepts
- Develop case study fact files and really think how they could be used within essays.
- Get a suitable pen and work on improving the legibility of their handwriting and practising writing at speed.

GEOGRAPHY

GCE A LEVEL

Summer 2022

COMPONENT 4: INDEPENDENT INVESTIGATION

General Comments

It was very pleasing to see a wide variety of interesting and appropriate investigations being undertaken by candidates, the majority of which were clearly linked to the specification. Most centres coped well with the administration and work arrived on time, which greatly helped the moderation process.

After two years without external moderation, it was good to see that many centres were still familiar with the demands of the Non-Examination Assessment (NEA); however, it was clear that some centres had adapted their approach, allowing less individuality in candidate investigations. Where this is the case, centres should make note of the comments in their individual centre reports. Centres must also be mindful of the requirement to support candidates fully at the planning stage. Many candidates had titles approved that were not appropriate and at times not achievable or poorly linked to the specification. Centres should note that the specification relates to the 21st Century.

Centre declaration forms were completed in all but a minority of cases, however, candidate proposal forms still appear to be an issue and it was worrying to note that many were still, as in previous years poorly completed. Several centres used the wrong forms. All relevant forms for the NEA submission process can be found on the Eduqas website. Centres are reminded that WJEC Eduqas offer an advisory service for teachers to submit proposals to check their appropriateness. If use is made of this advisory service, centres must attach the comments provided to their submissions.

Once again, some titles seen this year were too broad and hence lacked focus, for example, "*To what extent can current coastal management strategies and SMPs along the XXXX coastline sustainably mitigate the threat from climate change*?" while others were brief but not achievable within the scope if the individual investigation e.g. "*How can biodiversity have global impacts?*". Some, for example, set out to assess the impact of management on sand dunes, and then proceeded to reproduce their fieldwork on the dunes but lacked any reference to management. Centres must try and encourage candidates to complete the task they have set out to attempt or to address these issues fully in their evaluations.

Once again it was noted that many investigations were considerably over length, the longest seen consisted of 195 pages and about 10000 words. Centres must advise candidates of this fact and remind them of the impacts of producing work that fails to meet the assessment criteria. The guidance of 3-4000 words was introduced to give candidates a clear indication of the length and nature of the report required for the NEA. A concisely written, well-directed and focussed investigation will meet the Band 5 criteria for Analysis and Interpretation, Conclusions and Presentation requirements and Evaluations, whereas an overlength and unfocused one will not. Securing manageable and focussed investigation titles for each candidate, through detailed discussion at the outset could greatly assist this process.

Marking was often considered to be somewhat generous and over optimistic. Perceptions and annotations often did not match the work that was presented.

It was pleasing to note that most candidates followed the prescribed structure, with clear sections, as outlined in the specification, however, there is still some scope for improvement vis a vis the format of the investigations. The correct font size and spacing make the work much easier to read. Where work is printed from an electronic copy, centres should make every effort to supply these in colour.

Comments on individual questions/sections

Context

In most instances a title for the investigation was identified and, in most cases, linked to the specification on the proposal form, although it was often the case that the link to the investigation was not explained. There were some that focused on impacts of COVID, but these tended to be very superficial/simplistic, and there were few thoughts to consider any pre 2019 evidence for comparison. Sub-questions were variable, most were generally appropriate to the investigation but in some cases, they did not appear to have any relationship to the data being collected.

Theory still appears to be an aspect of Geography that many candidates do not understand; often just giving some generic background that bears little reference to theory or context. There are still several centres that are allowing candidates to pursue investigations based upon theory that is not in the specification, such as Bradshaw or Burgess. It is worth noting that section 1.1 of the specification Aims and Objectives states that "*this will enable learners to develop a critical understanding of the world's people, places and environments in the 21st Century*." Candidates need to be careful not to use theories now considered outdated, particularly as a theoretical background for a human geography study. When theory is present, the Context section is frequently the one and only time it is mentioned.

Location was weak, with many describing locations with images from Google maps. These were often dark and unclear and not very effective. There were very few proper maps of location and even fewer showed data collection sites, which is fundamental to geographical investigations.

While some candidates made excellent use of literature with clear literature reviews; relevant literary sources, clearly identified in the text, using a recognised system such as Harvard, it is clear that many have read little and have limited understanding of how to use literature sources. Many had no reference list while those that were present were often no more than a list of web sites and nothing that would be considered academic geography. Use was made of sites as sources, such as Wikipedia, with many a candidate providing a historical background to their setting, which sometimes stretched to far as to become plagiarism.

Most candidates clearly identified risks, which were specific to their own areas of study, although generic risk assessments, which could have related to anywhere were also evident. There was a clear regard for ethical considerations of research from most candidates and there appeared to be a heightened awareness of the ethics of research in physical environments where the care for the environment is of paramount importance. However, a few centres interpreted the requirement as 'ethical risks' rather than ethical considerations and risk as two separate considerations. In some centre samples there was no evidence of ethical considerations, thus limiting marks in this section.

Methods of Field Investigation

Despite the challenges faced by centres during the pandemic there was wide ranging use of primary data collected in the field, which is to be commended. Whilst many carried out online surveys, which is to be expected, others carried out face-to-face surveys. The inclusion of data collection sheets served as evidence of candidates' ability of their implementation of methods. A good example of a questionnaire would be one that was annotated to show the relevance of the questions.

Better investigations clearly linked their methods to sub questions using a comprehensive table. This allowed for a clear description, justification, relevant sampling and in some cases evaluation. However, the latter should be reserved for the Evaluation section of the work. Many candidates used methods of data collection that were not mentioned in their methodology, which suggests lack of thorough planning or proof reading having taken place.

The strongest investigations had a good range of varied methods that were clearly aimed at collecting data to allow them to answer their sub-questions. These methods were well described, replicable and clearly justified. Weaker investigations had a limited range, often only two or three, that did little to answer their questions and tended to reflect attempts by centres to shoehorn their standard fieldwork days into the NEA, which were still evident in a considerable number of centres.

The main weakness in this section was the sampling strategy, which, to many candidates appeared a complete mystery. Many candidates made brief statements and there was clear misunderstanding of strategies, particularly random sampling, when opportunistic sampling would have been more appropriate. Justification of the chosen sampling strategy was often missing or limited. To access Band 5 candidates are required to have a "*sampling strategy that is well designed, explained and justified. The strategy is wholly appropriate to the investigation*."

Data Presentation and Findings

Centres are reminded that their candidates need to be made aware of the requirements of Band 5 marks in this section. Wide-ranging does not mean over reliance on bar charts, line graphs or pie charts. In general, this element was very disappointing with many poorly presented Excel generated maps and graphs, many of which added little meaning or value to the data collected.

Graphs must have their axes clearly labelled and maps must have a scale, north point and where appropriate a key. Along with photographs and other items they should all have clear headings and a figure number.

There was varied use of GIS, but this was often only centre based, otherwise data presentation appeared to have deteriorated in quality from previous years. Most commonly used were bar charts, pie charts and line graphs, which were not always used in an appropriate way for the data being presented. For example, pie charts were often used for data not presented as a percentage or a bar chart being used for continuous data such as temperature. In some instances, candidates only used one method.

It was disappointing to see that many candidates did not attempt to use more sophisticated methods of data presentation. Maps could be used to great advantage, for example locating data, using graphs, flow lines or photographs. Many graphs could be improved by some annotation, while there was a general lack of photographs, which if used were not well annotated, whereas if well annotated are an invaluable method of data presentation. Some investigations contained no maps or locational detail.

Analysis and Interpretation of Findings

Centres are reminded that to achieve Band 5 marks candidates are required to give a sophisticated analysis and interpretation of findings, clearly showing why they were appropriate and relevant to the research question. Candidates should show some individuality and/or links between the study and other aspects of Geography, in a word, synopticity. The strongest investigations also reflect on their theory, secondary data and literary review.

The most competent investigations produced a successful analytical discussion and cross-referenced geographical theory and individual research to a high standard, but also cross-referenced between data sets, using statistical measures to develop their findings further. In addition, candidates who organised their work under clearly defined sub questions for data presentation and analysis tended to produce a higher level of analysis as their work was more focussed, often cross referencing their primary and secondary data with skill, whilst linking to the relevant sub question. The use of relevant statistical techniques definitely assisted the quality of analysis, and this was often evidenced in the centre marks awarded.

By sharp contrast the work of many candidates was very descriptive, with little attempt to consider the relationships between data sets. Where evidence was integrated within the analytical context the interpretation was much more effective and focussed. It also helped to reduce the word count. Where many candidates attempted statistical analysis, they often had insufficient data, for example Spearman with less than ten pieces of data, and questionnaires that produced too few results, or a Chi Square with a 4 x 9 contingency table, which became meaningless.

For the weakest pieces of work the go to position was to just describe the findings, for example, methodically describing each graph, while some placed their data presentation in the appendix, where if not referred to it became difficult to credit. This in turn might impact upon marks awarded for structure. In these cases, candidates were unable to develop analysis that supported their sub-questions and overall investigation.

Conclusions and Presentation requirements

Candidates should be reminded that to access Band 5 marks they should have a sophisticated and confident summary that draws thorough conclusions which address the research question and is underpinned by relevant theory, while at the same time they must present a well structured, concise and logical report that accurately references secondary information.

The most competent conclusions were effective in drawing the investigation to a close by linking the main findings to the original sub questions and the title researched. However, with weaker investigations the conclusions were often a repeat of the analysis, and lacked conciseness, with candidates appearing to be lost in the analysis of large amounts of data.

Once again consideration was often not given to the suggested word guidance, with many candidates producing work that was seriously over this guidance, with a considerable number of centres being repeat offenders. In some cases, this led to work being judged as having a lack of conciseness. It should be noted that Bands 4 and 5 require an element of concise work.

Evaluation

It is worthwhile remembering that this section of the work is worth 25% of the total marks awarded.

Candidates should be reminded that to achieve Band 5 marks they must show a highly effective evaluation of the knowledge and understanding gained from field observation. They must have a perceptive evaluation of each stage of the fieldwork investigation including the ethical dimensions of the field research; have perceptive and well-considered reflections of further research and extension of their geographical understanding.

It was pleasing to note that many candidates are now using sub-headings to cover all aspects of the investigation process to evaluate. Candidates either went into great detail for each stage or barely stretched beyond an evaluation of their methodology, there appeared to be no middle ground.

Candidates were reticent to question the theory they had been investigating, while more are now evaluating their literature, enquiry questions and conclusions. This was encouraging to see.

Many candidates appeared to assume that since this section has the largest tariff they had to write at great length. The focus was mostly on how to improve data collection rather than reflecting on the actual findings or the suitability of the aims of the investigation. Consideration of the validity and reliability of the data collected and knowledge gained is an area for development.

There was some evidence of reflections on possible improvements, but many were straightforward such as ‘more data’ and ‘more time’, less effective was the evaluation of the knowledge and understanding gained from field observations.

As with Methodology and Data Presentation this section of the work tended to be over marked by centres. Teachers are advised to make sure that they and their students fully understand the requirements of the marking criteria.

Summary of key points

Candidates should ensure that they:

- Have a clear concise title; that is achievable and is of a manageable scale
- Use their sub questions to plan their data collection and ensure that sample sizes are large enough to enable meaningful conclusions to be drawn
- Have an awareness of what is required by the mark scheme to achieve high marks
- Be aware that the evaluation is worth 25% of the total mark, and therefore, have a perceptive evaluation of each stage of the whole process
- Consideration of the validity and reliability of the knowledge gained could be much stronger.

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