GCE

Geography A

Report on the Units

January 2009

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Advanced GCE Geography A (7832)

Advanced Subsidiary GCE Geography A (3832)

REPORT ON THE UNITS

Chief Examiner's Comments

General comments

The performance of candidates has again been approximately equivalent to that of previous sessions. There was considerable variation between centres and within centres. The top quartile of candidates produced work of an impressive quality showing a very encouraging level of knowledge, understanding and application with some excellent and detailed examples or case studies.

AS

Assessment is largely by short structured questions. There was a surprisingly large entry for this penultimate examination series at AS. Performance did vary across the components. Responses to 2680 (physical environment) were relatively stronger than 2681 (human environment) largely reflecting the poor response to the mapwork question. The written section of 2682 (geographical investigation) performed rather unevenly compared to the other two written AS papers. As usual 2682 was lifted by the report component with over 50% achieving at the highest grade.

A2

Assessment is largely by extended writing which allows effective differentiation. Few candidates were entered for 2684, the synoptic paper, but a large number took 2683. Performance was similar to that of past examinations.

As A2 is assessed via options it is possible for candidates to experience a limited range of geography. The summer pattern was repeated with few centres studying applied climatology and service activities in 2683 and the geography of the EU and managing rural environments remain unpopular in 2684, although not to the same low level as in the summer. This selectivity does re-emphasise the importance of the synoptic paper which draws together the strands of the whole two year A level geographical experience.

Overall

There have been very few communications from centres expressing concerns about aspects of the unit examinations this session. If candidates write on the blank back pages or use additional sheets they should indicate that continuation of the answer, to ensure examiners do not miss such work. Mark schemes have to be very flexible as candidates have very inventive minds and read into questions some quite original, and valid, interpretations.

There remain some common themes throughout all the components:
- Candidates must carefully read and answer the question set rather than produce prepared answers that lack relevancy such as the responses to Q.12 in 2684, where many candidates offered preparation rather than prediction.
- Candidates need to understand and use effectively geographical definitions and technical terms, especially in 2680 and 2683.
- In short section answers candidates would be best advised to develop a few points in depth rather than many superficial ones.
- Often the level of a candidate's response is held back by the poor quality of English. This is particularly noticeable at AS level in the short structured answers. The use of paragraphs is still not well understood at A2.
- Centres should ensure that candidates are familiar with OS maps and understand how to interpret them. This remains an area of underperformance at AS.
- More candidates should emphasise the spatial context of their work and stress location. Some need to refer to far more examples or case studies. A greater use of sketch maps at A2 would be welcomed.

Coursework at AS level still suffered some common limitations:
- Too many candidates produce over-length work often with excessive appendices or annotations. This reduces candidates' performance to Level 2 at best.
- Excessive repetitive diagrams representing the same data.
- Including **all** the questionnaires used within the appendices
- Candidates did not always understand why they were using particular statistical tests, nor the implications of the results they achieved.
- Centres should ensure candidates do not use plastic folders and greater care needs to be taken in filling in the cover sheets.

2680 The Physical Environment

General comments

Candidates' responses covered a wide range of ability, although there were probably fewer at the upper end of the range than in previous years. As has become the pattern over the years, Hydrological Systems produced the best answers in general, with the Lithosphere being the next best section, as a rule. In the 10 mark questions, it was good to see many candidates referring to specific places in their answers, even where these were not specifically requested. However, for many candidates the command word 'explain' still seems to cause difficulty. Effects were often clearly identified, for example between human activity and discharge, but the reasons for these effects were often not explained. Throughout the paper, definitions lacked precision, although many managed to convey the correct meaning in less precise terms. Questions involving descriptions, based upon resources, were generally well answered, with an encouragingly large number of candidates supporting their statements with data from the resources.

Comment on responses to individual questions

Question 1

(a)(i)   Most candidates understood that 'river discharge' involved the amount or volume of water in the river channel, and many qualified this correctly with reference to rate of flow, through mentioning a unit of time or the actual units of measurement (cumecs or m^3/sec).

(a)(ii)   The seasonal pattern of discharge was generally very well described, with the best answers characterised by a clear recognition of the seasonal pattern, supported by quoted figures. The recognition of an anomaly (February) also characterised the best answers. A few included irrelevant explanation in their descriptions.

(a)(iii)   The influence of temperature on the pattern was less well answered. Many candidates focused on rainfall rather than temperature, wrongly suggesting that the higher temperatures in summer caused less rainfall. Successful responses discussed the role of evaporation and clearly distinguished summer and winter. References to more vegetation growth with higher temperatures or frozen ground with lower temperatures also produced successful responses.

(b)   Explanations of the influence of drainage basin size and shape were very mixed. Basin size produced more successful answers than basin shape, but even here there was a tendency simply to state a relationship (larger basins will have larger discharge) without any explanation of why. Only a minority interpreted the term basin shape correctly, many referring to steepness of slope rather than aspects such as roundness or elongation.

(c)   Explanations of the influence of human activities on river discharge were generally good to very good. Candidates clearly identified a range of relevant human activities, ranging from afforestation and urbanisation to dams and river straightening. Where some responses showed limitations was in the explanatory link between the human activity and discharge. Statements such as 'dams help to control the river discharge' only describe the impact, when they need to explain how that impact comes about to gain access to higher mark levels. Some answers provided explanation of the effects of human activities on flows and stores within a drainage basin, but did not make the final link to discharge, thereby also restricting access to the highest level of marks. The best answers tended to be based upon case study material, even though this was not strictly required by the question.

Question 2

(a)(i)   The term 'trophic level' was generally well understood, with many getting both aspects: stage and the idea of feeding or energy transfer. Some, however, wrongly reused the term 'level' in their definitions, when this appears in the term to be defined.

(a)(ii)   In describing the transfer of energy from Level 5 to soil, most candidates identified death/decay/decomposition, but many did not realise that this referred to detritivores or decomposers, not animals or vegetation.

(a)(iii)   Understanding of the decrease in the amount of stored energy with each level was generally very good, with almost all candidates getting the idea of respiration and excreta, and many developing their answers with reference to activities generating respiration, such as hunting, mating.

(a)(iv)   The question on changes in the number of herbivores over time produced generally good answers, with many identifying changes in autotrophs and carnivores, and explaining the consequences. Most answers were, however, rather generic. The most successful responses identified a reason for such changes, such as deforestation, hunting or disease.

(b)   Candidates almost always clearly identified a named xerosere, but explanations of the effect of identified factors on succession were limited. It was common for candidates to identify a factor, physical or human and then simply state that it had an effect, without explaining how that effect came about: statements such as 'human trampling leads to the development of a plagioclimax' were common; while not wrong, such statements do not explain how and why trampling may lead to a plagioclimax.

Question 3

(a)(i)   Knowledge of a 'depression' was very mixed. While many correctly identified it as an area of low pressure, relatively few qualified this by recognising that it involved rising air, or air masses meeting.

(a)(ii)   Definitions of 'air mass' were also mixed. Some used the word 'mass' rather than an alternative, and many did not recognise the relatively large scale of such bodies. The uniformity of these bodies in temperature and humidity was recognised by relatively few.

(b)(i)   Descriptions of the temperature variations were generally good, with most identifying the differences in temperature in the three sections of the depression and quoting figures. Relatively few observed the north/south increase in temperature.

(b)(ii)   Explanations of the temperature differences were generally very limited, most not getting beyond the influence of the cold front. Some gained a higher mark through identifying cold and warm air masses.

(c)   The question on the impact of continental air masses produced very mixed responses. A minority of candidates showed little understanding of the concept of continentality, while some, although understanding the term, proceeded to go through every air mass affecting the UK. Amongst those who did focus on continental air masses, knowledge of the associated weather was generally good, although many misunderstood stability in this context. The main weakness of answers was the lack of clear explanations of the weather, only the best recognising that continentality leads to relatively dry weather because such air masses have largely passed over land and therefore picked up little moisture through evaporation. Similarly the explanation for temperature characteristics was assumed rather than explained.

Question 4

(a)   Descriptions of the relationship between climate and chemical weathering were generally good, with most identifying the essential relationship and supporting this with data.

(b)   Explanations of the weathering processes of carbonation and hydration were generally not strong. Carbonation was handled more successfully than hydration, but many answers showed confusion over the precise mechanism. Very few understood hydration, many describing hydrolysis and some wetting and drying, rather than hydration.

(c)   Most could identify and elaborate on one way in which human activity influences weathering processes. Industrial pollution producing more acidic rain was the most common way identified and the better answers linked this to either specific weathering processes (e.g. carbonation) or rates of weathering. A limited number of responses focused on slope processes rather than weathering, and several answers discussed 'erosion' instead of weathering, reflecting a continuing misunderstanding amongst many candidates of the difference between the two sets of processes.

(d)   Candidates generally showed a good knowledge of the factors influencing rapid mass movement, such as rainfall, slope steepness, earthquakes, deforestation, building on slopes. However, in line with the other 1 mark questions, many answers did not explain how such factors caused rapid mass movement, simply stating that they did. The best answers did provide explanations clearly based upon examples of either specific types of rapid mass movements or specific case studies. A minority of candidates did not pick up on the 'rapid' element in the question, examining slow processes such as soil creep.

2681 The Human Environment

General comments

In this penultimate session, the vast majority sitting module 2681 were resit candidates.

While there were some good scripts at the upper end of the mark range, many candidates performed at a mediocre level, achieving marks in the middle to lower ranges.

Overall across the paper, performance was unbalanced, with achievement in Question 1 (population) and Question 3 (urban settlements) being higher than that in Question 2 (rural settlement). Understanding of the idea of rural settlement pattern proved difficult; application of knowledge and understanding of this issue to the patterns shown on the 1: 25 000 map was also problematic for many.

As indicated in previous Reports to Centres, at the lower end of the mark range explanations in the 6 mark questions tended to be simplistic and undeveloped. Moreover the depth of knowledge and understanding demonstrated in the 10 mark extended questions was often limited. There were many *generalised* responses; assistant examiners reported that relatively few responses were placed in Level 3.

Comments on individual questions

Population

Question 1 examined spatial variations in crude birth rates and changes in age-sex structure through time.

(a)(i)   Nearly all candidates correctly recognised the patterns of crude birth rates in the Americas shown on the choropleth map.

(a)(ii)   Most candidates were able to offer at least one adequate explanation of the spatial variations shown.

(b)   The limitations of the crude birth rate as a measure of fertility were not well understood.

(c)   Most candidates attempted to explain changes in age-sex structure through time by reference to China or the UK. Many responses here were placed either in Level 2 or Level 1, since descriptions of changes in birth and death rates through time were either not explained, or were not explicitly linked to age-sex structure.

Rural settlement

Question 2 examined the concept of site of an individual settlement and the rural settlement patterns in a wider area, including their evolution; the OS map 1:25 000 featured rural settlements in the Totternhoe area of south Bedfordshire.

(a)   The term *site* was often misinterpreted and confused with *situation*. Many candidates failed to identify the site characteristics of Totternhoe; they demonstrated only limited understanding / recognition of the contour pattern / relief involved.

(b)   This question revealed considerable misunderstanding of the idea of settlement pattern in an area. Many candidates simply focused on the linearity or nucleation of a single settlement.

(c)   This was answered very well on the whole, with clear recognition of map evidence and links to an appropriate period such as Roman, Anglo-Saxon or Medieval.

Urban settlement

Question 3 examined aspects of population growth in LEDCs. The data source was a bar chart showing current and projected populations of the world's largest urban areas.

(a)   This was answered well with reference to suitable summative comments, including the distinctive MEDC / LEDC contrasts.

(b)   While there were some very sound responses linking a relevant factor to rural-urban migration, the identification of a specific demographic factor proved to be a problem for some candidates.

(c)   The economic factors were more clearly defined and tended to be discussed with more authority than the social factors.

(d)   Mexico City, as on many other occasions, was the main case study employed. A number of candidates in the middle to lower mark ranges responded with little more than generalised comments about air, water and ground pollution or the squatter problem – all of which could have applied to any other LEDC urban area. It was pleasing to find the occasional response which lifted itself above this level, with reference to detailed place knowledge and explicit understanding of the link between urbanisation and environmental issues.

2682/01 Geographical Investigation (Written Paper)

General comments

The questions had a similar accessibility overall to June 2008. Candidates accessed the full range of marks. Many candidates showed a good understanding of the outcomes of their own investigations, which was utilised in Question 1. As in the previous sessions geographical theory and skills were well understood by many Centres, demonstrating the benefits of studying techniques beyond those used directly in the personal investigation. Many wrote lengthy answers which sometimes were not needed as they contextualised their answer rather than getting to the point.

Nearly all candidates clearly understood the requirements of Questions 1, 2 and 3 (a). Question 3 (b) continues to be the most challenging question. All questions discriminated between candidates well.

The objectives of Question 1 (a) and (b) were to demonstrate an understanding of how to improve the collection of data and the 'analysis, interpretation and evaluation' stage of an investigation. Discrimination was derived through the depth of understanding and range of suggestions.

The objectives of Question 2 (a) and (b) were to suggest an appropriate question for investigation or hypotheses based upon the given resource and to outline a suitable strategy for data collection. Discrimination lay in the understanding of appropriateness.

The objective of Question 3 (a) was to suggest appropriate ways of adding information to published maps. Discrimination was derived from the application of suitable information to appropriate maps.

The objective of Question 3 (b) was to state an appropriate question for investigation or hypothesis and statistical test, then interpret the outcome and significance of this test. Discrimination was derived from addressing the appropriate stage of statistical test.

Candidates are reminded to **read the question carefully** as credit was lost easily: in Question 1 for not referring to their own study; in Question 2 for not referring to the resources; in Question 3 (a) for not referring to published maps; and in Question 3 (b) for describing how to carry out the technique rather than interpret the outcomes.

Throughout the paper the use of good geographical terminology was a key discriminator. Candidates are also reminded that the written text should be easy to read, not as bullet points and that the correct spelling should be used for key geographical terms.

Time management: Nearly all candidates had time to attempt all parts of the paper.

Rubric errors: None was reported.

For all questions the accepted types of response were flexible, with credit gained either by considering a few issues in detail or by looking more ideas in less depth. Candidates should have been able to apply their experiences of the Personal Investigation throughout the paper.

Comments on individual questions

Question 1 (a)

Responses were very good overall. There was good reference to the candidate's own investigation. Higher quality answers considered at least two improvements in depth.

Indicative content: To a large extent these improvements would be the result of a change in strategy. Firstly a pilot survey could be conducted. Improved sampling methodology includes a change from systematic/random/stratified/pragmatic to one of the others; an increase in the sample size to make it more representative; sampling on more than one occasion, at a different time of day or more times of day; and sampling an additional location. Improved data collection techniques include gaining prior familiarity with the equipment and technique used; better procedures for recording data; better management of human resources, e.g. the jobs assigned to specific individuals; and obtaining better equipment. The collection of different types of data includes secondary data from published sources, e.g. the Census; secondary data from other members of the class; and different variables in the field, e.g. more river channel characteristics, conducting a questionnaire. Lastly the candidate could suggest the use of more appropriate maps, e.g. reference to a specific type such as Goad, satellite or O.S. at a specific scale; the use of more appropriate types of graphs, e.g. a bar graph as opposed to a pie chart as the latter was not appropriate for the data collected; and creating more specified graphs.

Qualities of A grade candidates: The improvement of the collection of data is discussed in detail. Two or more improvements are discussed. The candidate refers to his/her own geographical investigation.

Other comments:

Collection of data includes sampling methodology, data collection techniques, collecting different types of data, conducting a pilot and using more appropriate maps and graphical presentation. Most made good use of their own investigation throughout the answer. The term "collection of data" was almost always interpreted as the sampling strategy and how data is collected/measured in the field (as opposed to other elements such as the presentation of the results in tables and graphs). The most able candidates identified two or three improvements and developed each with two or more points; they had little or no repetition of the improvements. Typical errors included erroneously stating the improvements would make the investigation more accurate or reliable, rather than more representative. Weaker candidates gave simplistic improvements, such as 'collect more data' or 'be more accurate.' Others confused the terms subjective and objective: thus, using one person to collect all opinion based (i.e. subjective) data rather than a group would not make the investigation more objective.

Question 1 (b)

Responses were good overall. The best responses considered all three of analysis, interpretation and evaluation and did not refer to other stages.

Indicative content: There could be better consideration of all data collected, including raw data, data from other sources, maps and photographs. There could have been specific reference to the hypotheses/question for investigation. Data irrelevant to the question for the investigation should have been ignored. There should have been an attempt to explain the relationships, patterns, differences, distributions or anomalies with reference to the observations made in the field and/or by referring to background reading and/or secondary data. More statistical techniques should have been used to analyse data, e.g. a test of association; descriptive statistics. A statistical test could have been reapplied after removing anomalous data. The correctness of calculations and application of tests should have been checked. More appropriate types of graphs, e.g. a bar graph as opposed to a pie chart as the latter was not

appropriate for data collected; and creating more specified graphs. Reference back to geographical theory established in development of the strategy could have been made. Reference to improvement in previous stages that would lead to specified improvements in this stage was acceptable.

Qualities of A grade candidates: The improvement of at least one of analysis, interpretation and evaluation is discussed in detail. Reference to improvement in previous stages is linked to what could be done in this stage. The candidate refers to his/her own geographical investigation.

Other comments: Whilst many made good use of their own investigation throughout the answer, quite a few gave very good theoretical responses but did not refer to their own investigation, thereby failing to enter Level 3. The most able candidates approached the question by working their way through analysis, interpretation and evaluation, suggesting how each could be improved in turn. In particular, the need to assess the outcomes in relation to the hypothesis and finding reasons for anomalies were discussed. Good candidates applied the improvements to their study, e.g. 'use Mann-Whitney to look at the difference between site A and site B' and 'use pie charts to show X located on a map.' When these candidates suggested improvements in earlier stages, they clearly linked them to the resulting improvements in the analysis, interpretation and evaluation stage – this was inferred by lower ability candidates. Improvements suggested by weaker candidates were often simplistic and repetitive, e.g. 'take more care,' 'do it in more detail.'

Question 2 (a)

The best responses gave a hypothesis/question that was familiar at AS level and justified it in terms of geographical theory and specific reference to characteristics of the chosen figure.

Indicative content: In the urban location realistic topics include: establishing the boundary of the CBD using pedestrian flows, building height and rateable index; determining the sphere of influence of the city centre; variations in environmental quality or microclimate; and the clustering/dispersion of different services. Urban transects beyond the photo are acceptable. For the coastal location, suitable topics include investigating the dunes by looking at the relationship between pairs of the following variables: distance inland, vegetation type, number of species, vegetation height, vegetation cover, soil moisture, wind speed, air temperature, soil type, profile (slacks and dunes); the difference between the front and back of the dunes for selected variable(s); the impact of humans on the dunes, e.g. litter, erosion, footpaths; the relationship between distance along / up the beach and particle size, particle shape, beach profile - these may establish evidence for longshore drift; the difference between each end of the beach for selected variable(s); the impact of humans on the beach, e.g. litter. The explanation of the stated question for investigation / hypothesis can be in terms of reference to geographical theory; how practicable it is to carry out, e.g. time, whether it is accessible, replicable or measurable; and health and safety issues. Evidence from the photographs provides useful support for the explanation.

Qualities of A grade candidates: The question/hypothesis is realistic (not necessarily for A Level). The explanation discussed in detail. The candidate refers to the chosen figure in the explanation.

Other comments: A very wide range of topics was suggested, most of them being realistic. More candidates chose the coastal study and of these the vast majority elected to look at the psammosere in some way. This topic is very familiar to AS students (many have carried out such an investigation) and usually meant that a good response was produced in (a) and (b). Less successful options related to longshore drift, coastal erosion and comparing the type of physical features with the number of visitors. A wider selection was suggested for the urban study, many of which used the CBD as a prompt for a wider urban study. Suggestions included

sphere of influence, environmental quality, population changes, residential patterns, socio-economic groupings, transport used in relation to distance travelled; weaker suggestions included crime rate and noise pollution (together), comparing the popularity of two towns, quality of life in relation to building size. Generally, candidates suggested a topic which the same as or similar to their own investigation – which sometimes meant that they wrote the answer in terms of that investigation rather than by referring to the figure. Some weak responses did not address the question as they sought to construct a study that compared the two photographs. The most able candidates gave a balanced response incorporating geographical theory with specific aspects of the photograph, such as accessibility/risk and dune/pedestrian/CBD/traffic evidence. Less able candidates often looked at either theory or the photograph. Many weaker candidates did not understand how to construct a hypothesis. They also deviated into a discussion of how to collect the data and how it could be analysed – although this could be acceptable if written in terms of justifying the chosen topic.

Question 2 (b)

The more able candidates produced a strategy that could be replicated (referring to sampling type and sample size) or gave a range of considerations that comprise strategy (e.g. risk assessment, accessibility, conducting a pilot).

Indicative content: A general strategy for data collection can include reference to the timetable in order to ensure completion of the ensuing stages of the investigation; theoretical issues, e.g. background reading to provide a geographical theory to test; practical issues to ensure successful data collection, e.g. access to site, time available, equipment required, resources available, plan collection using sketch map; conducting a risk assessment to avoid accidents.; and planning to carry out a pilot study in order to improve the main data collection. Data collection (including the rejection of alternatives) could be random (using random numbers tables/generators or by pin) which is unbiased; systematic (equal intervals or every nth item) giving good coverage and data analysis often made easy especially if conducting statistical tests; or pragmatic (opportunistic) which may have good coverage and adapt to site constraints. Random/systematic/pragmatic can be either a transect (line) which samples in proportion to the population distribution according to selected criteria; or by area (grid/parallel/radial transects) which gives very good coverage. These three methods can also be either points along transect or across area which is quick to carry out or quadrats along a transect or across the area, which is particularly good for vegetation sampling. These methods can be combined with stratified sampling (the sample is in proportion to the population distribution according to selected criteria), giving a representative sample. Reference to sample size can be in terms of the number of sampling locations or the distance apart; the duration, times of day and days of week for sampling at each point; or the use of simultaneous sampling to ensure comparability across sites.

Qualities of A grade Candidates: The outline of the strategy is discussed in detail, is replicable and is appropriate. The Candidate refers to the question/hypothesis given in Question 2(a).

Other comments: Strategy includes the timetable for data collection, theoretical and practical issues, risk assessment, types of sampling methods and sample size. A good response to (a) was often (but not invariably) followed by a good one in (b); some (b)s were good despite weak (a). Higher ability candidates usually concentrated upon designing a sampling scheme with reference to several variables and sample size. However, many made an erroneous assumption regarding the width of the sand dunes or an urban transect by designating a transect of x metres; few specifically referred to the locating the end of the transect. Many specified repetition of sampling, especially pedestrian and traffic counts. Middle and lower ability Candidates often confused stratified and systematic sampling; and pragmatic and random sampling. They were also vague in suggesting where to locate sampling points, particularly in the urban area. An alternative approach to strategy was used by quite a few candidates by considering a pilot, risk

assessment, accessibility, how the data would be presented and the use of secondary data; the most successful were combined with sampling.

Question 3 (a)

Responses were moderately good overall. The most able candidates specified a type of published map and justified the additional information in terms of how it could be applied.

Indicative content: It is acceptable to refer to more than one investigation. The response can *but does not have to* be organised in terms of the stages of an investigation (as follows). For the identification of the question a small scale locational map would be used to show key relevant factors, e.g. distances to/between settlements can be plotted. In the development of the strategy large scale maps can be used, e.g. sampling locations and accessibility can be labelled. In the collection of data maps of varying scales can be added to, e.g. sampling locations are labelled; field data is applied, e.g. amendments to Goad Maps, specialist (soil, geology etc.) and O.S. maps (change of land use); characteristics of locations can be annotated in order to help to explain outcomes, e.g. a tree, anomalous age of housing, predominant wind direction on the coast; spatial representation of data, e.g. located pie charts, bar graphs, isoline maps, choropleth maps, desire and flow lines, sphere of influence. These applications can also be utilised in the analysis, evaluation and interpretation. In the summary data can be added to a large scale map in order to summarise the outcomes of the investigation. There should be some appreciation of what is appropriate for a particular subject matter, e.g. a Goad map shows detail about land use in urban areas and is usable as a basis for adding the investigator's own data or updating the Goad.

Qualities of A grade Candidates: The description and justification of extra information are discussed in detail. The candidate demonstrates an understanding of published maps and how to apply the extra information.

Other comments: Surprisingly few candidates specifically referred to the published maps to which they would add information. A few candidates explained the function of a published map and why it needed adaptation for an investigation. Of the rest, the better quality answers were those that made it clear in their justification how they would add the data to the published maps – a few also stated why it would not be on the original map. Common suggestions were the addition of choropleths, annotations to explain site characteristics, located bar graphs and pie charts of investigation specific data (vegetation type, weather data), additional symbols, sampling points and the distances between them, updating Goad Maps. Quite a few noted the need to add a title, key and direction which, whilst present on O.S maps, is often missing from specialised maps produced by other institutions. Weaker responses listed information that could be added to maps without clarifying the feasibility and method of applying the information, e.g. 'the number of people in a town,' whereas better responses stated, e.g. 'a age-sex pyramid would be plotted on each ward in a town.' The weakest candidates deviated into a discussion of the problems that would occur when adding the information or even generic problems of maps or simply listed the uses of published maps.

Question 3 (b)

Responses were moderately good overall. The full range of marks was just covered, with most entering Level 2, but very few entering Level 3; quite a few remained in Level 1. Higher quality answers gave an appropriate question/hypothesis and concentrated on the sign and significance of the outcomes in terms of accepting or rejecting a null hypothesis.

Indicative content: There must be reference to a relationship or association and an appropriate test, e.g. Spearman's Rank Correlation (R_s), Pearson's Product Moment Correlation Coefficient & Chi squared. A question for investigation is stated which makes it clear what variables are being examined or a hypothesis is given, ideally as a null and alternative, e.g. H_o There is no significant relationship between distance from the high water mark and vegetation cover. H_1 There is a significant relationship between distance from the high water mark and vegetation cover. For the meaning of the outcome and its significance r_s calc is between +1 and -1. 0 = no correlation; 1 = perfect correlation. The closeness to +/-1 suggests strength but is dependent on sample size. A test of significance (usually at 95%) is carried out to see whether the relationship could have occurred by chance. Using n - 2 degrees of freedom on a table/graph or some graphs take degrees of freedom into account, the value for r_s, is compared with the Rs table/graph value: if r_s calc > Rs table/graph value, accept the alternative hypothesis at the specified level of significance. There should be reference to the direction of the relationship (positive or negative). The outcome suggests what that relationship might mean (positive or negative) and why (e.g. change in local microclimate and soil conditions; change from pioneer vegetation), but does not presume a causal relationship.

Qualities of A grade candidates: The chosen question for investigation/hypothesis is relevant. The description of the interpretation and significance of the outcomes is discussed in detail, with reference to the sign and rejection levels.

Other comments: A substantial proportion of the candidates (about 25%) erroneously identified the Mann-Whitney test (although some did state an appropriate hypothesis for association): this problem has been evident and brought to the attention of the centres throughout the duration of this specification. Few candidates accessed Level 3 as they did not refer to the chosen hypothesis or question in interpreting the outcomes of the test: again; this has been reported for many years. Of those that chose an appropriate test, nearly all selected Spearman's Rank Correlation Coefficient. The more able candidates demonstrated two common characteristics in their responses: an assessment of the sign of the Rs and the application of Rs to a level of significance leading to the rejection or acceptance of the null hypothesis. A few candidates also referred to the impact of the sample size upon the result and to the need to regard the acceptance of an alternative hypothesis with care as it does not necessarily mean that a causal relationship exists. Very few of those who chose Spearman's did not describe how to calculate it, thereby deviating from the question. Middle ability candidates tended to concentrate on either the direction or the strength of the relationship found by using Spearman's, whilst the weakest candidates noted the sign but did not amplify the meaning. Weaker candidates gave a rigid interpretation of the value of Rs, e.g. '0.7 is strong correlation, 0.4 is weak correlation', demonstrating poor understanding of the impact of sample size on the outcome.

2682/02 Geographical Investigation (Report)

General comments

Overall standard: As in previous years the majority of Candidates entered Level 3, with very few remaining in Level 1 or 2. Few Reports did not represent all five stages – although in some cases the headings varied from the normal format or there were none at all. Candidates demonstrated substantial development compared to GCSE, particularly in the analysis and evaluation of outcomes. Most candidates presented clear and logically structured Reports. The quality of written English was generally good. Many had taken care and pride in their work.

As is expected for AS Level, nearly all Reports were guided by the Centre or a field studies centre with group collection of data. There were considerable differences in the approach adopted by centres, some of which were more successful than others. Whilst there is evidence of good practice at many centres in terms of organising data collection and teaching methods, the necessarily heavily teacher directed approach offers less scope – but should not preclude – independent initiatives by students. However, an important role of this AS Report is to provide the basis for independent research at A2.

Content: There was a balance between physical and human investigation topics, encompassing a wide array of subjects and considerable field work activity. Due to the teacher led approach differentiation was achieved by assessing the Candidate's skill in manipulating the data collected. Candidates at some Centres produced far too many figures/graphs/photographs. Others included lengthy (20 pages) Annexes, often with material downloaded from the internet.

In centres where teachers selected appropriate fieldwork tasks, students were able to set challenging hypotheses. This tended to be accompanied by significant personalised input into the discussion of planning, methodology and statistical techniques. The essence of a good report was relevance and quality, not quantity. It was organised and presented well. It examined no more than two hypotheses, which could be discussed in depth, rather than superficial description of numerous variables. Overall, the stated hypotheses were relevant and reasonably feasible for AS Candidates to achieve. The data collected and analysis related to the question that has been identified at the beginning of the Report. This included reference to any models and theories that had been presented. Statistical analysis, when used, included tests for significance. Geographical terminology is assessed and care must be taken that the correct terms are used, e.g. discharge is not the same as velocity.

However, where students were directed to low-level studies they tended not to be able to apply statistical analyses correctly and their interpretations and conclusions were vague or not expressed with understanding, e.g. "most pedestrians will be found near the shops". Thus, centres could do more to provide better support in the early stages of developing a study, for example they must ensure that their candidates choose titles they understand and can do, e.g. one centre had a noise survey in an urban area but then used an environmental quality survey to test for it. Many candidates did not understand the need to justify the selection of the method or sampling strategy. The content should be relevant. Important supporting evidence for the work should be included, e.g. the template and summary results for questionnaires and field measurements. Above all, the Report should remain focused on the aims and hypotheses, e.g. the detailed history of an urban area is unnecessary when looking at land use models. When students were involved in a large group data collection exercise for a large number of variables, it was tempting to write too much – particularly irrelevant discussion of variables that were not relevant to individual candidate hypotheses. Those who collected data for only a limited number of variables seemed to fare much better. The application of statistical tests must be appropriate, e.g. three sites are insufficient for Spearman's Rank Correlation. Centres should ensure that basic geographical terminology and theories are understood, e.g. velocity increases

downstream; low pH is acid. The role of each stage of the report should be understood, together with a need for an appropriate balance between the length of each stage.

There was evidence that insufficient time was spent on data collection, e.g. three sites on a river study or 20 questionnaires assessing sphere of influence will not give very useful results.

Supporting figures: As with the textual content, a few appropriate figures gained as much credit as many pages of repetitive poorly conceived and irrelevant figures. Thus, it was important for the reader to compare like for like variables on the same page – with the same scales on axes for graphs, e.g. for a river study the cross sections should all be on the same page; for a study of change in urban characteristics, pie charts or bar charts are best located on a map to demonstrate spatial variation. There was rarely justification for presenting the same data in several different ways, as this distracts the reader and does not assist with comparison between data sets.

Length of Report: Many Candidates did not achieve their potential: this was often because they did come to terms with the need to be concise. Candidates that exceeded the word limit were penalised and could not enter Level 4, as stated in the Specification

Comments on administration and presentation

1)   Rubric error: length of Report

The stated length word count was often substantially above 1,000 words, including instances of over 3,000 words, and there were many more cases where the stated word count was much less than the actual word count. This was due to miscounting, false reporting, or the use of continuous text in tables; annotations with continuous text content; or scanned diagrams with text that was an integral part of the Report that had not been included in the word count. Over-length Reports did not enter Level 4 (13-15 marks). At some centres few or no candidates had conducted a word count and thus arbitrarily wrote 1,000 words in the appropriate space or did not fill it out at all. **To be fair to all Candidates the word count should be adhered to and an accurate word count supplied.**

2)   Administration

(a)   A disappointing number of centres did not submit their Reports at the specified time, causing a delay in the examination process. A few centres sent their Reports later in the examination session with the Written Papers to the incorrect examiners, again causing a delay in the examination process.

3)   Format

(a)   Most candidates successfully used the five stages format suggested in the Specification: Identifying a Question; Development of a Strategy; Collection of Data; Analysis, Interpretation and Evaluation; and Presentation of a Summary. Some used alternative headings which were recognisable as the 5 stages (e.g. combining the second and third stages; placing the Summary in stage 4), as were those using an essay style approach without headings although the structure of these Reports was often harder to understand.

(b)   Each centre is required to provide one Authentication Sheet (CCS160) signed and dated by all relevant members of staff.

(c)   Each candidate is required to provide a Coursework Cover Sheet (CCS202) signed and dated by the candidate and a member of staff. A true word count – not an estimate – must be provided. The current CCS202 can be downloaded from the OCR Website.

4) Presentation

(a)   The preferred method of presenting the Report is for it to be **held together with a treasury tag**. There is no need for folders, wallets, clip files, paper clips, staples or plastic envelopes which all cause administrative problems and are often less easy to read. It is also hard to manage loose sheets and A3 sheets folded back and captured by the treasury tag. The inclusion of numerous field data collection sheets is detrimental to the Report – a summary of the outcomes should be neatly reproduced in the Report itself together with a template for data collection. Similarly, lengthy Annexes, often containing data downloaded from the internet, or handed out by Field Studies Centres as background information, are not required: if they contain material to be read by the examiner, it should be given in the five stages and be counted within the word limit.

(b)   A good *standard* of presentation is demonstrated as follows:

- Easy to read text which has been *proof read*. [Handwritten reports can be just as good as badly proof read typed ones!]

- *Continuous text* is used.

- The sheets are in the *order* in which they should be read.

- *Page numbering* is used.

- Figures, photographs, graphs and tables are *cross-referenced* at the appropriate place in the text.

- If *statistical tests* are carried out they must be referred to in the text and the level of significance must be determined.

- If graphs and other *materials are scanned* in, care should be taken to maintain quality (legibility/clarity).

- However, good presentation needs to be accompanied by good geographical content!

(c)   *Maps, figures, tables, photographs and graphs* should:

- Provide evidence of the data collected.

- Specifically relate to the question and hypotheses chosen for investigation.

- Be neatly presented (e.g. appropriate shading graded to match "high" to "low", using rulers) and given appropriate titles and labels.

- Be numbered so that they can be cross referenced with the text.

- Be relevant to the investigation, e.g. Field Studies Centres give Candidates a lot of generic information and this should be customised.

- Show an awareness of appropriate methods of representing data. For example:

  - A large scale map extract – with the scale and key given – to show the location of the investigation. This map or a larger scale one will show the location of sampling sites. A map of the UK is usually meaningless in the context of these investigations. The map should be referred to in the text. The quality of maps – a cornerstone of good geographical reporting – was disappointing. The absence of maps in numerous Reports was noticeable. Conversely, four location maps at differing scales (often without an identified scale) indicate limited understanding of the purpose of maps. Likewise Google maps and road atlas maps without any key/orientation/scale are inappropriate in style and scale. Aerial photographs used for locational purposes often had the same defects.

  - Appropriately annotated photographs.

  - One method is used to present a piece of information, e.g. bar chart and pie chart should not both be used to present the same data.

  - The same type of graph is used to present the same variables at two different sites.

  - Graphs of variables that need like for like comparison are placed on the same page with the same scales on both axes, e.g. all the cross sections of a river study; sand dune transect data.

  - Axes are drawn (the independent variable is on the x axis) and labelled correctly.

  - Line graphs should not purport to show a relationship where it cannot exist, e.g. if there are eight randomly selected soil samples in each of two woodlands, sample 1 in wood A cannot be compared with sample 1 in wood B. However, if a systematic line transect is taken every 25 metres into each of these woods, comparing positions along the transects is acceptable.

Overall Qualities of 'A' and 'E' Thresholds

A grade: A complete well structured geographical investigation, with appropriate use of both primary and secondary data. The work is clearly expressed with correct use of geographical terminology and will be almost entirely free of errors in all sections. It should not exceed 1,000 words and may be less than 1,000 words. 'A' grade candidates typically select two well defined hypotheses, enabling depth of discussion to take place, rather than superficial analysis of many hypotheses. Alternatively, a single hypothesis is tested, e.g. *"there is increasing species diversity across a sand dune"* and one or two additional variables are collected to support the findings. These Candidates do not include irrelevant material and the sections are balanced, e.g. Identifying a Question and Data Collection are too long at the expense of Analysis, Interpretation and Evaluation and a scant Presentation of a Summary. There is a clear understanding of the functions of figures etc. to provide evidence of data collected, to relate to the hypotheses chosen for the investigation and to be neatly presented and appropriately labelled. There is an awareness of the appropriate methods of representing data.

E grade: A submission that is not a complete geographical investigation, with poor or no use of primary and/or secondary data. The work is very poorly expressed, contains errors and there is very little correct use of geographical terminology. Much of the work may not be correct. At the

'E' threshold the Report is incomplete, i.e. one stage of the Report is not identifiable from the text. Most commonly the Presentation of a Summary is missing and the Report presented may otherwise demonstrate C/D qualities. It is also possible that the material presented contains numerous errors throughout, e.g. there are numerous poorly defined hypotheses, with little scope for depth of discussion; irrelevant material and graphs are included and the sections are imbalanced, typically Identifying a Question and Data Collection are too long at the expense of Analysis, Interpretation and Evaluation (the explanation lacking depth and not necessarily relating specifically to the original question) and there is a scant Presentation of a Summary. There is limited understanding that figures etc. relate to the hypotheses chosen for the investigation and need to be neatly presented and appropriately labelled. There is some awareness of appropriate methods for representing data.

Comments on the Five Stages of the Report

The subject matter of the Reports was nearly always appropriate, since the Candidates were advised by their Centre. Physical topics such as psammoseres and river studies tended to be both popular and executed successfully. Candidates are reminded that in a 1,000 word Report ***there is no room for irrelevance or repetition***. A reasonable balance between the sections is necessary – a lengthy description of how to calculate a statistical test leaves little room for evaluation and Candidates are unlikely to achieve high marks with a weak stage 4. Reports must clearly relate to and refer to a specific study location.

Identifying a Question

Indicative content: Succinct contextual information (including a relevant labelled map), a clear question and correct supporting hypotheses or aims – there is no need for more than two hypotheses. Two hypotheses enable a candidate to show breadth of interpretation, whereas more than this leads to over length reports or cursory discussion of the outcomes. The null hypothesis states that no relationship is expected between two variables, whilst the alternative hypothesis states that a relationship is expected, and indicates the direction/nature of this expected relationship. A title should make sense and be achievable, e.g. 'Channel width will increase with river length' does not imply that width measurements compared at various intervals down a river.

Qualities of A grade candidates: Succinct contextual information (including a relevant labelled map), a clear question and correct supporting hypotheses or aims. The null hypothesis stated that no relationship was expected between two variables, whilst the alternative hypothesis stated that a relationship was expected, and indicated the direction/nature of this expected relationship. Two or three hypotheses were investigated.

Other comments: This section was generally well presented, although it varied considerably in length. Almost everyone provided a hypothesis or clear question that they intended to test. Some better candidates led into their question from theory, whilst others spent far too long on the theoretical aspects at the expense of later sections.

A substantial number of Level 3 candidates used too many variables leading to substantially over-length Reports or rather meaningless generalised Reports within the word limit. Theory is often reproduced from a book without noting its relevance to the study being undertaken. Weaker candidates tended to give lengthy historical detail or an explanation of why the topic was chosen or a simple statement that the Candidate was interested in a topic and hoped to do well. Hypotheses were not clearly related to the question *or* their purpose was not understood well *or* they had no geographical substance; stated hypotheses did not correspond with the relationships considered in analysis – or even with the data collected. Alternatively numerous (e.g. 6 was not uncommon) hypotheses were proposed which could not be analysed in depth and often lead to an imbalanced Report with a lengthy Collection of Data section and limited Analysis, Interpretation and Evaluation. Some theory, for instance on urban models or

settlement hierarchies, appeared but was only vaguely referred in the analysis section. The stage was highly imbalanced with little (or no) contextual information *or* a lengthy description of the context. The map, if any, was inappropriate and poorly labelled.

Development of a Strategy

Indicative content: The reason for selecting the investigation location is given. Background theory, such as a model, is presented and there may be justification for the expected outcomes in this section (alternatively it may be given in the Analysis, Interpretation and Evaluation stage). Risk assessment relevant to the site is desirable. Practical and theoretical factors inform the organisation of data collection materials. Not all these points are needed to gain full marks.

Qualities of A grade Candidates: The expected outcomes were justified in terms of theory, e.g. the discharge increases downstream due to increased inputs to rivers towards the estuary. The risk assessment specifically related to the study site and was realistic. Preparation for sampling and data collection was discussed and justified in the light of practical and theoretical considerations, e.g. devising data collection forms; selecting appropriate equipment; identifying constraints on where data collection could take place.

Other comments: Many candidates made sensible reference to risk assessment. However, overall this stage was often weak compared to the rest of the Report. Many candidates commented only vaguely, or not at all, on their sampling strategies, or how their strategy for data collection was tailored to the available resources (e.g. manpower, time) or sampling strategy was not understood. Weaker candidates overlapped this section with the next stage. There was an excessive description of problems arising from risk assessment, but with no suitable measures to combat problems. There was no reference to geographical theories or how the data collection was organised. If geographical theory is referred to, it was not commented on in this stage or later in stage 4. Words were often wasted by discussing rejected strategies. If a Centre carries out multiple field days from which each Candidate selects one, care must be taken that the strategy makes sense, e.g. the sea is not a risk for a study of an inland urban area. Statements such as "*I wanted to collect as much different data as possible*" failed to consider how this could be managed in a 1,000 word Report. Sampling procedures were not justified.

Collection of Data

Indicative content: The sites/transects for measurement are selected and the type of sampling used (pragmatic, random, systematic, stratified) is defined. The sample size for each area, belt or transect and each site on is given and is appropriate, e.g. a few variables collected at 10 sites gives more meaningful results than many variables at 4 sites. The data to be collected is relevant to the aims/hypotheses: when groups collect many variables, individual candidates should only refer to those relevant to their chosen hypotheses both in data collection and analysis. The method for collecting the data in the field is described. There is a summary of questionnaires and assessment forms used or examples can be attached.

Qualities of A grade Candidates: Not too long was spent on methods of data collection apart from the discussion of sampling issues. This was a well balanced section: the sampling location was identified; the type of sampling was clearly understood and described. The data to be collected was relevant to the aims/hypotheses. There was a concise description of how data was collected in the field. The accuracy of data collected was considered. Data was represented in an appropriate form by the use of, e.g. tables, graphs, charts, maps, sketch maps.

Other comments: Questionnaires were often undertaken with very few people being interviewed. This section tends to be long at the expense of the Analysis, Interpretation and Evaluation. Where centres had sampled numerous variables, irrelevant data was often

described and presented in tables, but then not used. Conversely, most candidates had no problem collecting numerical data, but not all stated it. Field sketches where included, were generally poor. More appropriate annotation of graphs and photographs was evident, e.g. to identify anomalies. Photos included were mostly relevant. Environmental quality testing was often present but not described: a copy of the actual survey form is useful; conversely, inclusion of all the completed survey forms is not required). Weaker Candidates either wrote in great detail about how data was collected (up to half of the Report) *or* provided almost no description at all *or* gave a confused description; they tended to discuss more variables than was relevant for the stated aim/hypotheses. Candidates were not aware of appropriate techniques, e.g. line graphs rather than scattergraphs; inappropriate use of pie charts.

Analysis, Interpretation and Evaluation

Indicative content: For each part of this stage it is clear which hypothesis or aim is being discussed. The outcomes are summarised and relationships, if any, are explored using secondary data and field evidence. All the data that has been collected is referred to. Statistical tests may be applied and the application of models to the data collected is referred to. Appropriate formulae are used and the units of measurement are given. The reasons for geographical theory not applying to the investigation are considered.

Qualities of A grade Candidates: The text was clear, relevant and related to all the data collected. There was a good attempt to explain relationships and anomalies – possibly with the use of field notes and clearly referenced secondary evidence. There was numerical evidence of how data had been analysed using descriptive statistics and/or a statistical test: appropriate formulae were used; the calculations were correct (e.g. in Spearman's Rank Correlation the two variables are ranked in the same direction); and confidence levels were tested (where appropriate) and interpreted. There was a clear discussion of the extent to which geographical theory was represented at the site. Analysis may have been supported by using annotations on the data collected and photographs. Where appropriate these candidates successfully compared secondary data, e.g. derived from the 2001 Census, with their own primary data.

Other comments: The quality of this section was highly variable. This section often set the better Candidates apart from the weaker ones as the latter did not attempt to explain results (including patterns, relationships and anomalies); however, since many better Candidates (offering high quality discussion of their results) were over length, the differences between good and weaker Candidates was not always reflected in the final mark. Many Candidates made good use of annotated photographs. The discussion of anomalies has improved, although weaker candidates tended to blame "anomalous data" for low Spearman's rank correlation coefficients, without considering other reasons. Analysis sections often had very little explanatory text to accompany data from graphs; this meant that a cursory comment was made for each graph or the outcome of statistical testing but the points were not drawn together until the Summary stage (if at all). If data has been collected, it must be referred to in this stage, e.g. a questionnaire may be supplementary to the investigation, but if carried out, it should form part of the analysis. Conversely, irrelevant data should not be collected, e.g. pH and soil moisture are not relevant to wind speed across dunes.

Statistical testing: Whilst most candidates used some method of statistical testing, many regarded it as a hurdle to be jumped rather than as a way of enhancing their understanding of the outcomes. Many candidates still used Spearman's with a very low sample size. Too often candidates used a computer to do the calculations and did not understand the result – or did not even attempt to analyse the results. Often significance testing was not used and the significance tables were also not necessarily clearly understood. Many candidates incorrectly refer to rejection of data rather than the null hypothesis – the data is not necessarily incorrect, but it may not satisfy the predicted outcome.

Weaker candidates gave a lengthy description of the outcomes, whilst relationships and anomalies were not noted or explained or simply ascribed to "inaccurate data collection". Interpretation consisted of poorly expressed, generalised statements and there was no reference to geographical theory – particularly models noted earlier in the Report. The meaning of some variables was not understood, e.g. confusing altitude and gradient. Statistical tests were incomplete. Mann-Whitney (difference between data sets) wais confused with Spearman (association between data sets). [It should be noted that Mann-Whitney is used to determine whether two sets of data come from the same population – it does not decide whether the samples are "fair."] Computational errors were common, e.g. the formula for Spearman omits "1-.." or the two variables were not ranked in the same direction. Candidates simply stated that the study went well and outcomes were as predicted – even when looking at graphs presented earlier would have shown that the outcomes were not as predicted. Land use models were dealt with in a summary manner if at all. Those who used measures of central tendency were seldom able to demonstrate their relevance to the chosen hypotheses.

Presentation of a summary

Indicative content: The Summary highlights the main outcomes of the investigation in relation to the aims and/or hypotheses and geographical theory, together with a short explanation of these outcomes and their limitations, leading to suggestions for improving a project.

Qualities of A grade Candidates: The Summary did not repeat information verbatim from earlier stages. There was reference to hypothesis(es) and/or theory or theoretical models which had been explained in the earlier sections. A clear summary of the outcomes and highlights limitations of the investigation was given. Viable suggestions were made for improving the project if it were to be repeated.

Other comments: This is often the weakest part of the Report. Candidates added analysis and evaluation that had not been discussed in earlier stages. Evaluative statements often lacked depth, especially with regard to the way data was collected. Alternatively, the Summary consisted of only two or three lines with little substance – often due to the constraints of the word count, the preceding sections being too long. Another weak approach was to restate what was expected rather than the actual findings. In general, any evaluation was rather vague, e.g. "*More samples could have been taken and at different times of the year or on different days*" and was often focused solely on how the study could be extended.

2683 Options in Physical and Human Geography

General comments

It will come as no surprise to colleagues that examiners reported reading a wide variety of scripts as regards both their geographical knowledge and understanding and their written communication. The best represent a sustained and substantial engagement with the subject by pupil and teacher alike so that processes and patterns are understood with authority. Pupils from this group apply themselves convincingly to the question set so that examiners are left in no doubt as to the high quality of the response.

Descending the mark scale examiners increasingly encountered scripts where knowledge and understanding are either sporadic or are sound but not applied rigorously to the particular question set. Although this comment arises from a Specification that has all but run its course, colleagues are reminded that the new courses already at their AS stage have a heightened expectation as regards written communication. Thus it becomes ever more important for candidates to improve the delivery of their prose responses so that these explicitly answer the question set.

In this session examiners were pleased to read a good number of scripts showing evidence of a sustained and deep engagement with geography. Colleagues teaching in centres and their students have clearly spent time effectively exploring the processes and patterns that are part of the Specification for this Option. Some of the responses indicate a degree of authoritative understanding accompanied by a substantial body of knowledge that one can only hope their authors will be pursuing their geographical education at university. Such scripts stand out from a too significant a number that simply did not address the actual question set. Although these candidates have acquired some sound knowledge and understanding, they are not able to apply this under examination conditions. This issue of examination technique, in particular when the focus is on the writing of extended prose, is given additional significance when thoughts turn towards the new A levels. These begin their delivery in September 2008 and at AS and A2 level there is a heightened expectation with regard to the quantity and quality of candidate's prose.

One feature examiners have noted in previous sessions is that of candidates choosing a question on the basis of one of its sub-parts rather than the two elements together. This was perhaps even more evident this session with large numbers of candidates writing with authority in one sub-part but producing a very disappointing effort in the partner sub-part. Colleagues should reinforce to candidates that they must prepare thoroughly for <u>all</u> the content of an option.

Coastal Environments

Question 1
Generally sub-part (a) was answered with some competence, although it surprised examiners that a sizeable minority managed to avoid any reference to the role of wind when writing about waves! Examiners accept the diversity of nomenclature amongst texts regarding wave types but, that said, too many candidates were either confused or simplistic in their knowledge, especially concerning constructive / destructive. Those who took energy as their focus were the most successful as they referred to high / low energy waves. Wave refraction was the least well understood factor.

There were some splendid responses dealing with sand dunes in sub-part (b), many of these indicating that this was, in part, the result of some highly effective field-work. The difficulty for so many candidates was that Level 3 knowledge and understanding of the factors influencing sand dunes was not matched by a similar standard concerning salt marshes. The key process of the reduction in velocity of the transporting agent, wind or water, by vegetation and the consequent

deposition of sediment was not always clearly expressed, neither was flocculation in the context of salt marsh formation.

Question 2

Here was a question that many candidates seemed to choose to answer on the basis of just one of the two sub-parts, namely (b). Thus there were many unbalanced scores between (a) and (b).

For too many simply seeing the word 'cliffs' here was enough to trigger an avalanche of material concerning processes taking place on marine cliffs, not a sharp focus on slope processes. Thus examiners read extensive accounts of processes of marine erosion. Even where responses described the undercutting of cliffs by marine processes and sketch diagrams showed cliff collapse, examiners had to fill in the link with slope processes such as rock fall. There were, of course, many who wrote with conviction and authority about the relationship between slope processes and cliff formation and development. As in 1 (b) there was ample evidence of much effective field study.

The absence of clear knowledge and understanding of slope processes is made all the more concerning as when it comes to management then most candidates can write at some length describing methods of protection. It is, however, apparent that they do not really understand how and why such measures are employed. The key command word in sub-part (b) was 'why' but too few read the question with sufficient care to make sure they picked up on this in their answer. Links with land-use, economic value and type of shoreline were the route by which the more successful candidates made their way through this task.

Fluvial Environments

Question 3

The employment of well annotated / labelled diagrams allowed some answers to describe effectively the characteristic cross-sections and plans for braided and meandering channels. As ever, it seems that 'plan view' is a difficult idea for some to grasp. Meandering was better known than braiding and too many omitted either cross-section or plan thus automatically reducing the Level the response could reach. There was a real polarity amongst answers to sub-part (b). Some first class responses used the Hjulström curve as a building block but others floundered from the start with their confusion about the difference between velocity and discharge a fundamental issue. It is disappointing that the idea of bankfull discharge, such a key factor in understanding fluvial environments is so often ignored by candidates.

Question 4

This question was tackled by the minority of the candidates selecting from this Option. Descriptions of solutions to flooding were by and large competent, more so with engineering than ecological. It is always good to read local scale examples that are clearly the result of field-work either in the vicinity of the school or further afield. There was a wide variety in the standard of answers regarding river terraces and deltas, more so concerning the latter than the former. Some good use was made of labelled diagrams to convey knowledge and understanding but generally examiners felt there was a lack of conviction about what they read.

Glacial and Periglacial Environments

Question 5

This was slightly the more popular of the two questions in this Option. Many, if not all, understood something about mass balance but too many saw the question as the chance to write all they could remember about movement. Insufficient emphasis was placed on 'conditions' when describing mass balance. There were some encouraging responses who chose to take a longer term perspective using ideas such as Milankovich cycles.

Explanations linking glacial weathering and erosion with characteristic landforms tended to focus, not unnaturally, on upland regions. Many responses contained plenty of knowledge but

insufficient analysis linking process with landform. That said, here was another question where some candidates made very good use of annotated / labelled diagrams.

Question 6
Descriptions of river diversion were to the fore amongst the responses to sub-part (a). Most of these were effective regarding some combination of the Thames, Severn or the cutting of spillways in North Yorkshire. There were also some detailed answers dealing with the breaching of watersheds, notably in North Wales, which seemed to be result of fieldwork in the region. Sub-part (b) shifted the focus to the impact of multiple advances and retreats in upland areas. Too often advances were given overwhelming prominence over retreat. Likewise emphasis was given to erosion, deposition being relegated to a poor second. Overall examiners were disappointed with the lack of appreciation of the 'multiple' element of the question, a key aspect to the understanding of the effects of glaciation on almost any region.

Hot arid and Semi-arid Environments

Question 7
Those who offered descriptions of soil-forming processes and the resulting soils in hot deserts tended to fall into one of two groups, authoritative or basic understanding. The very best usually included detailed soil profile diagrams highlighting the key processes. It was disappointing, however, that after a term of focused study on this environment, many candidates ignored the fundamental process of capillary action.

In sub-part (b), explanations of the locations of hot arid and semi-arid environments were generally sound and often convincing. There persists a degree of confusion surrounding the role of the rain shadow effect on the Atacama Desert and amongst the less secure responses, names of the cold ocean currents and their location can be confused.

Question 8
Most candidates managed to offer sound descriptions of processes of erosion and transport by wind although overall their focus tended to be drawn towards resulting landforms rather than the processes themselves. In sub-part (b) examiners were disappointed with the overall standard of responses caused by insecurity regarding inselbergs and arroyos; this even went as far as confusing arroyos with playas for some. In contrast with some of the other Options in Section A, little effective use was made of annotated diagrams which could have moved responses forward strongly.

Applied Climatology

Question 9 and Question 10. There were so few candidates answering these questions that meaningful generalisations cannot be made.

Agriculture and Food

Question 11
Few responses were seen by examiners to this question. In sub-part (a) candidates generally offered a wide range of geographical locations as exemplification of commercial and non-commercial agricultural systems. The more convincing answers tended to be characterised by their references to exceptions to the rule.

In sub-part (b) answers tended to be rather disappointing as they did not focus on social <u>and</u> economic influences; it should be noted that an equal treatment is not a pre-requisite for Level 3 marks but the omission of one restricts the answer. The majority of candidates wrote about economic factors, although examiners were concerned to read too much material concerning the EU's policies that was out of date. It was with social influences that candidates had the greatest difficulty, in particular changing consumer demand / preferences was largely ignored.

Question 12
This was a question on which candidates either wrote with conviction and authority or did not. The weaker responses were characterised by candidates straying into description of other factors such as slope angle and water supply in sub-part (a) which focused on the influence of soils on agricultural systems. Some candidates at the top end of the range wrote about small scale examples, a single farm which went to the heart of the topic. Sub-part (b) tended to be more successfully answered than (a) with factors such as terracing, irrigation, drainage and glasshouses / poly-tunnels occurring frequently.

Manufacturing Industry: Location, Change and Environmental Impact

Question 13
Descriptions of the impacts of manufacturing industry on the physical environment were generally sound, with encouraging understanding; it was with the detail that discrimination amongst candidates tended to rest. There was a preference to cite examples from LEDCs with Teesside leading the way for the MEDCs. The very best answers took the term 'physical environment' in a broad way including material on air, water, land and visual impacts. It was also good to read, in some scripts, of the impacts light and noise can have. Sub-part (b) also witnessed plenty of sound scripts. Here the discriminating area was how effectively the response focussed on 'interaction' of factors. Good use was made of exemplar material such as Consett, Teesside, South Wales and North-East USA.

Question 14
Writing about the influence of raw materials on manufacturing locations allows some candidates to excel but for a considerable minority it remains a challenging topic in terms of moving beyond detailed descriptions of Weberian style locations. It is disappointing that for many weight-loss no longer applies to manufacturing when coastal locations have pre-eminence regarding most of the large-scale processing industries. More convincing candidates were able to describe the influence of factors such as perishability and fragility. In answers to sub-part (b) looking at how communities can be affected by manufacturing, the emphasis was clearly on the negative from the majority of candidates. Deindustrialisation offered rich pickings for some although rarely were all three of the generic categories of economic, social and physical included.

Service Activities: Location, Change and Environmental Impact

Relatively few candidates answered in this Option so meaningful general comments are difficult.

Question 15
There was a tendency amongst the weaker responses to use sub-part (a) as their opportunity to write all they could remember about Christaller and central place theory. The more successful answers focused on theories and models such as bid rent, core-frame model and zones of active and passive assimilation. In sub-part (b) most candidates focused on the topic addressed in the question but there were those who offered extensive descriptions and explanations of the locations and style of out-of-town retail activity. They did not appreciate that the question's focus was effects <u>on</u> the CBD.

Question 16
When describing changes in service provision in rural areas in sub-part (a), nearly all candidates wrote with authority and substance. One discriminator was how effectively a response engaged with all types of services and not just retail. In sub-part (b) examiners reported reading some very impressive answers dealing with the reasons for changing service provision. As with (b) questions in other options, 'interaction' of factors was the preserve of the upper quartile.

Tourism and Recreation and their Environmental Impacts

Question 17
The large numbers of candidates answering this question did so soundly in the main. They knew the types of resources the tourist industry uses as its basis. However, one area of discrimination was linking the resource with the development of a tourist industry. Thus there were too many rather simplistic listing of resources that were not convincingly linked with tourist developments. More secure responses tended to describe the type of beach, sand / pebble, the temperature of the sea water and of the air with beach tourism; upland areas with suitable slopes and weather conditions to allow a skiing industry to develop. Examiners approached the issue of cultural / heritage resources pragmatically as many individual resources can be allocated to either category.
Sub-part (b) was less successfully handled as too many candidates saw this as their chance to regurgitate the Butler model. Clearly elements of the model are appropriate but the focus of the question is clearly on explaining why some tourist locations decline but some manage to reverse such a situation. Too often examiners read lengthy accounts of why seaside resorts have been changing over the past few decades. The most commonly employed examples were Blackpool and Bournemouth as examples of regeneration with Morecambe, Rhyl and Margate cited as examples of decline.

Question 18
Not as popular as the alternative question, this question did elicit some effective responses. Sustainability as a concept continues to cause confusion and only amongst the more convincing scripts were the various elements of sustainability, physical, economic and social, described. Eco-tourism was to the fore with a variety of examples used to illustrate the points and here there was some most encouraging detail.
In sub-part (b) the opportunity to write about the 'horrors' of mass tourism was irresistible for so many candidates. Thus there were many accounts of the Spanish Costas in all their colourful detail which is appropriate although the question asked for consideration of how any impacts are the result of the interaction of several factors. A key area of discrimination for examiners rested with the inclusion of the positive effects of mass tourism, wealth creation for example which can then lead to other things such as improvements in health care, education and utility infrastructure. Looking ahead to the new Specification and the introduction of an A* grade, one example of the sort of idea that the better candidates could be encouraged to contemplate is what constitutes 'mass'. Such a term is a relative one and what is mass in one location might not be so in another and vice versa.

2684 Synoptic Geography: People and Environment Options

General comments

Candidates produced a wide range of performance. This examination proved quite challenging for some candidates who failed to read the question set carefully enough. The group that achieved the top grade did so by directly answering the question, using detailed examples and case studies and making obvious synoptic links. Those more marginal candidates had two or more of these essential elements missing. There were fewer in this group in this examination reflecting better preparation by the individual candidates or most typically a better than average tendency to keep tightly relevant to the question being answered. There were relatively few at the highest level as candidates struggled to evaluate effectively especially in Question 11.

The questions on this unit are open-ended and evaluative so requiring careful thought and planning. Plans also help examiners trace the logic of the candidates thinking. It was encouraging to see that most candidates do present brief plans and it was those answers that tended to have a tighter better focused structure.

The responses are marked by component and candidates' responses varied greatly between these components:

1) Knowledge of content – more successful candidates demonstrated detailed knowledge of case studies, relevant concepts and geographical terms. Some weaker candidates made no reference to any location apart from 'e.g. Africa' type exemplification. Candidates should appreciate that this is a geography examination so some concept of location or/and place is essential. Without this clear grounding in the real world candidates cannot expect to do well.

2) Critical understanding of content – this was the more effective component for the majority of candidates who demonstrated a clear appreciation of cause-effect and an understanding of the connections between different aspects of the subject. (including synoptic connections). Clearly the basic concepts are well taught and understood by candidates.

3) Application and evaluation – this is the crucial component as it requires the higher level analytical and discursive skills to apply the understanding and knowledge to answer the question set. It is the evaluation aspect that usually distinguishes the better candidate and this examination was no exception. The higher achieving candidates evaluated arguments, concepts and statements in detail with some encouraging insights based on synoptic understanding, usually drawn from AS. Weaker candidates tended to agree with any quote regardless of the scale, location or time period. Many candidates could still improve their responses by using a less descriptive approach in their answers.

4) Communication – this varied tremendously, as in most years. This is an essay paper and so requires lengthy extended discursive writing. Weaker candidates found even the most basic forms of communication difficult. Spelling continues to be of particular concern as many could not spell names e.g. *Mississippi.* The misspelling of basic words like there (confused with their) and where (were) continues to be common. Weaker candidates also struggled with the concept of the paragraph. At the other end of the scale stronger candidates wrote with a fluency and organisation that they, and their centres, should be proud to have produced in examination conditions. Candidates should be reminded that 16 marks are available altogether on this unit specifically to reward effective communication, so it is important to present their work in a readable form with a clear introduction and conclusion and in a structured format. Unfortunately some candidates still provide introductions that state the obvious:

> *'Using examples, I am now going to write about the difference between primary and secondary hazard impacts.*

Such an introduction suggests a low level response to an examiner!

Candidates must appreciate that their answers should:

- **Relate directly to the question set**. Some offered pre-learnt answers e.g. on hazard preparation for Question12, which had only passing relevance to the actual question on prediction.
- **Give examples**. Stronger candidates quoted detailed knowledge of locations and some drew relevant maps. Weaker ones gave vague references; e.g. for Question 9 many assumed their answer was obviously about the UK but never stated it.
- **Be clearly synoptic**. Most of the questions had clear possibilities for synoptic links e.g. Questions 5 and 6 could have linked into material from 2681. The link should be seamless so the discussion flows.

Those candidates that achieved the highest grades:

- Demonstrated consistently good performance throughout the paper
- Showed detailed locational knowledge especially in the extended answers – there was a clear sense of place
- Exemplified, even within shorter section answers
- Used appropriate and accurate geographical vocabulary
- Showed they understood cause-effect relationships

And above all:
- Answered the question set

The selection of questions was a return to the usual unevenness this examination with Question11 proving very popular yet poorly done and again few centres do the EU.

Comments on individual questions:

Option 1: Geographical Aspects of the European Union

Question 1
No candidate attempted this question.

Question 2
Few candidates attempted this question. The nature of what constituted a 'problem region' varied from an excellent and varied review to an almost totally irrelevant : 'The Rhine'. Strategies were well understood at the Objective 1 type level usually exemplified by the Norbotten and/or Andalucian case studies. Higher achieving answers looked at the smaller scale policies often at the national level as in the support for declining coal mining areas in the UK. Typically the responses to this EU question were either very effective or poor. It was a very good discriminator.

Question 3
No candidate attempted this question

Option 2: Managing Urban Environments

Question 4
This was a popular question. Few saw it as the individual issues of pollution, poverty, poor housing etc, although this was a valid approach, but rather looked at the overall management of shanties. An effective range of ASH, slum clearance and high rise solutions were offered but they were rarely evaluated effectively and often the examples lacked the expected detail:

In the shanty towns of Rio assisted Self Help Schemes (ASH) have been used to improve shanty towns. The government encourages the people in the shanty town to help themselves. This has proved successful.

So what does ASH consist of and why are such schemes successful? This is a common theme this examination. There was too much description and insufficient analytical evaluation.

Question 5
This was a very popular question but was rarely done effectively. Many candidates spent considerable space and time explaining why urban sprawl occurred rather than focusing on management strategies that attempt to control it. Once over that, often excessive, introduction answers picked out some valid points such as greenbelts, New Towns, brownfield development etc. Unfortunately these were often poorly evaluated and poorly exemplified:

London has a greenbelt that was designed to stop sprawl as it could not be built on.

Many wandered off onto controlling traffic congestion and pollution or looking at wider aspects of urban renewal:

Gentrification of inner urban areas helps reduce sprawl as people can move into these smart properties rather than locate on the urban fringe.

So what happens to the previous residents? This question did show that a lot of candidates do not fully understand the way urban areas function and are managed:

New Towns were built by the government to take the pressure off London's fringe. They were planned to have green areas to make them self sufficient and discourage commuting back to London.

The Chronology of many of these strategies was not well known with some candidates viewing urban sprawl as the product of the 1990s and greenbelts as the product of the current government.

Question 6
Yet again this question produced answers that were largely descriptions of what the social and economic inequalities were in each of LEDC and MEDC cities rather than focusing on comparing the level of these issues. Many seemed to wander off onto associated issues that were often not kept relevant to the question:

Inequalities is all about multiple deprivation. Multiple deprivation means …..

Segregation of groups occur in both LEDCs and MEDCs often on racial grounds.

The latter answer then went onto look at South Africa under apartheid. It would have been useful if candidates had explained why inequalities exist and why it is so hard to reduce them. It would also have been useful to apply some of the models such as vicious and virtuous spirals to understand why polarisation of social and economic inequalities persist. Most simply agreed

they were issues in both LEDCs and MEDCs although a few answers suggested the scale was rather different:

The gap between the rich and poor in the LEDCs cities is far greater than in MEDC cities as in MEDCs there is a social security system that tries to support those at the bottom and a tax system that hits the richer people so closing the gap.

Exemplification was thin and most were as below:

In Rio there is a great inequality between the shanty town dwellers in the favelas and the very wealthy in their gated tower blocks.

Option 3: Managing Rural Environments

Question 7
Another question which seemed to draw candidates into long descriptions rather than analytical evaluation. A number of types of farming were used including intensive, organic, and extensive pastoral but the underlying deterministic suggestion was rarely questioned:

Sheep farming has little impact on the environment as it occurs on upland moors where sheep graze the natural vegetation so do little pollution and require neither expensive machinery nor chemicals.

Sheep farming has a massive impact on both the physical and human environments and may be the only reason why those moorlands have remained as moorland. A simple approach of comparing physical and human environments under one type of farming and another was rarely adopted. Perhaps 'environment' was not fully appreciated.

Question 8
A stalwart of a question and those that attempted it did a sound if rather limited job of evaluating strategies such as SSSIs, AONB, National Parks etc. Some went even further:

Greenbelts were introduced to protect rural environments from urban and industrial sprawl.

Few chose to look at the components of the rural environment:

Framlingham is a rural market town and it needed to be protected from decline. This was done by …..

OR

Farming is the lifeblood of rural areas. The CAP was set up by the EU to protect farming from overproduction and foreign competition.

This would have been a useful way of evaluating the relative contribution of the various strategies to protecting these important elements of the rural environment. All too often candidates do not go beyond the need to protect the physical geography of the landscape so the question is another one seen as: *How do we stop pollution?*

Question 9
To some extent this question revisits much of the territory of Question 8 but has a human geography bias. Candidates needed to clarify what they understood by the term: Traditional way of life. Few went beyond the bucolic past:

Traditionally rural communities sprang from farming and their way of life reflected the seasonal rhythm of the farm year – from sowing to harvesting.

The most effective answers looked at the components of the traditional 'village community' and suggested they had been gradually eroded:

First the village post office closed, then the school and then the bus service was cut to one a day. This encouraged the younger elements of the population to move away but the elderly were left isolated by the loss of these services.

Most answers did explain this by changes in rural thresholds and increased mobility. Others linked it to the decline in the farming population or rise in tourism swamping rural culture. As ever the spectre of second homes hung over quite a few answers:

With more and more houses being bought up in the village as weekend cottages there are now over 80% without permanent residents. This destroys the traditional rural community.

Overall this was generally a well done question with some interesting examples although the lack of relevant examples held back the weaker answers.

Option 4: Hazardous Environments

Question 10
This was a very straightforward question and it was surprising that more candidates did not attempt it. Those that did produced competent answers with a range of strategies. Their weakness, yet again, lay in the lack of detailed exemplification and very limited evaluation of their effectiveness:

Steel nets work well to hold loose boulders in place.

But why?   They could also have been evaluated in terms of cost, ease of installation etc. Some did structure their answers to distinguish soft and hard approaches:

A soft engineering approach includes planting trees on unstable slopes. The roots of the trees bind the soil and transpiration via the trees reduces the water content of the soil so it is less likely to be wet and so flow.

This question was crying out for an approach that evaluated whether strategies at the slope top, on the slope or at its foot were the most effective. An alternative view would have been to evaluate strategies used on the different types of mass movements.

Question 11
This was surprisingly poorly done, which was disappointing as this was by far the most popular question. The chief problem was the inability to agree what constituted secondary and primary impacts. There is some debate but primary impacts would be the event itself such as an earthquake whilst subsequent impacts would be considered secondary such as landslides, fires, tsunamis. Most knew this but then rather confused things by not accurately allocating the damage:

In the case of hurricanes it is rare for the strong winds to directly kill people but rather it is the secondary impact of flying debris that kills people.

Some took it a stage further and looked at Tertiary impacts:

The secondary impacts of the Mt St Helen's eruption were major as acres of timber was destroyed in the blast and it took years to regrow so reducing local industry and employment in the lumber industry.

To some extent it was less about what were primary and secondary impacts and more about why one might cause more problems than the other. Candidates seemed to ignore this evaluation, preferring to describe a range of natural disasters.

Candidates should always look at evaluation from a range of viewpoints. Some suggested:

Secondary impacts are often greater and longer lasting in LEDCs as they lack the resources to recover quickly.

Few took the obvious route of comparing types of impacts, types of hazards and their duration or severity. These aspects were largely ignored as so much was deemed to reflect differences in human reaction to the impacts:

Planning and mitigation strategies are crucial if the long term secondary impacts are to be avoided.

Question 12
Again a surprisingly unpopular question. The few who did attempt this question tended to offer prepared answers that answered some previous questions:

The level of preparation for hazardous events varies between LEDCs and MEDCs.

Others stuck to prediction but saw it as requiring a description of the methods used to predict hazards, rather than the evaluation of their effectiveness:

Seismometers are used to predict volcanic eruptions as often the first clue of the onset of a volcanic event is an increasing number of mini earthquakes.

Again perfectly valid but is this exact? Some candidates did consider predicting earthquakes and mass movements were unlikely but volcanoes and hurricanes were predictable. Few made the point that prediction to be exact should indicate location, scale, intensity, duration, initial start time etc as well as the nature of the associated hazards.

Candidates must always think what they can evaluate about a quote and how it may differ with location as well as the nature of the hazard.

Grade Thresholds

Advanced GCE Geography A (3832 / 7832)
January 2009 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
2680	Raw	100	64	57	51	45	39	0
	UMS	120	96	84	72	60	48	36
2681	Raw	75	45	40	36	32	28	0
	UMS	90	72	63	54	45	36	27
2682/01	Raw	60	51	46	42	38	34	0
2682/02	Raw	15	12	10	8	7	6	0
	UMS	90	72	63	54	45	36	27
2683	Raw	90	66	59	52	45	39	0
	UMS	90	72	63	54	45	36	27
2684	Raw	120	88	80	72	64	56	0
	UMS	120	96	84	72	60	48	36

Specification Aggregation Results

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

	Maximum Mark	A	B	C	D	E	U
3832	300	240	210	180	150	120	0
7832	600	480	420	360	300	240	0

The cumulative percentage of candidates awarded each grade was as follows:

	A	B	C	D	E	U	Total Number of Candidates
3832	16.62	37.69	66.17	83.38	95.25	100	337
7832	13.64	47.73	79.55	95.46	100	100	44

For a description of how UMS marks are calculated see:
http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.

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