

Version



**General Certificate of Education (A-level)
January 2012**

Geography

GEOG1

(Specification 2030)

Unit 1: Physical and Human Geography

Report on the Examination

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General

Our efforts over the last two examination series of GEOG1 to widen the range of marks, and so avoid mark compression and narrow margins between the grade boundaries have been relatively successful, although further progress has been limited in this series. The mean mark was very slightly up on last year's January examination and about 1 mark lower than in the June series. In this examination series, the physical geography core question on Rivers, Floods and Management produced the best responses, with a mean of 16.49 in contrast to 15.48 on the core human question on Population Change. The option questions showed some differences in each section, with Cold Environment being the best answered in Section A, followed by Coastal Environments and Hot Deserts, and Energy Issues eliciting the best responses in Section B, followed by Health Issues and Food Issues.

The lack of further progress appears to be due to a number of factors. There appeared to be certain sections of the paper that candidates did not favour – such as deltas, wave cut platforms, wadis and, perhaps most especially, pingos. Yet, these aspects had not been specifically examined previously. Linked to this was the requirement to draw basic sketches and add appropriate labels – a skill that was not well evidenced. Other items included concepts that candidates find challenging – such as appropriate technology – especially linked to sustainable development. Famine appeared to be a key area that had not been examined in Health Issues, yet candidates did not seem well prepared. There seemed to be a lack of precise knowledge – required for types of ice movement in Question 2 (b)(i) and tides in Question 3 (b)(i), and infant mortality rate in Question 5 (b)(i). As frequently occurs, a significant proportion of candidates insisted on answering a previous question. This was notably so with regard to the extended writing question, 5 (c), where a number of candidates described the demographic transition model and then considered its strengths and weaknesses instead of relating to population structure. There is ever a need to restate the perennial comment regarding the command words and deconstructing the question. It is imperative that command words are not just known, but that their meaning is understood so that candidates know how to respond. Thus, they should be aware that 'comment on' is not the same as 'describe' and 'assess' requires a judgement to be made based on evidence supplied. Equally, they must be taught and practise deconstructing questions so that they can meet the requirements of the specific question on the paper.

On a positive note, candidates often used the data in Question 1 (a) precisely, and made effective and specific use of the photographs in Question 5 (a). Data was manipulated in Question 5 (b)(ii) and in Question 8 (b) by more able candidates. Text was better used, especially in the question relating to conflict in world energy affairs in Question 7 (c). There was, at times, some good case study support in Question 1(c). Some candidates sought to engage in discussion here, but lacked the necessary support – both aspects are needed for a high level response.

Section A

Question 1 – Rivers, Floods and Management

Part (a) was well-answered, with 90% of the cohort obtaining 3 or 4 marks. The majority of candidates gained marks from the first two parts, whilst the final section on soil moisture recharge proved to be a good discriminator. Candidates repeating the word 'recharge' did not understand the concept and must be advised of the need to provide a different term to convey their understanding. Good responses considered the replenishment of the soil moisture, and were set in context of precipitation and potential evapotranspiration.

Part (b)(i) was fairly well done, with 36% of candidates achieving 3 or 4 marks. Most got a mark for producing a recognisable sketch plan of the channels shown. There was no mark available if the sketch plan did not reflect the pattern of the channels visible. A mark was awarded for the recognition of a bird's foot delta; irrespective whether this appeared as a title or label. The appropriate labelling proved to be the key discriminating aspect. There was a need to describe the landform and to link the label to the feature, being precise in the use of geographical terminology. Good responses stayed within the confines of the delta and noted the main river channel, the presence of distributaries, levees, and the silt/deposition. Less able candidates frequently labelled tributaries, estuaries, went beyond the shallower water of the delta, and looked at human aspects, rather than the landform. Responses to (b)(ii) were mixed. Only about 15% of candidates got into Level 2 with clear and sequenced responses, where links were made between different aspects. Many were confined to Level 1 by explanation in the context of slowing velocity and deposition. Better answers expanded on this, and used terms such as reduced competence of carrying capacity. There were vague notions of the impact of the fresh water of the river meeting saline sea water. Only the more able candidates could explain the significance of this in terms of flocculation, and very few had a clear and cogent sequence that made clear the formation of the delta and noted the source of the sediment, the lack of a large tidal range, and the implications of these aspects.

The extended writing question was the best answered on the paper. Almost 8% of candidates obtained Level 3, and 40% scored 10 marks or more. Some described factors affecting discharge at Level 1, without linking to flooding and indeed considered how some features would reduce flooding. Explanation of how the features caused flooding water were better done for the human element, such as urbanisation and deforestation. Even here, there was confusion between interception and infiltration, and responses often showed an imbalance to human causes. The more able candidates made links between intensity of rainfall and its duration, or snowmelt, and often used case studies effectively to illustrate; notably Boscastle and Bangladesh. The command word was to 'assess' and this must be explicit for Level 3. There were some excellent responses with regard to explaining the causes and using case studies that did not explicitly assess, and so were held within Level 2. There is a clear need to reinforce the requirement to obey the command word 'give'. Conversely, there were some candidates who discussed but lacked support to back-up points made, and they must be aware that a decision cannot be made in a vacuum.

Question 2 – Cold Environments

Approximately 46% of candidates scored 3 or 4 marks on part (a)(i). The data were not particularly straightforward, but most candidates did perceive the loss of ice, and many quoted evidence in support. Some candidates saw the change in 1984 and 1994 for the Gulkana glacier wrongly as an increase. There was a need to manipulate the figures and not just 'lift', and many did this. There was no merit in comparing the glacier and the ice sheet, nor in drifting onto the explanation which was a significant issue for some; again a need for candidates to understand the command word.

Candidates' responses to parts (b)(i) and (ii) varied. Overall, these were disappointing and indicated the fact that candidates must have precise knowledge of the ideas they have learnt. Only a third scored 2 marks on part (b)(i), and 12% on (b)(ii). In part (b)(i), a significant proportion got the correct terms the wrong way around. Other candidates had a go at an answer; plucking any linked term from memory, such as abrasion, basal sliding, and some candidates were guessing regarding the landforms as becoming deformed. There were relatively few who made reference to the changing shape of the individual ice crystals (not just ice) and perceived how this encouraged layers to slide/move.

It is clear that candidates did not find the concept of a pingo easy, but there was a lack of precise knowledge, revision and confusion with other landforms and processes. Only 10% of candidates reached Level 2. Sketches, usually cross-sections, were of poor quality and shape. Some better sketches resembled volcanoes. Some candidates included more than one as a sequence to aid explanation which was not the key purpose here, but these were credited. Few could articulate the presence of the growing ice lens, whether in an open or closed system, and the reasons for its growth and subsequent impact on the surface. There was much confusion with frost heave and stone polygons and water from the surface freezing.

It is in the longer questions where it is imperative for candidates to de-construct the question; otherwise significant marks may be foregone. Seeing 'developments in cold environments' and 'sustainable' seemed to invite candidates to launch into activities such as whaling and sealing in the Southern Ocean (not recent), and the traditional lifestyle of Inuit (neither recent nor a development), and banning activities such as whaling and mining in the Antarctic (which would preclude development). There is a lack of accurate information; even where there is better engagement with the question; a perception that the Trans Alaskan pipeline is new, and that the 1002 lands are already developed. Help was given in the question regarding the possible developments and a significant number of candidates did refer to this for structure. However, there was a need to consider the developments of oil and tourism for example, and consider to what extent they were sustainable. The best responses used tourism in Antarctica and looked at the checks in place, and contrasted with oil in Alaska and came to a view regarding to what extent as demanded in the question. These were all too rare with 7% obtaining Level 3.

Question 3 – Coastal Environments

Part (a) was well done by candidates, as was its counterpart in Question 2. 46% obtained 3 or 4 marks. Clear relationships were noted between wind speed and wave height and often D was cited as an anomaly with specific reference to evidence. Some candidates noted the change in direction either eastwards or westwards along the Channel. A minority of candidates were confused between east and west, or did not express their ideas clearly enough, whilst some drifted into an explanation.

As in Question 2, responses to parts (b)(i) and (ii) varied. Overall, these were disappointing and indicate the fact that candidates must have precise knowledge of the ideas they have learnt. 40% scored 2 marks on part (b)(i) and 18% on part (b)(ii). Responses to part (b)(i) should have seen more candidates obtain the marks available in recognition of the spring and neap tides. The answer was either known or not known. A significant proportion of candidates got the tides the wrong way around, whilst common errors were reference to high and low tide and destructive and constructive waves. In part (b)(i), some just described the diagrams without an understanding of the alignment of the sun and the moon, and the significance of this in terms of the scale of the gravitational pull.

In part (c), a higher proportion of candidates got Level 2 than in Question 2 or 4. In common with the comparable Question in 2 and 4, sketches; usually cross-sections, were of poor quality. It was rare to see a slightly angled wave cut platform; many had a focus on the cliffs and there was little concern about the relative size of the waves. There was confusion with regard to hard rock overlying soft rock (as in waterfall formation) and a belief that the end part of the process was the collapse of the overhanging cliff. The best responses had a clear sketch, with some labels and sequence that linked the processes at the wave cut platform as the cliff retreated. Some candidates believed it was a depositional feature, and a minority that it occurred on the top of the cliff, rather than that at its base.

In part (d), only 1.5% of candidate reached Level 3, whilst the majority of candidates – 61% – achieved Level 1. Many candidates begun by describing the cause, despite the fact that the question was about impacts. Some looked at the impacts of falling sea levels, and a substantial number focussed on coastal flooding linked to storm surges, hurricanes and tsunamis, rather than the impact of rising sea levels. Often there was vague reference to loss of land, homes and habitats, often in a coastal erosion or flooding context, rather than engaging with the theme of the question. There was also a need to discuss, not just to describe; another hurdle that many candidates failed to overcome. Better answers offered support for points made; with landforms often being a strength. Other valid points related to wide-scale flooding, with specific UK or global areas identified, and the significance worldwide of potential flooding of world cities.

Question 4 – Hot Desert Environments and their Margins

Approximately 40% of candidates obtained 2 marks in part (a)(i) and a further 45% gained 1 mark. This first part of the question was well-answered. The stem indicated that the information was for a wadi, but this information seemed to be disregarded in part (a)(ii). Approximately 28% of the candidates got 2 marks, and a similar proportion obtained 0 marks. There was a need to relate the rainfall to the nature of a wadi.

17% of the candidates did not attempt part (b), yet a wadi is explicitly stated in the specification content. Almost all candidates drew cross-sections with just a few sketches. The quality of these as in comparable questions was disappointing. Only a few realised that there was help available in Figure 7. The quality of explanation was poor and often there was a concentration on the formation of the alluvial fan at the base of the wadi, rather than the wadi itself. There was also reference to exogenous rivers along with canyon formation.

Part (c) was better answered, but only 27% of candidates scored 3 or 5 marks on a standard distribution question. The most common misconception is that the tropics are 30°N and S of the equator. There was a lot of generic description of desert distribution rather than a focus on areas at greatest risk of desertification and some candidates drifted onto reasons (cold ocean current, rain shadow, continental interior, etc.). The more able candidates picked up on the latitude of the areas, noted their position adjacent to existing hot deserts, as well as anomalies in the context of these.

In part (d) there were many answers that concentrated on causes of desertification rather than impacts; an issue again linked to de-construction of the question and targeting the response to the particular aspect of the concept. There was no reference to positive feedback diagrams, though some answers tried to show the vicious cycle of decline. Few responses had anything more than a basic description of impacts. A handful of candidates were able to describe with more accuracy, e.g. referring to the amount of land lost or the tonnage of soil lost. Some knew what an ecosystem was and wrote about breaks in the food chain, or loss of primary producers, but were unable to name any species that were under threat, and apply specifically to areas concerned. Many answers just described deserts, especially desert vegetation. There were also a lot of answers that described responses to desertification (irrigation, magic stones, etc.) rather than direct impacts. Candidates seemed to have little idea of the reality of the situation in the Sahel. It was as though they thought that Sahelian farmers were like those in Britain, only they had to move.

Section B

Question 5 – Population Change

Part (a)(i) was well-answered, with 47% of candidates being awarded maximum marks, and a further 22% getting 3 marks. There was often recognition of the contrasting house types such as terraced in the inner city versus detached in the rural-urban fringe, and on street car parking versus the presence of garages and drives. There was some specific attention to detail regarding building style, windows and age, and a number made more than the required number of points. Accurate terminology is not always apparent with 'terrist' houses and 'attached' houses. Most were aware of the need to describe what was visible and to draw contrasts. Weak responses failed to draw out differences, and at times there was no reference to the photographs (generic areas being used) or aspects that couldn't be seen were considered such as a grid iron street pattern in an inner city. The reasons in part (a)(ii) had to be linked to differences visible in the photographs, thus there was no credit for referring to ethnic minorities or students in inner cities. There was a need to go back to the time of building and consider why such developments were initially built. Therefore, only 29% of candidates obtained 3 or 4 marks, whilst 37% got 1 or 0 marks. The best answers referred to inner city areas being built for factory workers at a time when cars were not a feature of everyday life, the need to build many to make more money, relative costs of land, and the space available.

Responses to part (b)(i) were disappointing and indicative of the lack of precise knowledge on the part of many candidates. Only 9.5% were awarded 2 marks, whilst 29% gained no marks on a definition that is fundamental to this part of the specification. Relatively common responses noted it was the deaths of infants under the age of one (although a significant number believed it to be under five). However, few candidates could gain the 2nd mark recognising that the rate was per 1000 live births per year. The data in part (b)(ii) was better used. 27% of candidates accessed Level 2, usually by cross-referencing the columns and linking aspects such as infant mortality and grouping countries in a meaningful way and identifying exceptions. Too many looked at individual countries, and failed to give an overview at odd combinations such as UK, China, India and Russia that were too broad. A significant number get side-tracked into giving a definition of natural change and into relationship of countries with the demographic transition model.

Candidates' responses to part (c) were poor, especially given the pivotal nature of this content. 76% obtained Level 1 only, with a mere 4% accessing Level 3. The majority saw 'the demographic transition model' and launched into a description of it (to varying degrees of accuracy); some considered its strengths and weaknesses (June 2011 question). Many failed to consider the links to population structure – the concept given at the start of the question, preceding the demographic transition model. Such a failure to answer the question asked and to display an understanding of the basic concept of population structure led to many candidates getting between 1 and 6 marks. At the opposite end of the spectrum, there were some excellent responses where population pyramids and text were used to indicate clear changes in the structure as progression was made through the stages; links were explicit, as was the examination of the links. Some candidates noted difficulties with factors such as migration or reasons for changes in earlier stages. Those Level 2 candidates sought to engage with the question, but struggled at the lower end with appropriate terminology to describe the structure or were inaccurate on the demographic transition model or grouped stages together.

Question 6 – Food Supply Issues

Approximately 27% of candidates scored 3 and 4 marks in part (a). Most identified the different components with reference to examples being a common characteristic. There was reference to the need for high levels of labour and or capital in intensive farming and reference to large amounts of land in contrast to limited outputs in extensive. A minority got the terms the wrong way round or addressed one component only.

In contrast, part (b) displayed a limited appreciation of appropriate technology. The article, where used, indicated ways food production had increased and advantages of this at the top of Level 1. Some disregarded the need to use Figure 11. Only 11% made the link between the advantages of appropriate technology regarding its availability, relatively low cost and maintenance, etc.

11% of candidates accessed Level 2 in parts (c) and (d). There was confusion with Green Revolution and drift to food quality and appearance, rather than a focus on increasing food production, as demanded by the question. Often the characteristics of GM crops were described. Only the best answers related this to increasing food production – via pest resistance leading to increased yields and then added a relevant comment. Some did note and debate the limited acceptance of GM crops.

Some candidates saw part (d) as an opportunity to launch into global warming and its effects, or to consider economic impacts of cash crop farming and ghost acres or to write in vague terms about pollution or introduce local food production or solutions to the problems. Some of these items had potential merit, but they had to be linked to the question and appear in a logical sequence, whilst other aspects were clearly irrelevant. There were many missed opportunities here. Candidates considered food miles (often incorrectly called air miles) very superficially. There was a notion of what this involved but examples of where foodstuffs were coming from hardly featured in candidate's answers to give credibility to points noted. Often there was reference to pollution, without indicating 'air' and not specifying carbon dioxide. Local food production could have been relevantly included with regard to the need to store and the environmental costs of this and similarly, the loss of land to intensive cash cropping and demand for water and impact on soil. Some candidates did seek to make points, and considered the level of packaging and its impact on the environment. Too many just wrote generally about ideas they thought might gain some marks, but did not have a strategy for answering the question properly.

Question 7 – Energy Issues

Four fifths of candidates obtained 2 or more marks in part (a), with 44% achieving full marks. This question was well-answered, using a definition and an example which was a common route to candidates gaining maximum marks. There was some confusion between primary being non-renewable/internal, and secondary being renewable/imported.

30% of candidates gained only 1 or 2 marks on part (b), with 13% achieving Level 2. Many did not have the required specific knowledge to answer the question, and so wrote in vague general terms, not always getting the rank order correct. Few candidates knew the appropriate figures but those who did, clearly engaged with the question, and gained credit for the knowledge; the more able went on to comment. UK and France were frequently used but there was a diverse range including Mali, Iceland, and Norway. Comments related to reasons for reliance on certain sources or for changes.

Candidates who reached the top of Level 1 described the information in the resource, and hinted regarding conflict in world energy affairs, whilst those who moved into Level 2 clearly made the link, and recognised that Russia laying claim to the resources would lead to recognition that they were not theirs to take, that they would/should have a share, and the critical importance of such reserves. A minority of candidates did not refer to the figure, using Russia and Gazprom often, and therefore, not heeding the instruction in the question.

The final part of this question was marginally better answered than its counterpart in Question 6. 2.4% accessed Level 3, but a disappointing 43% managed only Level 1. Such answers tended to describe sources of energy with a focus on renewable sources, and consider a variety. However, many candidates did not make the link to sustainability or assumed it was self-evident and so there was no need to be explicit – which there was. Few candidates mentioned or seemed to understand appropriate technology. Solar cookers and other case studies provided a good route into the question, but these were not common. Some candidates had opinions, but nothing of substance to support what could have been pertinent points.

Question 8 – Health Issues

Most candidates got 2 marks on part (a), with 26% gaining 3 or 4. Most recognised mortality as death and morbidity as disease (although some did get these the wrong way round). The more able candidates qualified their definition with ways in which these could be measured, such as the crude death rate (although this was the lesser of the two considered) and disability (often called daily) adjusted life years (DALYs).

In part (b), candidates' responses were at times quite narrow – looking at best and worst, or noting general location and exception. These were Level 1 responses, but there was reference to the data given. Better Level 2 answers (11%) had an improved overview and support by manipulating evidence – such as 'Southwark North and Bermondsey' as twice the average or by counting frequency – with six of the worst constituencies in Glasgow. Some candidates' answers tended to drift beyond the demands of the question, which were specifically from the data given in Figure 13. The most common mark gained was 2, so candidates need to spend a little time looking at the data given, rather than launching into at times, quite long answers that described the data in a detailed way.

Coronary heart disease and obesity were common examples of non-communicable diseases in part (c). Unlike last summer, there were very few references to HIV/AIDS. Only 16% accessed Level 2. This was due to candidates writing in a very superficial way without being specific to the disease. There were also two components to address here – health and lifestyle, and both were needed for Level 2 – not economic impacts which often appeared in the answer. Level 2 answers were more precise, identifying specific diseases that people suffering from obesity were liable to such as type 2 diabetes, heart disease, and less serious aspects, such as breathlessness. Lifestyle considerations noted the need to amend diet and perhaps to make structural changes to housing in extreme cases. There was empathy in the Level 2 answers, and a maturity that was lacking in Level 1 responses.

The final part of the question (d), performed a little better than Question 7, but too often answers were superficial. 1.3% of candidates access Level 3 and 54% remained in Level 1. There was significant confusion with malnutrition. Common responses cited drought, but did not delve into the underlying cause of this with regard to climate. Causes were not always linked to famine. There was reference from the more discerning candidates to overgrazing and desertification, levels of poverty, the role of governments and civil war, with some reference to cases, although these were infrequent. The same was true of consequences; often deaths and people moving away. The ideas were acceptable, but very superficial without reference to any examples for support, or to the very real human suffering which results, and the reactions on a global scale to such crises. For many candidates there was the need for some specific geographical knowledge.