



## General Certificate of Education

# Geography 6031

## *Specification A*

*GGA4*

# Mark Scheme

*2006 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

## **General Guidance for A Level Geography Assistant Examiners**

### **Quality of Written Communication**

As required by QCA, the marking scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communications but where questions are “Levels” marked, written communication will be assessed as one of the criteria within each level.

- Level 1:** Language is basic, descriptions and explanations are over simplified and lack clarity.
- Level 2:** Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.
- Level 3:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.

### **Levels marking – General Criteria**

The following general criteria relate to knowledge, understanding and their critical application and the quality of written communication as outlined in the AQA Geography A subject specification. They are designed to assist examiners in determining into which band the quality of response should be placed, and should be used when assessing the level of response an answer has achieved. It is anticipated that candidates’ performances under the various dimensions will be broadly inter-related and the general guidelines for each level are as follows:

**Level 1:** An answer at this level is likely to:

- display a basic understanding of the topic;
- make one of two points without support of appropriate exemplification or application of principle;
- demonstrate a simplistic style of writing perhaps lacking close relation to the term of the question and unlikely to communicate complexity of subject matter;
- lack of organisation, relevance and specialist vocabulary;
- demonstrate deficiencies in legibility, spelling, grammar and punctuation, which detract from the clarity of meaning.

**Level 2:** An answer at this level is likely to:

- display a clear understanding of the topic;
- make one or two points with support of appropriate exemplification and/or application of principle;
- demonstrate a clear style of writing which clearly addresses the terms of the question;
- demonstrate a degree of organisation and use of specialist vocabulary;
- demonstrate sufficient legibility, and quality of spelling, grammar and punctuation to communicate meaning clearly.

**Level 3:** An answer at this level is likely to:

- display a detailed understanding of the topic;
- make several points with support of appropriate exemplification and/or application of principle;
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and/or incompleteness/tentativeness of explanation;
- demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary;
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation, which contribute to complete clarity of meaning.

N.B. A perfect answer is not usually required for full marks. Clearly it will be possible for an individual candidate to demonstrate variable performance between the levels. In such cases the principle of best-fit should be applied. Experience suggests that the use of exemplars within this mark scheme and the discussion which takes place during the Standardisation Meeting normally provides sufficient guidance on the use of levels in marking.

### **Annotation of Scripts**

- Where an answer is marked using a levels of response scheme the examiner should annotate the script with a 'L1', 'L2' or L3 at the point where that level is thought to have been reached. The consequent mark should appear in the right-hand column. Where an answer fails to achieve Level 1, zero marks should be given.
- Where answers do not require levels of response marking, each script should be annotated to show that one tick equals one mark. It is helpful if the tick can be positioned in the part of the answer, which is thought to be credit-worthy.

### **General**

It is important to recognise that many of the answers shown within this marking scheme are only exemplars. Where possible, the range of accepted responses is indicated, but because many questions are open-ended in their nature, alternative answers may be equally credit-worthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

- 1 (a) Understanding of effect of variations in rock resistance on coastal shape (1-2).  
Actual examples (e.g. Atlantic coast of SW Ireland) (1).  
Use of bay/headland development, wave refraction – a diagram that is well annotated or clearly explained in the text can have credit here (1-3).  
Effect of prevailing and/or dominant winds – especially since Figure 1B is SW orientated (1-2). Concordant/discordant coastlines (1).  
Detailed outline of one coastline Max. 2. No mention of bays Max 3.  
Must deal with both coastlines for full marks. **(4 marks)**

- (b) Answer should refer to rates of erosion.  
Changes in sea level (eustatic and isostatic) (1-3).  
Direction of dominant wind, longest fetch, storm/extreme events (1-3).  
Depth of water offshore. Inter-tidal range (1-3).  
Constructive/destructive waves, high/low energy coasts (1-3). **(4 marks)**

- (c) Question requires a measured response referring clearly to management – any judgment is valid as long as it is supported.  
Content could include differences in use of coastline – coasts of deposition tend to be lower lying (and of less resistant rock) and so more used by agriculture, industry, residential and recreation but are often more vulnerable to events such as storms and flooding. Also valid is the different structures for the two types of coastline. There is some credit in comments regarding the idea that coasts are not divided that simply.  
Use of appropriate examples (from anywhere in the world) are creditworthy if used to support an argument. Particularly valid is the juxtaposition of contrasts (eg. Spurn Head and Flamborough Head).

**Level 1 – Generic Descriptor (1-3)**

Some awareness of effects of difference in management in the two types of coast line – language probably simplistic – little support – only one type considered.

**Level 2 – Generic Descriptor (4-5)**

Fuller awareness of different types of coast relating to impact / management. Some support present. Refers to both coastlines of erosion and coastlines of deposition.

**Level 3 – Generic Descriptor (6-7)**

Judicious comment regarding the human uses and/or physical differences of the coast and need for management.

Clear comments referring to **extent** – fuller knowledge/understanding with secure exemplification and text rich in detail – some attempt to come to a view. **(7 marks)**

- 2 (a) Note the question requires a description, not an explanation.  
 A tsunami (from Japanese ‘harbour wave’) generally affects the whole column of water from sea bed to surface (1). It radiates out from its source travelling at great speed – 500 to 950 kmh (1-2). In mid ocean the wave height is only about 1m high and with a long period (up to 30 minutes apart) (1-2). As it reaches land the waves slow down and become much higher (up to 30m), with more concentrated energy, often preceded by a withdrawal of water (1-3). It floods inland with great force but only a short distance (1-2). (4 marks)
- (b) The initial causes can include earthquakes, volcanic eruptions and landslides impacting on the sea (1-2). Tend to be more powerful if source is close to land (1-2). Statement explaining why wave slows down, increases in height and breaks related to changes in depth of water (1-3). Radiating out from the origin (1). (4 marks)
- (c) Question invites a debate and any view, providing it is supported and argued, is appropriate. In tsunamis the area of land affected is a relatively narrow coastal strip but this is often the most populous area (low flat land, easily developed, fishing and transport links, estuaries for routeways, often fertile, fishing and tourism). Earthquakes can cover a wider range of locations, but again, it is the human impact that will be variable depending on density of population, infrastructure, preparedness and economic ability to cope. The valid statement that the two are often (but not always) directly linked is a possible pathway to Level 3.  
 Good support may include South East Asia tsunami December 2004, Turkish earthquakes and possibly a comparison of MEDW and LEDW.

**Level 1 – Generic Descriptor (1-3)**

Basic awareness of the large land area potentially affected by earthquakes as opposed to a narrow seaboard strip by tsunamis. Only earthquakes or tsunami.

**Level 2 – Generic Descriptors (4-5)**

Fuller knowledge/understanding with reference to examples of either earthquakes and/or tsunamis.

**Level 3 – Generic Descriptors (6-7)**

Detailed awareness of the contrasting ways in which the two impacts occur, possibly suggesting an inter-relationship between them. Judicious comment regarding the density of human settlement, technical capacity, MEDW/LEDW, tourism, etc., near the coast. Fuller knowledge/understanding with secure exemplification and text rich in detail. Comes to a supported view. (7 marks)

3 (a)

Possible content	Cold	Warm	Marks
Temperatures	Snowfall and base temperatures well below freezing	Air temperatures around freezing depending on season.	1-2
Location	Only polar (Antarctica & North Greenland).	All remainder – the majority (temperate).	1-2
Sub glacial process (Pressure of ice depresses melting point up to 3° below 0°C).	Temperature well below freezing point so ice is frozen to bedrock.	Variable basal melting (Other sources of heat include friction with bedrock, shearing within ice mass, latent heat of freezing, meltwater, possibly geothermal).	1-2
Rate of movement	Very slow	Variable with season; more rapid than cold base glaciers.	1-2
Meltwater	Negligible	Can be considerable	1
Glacial budget	Smaller	Larger	1
Errusive ability	Smaller	Larger	1-2

An answer that deals solely with one kind of glacier Max 2. **(4 marks)**

- (b) Changes in climate leading to decreases in input (snowfall etc.) and increases in output (higher temperatures leading to increased melting) (1-2).

Comments ref accumulation versus ablation with appropriate detail (1-3).  
Judicial comment regarding glaciers not actually retreating but rather melting. (1).  
Clear use of the data to show varying rates of change (1-2).

Global warming, if explained, has some credit (1-2). **(4 marks)**

- (c) Note that the questions says “account for” – this requires explanation(s). It also refers to ‘landforms’ NOT landscape. Topic covered is wide ranging and can reasonably include some of the following: Glacial deposition, drumlins, moraines of various types etc., fluvio-glacial deposition, outwash plains, kames/terraces, eskers etc. NB this does **not** include erosive features (unless there is a clear argument that these features are only revealed by melting of the glacier) nor does it include periglacial features.

**Level 1 – Generic Descriptor (1-3)**

Basic description of one or two landforms with little or no attempt to explain them.

**Level 2 – Generic Descriptor (4-5)**

Fuller knowledge/understanding with reference to processes involved in the development of some landforms. Elements of explanation present.

Maximum 4 marks for detailed account of only one kind of landform and associated process(es).

**Level 3 – Generic Descriptor (6-7)**

Detailed awareness of a variety of different landforms – fuller knowledge/understanding with secure explanations and text rich in detail – maybe some attempt to classify land forms. Obvious explanatory approach and context. **(7 marks)**

## Mark Scheme for Synoptic Essays

### Preamble

Examiners should bear in mind that these questions are synoptic in nature and offer candidates the opportunity to demonstrate knowledge and understanding:

1. across a range of geographical subject matter;
2. of connections between the different aspects of geography in the specification;
3. of the importance, where relevant, of human perspectives on themes and issues.

Candidates are advised of this both in the Assessment Unit Rubric and in the Note to Candidate which precedes the essay questions in Section B. Synoptic elements might therefore feature in answers matching all the criteria bands but can be expected to feature more prominently in higher mark bands. It will be seen that explicit synoptic content is a necessary feature of the two band ranges 21-27 and 28-30.

Additionally, essay writing is an important vehicle for the demonstration of communication skills – at level 3 these refer to writing in a manner appropriate to purpose and complex subject matter; organising relevant information clearly and coherently using specialist vocabulary as appropriate and ensuring clarity of meaning through legible text, accurate spelling, punctuation and grammar. (Key Skills – Communication Level 3 C3.3 [QCA]; Para. 13 AS/A Level Geography Specification Outlines [QCA].

Synoptic content and communication aspects should be kept in mind when assessing the unit and are incorporated into the criteria bands set out below which refer to knowledge, understanding and skills. Indicate synoptic content using the letter ‘s’ in the margin as appropriate.

### CRITERIA BANDS

Examiners will use the criteria below to evaluate the work, placing the candidate’s performance in the appropriate band and attributing the mark from the left-hand column appropriate to the question concerned. They should seek the best fit from the band descriptor – work adjudged to be in a particular band might not contain all the features attributed to that band.

#### **28 – 30**

A very good answer. Consistently relevant to the theme and to the demands of the question. Evaluates explicitly where required. Displays a very confident range of knowledge and understanding by using the appropriate terminology, critically referring to concepts and theory where necessary and establishing relationships between different physical and/or human factors and processes. Synoptic elements are a prominent feature and are fully integrated into the answer and used to purposeful effect in respect of the question’s requirements. Demonstrates, where relevant, either implicitly or explicitly awareness of human perspectives upon geographical themes and issues. Argues coherently and in an organised, logical and balanced fashion. Support is consistent, accurate and detailed. A well developed essay style. Detailed and sophisticated communication skills with fluent and cogent writing style.

**21 – 27**

A good answer which remains relevant to the theme and demands of the question. Evaluation may now only be implicit. Displays a confident range of knowledge and understanding, but with a few omissions at the lower end, e.g. some terminology missing or some pertinent relationships left unexplored. Synoptic elements should be a feature of the answer and seen to be meeting the questions requirements. Some possibly rather uncritical reference to theory; some reference to awareness of human perspectives and decisions taking on geographical issues and problems. Argues well, but organisation may be suspect in places. Support is invariably there, but may not always be detailed. A competent essay style. Effective communication skills with accurate spelling, punctuation and grammar.

**14 – 20**

A satisfactory answer ranging down to the mediocre, which always attempts, but not always succeeds to be relevant. Lacking in evaluation. Displays a reasonable grasp of knowledge, but understanding is suspect in places. Relevant theory and concepts might be mentioned but with basic uncritical application. The interconnections and relationships between different physical and/or human processes are briefly mentioned but understanding of their significance is limited. There is some synoptic content which is relevant to the question. Argument and analysis are partial and become less significant in relation to mere description. Increasingly unbalanced as an answer, and the logic and organisation are clearly deficient. Support is not detailed here, occasionally inaccurate and barely consistent. The bare bones of an essay format. Appropriate communication skills so that meaning is almost invariably clear with adequate language skills. Possibly some spelling/punctuation/grammar errors.

**7 – 13**

A very mediocre answer which is only occasionally relevant to both the theme and the demands of the question. Decidedly deficient in knowledge and understanding with only simplistic notion of relevant theory and concepts. Little if any relevance to inter-relationships between physical and/or human processes and factors or subject matter from other elements in the specification. Increasing irrelevance in a predominantly descriptive context. Clearly lacks an ability to organise material and may drift into another answer. Support is scanty and usually suspect. A weak, barely perceptible, essay format. Basic communication skills – many spelling errors and/or oddities of grammar and punctuation.

**1 – 6**

A very weak answer which shows little attempt to follow the theme and the demands of the question. A very low level of knowledge and understanding, with even the simplest of concepts avoided. Very inaccurate and may completely miss the point. No idea of how to organise material with haphazard format, evidence of guesswork and little or no support. No attempt at an essay format. Little or no language and communication skills. Many errors in spelling, punctuation and grammar.



**4 Discuss the view that however and wherever people interfere with coasts it is merely a temporary occurrence.**

This question is designed to enable candidates to engage in a wide variety of management strategies, different locations and requires a measured view of ‘interference’. The key operator in the question is “temporary”, this requires a measured view, not only of effectiveness of such strategies, but also in a temporal sense. Although much of the content may come from within the specification there are several clear pathways to include synoptic elements, including economic, political, social and tourism.

See generic scheme for criteria bands – examiners are reminded that clear synoptic content is required for credit of 21 and over.

Content may include:

- Flood protection schemes – e.g. Netherlands/Bangladesh
- Coastal protection: groynes, revetments etc.
- Sand dunes and salt marshes – including large scale replenishment schemes.
- Coastal barrages – including cost-benefit.
- Hard/soft engineering – success and failure?
- Some idea of time scale – coastal management is extremely recent in terms of geological time.
- Some different types of management may fare better than others.
- Inevitability of seas’ processes – complicated by Global Warming issues including rising sea levels and increased storminess of weather patterns as well as isostasy.
- Economic demands may be important – this may well lead to an LEDW/MEDW view.
- Changing political demands and scenarios
- Non-deliberate/accidental interference in coasts, such as dredging, down-drift impact etc.

A descriptive case study or series of examples of coastal management with no explicit relationship to the question but from which an answer may be inferred is unlikely to achieve more than 16 marks. Such a response with concluding comment which refers clearly and explicitly to the terms of the question and which offers some reason(s) as to why these strategies are indeed a temporary occurrence (or otherwise) may achieve 20 marks.

In order to achieve more than 20 marks candidates should **either** attempt the question of ‘temporary’ **and/or** have examples from more than one location. If the latter is the case, then, to access the Very Good band candidates should also address the question of “temporary”.

It is hoped that the better answers will also embrace the term ‘merely’ – hopefully pointing out the large proportion of the world’s cities/populations which inhabit areas close to the coast.

Discussion requires a debate to be held and a view should be stated. Any reasonable conclusion can be credited providing it is measured, realistic and related to essay content.

**Total for this question: 30 marks**

**5 Discuss the view that attempts at management of geomorphological hazards are a waste of time and effort.**

This question is designed to enable candidates to engage in discussion of a wide variety of management strategies and different locations. It requires a measured view of the effectiveness of the management of geomorphological hazards.

A sound essay will possibly attempt to define “geomorphological” and “hazards” and it is to be hoped that many will engage with a “waste of time and effort”.

See generic scheme for criteria bands – examiners are reminded that clear synoptic content is required for credit of 21 and over. Synoptic elements could include river flooding, LEDW v MEDW, broader resource management impacts of tourism etc.

**Possible content with some exemplars:**

Science/knowledge	Plate tectonics/river basin runoff/slope analysis etc.
Prediction and relative success	Earthquakes (e.g. Loma Prieta, California v Izmit, Turkey) Volcanic eruptions (e.g. Mount St. Helens) River floods (e.g. Environment Agency flood warnings) Tsunami warning systems.
Prevention	Fault lubrication, explosives in caldera, slope stabilization on routeways, flood barriers.
Adaption and reducing impact	Building and retrofitting. Japan’s Earthquake Day. Planning restrictions on flood plains, storm drains.
Secondary hazards	Limits to emergency services, technical skills, access, etc.

A judicious comment that geomorphological hazards occur in a variety of temporal and spatial scales and at varying intensities carries credit. This could be linked to comments regarding varying management strategies and their relative effectiveness (or otherwise as the case may be).

Since the questions states “hazards” in the plural, an answer that only refers to one type of hazard, no matter how well written and argued, cannot move above the “satisfactory” band.

A descriptive case study or series of examples of hazard management with no explicit relationship to the question but from which an answer may be inferred is unlikely to achieve more than 16 marks. Such a response with concluding comment which refers clearly and explicitly to the terms of the question and which offers some reason(s) as to why these strategies are indeed a waste of time and money (or otherwise) may achieve 20 marks.

“Discuss” clearly requires a view. Any view is acceptable, providing the answer supports such a view. Many may well come to a fairly balanced opinion, with many opting for the LEDW/MEDW approach, suggesting that there is a distinct difference in effectiveness. A more measured comment that “waste of time and money” is a relative issue (and may well depend on values and viewpoints) is valid.

**Total for this question: 30 marks**

**6 To what extent does the development of cold environments involve conflicts between environmental sustainability and economic pressures?**

This question is intended to enable candidates to engage in a wide range of issues and conflicts concerning the development of cold environments. In particular this concerns sustainability (especially with reference to wilderness areas).

Although much of the content may come from within the specification there are several clear pathways to include synoptic elements, including economic, political, social and tourism.

See generic scheme for criteria bands – examiners are reminded that clear synoptic content is required for credit of 21 and over.

Possible content:

- This probably calls for the Conservation versus Economic exploitation approach.
- And will probably include Southern Ocean issues of over-fishing versus conservation – whaling, etc.
- Traditional Inuit/Sami culture versus exploitation of fur/oil, etc. Social impact is relevant when related to environmental sustainability.
- Use of case studies such as the Alps, Lake District and/or Snowdonia are appropriate in this context.
- Negative impacts are, of course, very relevant but should not be to the exclusion of other factors.
- The place of scientific research is also relevant.
- There are also issues outside this particular conflict such as military/strategic ('Son of Star Wars'/Russian border disputes) political demands (including that of the world oil situation), increasing tourism – this may be a route to achieving more than 20 marks.
- The view may be taken that development is actually more affected by the difficulties of living in such areas. This opens up issues of buildings, transport and mere existence. However, this should not dominate the answer to the exclusion of other issues.

Judicious comments that this is not a polarised conflict and that compromises such as the Alaskan pipeline and the Antarctic Treaty for research only are already in place are creditworthy and, if supported, can raise the answer above the 21 mark threshold.

There is some credit for indicating that the conflicts have changed over time because of different perspectives and demands. An awareness of the values of the decision-makers is also relevant.

A descriptive case study or series of examples of development with no explicit relationship to the question but from which an answer may be inferred is unlikely to achieve more than 16 marks. Such a response with concluding comment which refers clearly and explicitly to the terms of the question and which offers some reason(s) as to why these developments are indeed such a conflict (or otherwise) may achieve 20 marks.

A clear debate concerning extent and a measured and supported conclusion is required to achieve more than 20 marks.

**Total for this question: 30 marks**