

Version 0.1



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

Geography

GEOG2

(Specification 2030)

Unit 2: Geographical Skills

Post-Standardisation

Mark Scheme

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 events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised 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 students' 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.

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GEOG2 General Guidance for GCE Geography Assistant Examiners

The mark 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.

Marking – the philosophy

Marking is positive and not negative.

Mark schemes – layout and style

The mark scheme for each question will have the following format:

- a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
- b) Mark scheme containing advice on the awarding of credit and levels indicators.

Point marking and Levels marking

- a) Questions with a mark range of 1-4 marks will be point marked.
- b) Levels will be used for all questions with a tariff of 5 marks and over.
- c) Two levels only for questions with a tariff of 5 to 8 marks.

Levels Marking – General Criteria

Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the “triggers”. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates’ performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during the standardisation process. In broad terms the levels will operate as follows:

Level 1: attempts the question to some extent (basic)

An answer at this level is likely to:

- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification or application of principle
- give a basic list of characteristics, reasons and attitudes
- provide a basic account of a case study, or provide no case study evidence
- give a response to one command of a question where two (or more) commands are stated e.g. “describe and suggest reasons”
- demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

Level 2: answers the question (well/clearly)

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
- give a number of characteristics, reasons, attitudes
- provide clear use of case studies
- give responses to more than one command e.g. “describe and explain..”
- demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

CMI+ annotations

- The annotation tool will be available for levels response questions.
- Where an answer is marked using a levels response scheme the examiner should annotate the script with 'L1', 'L2' or 'L3' at the point where that level has been reached. At each point where the answer reaches that level the appropriate levels indicator should be given. In addition examiners may want to indicate strong material by annotating the script as “Good Level...”. Further commentary may also be given at the end of the answer. Where an answer fails to achieve Level 1 zero marks should be given.
- Where answers do not require levels of response marking, the script should not be annotated. For point marked questions where no credit-worthy points are made, zero marks should be given.

Other mechanics of marking

- Various codes may be used such as: ‘rep’ (repeated material), ‘va’ (vague), ‘NAQ’ (not answering question), ‘seen’, etc.
- Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

1 (a) Notes for answers**(5 marks)**

The River Derwent's source is Bassenthwaite Lake (200321). It starts its journey north before veering west through undulating terrain. To the south, the valley is steep, with contours showing a rapid increase in height to 200 metres. To the north, the valley experiences more gradual changes in altitude. The channel meanders through this terrain and altitude gradually decreases. There is some evidence of the development of flood plain as the river enters Cockermouth with an increase in size/extent and frequency of meanders (e.g. grid square 1433). The right bank of the Derwent becomes markedly steeper around Wood Hall Farm (1232). A confluence is evident in Cockermouth at 121308. Following this there is little evidence of the channel increasing in width. The channel continues west as altitude decreases. The valley also becomes more urbanised around Cockermouth.

AO3 - 5**Level 1 (Basic) 1-3 marks**

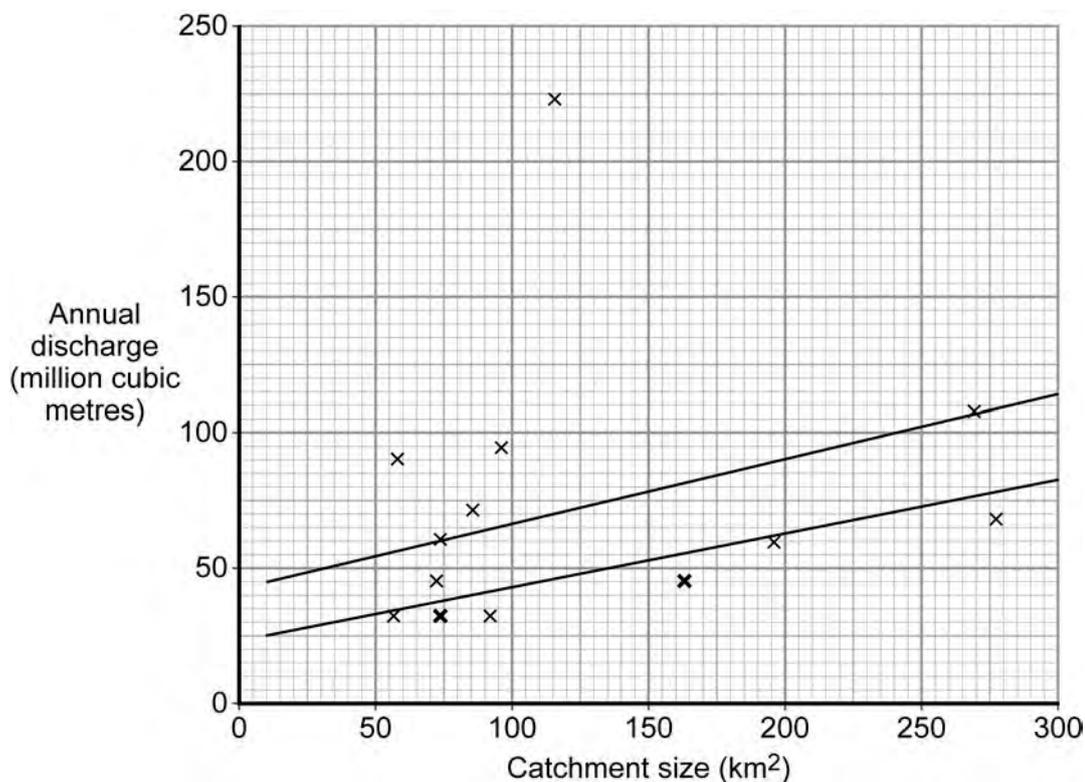
A basic understanding which may show an awareness of the direction and distance of the Derwent but little else. Basic map references through place names may be apparent, but reference to other rivers affecting the Derwent, grid references and use of contours are likely to be lacking. Vague reference to channel/valley characteristics.

Level 2 (Clear) 4-5 marks

Detailed awareness of the changing valley, in terms of direction, distance, appropriate use of grid references and contour lines. An awareness of the changing topography and reference to other rivers joining the Derwent. Specific reference to changing channel characteristics for Level 2. Both channel and valley change for Level 2.

1 (b) (i) 1 mark per valid plot (Accept 75 km² for River X catchment size)
2x1**(3 marks)**

1 mark for appropriate best fit line.

AO3 - 3

1 (b) (ii) Allow 1 mark per valid point plus additional credit for developed points (d). **(4 marks)**

e.g. There is a positive correlation between catchment size and discharge
 i.e. the bigger the catchment size the greater the annual discharge (d).
 Identification of the anomaly must be precise with reference to 115 (+/-1) and 223
 (+/-1). Evidence of clustering around
 50-100km² and 30-100million cubic metres. Use of data for support (d).
 Some may point to variation in annual discharge in similar sized catchments or
 other anomalies. Allow anomaly to be identified on graph provided this is referred
 to in description.

AO2 – 2
AO3 – 2

1 (c) Notes for Answers **(5 marks)**

There are a variety of ways of answering this question. Some may focus on the
 strengths of the mapping techniques. The map shows:

AO1 – 2
AO3 – 3

- variation in concentrations between data sets. This becomes apparent
 more easily than through analysis of data alone
- spatial patterns.

Another approach might be to exemplify by reference to the actual data displayed
 on the figure itself.

Some may focus on the limitations of the usefulness of the technique. The map
 gives the misleading impression that all places within the given area experience
 the same conditions which may not always be the case. They also suggest sharp
 changes at boundaries which again is not accurate. Also too many classes may
 be considered confusing. The colour scheme on this particular map may be
 criticised for the curious gradation. Lack of place names or other features is
 another valid criticism.

Level 1 (Basic) 1-3 marks

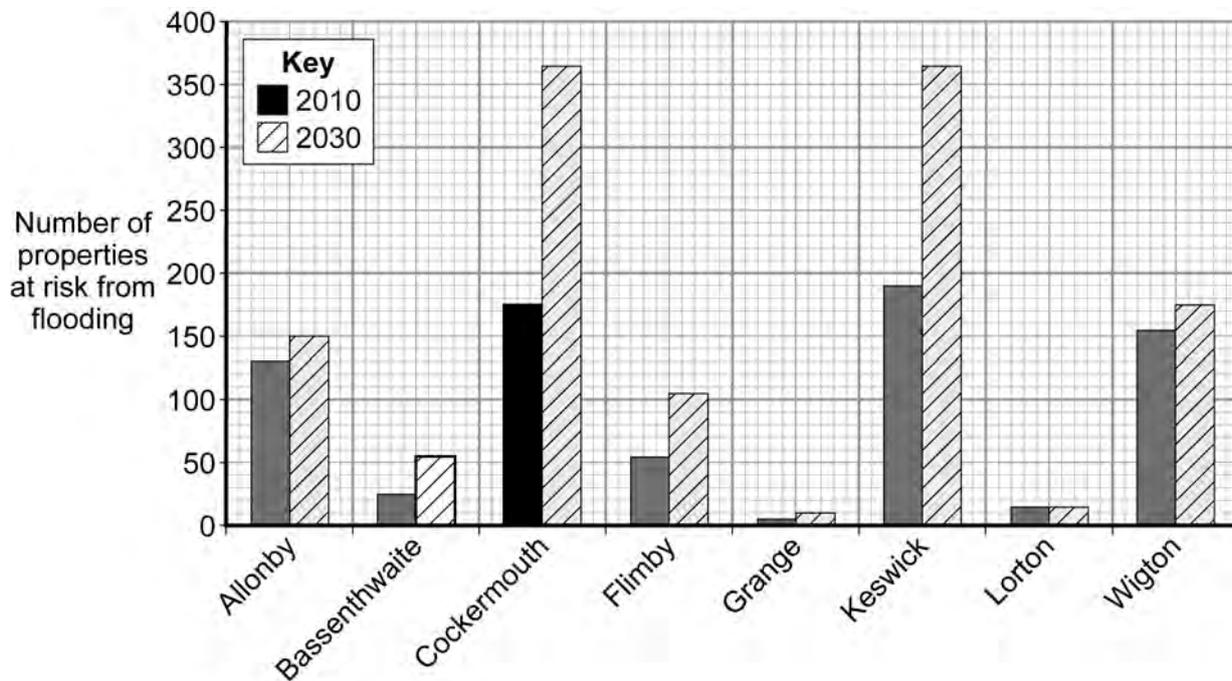
Likely to be implicit regarding usefulness, with heavy reliance on describing the
 data shown in Figure 3. May not explicitly consider the usefulness in terms of
 strengths and limitations. Likely to focus on positives of what can be seen or
 consider only very basic limitations.

Level 2 (Clear) 4-5 marks

At the bottom end may still be rather implicit but begins to engage more critically.
 May exemplify with use of data from Figure 3. May consider usefulness in terms
 of limitations of the technique. For full marks must make explicit references to the
 usefulness or advantages/drawbacks of the technique.

- 1 (d) (i) 1 mark per accurate plot (see below). Must include use of key (-1 mark if no key or incorrect key). (2 marks)

AO3 - 2



1 (d) (ii) Notes for answers (6 marks)**Description****AO1 – 4
AO3 - 2**

This should point to the wide variation in both 2010 and 2030 properties at risk from flooding. Some settlements have barely any risk either in 2010 or in the future. Settlements such as Grange and Lorton are barely affected. Lorton, for example, has only 15 properties at risk and this number is not expected to grow in the future.

Other settlements have substantially greater numbers of properties threatened and it is these which are also expected to experience even greater risks from future flooding. Keswick and Cockermouth have the highest current risks to properties but are also expected to see the greatest increases.

There should be specific use of data to support description.

Comment

Factors affecting flooding may be considered. These might include suggestion around the following:

- Proximity of these settlements to rivers and other water sources.
- The size of the settlements i.e. bigger settlements are likely to have more properties.
- Flood management schemes may be referred to where there are only small or no increases.
- Other generic factors such as relief, urbanisation (drainage systems), soil compaction, effects of deforestation would all be valid in this context.

Some may also consider climate change as a possible comment in relation to the increased number of properties at risk from flooding.

Level 1 (Basic) 1-4 marks

Basic description which shows awareness of variation in number of properties at risk from flooding. Data not well used in support and comment offered is basic and dubious. May be unbalanced and fail to offer comment.

Level 2 (Clear) 5-6 marks

Must describe and comment for Level 2. Detailed description which shows awareness of variation but also uses data effectively to support response. May include manipulation of data as a feature of a top end response. Also shows an awareness of the disproportionate increase in some settlements which are currently prone to larger number of properties likely to be affected by flooding. Comment is detailed and appropriate given the context.

2 (a)	<p><u>Notes for answers</u></p> <p>Candidates should describe the overall aim of the enquiry i.e. what they set out to achieve or find out. Some may go further and consider objectives set in order to achieve an overall aim. This is an acceptable approach.</p> <p>The aim should link to some aspect of the specification.</p> <p>E.g. We were investigating the link between load shape/size and distance from source along the river. The aim was to find out the extent to which theories such as those proposed by Bradshaw applied to the river we were investigating. We were interested to see if load size became smaller and shape became more rounded as various erosional processes affect the load along the river's course. Some responses may also consider hypotheses and/or research questions. This is acceptable.</p> <p>Level 1 (Basic) 1-4 marks Brief description showing only a basic understanding of the purpose of the enquiry. Basic detail and likely to be vague in terms of purpose. Limited awareness of underlying theory, concepts or issues. May not get beyond aim and hypothesis.</p> <p>Level 2 (Clear) 5-6 marks Detailed description which shows a clear awareness of the purpose of the enquiry. Detailed and specific in terms of theory, concept or issues. May offer specific local characteristics, linking this to overall purpose.</p>	<p>(6 marks)</p> <p>AO2 – 2 AO3 – 4</p>
2 (b)	<p><u>Notes for answers</u></p> <p>Any appropriate sampling technique can be referred to. Most responses will focus on random, systematic or stratified approaches, though combinations within this are also possible. The sampling technique should be described in such a way that it is easy to follow and replicate in the field, though due account should be given to the amount of time candidates have to answer the question. Another approach might be to describe secondary data sampling.</p> <p>e.g. I used a combination of systematic and stratified sampling in order to identify the area for our housing quality survey. We first used a 1:25 000 OS map of our study area and identified regular grid line intersections across the study area. We knew that the lower class housing area of Oakwood was much larger than Locking Stumps (a higher class housing area). This technique would therefore also have an element of stratification, in that more properties would be surveyed in Oakwood. Once we identified the grid intersections, we then located the nearest property to the grid intersection and this became the survey site for our environmental and housing quality survey.</p> <p>Level 1 (Basic) 1-3 marks A basic description of sampling method which at the bottom end may not be appropriate. There are likely to be gaps, errors or omissions. Difficult to replicate from information. Gives a sense that the candidate has not fully understood the sampling process. Likely to focus on description of method with sampling only implicit.</p> <p>Level 2 (Clear) 4-5 marks Clearly appropriate sampling method though there may be omission at the bottom end. Easy to follow and replicate in the field based on description given. Appropriate use of terminology and a clear sense that the candidate understands the sampling process.</p>	<p>(5 marks)</p> <p>AO2 – 2 AO3 – 3</p>

2 (c) Notes for answers **(6 marks)**

Statistical techniques are likely to feature in many responses. Techniques beyond the scope of the specification are entirely acceptable. It is important to note that it is not the complexity of the technique which is being examined, it is the justification in terms of it being an appropriate tool of analysis for the data set chosen. Basic responses are likely to focus on the ease of the technique and then drift into description of its use.

AO2 – 2
AO3 - 4

Some responses may choose a technique more associated with presenting data (such as a scatter graph). Provided there is clear justification in terms of how this aided analysis, then this is an acceptable approach also. Some may justify by rejecting other less appropriate techniques.

Another approach might be to link one or more techniques as part of the same analysis, e.g. scatter graph and Spearman's test. This is acceptable.

e.g. I chose standard deviation because I was looking at the spread of sediment size data around the mean. Having identified that load size does decrease with distance from source, I wanted to check the reliability of the mean. From looking at the sample of data at each site there did look to be a lot of variation between different clasts. When there is a large standard deviation for this set of data, this would bring into question the reliability of the mean and would point towards the use of other techniques to further analyse my sediment data. A smaller standard deviation score would suggest a reliable mean thus allowing me to accept my hypothesis with greater certainty.

Level 1 (Basic) 1-4 marks

At the bottom end describes the use of an analysis technique. Justification implicit or basic (e.g. it was an easy technique to use). May only engage in a basic way with the candidate's own data.

Level 2 (Clear) 5-6 marks

Clear evidence of justification for Level 2. There may still be some description at the bottom end. For full marks the response is clearly focused on the justification of the technique in relation to the set of data being analysed.

2 (d)Notes for answers**(8 marks)**

This is an opportunity to summarise the conclusions of the study and reflect on the further developments which could be made. The question is likely to provide a variety of approaches in response. In concluding, responses should make statements which are likely to involve revisiting the original aim and, where appropriate, draw on actual data.

AO2 – 4
AO3 - 4

In suggesting further areas of enquiry, responses are likely to focus on:

- Improvements to methods and/or sampling
- New study sites in a future study, perhaps involving different time frames
- Repeating the study
- A new line of enquiry arising out of the study which may point to an entirely new study based on the findings of the original enquiry.

Level 1 (Basic) 1-4 marks

Concluding statements are basic and lacking detail. Limited use of results to support conclusions. Further areas of enquiry are basic or absent at the bottom end and are not clearly linked to the actual outcomes of the original study.

Level 2 (Clear) 5-8 marks

Concluding statements are more detailed with clear use of data or findings to support conclusions. Conclusions may link to original purpose and develop/revisit underpinning theory. Further areas of enquiry arising out of these conclusions are relevant/appropriate to further develop an understanding of the area under investigation.