Version 1.0 0712

General Certificate of Secondary Education
June 2012

Geography B 40352H

(Specification 4035)

Unit 2: Hostile world (Higher)

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 candidates' 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 candidates' 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 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.

Set and published by the Assessment and Qualifications Alliance.

The Assessment and Qualifications Alliance (AQA) is a company limited by guarantee registered in England and Wales (company number 3644723) and a registered charity (registered charity number 1073334).
Registered address: AQA, Devas Street, Manchester M15 6EX.

General Certificate of Secondary Education

AQA GEOGRAPHY B

HIGHER TIER MARKING SCHEME

Unit 2 (40352H)

GENERAL GUIDANCE FOR GCSE GEOGRAPHY ASSISTANT EXAMINERS

Quality of Written Communication

Where candidates are required to produce extended written material in English, they will be assessed on the quality of written communication.

Candidates will be required to:

- present relevant information in a form and style that suits its purpose;
- ensure that text is legible and that spelling, punctuation and grammar are accurate;
- use specialist vocabulary where appropriate.

Levels Marking – General Criteria

Where answers are assessed using a level of response marking system the following general criteria should be used.

Where an answer fails to achieve Level 1, zero marks should be given.

Level 1: Basic

Knowledge of basic information
Simple understanding
Few links; limited detail; uses a limited range of specialist terms
Limited evidence of sentence structure. Frequent spelling, punctuation and grammatical errors.

Level 2: Clear

Knowledge of accurate information
Clear understanding
Answers have some linkages; occasional detail/exemplar; uses some specialist terms where appropriate
Clear evidence of sentence structure. Some spelling, punctuation and grammatical errors.

Level 3: Detailed

Knowledge of accurate information appropriately contextualised and/or at correct scale
Detailed understanding, supported by relevant evidence and exemplars
Well organised, demonstrating detailed linkages and the inter-relationships between factors
Range of ideas in a logical form; uses a range of specialist terms where appropriate
Well structured response with effective use of sentences. Few spelling, punctuation and grammatical errors.
Level 3 does not always equate to full marks, a perfect answer is not usually expected, even for full marks.

Annotation of Scripts

- One tick equals one mark, except where answers are levels marked (where no ticks should be used). Each tick should be positioned in the part of the answer which is thought to be creditworthy.
- Where an answer is levels marked the examiner should provide evidence of the level achieved by means of annotating 'L1' or 'L2' in the left-hand margin.
- The consequent mark within this level should appear in the right-hand margin.
- Ticks must not be used where an answer is levels marked.
- Examiners should add their own brief justification for the mark awarded, e.g. *Just L2, reasonably accurate knowledge or some clear understanding*.
- Where an answer fails to achieve Level 1, zero marks should be given.

General Advice

Marks for each sub-section should be added in the right-hand margin next to the maximum mark available which is shown in brackets. All marks should then be totalled in the 'box' at the end of each question in the right-hand margin. The totals should then be transferred to the boxes on the front cover of the question paper. These should be totalled. The grand total should be added to the top right-hand corner of the front cover. No half marks should be used.

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 creditworthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

Diagrams are legitimate responses to many questions and should be credited as appropriate. However contents which duplicate written material or vice versa should not be credited twice.

Quality of Written Communication (QWC) is part of the award of marks in levels marked answers only. In levels marked answers the quality of the geography is assessed and a level and mark awarded according to the geography. As is sometimes the case, the geography may be sound at a particular level but the examiner may not be sure as to whether there is quite enough to raise the mark within that level. In this case the examiner should consider the QWC of the answer. QWC that fulfils the criteria for the level should lead to the rise in the mark but where the QWC does not fulfil the criteria, the answer should remain at the mark first thought appropriate. In cases where QWC has been used in the award of marks, the examiner should indicate this with QWC and arrows that indicate either an upward or downward trend according to its impact on the final award of the mark.

Section A – Living with Natural Hazards

1(a)	2x1 250 km to 400 km from the Eurasian/Indo-Australian plate boundary (1) and Eurasian/ Philippine plate boundary (1) in a chain running the length of Sumatra and Java. Accept other valid points describing the distribution. Plate boundary needs qualification (name/ distance). '*On the Eurasian plate*' needs qualification e.g. '*on the southern edge of the Eurasian plate'*. Correct use of latitude and longitude can aid description e.g. '*in an arc (1), running from 5 degrees north to 10 degrees south (1)* Accept *'more south of the Equator'*	***(2 marks)***
1(b)	**Level 1 (Basic) 1-3 marks** Refers to Figure 1 – Names plates (once only), on a plate boundary, gives a basic idea of convergence (not just plates are moving). . *E.g. Indo-Australian plate moving towards Eurasian plate. One plate pushed below another. As plates move there are shock waves*. Elaboration is very limited. Discrete statements that are not linked. **Level 2 (Clear) 4-5 marks** Gives clear indication of process, linking statements. *E.g. Indo-Australian plate subducted beneath Eurasian plate. As plates move, they snag and tension builds up. A sudden movement sends out shock waves, which causes earthquakes in Indonesia.*	***(5 marks)***
1(c)(i)	2×1 On Island of Sumatra, 300km from or north of equator (Accept 250-400km), 1200 to 1500km NW of Jakarta. NW Indonesia (accept N+W of Indonesia). Reject 'near the equator', 'north of the equator'. Only accept near plate boundary if qualified with names and distance.	***(2 marks)***
1(c)(ii)	1x1 Reference to not thought to be dangerous/dormant/It had not erupted for 400 years; (do not accept "a long time"). Showed no signs of eruption. No warning given. Reject not expecting an eruption where they live/ don't usually get volcanic eruptions in the area. Accept: not monitored, not trained staff/ can't afford to move. Too many volcanos to monitor them all.	***(1 mark)***
1(c)(iii)	4x1 or 1x1 for developed points Responses from Figure 2, plus own knowledge needed. *E.g.* (*19 000 people were evacuated) (emergency shelters) (the government set up food kitchens for the refugees) (gave out 7000 masks) (closely monitored by scientists) (people not allowed to return to their homes*) Aid – some qualification (blankets/ tents) water – once only. Accept 'food aid', treat as the same as 'food kitchens.' Other non-Figure 2 response(s) are also needed, i.e. own knowledge. Reserve 1 mark for own knowledge e.g. flights cancelled, exclusion zones.	***(4 marks)***

1(d)	**Level 1 (Basic) 1-2 marks** Lists simple statements without development of ideas. *E.g. cross-bracing, base isolator* (from Figure 3); other non-Figure 3 responses are also acceptable *e.g. build bamboo houses, retrofitting, building codes. Ideas on 'strengthening the building' must be qualified.* **Level 2 (Clear) 3-4 marks** Clear descriptions with development of ideas. *E.g. they could build earthquake proof buildings with X structures to prevent twisting. They could build bamboo houses that will not collapse when an earthquake strikes as they are flexible and move with the shockwaves, etc*. Reserve 1 mark for own knowledge. Reinforced glass/ window shutters acceptable as methods. Development must be they reduce damage to buildings not people e.g. falling glass. Reject: secure objects to the wall.	***(4 marks)***
2(a)(i)	3×1 North-west, 15 ($\pm$1), Tropic of Capricorn	***(3 marks)***
2(a)(ii)	**Level 1 (Basic) 1-2 marks** Tropical storms: gives a basic idea of process. Elaboration is very limited. *E.g. formed when warm air rises, need warm oceans to form, 27° and over are ideal conditions for tropical storms to form*. **Level 2 (Clear) 3-4 marks** Gives clear indication of process/cause, linking statements. *E.g. Formed when warm air rises and starts to spin due to the earth's rotation, heating causes evaporation on the surface of the water, warm air rises, etc.* **Level 3 (Detailed) 5-6 marks** Detailed indication of process/cause. Well linked statements. *E.g. ideal conditions over warm oceans where sea surface temperatures are over 27°C, heating causes evaporation on the surface of the water, warm air rises and starts to spin due to the Coriolis effect.* Diagrams are acceptable.	***(6 marks)***
2(b)(i)	2×1 Any two correct changes; increase by at least 1°C all around the coast, increase by at least 1.5°C above Tropic of Capricorn, highest increase off SE coast (2°C). Accept SW increases by 1 °C, there has been an overall increase.	***(2 marks)***

2(b)(ii)	4x1 or 1+1 for developed points. Number of tropical storms could increase/become more frequent (1), length of tropical storm season could increase/more tropical storm days (1), strength of tropical storms could increase/more severe storms/become more destructive (1), range of tropical storms could increase/areas that did not get tropical storms in the past could experience them (1). Accept case study examples/evidence (1). E.g. Developed point – more areas have higher sea temperatures (1) so more places will get tropical storms (1).	***(4 marks)***
3(a)(i)	3×1 B is hotter than A. Some working of figures (average/ median/ range).The month with the highest temperature at place A is July whereas, at place B it is August. The month with the lowest temperature at place A is May/Sept and at place B it is Sept. At place B the range of temperatures in the summer months is 8°C whereas, at place A it is 4°C.	***(3 marks)***
3(a)(ii)	1×1 B	***(1 mark)***
3(a)(iii)	**Level 1 (Basic) 1-3 marks** Limited elaboration from Figure 7. Limited development of ideas. Simple statements. *E.g. there are many tourists/campsites/holiday village/picnic sites* (once only), or vice-versa for area A. *More roads/railways/footpaths* (once only) *or people can easily access area and start fires or vice-versa for area A. Wind is off the land or wind is dry or vice-versa for area A. Many trees or much fuel for the fire or vice versa for area A. High summer temperatures or vice versa for area A.* **Level 2 (Clear) 4-5 marks** Clear explanation of risks with development of ideas. *E.g. there are many tourists/campsites/holiday village/picnic sites which increase the chances of wildfires as people start campfires which ignite dry vegetation and get out of control or discard cigarettes which ignite vegetation. More roads/railways/footpaths so people can easily access area and start fires (as above) or sparks from engines/rail tracks can start fires. Wind is off the land and will be dry as no moisture is picked up as it does not cross any sea areas. Many trees to fuel the fire which will be dry due to the high summer temperatures* or vice versa for area A. Development could be case study examples beyond Figure 7.	***(5 marks)***

3(b)	**Level 1 (Basic) 1-4 marks** Simple statements without development of ideas. Yes: simple ideas about benefits of method. *E.g. Teaches people about the dangers of campfires, increases awareness of dangers, can inform others, aimed at children – helps them understand dangers, warns people that wild fires can be easily started, provides rules, forest rangers are on hand*. No: Simple ideas about why method is not effective or why others are more effective, i.e. not the best method, forest rangers can't get everywhere. *E.g. not all wildfires are accidents (arson), some wildfires are due to natural causes, it is better to prepare areas of land so the risk of wildfires is less, much better to spend money on effective fire-fighting – not adverts, etc*. Accept simple ideas about never being able to beat the forces of nature. Points from resource need some simple elaboration – not just copying out the bullet points. **Level 2 (Clear) 5-6 marks** Clear reasons with development of ideas. Yes: clear reasons why method brings benefits, i.e. is the best method. *E.g. Raises awareness of consequences of actions and people will know the safest spot to build a campfire and what action to take to ensure that it is safely extinguished*. Development may be case study examples. E.*g. targets children as children are the cause of many wildfires; in 2007, a wildfire north of Los Angeles in California, was started by a boy playing with matches. In NSW, Australia, 13% of all wildfires are started by campfires.* No: clear reasons why method is not effective or why others are more effective, i.e. not the best method. Development may be case study examples. *E.g. not all wildfires are accidents; many are caused by arson. In NSW, Australia, 13% of all wildfires are started by campfires, but 37% were started deliberately. Some wildfires are due to natural causes such as lightning or spontaneous heating – the poster won't stop this. It is better to prepare areas of land so the risk of wildfires is less, methods such a back burning or leaf litter collection would be more effective*. Accept clear ideas about never being able to beat the forces of nature.	***(8 marks)***

	Level 3 (Detailed) 7-8 marks Detailed reasons with continued development of ideas. Yes: detailed reasons why method brings benefits, i.e. why it is the best method. *E.g. raises awareness of consequences of actions and people will know the safest spot to build a campfire and what action to take to ensure that it is safely extinguished so that they do not leave them smouldering and paper or dry leaves can blow onto them and start a fire which can spread very quickly.* Continued development may be case study examples. *E.g. targets children as children are the cause of many wildfires; in 2007 a wildfire north of Los Angeles in California was started by a boy playing with matches; the Buckweed fire, which started on 21 October, and burned 153 sq km in the Santa Clarita area.* No: Detailed reasons why method is not effective or why others are more effective. Continued development may be case study examples, i.e. why it is not the best method. *E.g. not all wildfires are accidents, many are caused by arson. In NSW, Australia, 13% of all wildfires are started by campfires, but 37% were started deliberately by an arsonist – the poster won't stop this, money should be spent on fighting the fires, not preventing them. Some wildfires are due to natural causes such as lightning, volcanic eruptions or spontaneous heating – lightning is thought to cause 25% of all wildfires – the poster won't stop this. It is better to prepare areas of land so the risk of wildfires is less, methods such as back burning or leaf litter collection would be more effective and spend money on training fire-fighters, etc.* Accept detailed ideas about never being able to beat the forces of nature.	

SECTION B – The Challenge of Extreme Environments

4(a)(i)	2×1 The highest percentage (or figures) of forest clearance is in Sumatra and Kalimantan. The largest area (or figures) of forest clearance is in Sumatra and Kalimantan, or vice versa. Any other correct difference. More highland deforestation in Region B. More lowland deforestation in Region A	***(2 marks)***
4(a)(ii)	**Level 1 (Basic) 1-2 marks** Simple statements without development of ideas. Accept simple references to effects of climate on vegetation. *E.g. many plants are able to grow/grow all year round. High rainfall/temperatures.* **Level 2 (Clear) 3-4 marks** Clearly developed points. Accept clear references to effects of climate on vegetation. *E.g. much biodiversity as there is a continuous growing season.* Or gives developed responses that give examples of types of plants. *E.g. plants that are adapted to the heavy rainfall, such as those with drip tips. References* to stratification – layers develop as trees have to grow rapidly to reach sunlight. There are only shrubs on the forest floor due to shady conditions, etc. Credit clear descriptions of the climate characteristics at Level 2 with a simple link to vegetation. *E.g. temperatures of over 25°C all year and over 2000mm of rain per year mean the conditions are 'like a greenhouse'.*	***(6 marks)***

	Level 3 (Detailed) 5-6 marks Detailed effects with continued development of ideas. **Or** clearly develops more than two effects with development of ideas, i.e. a wider **range** of ideas. **Or** develops ideas relating to and linking climatic factors and vegetation in detail. *E.g. temperatures are high (over 25°C) and constant throughout the year. There is a small annual range of temperature as the sun is always at a high angle in the sky and monthly average temperatures can reach 28°C. This leads to daily convectional thunderstorms, meaning that annual rainfall is about 2000mm. This means that there is no growing season and the vegetation is always evergreen, luxuriant and lush, as plants are constantly and quickly being replaced as they die off because they grow so quickly in the 'greenhouse-like' conditions.* Very high rain means that plants have to adapt, they have drip tip leaves from which water can easily run off Continued development could be case study examples.	
4(b)	**Level 1 (Basic) 1-4 marks** Simple statements without development of ideas. Yes: simple ideas about benefits of approach, i.e. why it is the best method. *E.g. teaches people about the dangers of deforestation, increases awareness of dangers, can inform others, aimed at children – helps them understand dangers, etc. Covers many stakeholders – holistic.* Some simple development beyond the resource. *E.g. it restores damaged environment by replanting trees, etc.* No: simple ideas about why approach is not effective or why others are more effective, i.e. why it is not the best method. *E.g. not stakeholders are involved – local people are not involved, etc. Rainforests are in poor countries they need to cut down the forest. The population is increasing so more forest has to be cleared to get enough food. The forest products are worth a lot of money to the country, so they have to keep cutting trees down. Many people have to grow their own food and need to cut down the forest. Cost too much, takes too long for trees to grow back, never grow back properly, etc.*	***(8 marks)***

Level 2 (Clear) 5-6 marks
Clear reasons with development of ideas.

Yes: Clear reasons why method brings benefits. Development may be case study examples, i.e. why it is the best method.

E.g. teaches people about the dangers of deforestation, increases awareness of dangers, can inform others, this will encourage conservation and put pressure on governments, etc.

Some clear development beyond the resource.

E.g. it restores damaged environment by recreating topsoil and replanting local species of trees, etc. It will encourage people to be eco-friendly, they will learn to recycle products that come from rainforests.

No: clear reasons why method is not effective or why others are more effective, i.e. why it is not the best method. Development may be case study examples.

E.g. rainforests are in poor countries with a very low GNI, they need to cut down the forest as they are reliant on selling primary products. The population is increasing so more forest has to be cleared to get enough food. Many people have to grow their own food and need to clear large areas of forest using slash and burn methods for agriculture. Developing the rainforest for eco-tourism would be more effective as it provides jobs for local people and brings in money for conservation. They should trade carbon credits; this would be more effective as it means that the forests have more value if they are left to grow.

Level 3 (Detailed) 7-8 marks
Detailed reasons with continued development of ideas.

Yes: detailed reasons why method brings benefits. Continued development may be case study examples, i.e. why it is the best method.

E.g. raises awareness of consequences of actions. Teaches people about the dangers of deforestation, increases awareness of dangers, can inform others, this will encourage conservation and put pressure on governments, especially if people join environmental pressure groups such as Greenpeace or Friends of the Earth, etc.

Some clear development beyond the resource.

E.g. it restores damaged environment by recreating topsoil and replanting local species of trees that are quick growing and will keep the soil fertile by adding nutrients to it, etc. It will encourage people to be eco-friendly, they will learn to recycle products such as cardboard packaging that come from rainforests and substitute forest derived products for others, e.g. tropical hardwoods for plastic.

	No: Detailed reasons why method is not effective or why others are more effective, i.e. why it is not the best method. Continued development may be case study examples. *E.g. Rainforests are in poor countries with a very low GNI, they need to cut down the forest as they are reliant on selling primary products. The population is increasing so more forest has to be cleared to get enough food, the governments of less developed countries have other pressing problems to deal with and are not going to cut off a source of income – they might say to developed countries 'you chopped down your forests, why shouldn't we do the same?' Developing the rainforest for eco-tourism would be more effective as eco-tourism is the responsible development and management of tourism, which helps to preserve the environment as eco-tourism provides funds for conservation projects/provides jobs for local people (crafts, guides). They should trade carbon credits, this would be more effective as it means that the forests have more value if they are left to grow, this will bring in income for the country and persuade the government to actively protect what is then a valuable asset if it is left standing.*	
5(a)	3x1 West (accept NW), 72 (Accept 70-73), over 0.03	***(3 marks)***
5(b)	**Level 1 (Basic) 1-3 marks** Simple statements without development of ideas. Accept reference to: Polar environment *e.g. melting of ice sheets, threatens wildlife.* Tundra environment, *e.g. melting of permafrost, threatens wildlife.* Or a combination of both. Accept sea level rise. **Level 2 (Clear) 4-5 marks** Clear suggestions with development of ideas. Polar environment *e.g. melting of ice sheets alters marine ecosystem as food chain is disrupted/seal and penguin populations start to decline/invasive species, etc. Becomes more open to exploitation as shipping lanes are ice free.* Tundra environment *e.g. important habitats for polar bears/caribou are altered and threaten species. Becomes more open to exploitation as mineral extraction is easier.* To gain maximum mark, there must be a sense of place.	***(5 marks)***

5(c)(i)	1x1 Countries claimed territory in Antarctica so they could take fish and whales from the sea (1) or, discover whether minerals lay beneath the ice and whether these could be mined (1), scientific research (1). Reject 'To drill for oil'. Accept 'to potentially drill for oil'	***(1 mark)***
5(c)(ii)	2×1 in (longitudinal) wedges (1) 7 countries claimed territory (1) some countries claimed same territory (1) UK/Argentina claimed the same territory (1) three countries claimed/cluster of claims around Antarctic Peninsula (1) cluster of claims around the most accessible part of continent (1) Australia has claimed the most/ France the least (1) Accept: Some parts of Antarctica are unclaimed	***(2 marks)***
5(c)(iii)	4x1 (1+1 for any developed points). Responses from Figure 11: the claims were put aside under the Antarctic Treaty and no new claims can be made. Treaty allows Antarctica to be used as a place for valuable scientific research. Treaty does not allow military activity on the continent. Treaty banned mining for 50 years. Treaty put quotas on the numbers of fish and whales that could be caught. International Association of Antarctic Tour Operators (IAATO) has been formed to try to encourage responsible tourism. Development of points will be from own knowledge. Other responses from own knowledge will be credited e.g. Greenpeace (To max 3) MAX 3 for lifts from Figure 11	***(4 marks)***
6(a)(i)	3x1 The month with the highest temperature at places A and B is January (1) and the month with the lowest temperature at places A and B is July (1). At place B the range of temperatures in the summer months is 16°C, whereas at place A it is 18°C (1). A is hotter than B (and/or some working or figures e.g. average, median, range (Average= A30.5°C B23.4°C)	***(3 marks)***
6(a)(ii)	1x1 A	***(1 mark)***

6(a)(iii)	**Level 1 (Basic) 1-3 marks** Limited elaboration from Figure 12. Limited development of ideas. Simple statements. *E.g. the wind will be dry, receives little rainfall, high temperatures, up to 39°C, etc,* **or** vice versa for place B. Accept far from sea/far inland, **or** vice versa for place B. **Level 2 (Clear) 4-5 marks** Clear explanation with development of ideas. Some idea of process. *E.g. it is in a rain shadow area, as moist winds off the sea rise over highland and condense/cool and precipitation occurs in the mountains the wind will be dry when they reach place A and it receives little rainfall. High temperatures, up to 39°C which means that any moisture that reaches place A is quickly evaporated,* **or** vice versa for place B. Development could be case study examples beyond Figure 12, *e.g. Australian desert*.	***(5 marks)***
6(b)(i)	2×1 Vegetation cover removed (left box), reduce soil erosion (right box).	***(2 marks)***
6(b)(ii)	4×1 or 1+1 for developed points. Max 2 for: Increased temperature/ global warming (1) less rainfall/ changing rainfall patterns (1) mention of soil erosion/ soil blown away (1) drought/ drying out (1). Development of points above which expresses a clear increase in risk e.g. less rainfall (1) would increase the risk of soil drying up and blowing away leaving a desert (1). Other 2 marks for: ideas such as increased pressure on marginal land/ marginal areas become farmed/ farmers mis-use the land (e.g. overgrazing) i.e. increasing the risk of desertification or named examples such as Sahel.	***(4 marks)***

6(b)(iii)	**Level 1 (Basic) 1-2 marks** Lists simple statements without development of ideas. *E.g. they should plough across hillsides, they should replant trees, they should irrigate the land, they should use 'magic stones', use alternatives to fuelwood, etc.* **Level 2 (Clear) 3-4 marks** Clear descriptions with development of ideas. *E.g. they should use 'magic stones' or build small earth bunds, which trap water behind them and allow it to soak into the ground so that plants grow*. Accept process-based responses: *reduce, surface run off, reduce soil erosion, water can infiltrate, raises water table, moistens soil, plants can grow and fix soil, etc.* 'Not overgrazing', 'not over-cultivating' = max 1 mark	***(4 marks)***