



# Delegate Booklet

## GCSE Geography A: Preparing Students for Geographical Investigations UK Challenges

**1GA0-2501**

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### Introduction

This booklet contains three exemplar candidate responses to the 2024 Paper 3 Question 5d. During the training you will practice mark these exemplars and you will hear the Principal Examiner's feedback. Please read the responses, consider the strengths and weaknesses, and then decide on the best fit level for each response.



### Question 5d

- (d) Use the information from the Resource Booklet (Figures 5a to 5e) as well as knowledge and understanding from the rest of your geography course.

‘With the increasing possibility of flooding in the UK, the costs of managing the risks successfully are likely to outweigh the benefits.’

Discuss this view.

(12)

### Mark Scheme

| Level   | Mark | Descriptor   |
|---------|------|--|
|         | 0    | No acceptable response.  |
| Level 1 | 1–4  | <ul style="list-style-type: none"><li>• Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li><li>• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)</li><li>• Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)</li></ul> |
| Level 2 | 5–8  | <ul style="list-style-type: none"><li>• Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li><li>• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)</li><li>• Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)</li></ul>          |
| Level 3 | 9–12 | <ul style="list-style-type: none"><li>• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2)</li><li>• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)</li><li>• Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)</li></ul>                           |



## Indicative Content

| Question number | Indicative content   |
|-----------------|--|
| 5(d)            | <p><b>A02</b></p> <ul style="list-style-type: none"> <li>• River flooding occurs when the channel bursts its banks and coastal flooding when storms create powerful waves that approach the coastline.</li> <li>• When towns and villages are located next to rivers and the coast this can increase the risk of flooding.</li> <li>• In recent years the UK have spent billions on flood defences to protect properties located next to rivers and the coast.</li> <li>• Floods can disrupt transport networks, contaminate water supplies, cause significant damage to homes and lead to expensive repairs.</li> <li>• Flooding can have a significant impact on the environment with destruction of wildlife habitats which can lead to disruption of local ecosystems.</li> <li>• Flooding can cause riverbank erosion and sedimentation which can have an impact on rivers and reservoirs.</li> </ul> <p><b>A03</b></p> <ul style="list-style-type: none"> <li>• In the future, the UK is likely to experience an increase in flood risk due to global warming. It is predicted changes in average global temperatures will cause more properties to be at risk of flooding due to increased frequency of storms and rising sea levels.</li> <li>• The rise in the number of people living in towns and cities in the UK is putting pressure on the construction of new homes which is reducing the permeability of the land surrounding rivers and increasing the risk of flooding.</li> <li>• The increased frequency of storms is causing many regions of England such as Derbyshire, Cheshire and Nottingham to review the type of flood defences used to protect against river flooding.</li> </ul> <p><b>A04</b></p> <ul style="list-style-type: none"> <li>• Figure 5a illustrates the potential risk of flooding by 2080 in the UK. For example, by 2080 it is expected the area with the highest risk of flooding will be the East of Scotland. Not only will this area have the greatest risk, the rest of Scotland will also experience a similar percentage of flood risk. The area with the lowest risk from flooding by 2080 is predicted to be England Central and the South East.</li> <li>• Figure 5b demonstrates the impact flooding is having on properties in England. The map highlights the regions where properties have been at most risk of flooding in 2021 was in the south. For example, in the south east in</li> </ul> |



## Response 1

I completely agree with this view as the cost to defend and manage the potential flooding of 2.4 million homes will most likely come to much more than the cost to demolish and rebuild outside the potential flood zone.

In Figure 5e a business owner among many<sup>s</sup> says that they may not be able to carry on trading which will effectively create economic turmoil with the business owners which have suffered damage due to flooding and cannot make an income anymore. This in turn will cause damage to national economy as many businesses will be effected.

Additionally it will cost £100,000 per hour if major roads are effected. Not only will this cost lots for the government but also this could lead to people being isolated on roads



without a running car.

However, on the other hand the government may need to selectively protect important structures as 55% of water and sewage pump locations are at risk.

This could lead to outbreaks of disease and water security problems if sewage and waste are released during a flood. Furthermore areas such as electricity sub stations and gas infrastructure should be protected as if damaged by flooding harmful gas and unpredictable electricity could be released.





## Response 2

Flooding is an example of extreme weather. ~~The water is very deep~~  
land

Most of the UK is not at risk of flooding for the next few hundred years.

This leads people to believe ~~there~~ that we should not waste money  
on flood protection. This means costs of managing will be low to none  
because people are focussing on other needs to sustain our area by  
paying for things such as health and renewable resources.

Our flood defence investment program is currently £6.2 billion over  
the next 6 years. This is costing our industry a lot, and pulling away  
from buying more resourceful products that need to be maintained.

Flooding is not ~~an~~ officially predicted, it is just an assumption.

~~The~~ The amount of money spent will not be sufficient because the risk  
of flooding is going to keep increasing. Flooding can be caused by  
ice caps melting, which happens due to global warming caused by  
emissions from humans. We are increasing the risk of flooding, which  
leads to an increase in ~~the~~ ~~the~~ money being spent on something  
that is not officially accurate. The loss of money means ~~more~~  
less can be spent on healthcare and medicines to help others.



Businesses have struggled to recover from the flood damage because the cost of repairs and the frequency of the flooding is much too expensive. Businesses are being put into debt meaning they are unable to continue trading. Trading creates connections between businesses and this can be international and national. If businesses are being put into debt, leading to them no longer being able to trade then business will shut down. This decreases popularity, reducing population which can lower a location's life expectancy and death rate. Also a decrease in population leads to less income to governments, so they are less able to ~~be~~ continue paying to ~~finance~~ repair for flooding actions, which can cause areas to become abandoned and used as landfill. This increases levels of toxins and CO<sub>2</sub> and also wastes areas that could be used for nature, reducing biodiversity and habitat.

~~Flooding~~ Flooding can be caused by human causes such as ice caps melting. This is due to global warming caused by the burning of fossil fuels. ~~The~~ This is contributed by car emissions, farmland for cows etc. Our population is not going to stop using fossil fuels because they produce large amounts of energy which maintains our economy.

By spending money on managing flooding and repairing, it is never going to stop and therefore we are spending ~~excessive~~ excessive amounts of money on something that is not certain and reliable.

By producing ~~strategies~~ defences against flooding across the whole of the UK, it may only be beneficial to specific areas. For example Central and South East England have the lowest predicted increase in flooding. This could impact them by protecting flooding, however is also a waste of money since they are at low risk. Unlike Scotland, which has the highest predicted



increase in flooding. Spending money on this would <sup>less likely</sup> ~~entirely~~ outweigh the benefits as the are then put less at risk. However it may not be fully effective ~~over~~ which will lead to them consistently paying for repair of damage, lowering economy.





### Response 3

Due to climate change <sup>and global warming</sup>, ~~it is expected that~~ ice caps and glaciers have melted to increase the sea's volume. These rising sea levels, coupled with storm surges and increasing wind speeds, can greatly increase the possibility of the UK's current sea defences being breached, especially during winter. Managing these flood risks can be ~~ex~~ very expensive in the long-term, and can lead to neglect of other areas, which may lead to local conflicts. However, ~~man~~ preventing flooding can save the economy thousands of pounds for repairs, and can protect sentimental ~~things~~ <sup>homes</sup>, buildings and landscapes.

Figure 5a states that the predicted increase in flood risk by 2080 for South-west England is 30%, so it is evident that flood risk have to be managed. However, Figure 5c estimates that 'a further £36 billion' is required for <sup>investment into</sup> flood risk management. This will take away lots of money from the government's public spending and other priorities, not to mention increased income tax on citizens to contribute to the investment. With the cost of living crisis currently ongoing, a further rise in taxes to cover the costs for flood risk management may be met with cries of anguish and disapproval from the general public. Figure 5d states that the cost of reducing river and coastal flood risk in London has more than doubled from 2016 to 2020 <sup>(£16 billion to £31 billion)</sup>, which is a very large increase in money and will affect the government's ability to fund other projects and priorities such as the NHS, and the police force and education.



Installing hard engineering structures such as groynes can also stave beaches downlist of sediment, creating narrower beaches in lowland areas which does not eliminate the flooding, it only redirects it. Other soft engineering schemes such as ~~managed~~ beach nourishment takes sediment directly from the seabed, damaging aquatic ecosystems and destroying habitats. This can trigger a chain of events in which certain species may become endangered if they ~~cannot~~ cannot relocate or adapt to new surroundings.

However, there are also many benefits to managing flood risks, such as preserving business income and revenue. Figure 56 states that 40% of businesses do not re-open after the effects of flooding which threatens many people's jobs and means of survival. This leads to a rise in unemployment and poverty, which can diminish the general wellbeing and wealth of the population, crashing the economy. This shows just how important it is that flood defences are put in place to avoid leading ~~to~~ the UK into an era of austerity and poverty.

Sea walls are man-made structures built as a physical barrier against the strong tides, reflecting wave energy back towards the sea and preventing the likelihood of a breach. Although they are initially expensive<sup>for manufacturers</sup>, they have ~~low~~ minimal running costs. Also, it can provide jobs for many people, as workers are needed for collecting materials, delivering them and building them on the beach. This shows that flood risk management has many benefits for individuals and areas as a whole in the UK. Figure 52 states that '14% of electricity sub-stations are in areas at risk of flooding'.

If in this modern age, as we become more heavily reliant on technology for both work and leisure purposes, it is increasingly ~~important~~ crucial that our connectivity to the outside world is not jeopardised. By managing the flood risks successfully, the UK government could prevent chaos and disorder of being cut off from electricity which we all use for domestic cooking, heating and device usage.



Many people may find it pointless to protect coasts in the UK, as interpreted from Figure 5e, as they view climate change as something that ~~with~~ people 'can do nothing about that in the long term'. However, my opinion is that I disagree that the costs of managing flood risks successfully ~~is more important~~ <sup>outweighs the benefits</sup> because although investment in flood defences may prove costly, it will be even more expensive if we simply allowed flooding effects to worsen and ~~affect our~~ <sup>lead to</sup> transport delays, power cuts and damaged homes. Our aim is to reduce the effects of flooding, not eliminate it completely, so any attempt to reduce the impact on UK cities of flooding should be valued and applauded.

*(Excellent presentation, grammar and use of specialist terminology - 4 marks)*