

a-level exam questions & answers:

coastal systems & landscapes (section b) >

20 mark question #3 (sea level rise)



References:

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- 1) 'No amount of coastal intervention by people can halt the natural processes which continue to present serious risks to coastal communities.' To what extent do you agree with this view?

- >> 3.1.3.3 >> Landscapes and Factors Of Coastal Action
- >> 3.1.3.4 >> Human Intervention on Coastal Landscapes
- >> 3.1.3.4 >> Managed / Integrated Coastal Zone Management

[20 marks]

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This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

writing tips & tricks:

This question comes from the old specimen papers from AQA at A-Level, and it can be expected that soon something VERY SIMILAR to this will come up in the exams! For me, it's one of the most relevant questions in this course, focusing on bringing together the whole topic and other linked ideas. I'd advise using at least two contrasting case studies or maybe 3 smaller examples mentioned in your answer, such as a local one in the UK, a farther afield contrasting case study such as Kiribati, and the Netherlands to show how it could be managed. ALL THESE AND MORE CAN BE FOUND [HERE ON THE GEOGRAPHY PORTAL](#) IN OUR CASE STUDY MAP - so you can be well prepared! Make sure you don't sit on the fence – have an opinion and back it up with facts using the PEEL 'Point – Evidence – Explain – Link (to the question) strategy in possibly four or five small paragraphs, before finishing shortly and concisely with a super nice evaluative conclusion paragraph. This could involve a future hypothesis, or you could maybe mention scale or changes in the future – examiners love this!

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mark scheme | 20-mark question #3

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Q.:	Sp. Ref.:	Information For Markers:	B'down:	Marks:
5)	3.1.3.3 & 3.1.3.4	'No amount of coastal intervention by people can halt the natural processes which continue to present serious risks to coastal communities.' To what extent do you agree with this view? AO1 – Knowledge and understanding of the physical processes affecting coastlines; those associated with waves, currents, tides, erosion, transport and deposition. Knowledge and understanding of eustatic and isostatic sea level change. Knowledge and understanding of the impact of coastal management. AO2 – Application of knowledge and understanding to analyse and evaluate how climate change links to sea level change and can exacerbate flooding and erosion as well as creating change to the physical landscapes (including landform development). There should be some evaluation of the extent to which the statement is valid. Notes for answers There are clear inter-related strands to this question. The focus is upon the challenges associated with coastal management. The assertion is that natural processes will prevail and that human activity designed to protect coastlines is effectively a waste of time and money. There is also an aspect of alternative possible futures. Responses should look ahead and integrate the changing coastal dynamic into their responses. AO1 • A range of processes affecting coastlines. Expect to see reference to: waves (constructive and destructive); prevailing currents; the role of wind its connection to fetch. • Erosional processes and associated landforms – abrasion, attrition, hydraulic action and solution – landscapes of erosion may feature. • Transportation processes of traction, saltation, solution and suspension. Links to longshore drift are likely. Some may connect wave action and longshore drift. • Deposition should feature in relation to a variety of landforms such as beach, dunes, spits and bars. • The contribution of these processes (erosion, transport and deposition) to the development of low and high energy environments may also feature. Expect to see stronger focus upon high energy environments with links to erosional coastlines and those at risk of flooding.	AO1=10 AO2=10	20

- Coastal management strategies to include hard engineering soft engineering and other approaches such as managed retreat.
- Alternative possible futures should emerge and include the potential impact of sea level change upon both process, landform, but also how this impacts upon attitudes to coastal management.
- Risks associated with living along coastlines under threat from erosion and flooding.
- Learned case study support may be used to exemplify.

AO2

- Evaluation – some debate is encouraged here. Some coastlines are coping relatively well with issues arising out of natural processes. Estuaries such as the Thames, with considerable financial investment in flood and erosion defence schemes, is well protected against the natural processes threatening it.
- Analysis – In the UK, expect to see reference to locations/coastlines such as the Holderness Coastline. Here isostatic changes are combining with a eustatic rise in sea level to create significant risk of flooding and erosion. Also local geology is adding to the issue as the rocks are easily eroded. Added to this, both areas are relatively close to sea level, just a few metres above.
- Evaluation – Some may engage in a debate around the value of intervention. Responses are likely to consider the challenges of defending coastal locations in a financial climate of scarce resources. Policy dilemmas associated cost and options such as with managed retreat are likely to feature. This may be linked to the 'knock-on effects' of intervention in natural processes. Interference in the movement of beach material in sediment cells is credited with causing considerable issues in places where no management exists.
- Analysis and evaluation – Some students may use recent storm events as part of a case study to exemplify the impact on the local area and how these events are forecast to increase in frequency and severity as a result of climate change. This is one alternative possible future associated with increased flooding.
- Evaluation – Further abroad, some may consider locations such as Kiribati, whose very existence is under threat as a result of sea level change. On average, the highest elevation of the islands is 1.8m above sea level.
- Analysis and evaluation – Some may suggest that impacts of climate change are minimal due the actions of people in mitigation. For example, mitigation against the impact of sea level rise in Kiribati through a combination of foreign funded hard and soft engineering strategies, such as the development of mangrove and the hard engineering work taking place, with acknowledgement to the futility of these actions on a
- Overall evaluation is likely to acknowledge that coastal management is set to become an increasingly

		challenging issue for governments around the world over the coming decades. Whilst it is possible to interfere with natural processes, human induced climate change and the scarcity of financial resources make decisions about where to protect and how much to invest extremely difficult, especially in LICs. Places such as the Kiribati have no real viable future if the climate models and expected sea level changes emerge. Other places such as the Netherlands have managed to fight these natural processes with massive financial investment and considerable technological advancement. Ultimately it could be stated that nations which are most vulnerable to climate change induced sea level rise and increasingly severe coastal processes are those that have had least impact on the causes, and vice versa, as typically wealthier, larger nations pollute more on a per capita basis.		
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Examiner Marking Level Criteria:

Level/Mark Range	Criteria/Descriptor
TOP LEVEL 4 (16-20 marks – 80+% - typically an A* answer)	- Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question. Interpretations are comprehensive, sound and coherent (AO2). - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). - Full and accurate knowledge and understanding of key concepts, processes and interactions and change throughout (AO1).
HIGH LEVEL 3 (11-15 marks – 55-75% - B to A grade answer)	- Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question. Interpretations are generally clear and support the response in most aspects (AO2). - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). - Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). - Generally clear and accurate knowledge and understanding of key concepts, processes and interactions and change (AO1)
LOWER LEVEL 2	Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). Interpretations are partial but do support the response in places.

(6-10 marks – 30-50% - D-C grade answer)	• Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). • Some knowledge and understanding of key concepts, processes and interactions and change. There may be a few inaccuracies (AO1).
LOW LEVEL 1 (1-5 marks) - <25% - E or below answer	• Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). Interpretation is basic. • Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). • Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Very limited relevant knowledge and understanding of place(s) and environments (AO1). • Isolated knowledge and understanding of key concepts, processes and interactions and change. There may be a number of inaccuracies (AO1)
LEVEL 0 (0 marks) – no answer provided	• Nothing worthy of credit (something has gone ridiculously wrong if you're here!)