



GCE A LEVEL

A110U10-1



TUESDAY, 5 OCTOBER 2021 – MORNING

GEOGRAPHY – A level component 1
Changing Landscapes and Changing Places

1 hour 45 minutes

A110U101
01

ADDITIONAL MATERIALS

In addition to this examination paper, you will need **one** WJEC pink 16-page answer booklet, the **Resource Folder** and a calculator.

INSTRUCTIONS TO CANDIDATES

Answer in Section A, **either** questions 1, 2 and **either** 3 **or** 4 (Coastal Landscapes) **or** questions 5, 6 and **either** 7 **or** 8 (Glaciated Landscapes).

Answer questions 9, 10 and, **either** 11 **or** 12 in Section B (Changing Places).

Use black ink or black ball-point pen.

Write your answers in the separate answer booklet provided.

Write your name, centre number and candidate number in the spaces at the top of the answer booklet.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part-question; you are advised to divide your time accordingly.

This paper requires that you make as full use as possible of appropriate examples and reference to data to support your answers. Sketch maps and diagrams should be included where relevant.

Section A: Changing Landscapes

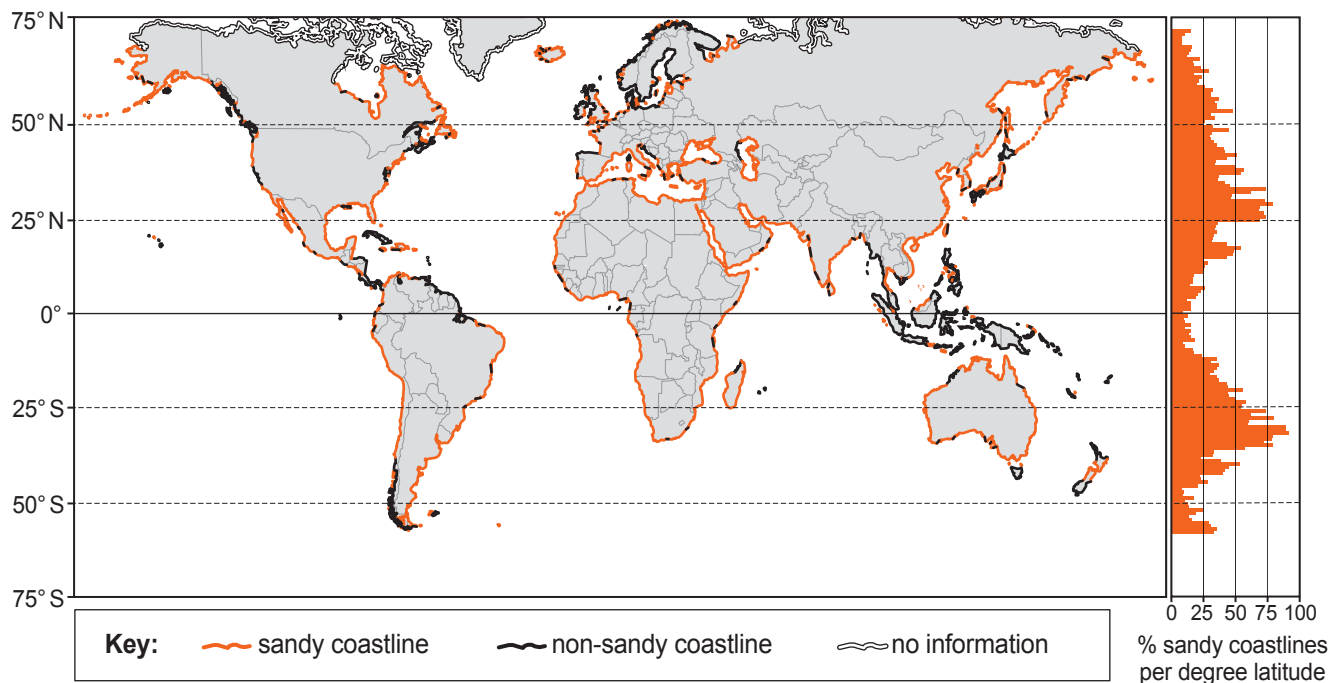
Answer **either** questions 1 and 2 and **either** 3 or 4 or questions 5 and 6 and **either** 7 or 8 from your chosen landscape.

Make the fullest possible use of examples in support of your answers.

Coastal Landscapes

Answer questions 1 and 2 and **either** 3 or 4 if this is your chosen landscape.

Figure 1: Global distribution of sandy coastlines



Source: www.nature.com

1. (a) (i) Use **Figure 1** to describe the global pattern of sandy coastlines. [5]
- (ii) Suggest **one** reason why northern Europe has a low percentage of sandy coastlines. [2]
- (b) Explain how wind action contributes to the formation of sand dune systems. [6]

Figure 2: The relationship between rock hardness and the annual rate of erosion at 12 fieldwork sites on a wave-cut platform in south east England

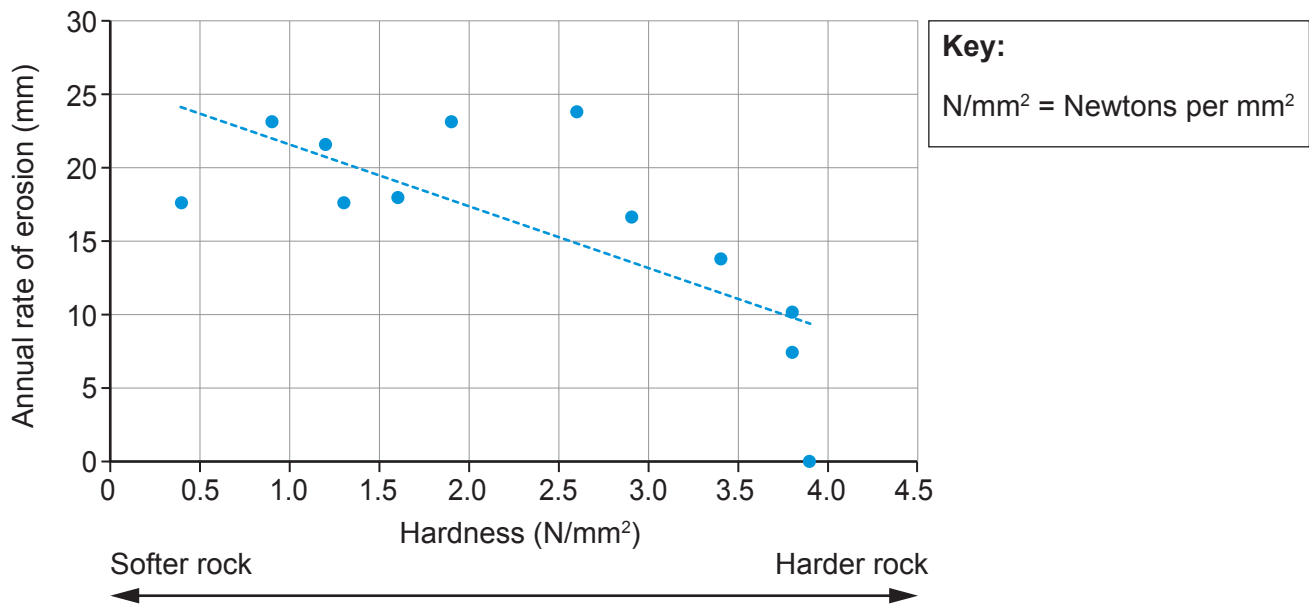


Figure 3: Calculated r_s value and critical values for Spearman's Rank Correlation Coefficient test performed on the data shown in Figure 2

Calculated r_s value = -0.69		
Significance (confidence) level		
Number of pairs (n)	95% (0.05)	99% (0.01)
12	0.49	0.70

2. (a) (i) Use **Figures 2 and 3** to analyse the relationship between rock hardness and the annual rate of erosion. [5]
- (ii) Suggest how variations in rock hardness shown in **Figure 2** can influence the rate of erosion. [6]
- (b) State what is meant by wave refraction. [2]

Either,

3. Examine how a systems approach aids understanding of coastal landscape change. [15]

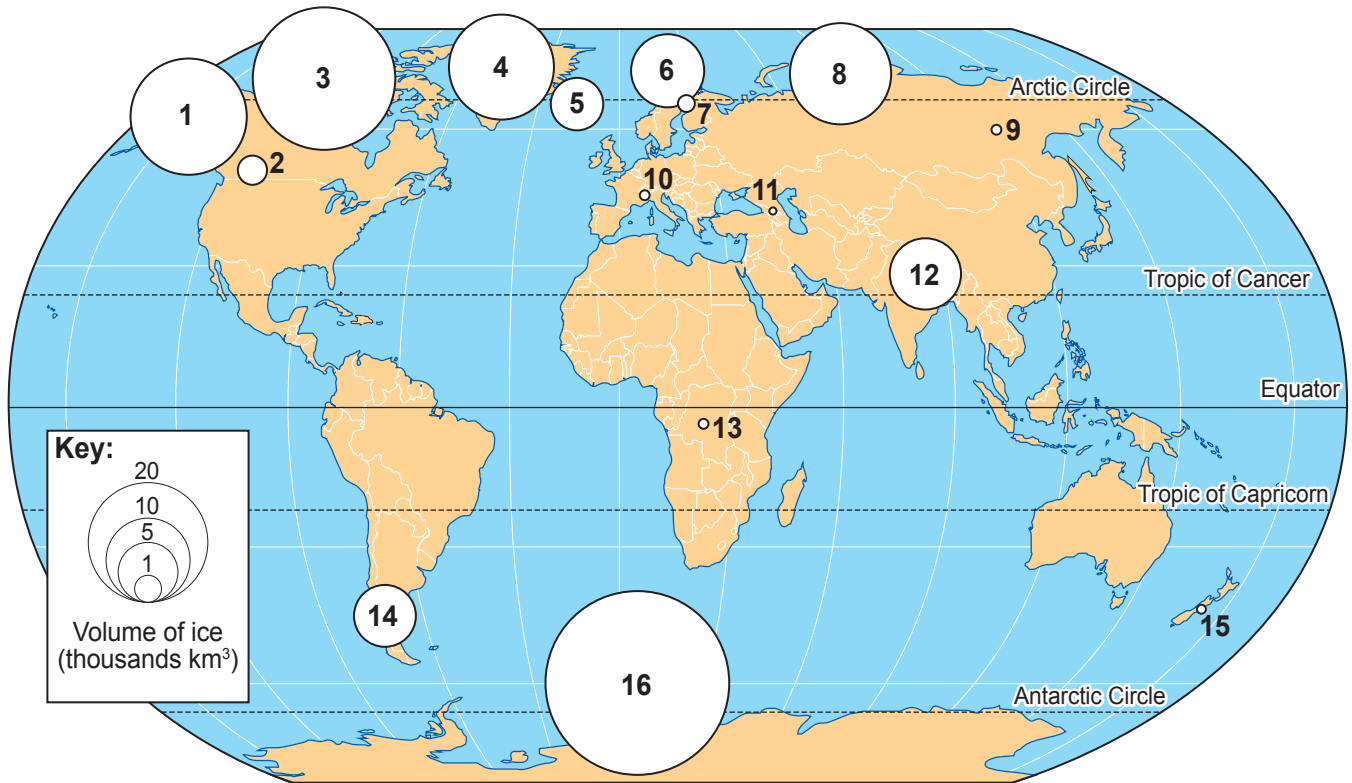
Or,

4. Assess the relative importance of sub-aerial processes in the development of **one or more** landforms of coastal erosion. [15]

Glaciated Landscapes

Answer questions 5 and 6 and either 7 or 8 if this is your chosen landscape.

Figure 4: The global distribution of ice masses by volume



Source: doc.rero.ch/record/324672/files/hus_cht.pdf

1	Alaska
2	Western Canada/USA
3	Arctic Canada
4	Greenland
5	Iceland
6	Svalbard
7	Scandinavia
8	Arctic Russia
9	Northern Asia
10	Central Europe
11	Caucasus
12	Central and southern Asia
13	Africa
14	Southern Andes
15	New Zealand
16	Antarctica

5. (a) (i) Use **Figure 4** to describe the global pattern of ice masses. [5]
- (ii) Suggest **one** reason for the existence of ice masses within the tropics. [2]
- (b) Explain how **one** human activity can result in permafrost degradation. [6]

Figure 5: The relationship between altitude and supraglacial debris thickness at 12 fieldwork sites on the Batal glacier, Himalayas

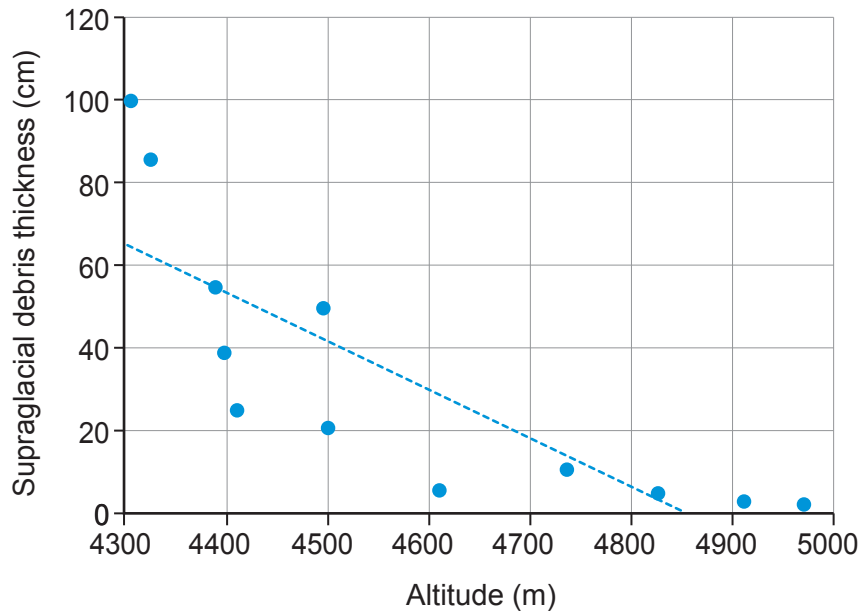


Figure 6: Calculated r_s value and critical values for Spearman's Rank Correlation Coefficient test performed on the data shown in Figure 5

Calculated r_s value = -0.97		
Significance (confidence) level		
Number of pairs (n)	95% (0.05)	99% (0.01)
12	0.49	0.70

6. (a) (i) Use **Figures 5 and 6** to analyse the relationship between altitude and supraglacial debris thickness. [5]
- (ii) Suggest reasons for variations in the thickness of supraglacial debris shown in **Figure 5**. [6]
- (b) Outline **one** characteristic of ablation till. [2]

Either,

7. Examine how a systems approach aids understanding of glacial landscape change. [15]

Or,

8. Assess the relative importance of post-glacial processes in the development of **one or more** glacial landforms. [15]

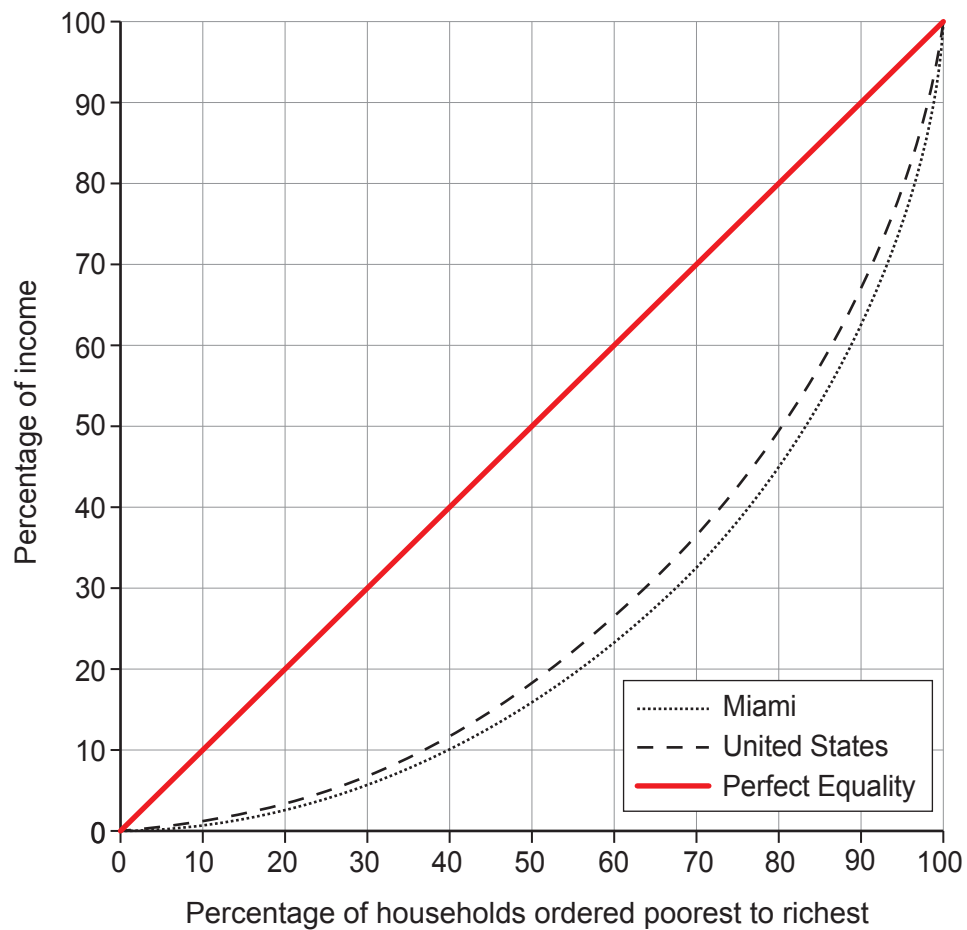
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Section B: Changing Places

Answer questions 9 and 10 and either 11 or 12.

Make the fullest possible use of examples in support of your answers.

9. (a) Use **Figure 7** in the **Resource Folder** to describe the distribution and characteristics of tourist and leisure activities. [5]
- (b) With reference to **Figure 7** suggest how the regeneration of rural areas through recreation may present challenges for communities. [8]

Figure 8a: Lorenz curve showing income inequality in Miami and the US

Source: www.miamidade.gov/planning

Figure 8b: Gini coefficient showing income inequality in selected US cities, 2017

The Gini coefficient ranges from 0 to 1. 0 represents the highest level of equality with 1 representing the highest level of inequality.

City	Gini coefficient
Miami	0.55
Atlanta	0.58
New Orleans	0.56
Phoenix	0.46

Source: www.citylab.com

10. (a) Use **Figures 8a and 8b** to analyse the extent of income inequality in Miami. [5]
- (b) Outline how the demographic characteristics of **one** named place have been shaped by local and global factors. [8]

Either,

11. Assess the importance of technology as a driver of economic change in **one or more** places. [15]

Or,

12. Assess the success of the rebranding process in **one or more** urban places. [15]

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Explorer series (1:25 000 scale)

EXPLORER MAP SYMBOLS

ROADS AND PATHS

Not necessarily rights of way

	Motorway		Service area		Junction number		Toll road junction
	Dual carriageway		Service area				
	Main road						
	Secondary road						
	Narrow road with passing places						
	Road under construction						
	Road generally more than 4m wide						
	Road generally less than 4m wide						
	Other road, drive or track, fenced and unfenced						
	Gradient: steeper than 20% (1 in 5); 14% (1 in 7) to 20% (1 in 5)						
	Ferry; Ferry P (passenger only)		London River Services				
	Path						

RAILWAYS

Standard gauge	Single track	Station, open to passengers	Siding	Narrow gauge tramway or light rail system
	Multiple track	London Underground		
Road over	Road under	Level crossing	Cutting	Embankment
			Tunnel	Station

PUBLIC RIGHTS OF WAY

Not shown on maps of Scotland

	Footpath		Byway open to all traffic	The representation on this map of any other road, track or path is no evidence of the existence of a right of way.
	Bridleway		Road used as a public path	

OTHER PUBLIC ACCESS

	Other routes with public access (not normally shown in urban areas)
	The exact nature of the rights on these routes and the existence of any restrictions may be checked with the local highway authority. Alignments are based on the best information available.
	Recreational route (alternative route)
	National Trail
	Traffic-free cycle route
	National cycle network route number – traffic free; on road
	Permissive footpath
	Permissive bridleway
	Firing and test ranges in the area. Danger! Observe warning notices.
	Access permitted within managed controls, for example, local byelaws.

BOUNDARIES

	National		Civil Parish (CP); England or Community (C); Wales
	County; England		National Park boundary
	Unitary Authority (UA), London Borough (LB), Metropolitan District (Met Dist) or District (Scotland & Wales are solely Unitary Authorities)		

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

	Site of antiquity		VILLA Roman		Visible earthwork
	Site of battle (with date)		Non-Roman		

HEIGHTS AND NATURAL FEATURES

	Water	The contour interval on Explorer maps are shown at 5m and/or 10m vertical interval, to provide the most detailed heighting available.	
	Mud		
	Sand		
	Shingle		
	Survey height;		
	52 Ground		
	284 Air		
		Contours	Vertical face/cliff
		5m	10m
		Scree	Loose rock
		Boulders	Outcrop
		Surface heights are to the nearest metre above mean sea level. Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the highest natural summit.	

VEGETATION

Limits of vegetation are defined by positioning of symbols

	Coniferous trees		Scrub
	Non-coniferous trees		Bracken, heath or rough grassland
	Coppice		Marsh, reeds or saltings
	Orchard		



ACCESS LAND (England and Wales)

	Access information point	Access land portrayed on this map is intended as a guide to land normally available for access on foot, for example access land created under the Countryside and Rights of Way Act 2000, and land managed by National Trust, Forestry Commission, Woodland Trust and Natural Resources Wales. Some restrictions will apply; some land shown as access land may not have open access rights; always refer to local signage.
	Access land	
	Access land in wooded area	
	within sand	The depiction of rights of access does not imply or express any warranty as to its accuracy or completeness. Observe local signs and follow the Countryside Code. Visit: gov.uk/government/publications/the-countryside-code
	Coastal margin	

GENERAL FEATURES

	Gravel pit		Triangulation pillar
	Sand pit		Mast
	Other pit or quarry		Windmill with or without sails
	Landfill site or slag/spoil heap		Wind pump
	Electricity transmission line		Wind turbine
	Solar farm		Building; important building
	Slopes		Glasshouse
	Place of worship		Youth hostel
	Current or former place of worship; with tower		Bunkhouse, camping barn or other hostel
	Current or former place of worship; with spire, minaret or dome		Bus or coach station
			Lighthouse; disused lighthouse
			Beacon

ABBREVIATIONS

See website for full list

BP	Boundary post	Liby	Library	Pol Sta	Police station
BS	Boundary stone	Mkt	Market	Resr	Reservoir
CH	Clubhouse	Meml	Memorial	Sch	School
F Sta	Fire Station	MP; MS	Milepost; Milestone	TH	Town hall
FB	Footbridge	Mon	Monument	NTL	Normal tidal limit
Ind Est	Industrial Estate	PO	Post office	W; Spr	Well; spring

TOURIST AND LEISURE INFORMATION

	Art gallery (notable / important)		Museum
	Boat hire		National Trust
	Boat trips		Nature reserve
	Building of historic interest		Other tourist feature
	Cadw		Parking
	Camp site		Park and ride, all year
	Camping and caravan site		Park and ride, seasonal
	Caravan site		Phone; public, emergency, roadside assistance
	Castle or fort		Picnic site
	Cathedral or Abbey		Preserved railway
	Country park		Public house(s)
	Craft centre		Public toilets
	Cycle hire		Recreation, leisure or sports centre
	Cycle trail		Slipway
	English Heritage		Theme or pleasure park
	Fishing		Viewpoint
	Forestry Commission visitor centre		Visitor centre
	Garden or arboretum		Walks or trails
	Golf course or links		Water activities
	Heritage centre		Water activities (board)
	Historic Scotland		Water activities (paddle)
	Horse riding		Water activities (powered)
	Information centre		Water activities (sailing)
	Information centre, seasonal		Watersports centre (multi-activity)
	Mountain bike trail		World Heritage site / area

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For use with question 9

RESOURCE FOLDER

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