

**GCE A LEVEL**

A110U10-1

**TUESDAY, 5 OCTOBER 2021 – MORNING****GEOGRAPHY – A level component 1
Changing Landscapes and Changing Places**

1 hour 45 minutes

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

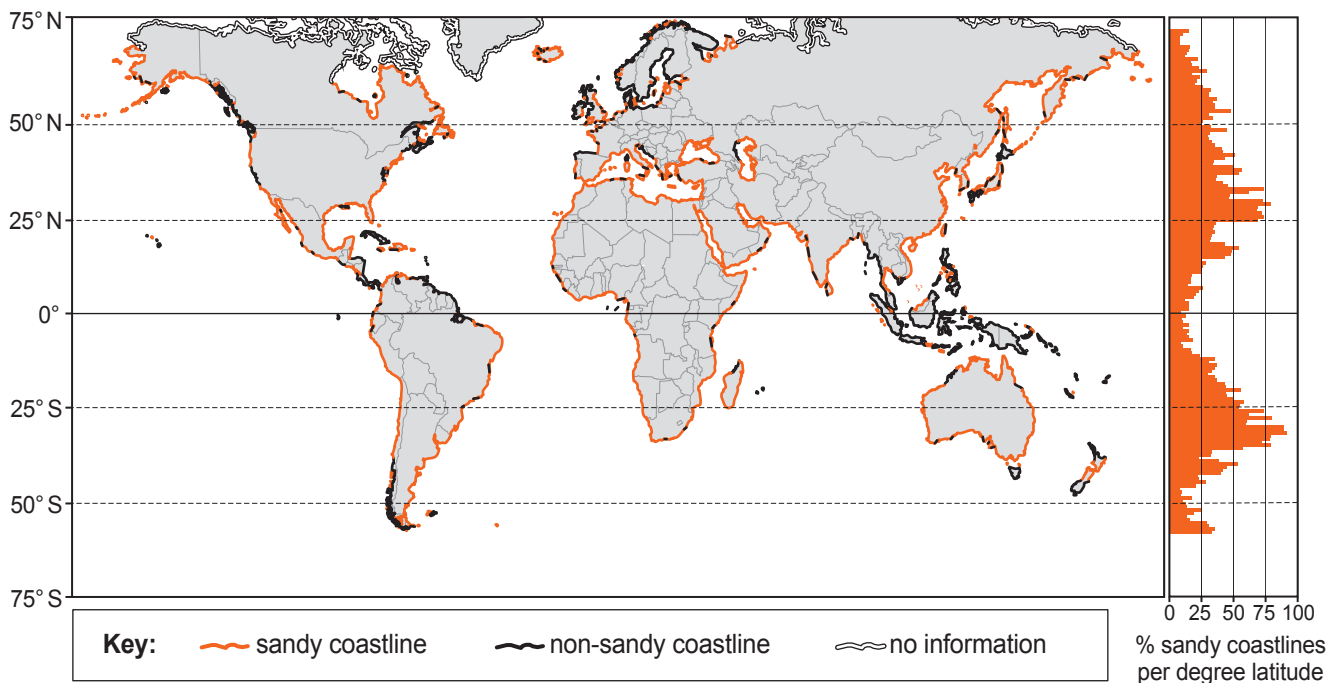
Answer **either** questions 1 and 2 and **either** 3 or 4 or questions 5 and 6 and **either** 7 or 8 from your chosen landscape.

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

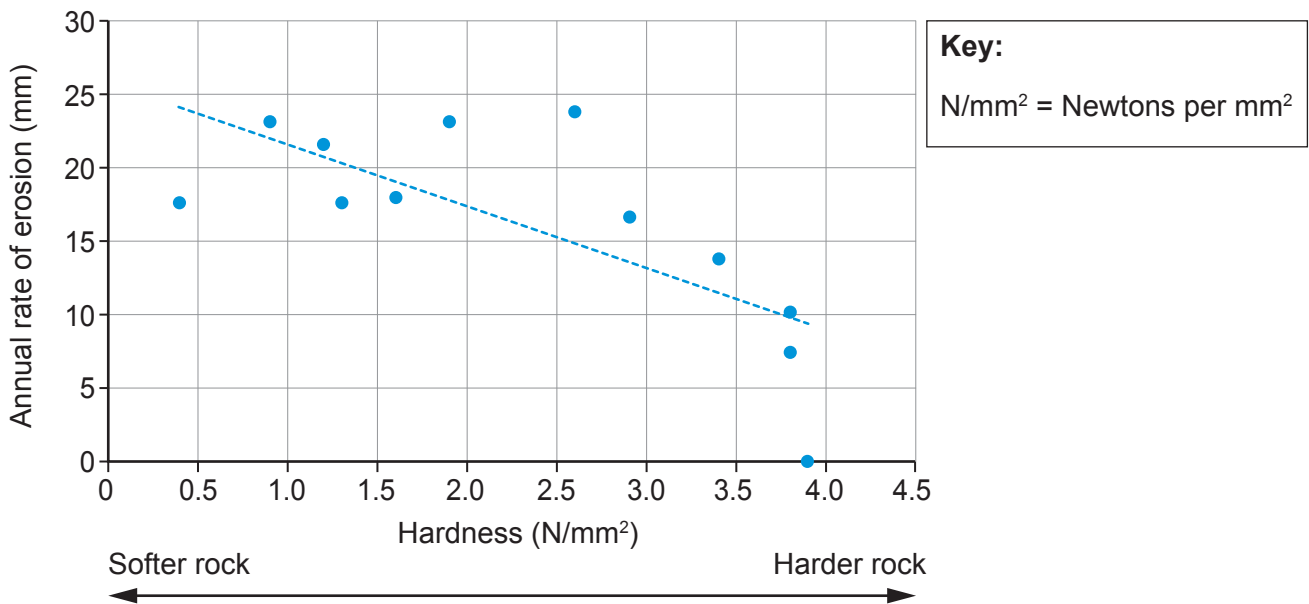


Figure 3: Calculated r_s value and critical values for Spearman's Rank Correlation Coefficient test performed on the data shown in Figure 2

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]

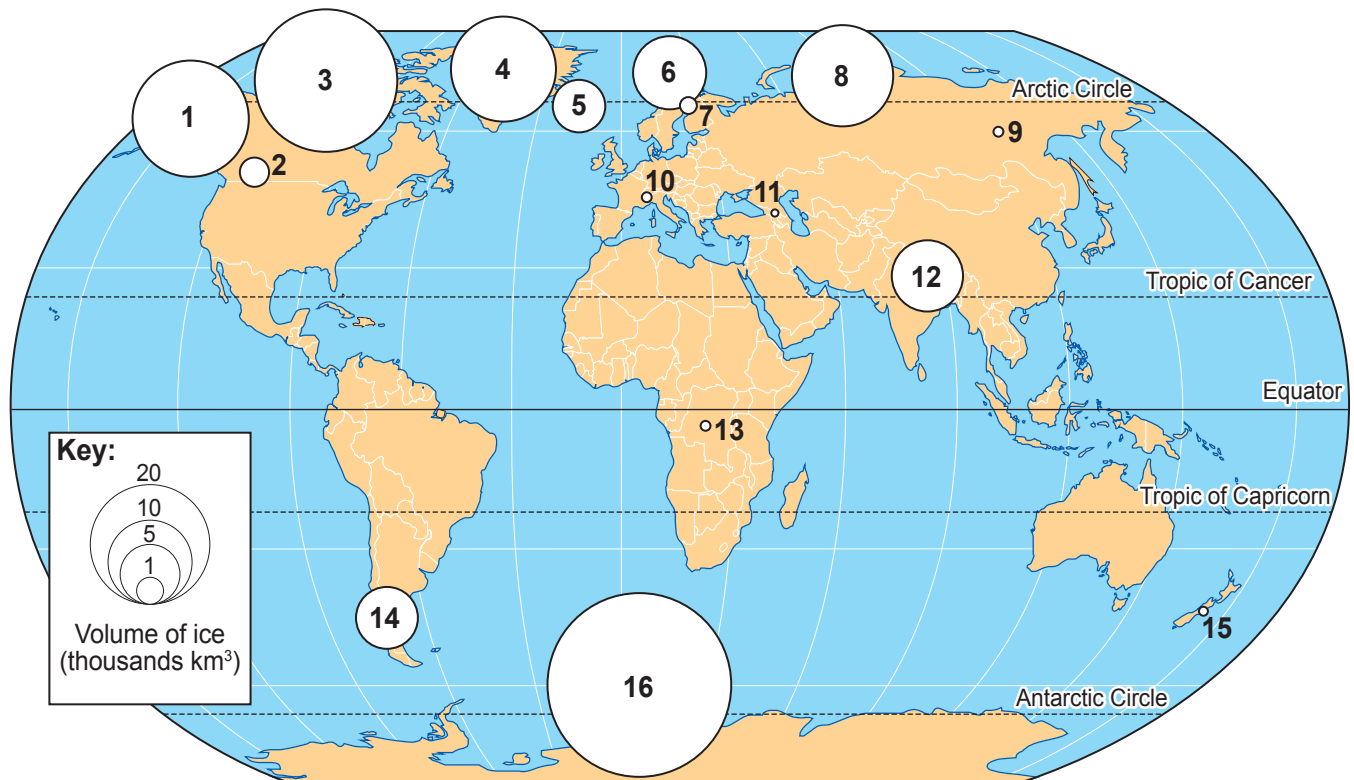
Or,

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

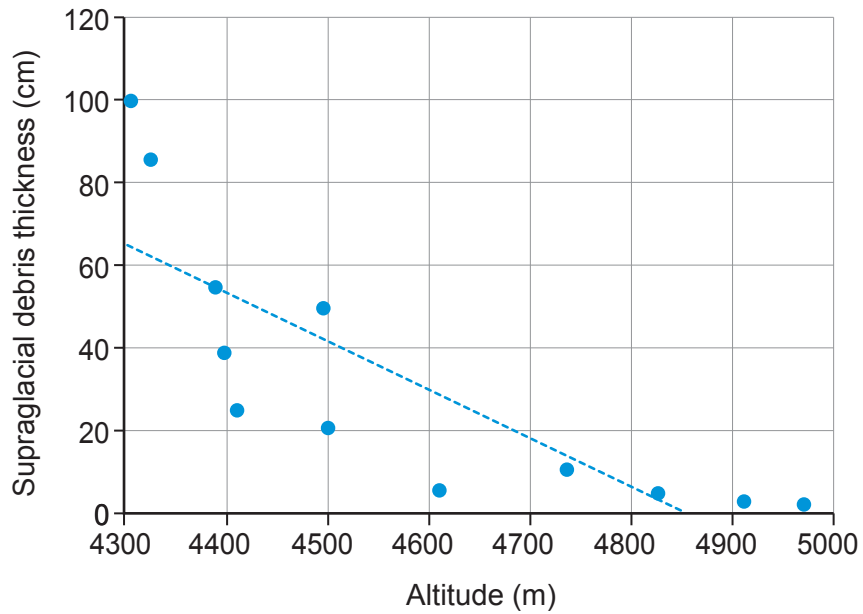


Figure 6: Calculated r_s value and critical values for Spearman’s Rank Correlation Coefficient test performed on the data shown in Figure 5

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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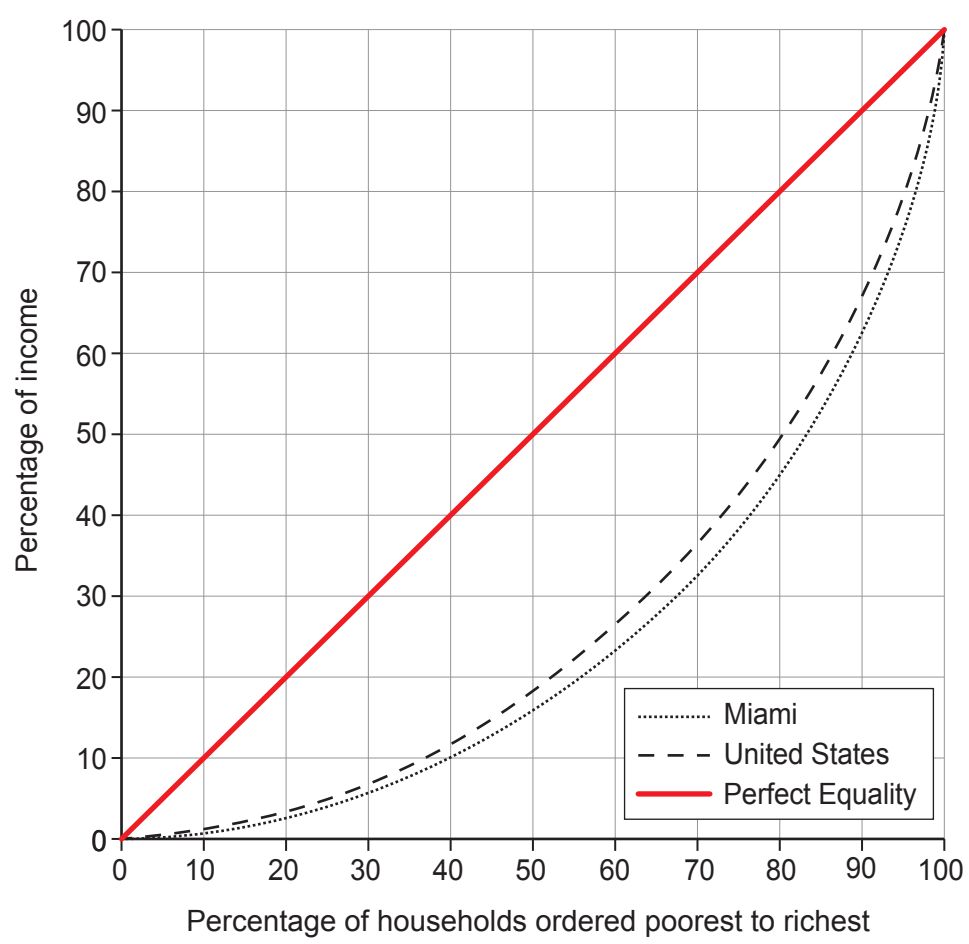
Section B: Changing Places

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
- Dual carriageway
- 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)
- Path
- Service area
- Junction number
- Toll road junction
- London River Services

RAILWAYS

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

PUBLIC RIGHTS OF WAY Not shown on maps of Scotland

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

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

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

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

HEIGHTS AND NATURAL FEATURES

- Water
 - Mud
 - Sand
 - Shingle
- 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.
- Survey height:
52 · Ground
284 · Air
- The contour interval on Explorer maps are shown at 5m and/or 10m vertical interval, to provide the most detailed heighting available.
-

VEGETATION Limits of vegetation are defined by positioning of symbols

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

ACCESS LAND (England and Wales)

- Access information point
 - Access land
 - Access land in wooded area
 - within sand
 - Coastal margin
- 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.
- 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

GENERAL FEATURES

- Gravel pit
- Sand pit
- Other pit or quarry
- Landfill site or slag/spoil heap
- Electricity transmission line
- Solar farm
- Slopes
- Place of worship
- Current or former place of worship; with tower
- Current or former place of worship; with spire, minaret or dome
- Triangulation pillar
- Mast
- Windmill with or without sails
- Wind pump
- Wind turbine
- Building; important building
- Glasshouse
- Youth hostel
- Bunkhouse, camping barn or other hostel
- 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)
- Boat hire
- Boat trips
- Building of historic interest
- Cadw
- Camp site
- Camping and caravan site
- Caravan site
- Castle or fort
- Cathedral or Abbey
- Country park
- Craft centre
- Cycle hire
- Cycle trail
- English Heritage
- Fishing
- Forestry Commission visitor centre
- Garden or arboretum
- Golf course or links
- Heritage centre
- Historic Scotland
- Horse riding
- Information centre
- Information centre, seasonal
- Mountain bike trail
- Museum
- National Trust
- Nature reserve
- Other tourist feature
- Parking
- Park and ride, all year
- Park and ride, seasonal
- Phone; public, emergency, roadside assistance
- Picnic site
- Preserved railway
- Public house(s)
- Public toilets
- Recreation, leisure or sports centre
- Slipway
- Theme or pleasure park
- Viewpoint
- Visitor centre
- Walks or trails
- Water activities
- Water activities (board)
- Water activities (paddle)
- Water activities (powered)
- Water activities (sailing)
- Watersports centre (multi-activity)
- World Heritage site / area



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For use with question 9

RESOURCE FOLDER

Figure 7: Ordnance Survey map extract (1:25 000), Toridan, Scotland

