

Edexcel GCSE Geography A Checklist

The Physical Environment

This check list contains the following units:

1 – The Changing Landscape of the UK

Choice of 2 from 1A, 1B & 1C

1A – Coastal Landscapes & Processes

1B – River Landscapes & Processes

1C – Glaciated Upland Landscapes and Processes

2 – Weather Hazards & Climate Change

3 - Ecosystems, Biodiversity & Management

This Symbol Indicates a case study you will need to know.



This Symbol Indicates a skills you may be expected to apply in the exam.



1. The Changing Landscapes of the UK

Types of Rocks

Characteristics & Distribution

- Sedimentary (Chalk, Limestone)
- Igneous (Basalt, Granite)
- Metamorphic (Schists, Slates)

The Role of Geology & Past Tectonic Processes

- Upland (Igneous & Metamorphic Rocks)
- Lowland (Sedimentary Rocks)

Distinctive Upland & Lowland Landscapes

Dartmoor

- Joints
- Freeze thaw weathering
- Tors
- Clitter slopes

Malham Cove

- Limestone Pavements
- Grykes
- Clints

North & South Downs

- Cretaceous Period
- Scarp Slope
- Dip Slope

Human Activity on UK Distinctive Landscapes

Advantages and disadvantages of:

- Agriculture on the South Downs
- Forestry on the South Downs
- Spring-line Settlements on the South Downs

The Role of Geology & Past Tectonic Processes

- Upland (Igneous & Metamorphic Rocks)
- Lowland (Sedimentary Rocks)

Skills



- I can read a Geological Map.
- I can identify a geological cross section to show the relationship between geology and relief.
- I can locate key physical features such as uplands, lowland basins and rivers on UK outline maps.
- I can identify physical and human Geography features on OS maps.

1A. Coastal Landscapes and Processes

The Coastal Zone & Coastal Processes

Processes of Coastal Erosion

- Hydraulic Action
- Abrasion
- Solution
- Attrition

Weathering Processes

- Mechanical (freeze thaw)
- Chemical (acid rain)
- Biological (roots & burrowing & nesting)

Mass movement

- Rock Falls
- Slumping
- Sliding

Transportation

- Traction
- Saltation
- Suspension
- Solution

- Deposition

Landforms of coastal Erosion

- Cliff
- Wave cut notch
- Wave cut platform
- Caves
- Arch
- Stack
- Stump

Influence of waves & geology on the coastal landscape

Waves

- Wind strength (or speed)
- Wind duration
- Fetch
- Swash
- Backwash
- Destructive waves
- Constructive waves

Geological Structure

- Discordant Coasts
 - ❖ Swanage
 - ❖ Bay
- Concordant Coasts
 - ❖ Lulworth Cove
 - ❖ Bay

Landforms of coastal Deposition

- Longshore Drift
- Prevailing Wind
- Beaches
- Profile (Storm beach & berm)
- Spit
- Saltmarsh
- Bar
- Lagoon

The causes and effects of coastal erosion

- Rates of coastal erosion

Natural Causes

- Rising sea level
- Storms & Storm surges

Human Causes

- Groynes
- Dredging
- Building coastal defences

Effects of Erosion

- Settlements
- Tourism
- Infrastructure
- Agriculture

Managing Coastal erosion & flood risk

Shoreline Management Plans

- No Intervention
- Hold the line
- Managed realignment
- Advance the line

Advantages & disadvantages of coastal management

Soft engineering

- Beach Nourishment
- Sand dune regeneration

Hard Engineering

- Sea Walls
- Groynes
- Rip rap

Case Study – Dawlish Warren sand spit



- Physical factors changing the spit
- Human factors changing the spit
- Dawlish Warren Beach management scheme
- Environmental Impact
- Adaptation & resilience

Skills



- I can read a geological map to link coastal form to geology.
- I can identify coastal landforms on OS maps.
- I can use an OS map to investigate the impact of human intervention.

1B. River Landscapes and Processes

Drainage basins and river processes

- Drainage basin
- Watershed
- Source
- Tributary
- Confluence
- Mouth

Processes of River Erosion

- Hydraulic Action
- Abrasion
- Solution
- Attrition

Weathering Processes

- Mechanical (freeze thaw)
- Chemical (acid rain)
- Biological (plant roots)

Mass movement

- Soil creep
- Sliding
- Flows

Transportation

- Traction
- Saltation
- Suspension
- Solution

- Deposition

River processes form distinct landscapes

- Interlocking Spurs
- Waterfalls & Gorges
- Meanders
- Oxbow lakes
- Flood plains
- Levees

Causes and effects of flooding in the UK

Physical Causes of Flooding

- Intense rainfall
- Duration of rainfall
- Snow melt
- Rock Type
- Relief

Human causes of Flooding

- Deforestation
- Urbanisation

- Climate Change

Effects on People & the Environment Examples

- Somerset 2014
- Boscastle 2004
- Tewkesbury 2007
- North Wales 2012

Storm Hydrographs

- Hydrograph
- Rising Limb
- Falling Limb
- Lag time
- Peak discharge

Land-use Management

- Afforestation
- Managing Farmland
- Managing drainage in urban areas

Managing Flood Risk

Advantages and disadvantages of flood defences

Hard Engineering

- Embankments (levees)
- Channelisation
- Flood Relief Channels
- Dams & Reservoirs

Soft Engineering

- Washlands
- River restoration
- Flood-plain Zoning

Reduce the Impact of Flooding

- Flood waring & strategies for the home

Case Study – The River Dee

- The Long Profile
- Characteristics of the River Dee (Bradshaw's Model)
- Human factors changing the river
- Physical factors changing the river
- Predicting the risk of flooding in the Dee catchment



Skills

- I can read a geological map to link coastal form to geology.
- I can use UK weather and climate data
- I can draw a simple storm hydrograph using rainfall and discharge data.
- I can identify river landforms on OS maps.
- I can use an OS map to investigate the impact of human intervention.

1C. Glaciated Upland Landscapes and Processes

Glaciers

Types of Glaciers

- Ice sheet
- Valley glacier

The glacial system

- Zone of accumulation
- Zone of ablation
- Calving

Glacial Budget

- Seasonality
- Many years/ Centuries

Glacial and post-glacial processes

Glacial Erosion

- Abrasion
- Plucking

Glacial Movement & Transportation

- Basal sliding
- Rotational slip
- Moraine

Deposition

- Bulldozing

Post-glacial processes

- Mechanical weathering (freeze thaw)
- Rock falls
- Soil movement

Landforms of glacial erosion

- Corries
- Tarn
- Arête
- Pyramidal peak
- Glacial trough (U-shaped valley)
- Truncated spurs
- Hanging valleys
- Misfit stream
- Ribbon lake
- Roche moutinnee

Landforms of glacial transportation & deposition

- Moraine
 - Ground Moraine
 - Lateral Moraine
 - Medial Moraine
 - Terminal Moraine
 - Recessional Moraine
- Drumlins
- Carg and tail

Case Study – Changes to the glaciated uplands of Snowdonia

Changing physical landscape of Snowdonia

- Geology of Snowdonia
- Settlement living in Snowdonia
- Farming & Forestry
- Human impacts on natural processes



Development in the glaciated uplands of Snowdonia

- Water storage & supply
- Quarrying & mining
- Renewable energy (Hydro-electric power)
- Recreation, tourism & conservation

The impact of development in Snowdonia

- Advantages & disadvantages of development in Snowdonia
- Managing development in Snowdonia

The impact of climate change on development in Snowdonia

- Pros and cons of Farming
- Pros and cons of recreation and tourism

Skills



- I can use UK weather and climate data
- I can identify glaciated upland landforms on OS maps.
- I can use an OS map to investigate the impact of human intervention.

2. Weather Hazards & Climate Change

Global Climate

- Atmospheric Circulation
- Coriolis effect
- Jet streams
- Oceanic Circulation

Global Climate Change

Natural Causes of climate change

- Eccentricity
- Axial tilt
- Precession
- Solar Variation
- Volcanism
- Surface impact
- Greenhouse effect

Human causes of climate change

- Enhanced greenhouse effect
- Industry
- Transport
- Energy
- Farming

Negative Impact of Climate Change

- Food Production
- Sea level rise: Maldives
- Retreating glaciers & melting ice sheets

The UK climate

- UK climate over change over time

Significance of the UK's location on climate

- Maritime influence
- Prevailing wind
- North Atlantic Drift
- Circulation cells
- Altitude

Tropical cyclones

- Formation of cyclones
- Movement of cyclones
- Location of cyclones
- Frequency of cyclones

Impacts of Tropical Cyclones

- High winds
- Intense rainfall
- Storm surges
- Coastal flooding
- Landslides

Effects on People & the Environment Examples

- Somerset 2014
- Boscastle 2004
- Tewkesbury 2007
- North Wales 2012

Case Study – Hurricane Sandy, USA (2012) [developed country]

- Social Impacts
- Economic Impacts
- Environmental Impacts
- Responses to the disaster



Case Study – Typhoon Haiyan, Philippines (2013) [emerging]

- Social Impacts
- Economic Impacts
- Environmental Impacts
- Responses to the disaster



Drought

Natural causes of drought

- Meteorological
- Hydrological

Human causes of drought

- Dams
- Deforestation
- Agriculture

Impacts of drought

- Social Impacts
- Economic Impacts
- Environmental Impacts

Case Study – Drought in California, USA (2012-present)

- Location
- Causes
- Key effects
- Key responses



Case Study – Drought in Ethiopia (1983-present)

- Location
- Causes
- Key effects
- Key responses



Skills

- I can interpret line graphs/ bar charts showing climate change.
- I can use maps to track the movement of tropical cyclones.



3. Ecosystems, Biodiversity & Management

The World's ecosystems

Distribution of ecosystems

- Temperature
- Convection cell
- Tilt of the Earth
- Inter-Tropical Convergence Zone (ITCZ)
- Interior of continents
- High mountains

Characteristics & Vegetation of biomes

- Tropical rainforest
- Tropical grasslands
- Deserts
- Temperate grasslands
- Temperate forest
- Boreal forest
- Tundra
- Mountain
- Mediterranean

Local factors affecting distribution

- Altitude (Height)
- Soils
- Humans

The Biosphere

Resources of the Biosphere

- Food
- Medicine
- Fuel
- Building materials

The Nutrient Cycle

Gersmel's Model

- Soil
- Litter
- Biomas

- Biotic Components
- Abiotic components

The UK's Ecosystems

Terrestrial (land) ecosystems

- Woodland
- Moorland
- Wetlands
- Heathland

Marine Ecosystems

- Inshore habitats
- Offshore habitats

Benefits of Marine Ecosystems

- Tourism
- Fishing
- Energy: oil
- Energy: offshore wind farms

Human activities that damage marine ecosystems

- Overfishing
- Eutrophication
- Construction of deep-water ports
- Coastline economic development
- Offshore wind farms

Skills

- I can interpret line graphs showing the range of future global population projections and the likely impact to resources.

Tropical Rainforests

- Tropical rainforest characteristics
- Biotic factors
- Abiotic factors
- Biodiversity in the TRF

Importance of the TRF

- Goods & services
- Climate change
- Changes to TRF structure
- Changes to TRF function
- Changes to TRF biodiversity

Deforestation in the TRF

- Deforestation in the Madagascan TRF
- Tavy & Deforestation
- Population growth & deforestation
- Logging & deforestation

Case Study – Sustainable rainforest management in Madagascar

- Government Policies
- Ecotourism
- Rainforest services
- Sustainable agriculture
- Social benefits
- Problems
- Example – Analamazaotra reserve

Deciduous Woodland

- Deciduous characteristics
- Biotic factors
- Abiotic factors
- Food Webs
- Deciduous Biodiversity
- Goods & Services

Threats to ecosystem

- Climate change – Milder winters
- Climate change – Fire
- Climate change – drought
- Biodiversity

Deforestation

- Deforestation vs coniferous
- Economic causes
- Social causes

Case Study – The New Forest: Sustainable Deciduous woodland management

- Purpose of New Forest
- Woodland management
- Sustainable use of New Forest

Skills

- I can use a world map to locate global biomes
- I can compare climate graphs
- I can use and interpret nutrient cycle & food web diagrams.
- I can use GIS to identify the pattern of forest loss.



Edexcel GCSE Geography A Checklist

The Human Environment

This check list contains the following units:

4 – Changing Cities

5 – Global Development

6 – Resource Management

Choice between one of the following:

6A – Energy Resource Management

6B – Water Resource Management

This Symbol Indicates a case study you will need to know.



This Symbol Indicates a skills you may be expected to apply in the exam.



4. Changing Cities

Urbanisation is a global process

- Trends of population living in urban areas
- Urbanisation
- Counter-urbanisation
- Re-urbanisation
- Shanty towns

Why are cities in emerging & developing countries growing so fast?

- Natural increase
- Migration
- Push factors
- Pull factors
- Megacities

Degree of Urbanisation varies across the UK

- UK population distribution
- Population density

Degree of Urbanisation varies across the UK

Physical Factors

- Tees-exe line
- Mountains/Steep slopes (North)
- Thin soils (North)
- Low and flat land (South)
- Rich Soils (South)

Historical Factors

- Industrial Revolution
- Industrial Centres
- Conurbations


Recent Economic Factors

- Focus on tertiary industries
- Focus on quaternary industries
- Industries in London

Political Factors (London)

- Centre of UK Government
- Relationship with the EU
- World-class financial centre

Skills

- I can interpret line graphs and calculate rate of population growth. 
- I can use satellite images to identify land use zones and urban patterns.
- I can use and interpret population pyramids & choropleth maps.
- I can use GIS/satellite images, historic images and maps to investigate spatial growth.

Case Study – Birmingham: A major UK city

- The Site and situation of Birmingham
- The Structure of Birmingham

The changing city

- Urbanisation (18th & 19th Centuries)
- Suburbanisation (1920s & 1930s)
- Counter-urbanisation (1970s)
- Re-urbanisation (after 1990)

Migration

- National Migration
- International Migration
- Impact of Migration



- Population Characteristics

Causes of De-industrialisation

- Globalisation
- De-centralisation
- Technological advances
- Transport developments
- Impacts of de-industrialisation

Changes and Impacts

- Inequality in Birmingham
- Quality of life in Birmingham
- Changes in retailing in Birmingham
- Sustainable urban living

Case Study – Mumbai/Mexico City: A major city in an emerging country

- The Site and situation of city
- The Structure of the city

Reasons for variable population growth

- Rural-to-urban migration
- Rates of natural increase
- Economic investment & Growth

Causes & Impact of Migration



- National Migration
- International Migration
- Impact of Migration

- Population Characteristics

Effects of rapid growth

- Housing
- Informal & Under – employment
- Pollution

Changes and Impacts

- Inequality in the city
- Quality of life in the city
- Sustainable urban living
- Bottom-up strategies
- Top-down strategies

5 Global Development

Factors comprising Quality of Life

- Economic
- Income
 - Job Security
 - Standard of Living

- Social
- Family & Friends
 - Education
 - Health

- Physical
- Diet/Nutrition
 - Water Supply
 - Climate
 - Environmental quality/ hazards

- Psychological
- Happiness
 - Security
 - Freedom

How development is measured

- Gross Domestic Product (GDP)
- Human Development Index (HDI)
- ❖ Life expectancy
- ❖ Mean schooling
- ❖ Expected years of schooling
- ❖ Gross National Income (GNI)
- Corruption perceptions index

Factors affecting development

- Economic factors
- Average wealth/ Income
 - Growth rate of an economy
 - Trade surplus/deficit
 - Unemployment rate
 - Cost of living

- Social factors
- Housing
 - Education
 - Health
 - Equity
 - Opportunities for leisure & recreation

- Technological factors
- Electrification
 - Internet access
 - Efficiency gains in farming & industry

- Cultural factors
- Happiness
 - Democratisation
 - Balance between traditional & imported cultures
 - Work-life balance

- Food & water security
- Availability of food
 - Access to food
 - Consumption of food
 - Water security

Uneven development

Location of countries of high and low GDP.

As countries and regions develop:

- Infant mortality falls
- Total fertility rate declines
- Life expectancy rises
- % of the pop. Living in urban areas increases.

Measuring inequality within countries

- Gini Coefficient
- Gross Disposable Household Income (GDHI)

Causes of global inequalities

- Physical environment
- Demography
- Political & Economic Policies
- History (Colonialism)
- Social Investment

Impact of uneven development

- Access to housing
- Health
- Education
- Employment
- Technology & Appropriate technology
- Food & water security

Skills

- I can interpret population pyramids
- I can interpret choropleth maps
- I can use numerical economic data

International strategies to reduce uneven development

- Foreign Direct investment (FDI)
- Fair Trade
- International Aid
- Debt relief
- Remittances
- Top-down development e.g. HS2, England
- Bottom-up development e.g. Water aid, Mali or SPARC, India

Case Study – How India, an emerging country is developing

- India's Location & Context in the World
- Environmental Contrasts
- Social & religious composition
- Internal Boundaries
- The Indian diaspora


Uneven Development

- Regional Contrasts
- Economic Core regions (Mumbai)
- Periphery (Bihar)
- Changing Economic Sectors
- Trade, aid and investment
- Demographic Change
- Changing social factors
- Geopolitics
- Technology & Connectivity


Types of Aid

- International Aid
- Government Aid
- Multilateral Aid
- Bilateral Aid
- Voluntary Aid
- Short-term emergency aid
- Long-term emergency aid

Case Study – Positive & negative impacts of rapid development in India

- Air Pollution 
- Water Pollution
- Deforestation
- Desertification
- Greenhouse gases
- Climate change
- Managing growth

Skills

- I can compare rankings of countries using development indicators 
- I can use proportional flow line maps to visualize trade patterns & flows
- I can interpret population pyramids.
- I can use socio-economic data to calculate data to calculate the difference from the mean, for the core and periphery regions.

6. Resource Management

Classifying resources

- Abiotic resources
- Biotic resources
- Non-renewable resources
- Renewable resources

How is exploitation changing environments?

- Deforestation in Cameroon
- Oil extraction in Ecuador
- Overfishing in the North Sea

Distribution of natural resources on a global and national scale

- Global variety & distribution
- Minerals & fossil fuels
- Agriculture & forestry
- Natural resources in the UK

Consumption of resources

- Global patterns of consumption
- Global energy consumption
- Global food consumption
- Global fresh water

Skills

- I can use and interpret UK and World maps showing distribution of resources.



6A. Energy Resource Management

Types of Energy Resources Pros & Cons

- Non-renewable (Finite)
- Fossil Fuels
 - Coal
 - Oil
 - Natural Gas
 - Nuclear (Renewable energy from a finite resource)

- Renewable energy
- Wind
 - Hydro-electric Power (HEP)
 - Solar
 - Tidal & Wave
 - Geothermal
 - Biofuels

UK's Energy Mix (2014)

- Gas 34.1%
- Oil 34%
- Coal 16.4%
- Nuclear 7.1%
- Bioenergy 5.5%
- Wind & Hydro 1.9%
- Imports 0.9%

Reasons for variations in global energy mix

- Population
- Income & wealth
- Availability of energy supplies
- Growth of industry
- Technological Advances

Development of renewable energy resources

- Wind energy e.g. London Array
- Hydro-electric Power (HEP) e.g. Itaipu HEP plant, Brazil & Paraguay
- Solar Power e.g. Mojave Desert, USA

Development of non-renewable energy resources

- Oil reserves e.g. Athabasca tar sands, Canada
- Natural Gas – Fracking
- Nuclear Energy - Uranium


Disputes over energy resources

- Fracking (Pros & Cons in USA)
- Should the UK introduce fracking (Pros & Cons)


How stakeholders can manage energy resources

- Individuals (Carbon footprint)
- Organisations
- Governments

Case Study – Sustainable energy Management, China (Emerging)

- China's Energy Mix 
- HEP – Three Gorges Dam
- Solar Power – Gobi Desert

Case Study – Sustainable energy Management, Germany (Developed)

- Germany's Energy Mix 
- Wind – Norderhede farm
- Solar Power – Bavaria Solarpark

6B. Water Resource Management

Global variation of fresh water supply

Distribution of countries in:

- Water Surplus
- Water deficit

Causes of **water stress**

- Population growth
- Climate change
- Level of Development

Differences in Water consumption

- Agriculture (Irrigation of crops)
- Industry (Cooling machinery, washing products)
- Washing (Drinking & Washing)
- Change in supply & Demand for water in Las Vegas

Water Supply problems in the UK

- Rainfall imbalance
- Seasonal imbalance
- Ageing Infrastructure

Water Supply problems in emerging & developing Countries

- Unsafe Water
- Pollution of water courses
- Low annual rainfall: The Sahel


Meeting the demand for water

- Desalination
- Management disputes
- Las Vegas Water Problems

How stakeholders can manage energy resources

- Individuals
- Organisations
- Governments

Case Study – Sustainable water Management, UK

- Increase water use 
- Build Reservoirs
 - Extract more water
 - Recycle Water
- Decrease water use
- Water Meters
 - Cut use by farmers
 - Education to use less

Case Study – Sustainable water Management, China

- Hard engineering 
- South-North Water Transfer scheme
- Management Plan 
- Effective Monitoring
 - Water Irrigation
 - Environmental protection of freshwater
 - Agriculture
 - Cities & Industry

Edexcel GCSE Geography A Checklist

Fieldwork & UK Challenges

This check list contains the following units:

7 – Geographical Investigation – Fieldwork

You must choose between

7A Physical – River or **Coastal landscapes**

7B Human – Rural or **Urban environments**

8 – Geographical Investigations – UK Challenges

This Symbol Indicates a skills you may be expected to apply in the exam.



7 Geographical Investigations

Stages of the Enquiry Process

1. The Enquiry Question & Location of study
2. Methodology – Range of techniques and methods used in fieldwork
3. Data Presentation – Processing and presenting fieldwork data
4. Analysing and explaining fieldwork data
5. Conclusion
6. Evaluation and critical reflection of fieldwork data, methods used, conclusions drawn and knowledge gained.

Skills



- I can identify questions or issues for investigation.
- I can develop a hypothesis and/or key questions.
- I can consider appropriate sampling techniques (Systematic vs random vs stratified).
- I can consider health & safety and undertake risk assessment.
- I can select data collection methods and equipment to ensure accuracy and reliability.
- I can present my data using ICT and hand drawn methods.
- I can write descriptively, analytically and critically about my findings.
- I can write well evidences and informed conclusions.

8 Geographical Investigations – UK Challenges

Resource Consumption & Sustainability

- Changes to the UK Population
- Pressure on UK Ecosystems
- Agribusiness
- Greenfield sites
- Brownfield sites
- Green Belt
- Addressing the issue of consumption

Sustainable Transport Options in the UK

- Public Transport Systems
- Cycle Hire & Routes
- Car Sharing
- Zero/low emission transport
- Congestion Charge

Settlement, population & Economic Challenges

- The 'two speed economy' Solutions
- High Speed Rail 2 (HS2)
- Transport across Northern UK
- Improve Northern Airport connections
- Pros & Cons of Brownfield & Greenfield

Migration and the UK

- Patterns of migration change
- Reasons for migration
- Migrants
- Emigrant
- Immigrant
- Net Migration
- Views of different groups (Businesses, local government)

UK Landscape Challenges

- Sustainable development in UK National Parks
- Conservation Apprentices
 - Change transport habits
 - Encourage local businesses to use renewable energy sources
 - Create more employment in national parks
 - Funding & investments to small businesses.

River Flood Risk in the UK

- Flooding resulting from
 - ❖ Increasing population
 - ❖ Changes in land use
 - ❖ Climate change
- Somerset Levels 2013/2014
- Hard & soft engineering to manage flooding.

The UK coastal challenges

- Storm Surges (December 2013)
- Addressing coastal flood risk
- Hard & soft engineering to manage flooding.

The UK's climate change challenges

- Changes to average temperatures
- Changes to average precipitation

Impacts

- Risk of drought
- Water deficits
- Ecosystems
- Food supply (Local & global)

Responses on an individual, local, national & international scales.