GCSE Geography: River Landscapes in the UK

Key Ideas of this module

The UK has a range of diverse landscapes

- Overview of the location of major upland/lowland areas and river systems.

The shape of river valleys changes as rivers flow downstream

The long profile and changing cross profile of a river and its valley. Fluvial processes:

- **Erosion** – hydraulic action, abrasion, attrition, solution, vertical and lateral erosion
- **Transportation** – traction, saltation, suspension and solution
- **Deposition** – why rivers deposit sediment.

Distinctive fluvial landforms result from different physical processes

Characteristics and formation of landforms resulting from:

- **Erosion**: interlocking spurs, waterfalls and gorges
- **Erosion** and **Deposition**: meanders and ox-bow lakes
- **Deposition**: levées, flood plains and estuaries.
- An example of a river valley in the UK to identify its major landforms of erosion and deposition – **River Tees**

Different management strategies can be used to protect river landscapes from the effects of flooding

- How physical and human factors affect the flood risk – precipitation, geology, relief and land use.
- The use of hydrographs to show the relationship between precipitation and discharge

The costs and benefits of the following management strategies:

- **Hard engineering** – dams and reservoirs, straightening, embankments, flood relief channels
- **Soft engineering** – flood warnings and preparation, flood plain zoning, planting trees and river restoration.
- One example of a flood management scheme in the UK – River Tees

Read	**Watch**
▪ All the rivers, Dorit Rabinyan ▪ The making of British landscape from ice age to present, Nicholas Crane	

GCSE Geography: Coastal Landscapes in the UK

Key Ideas of this module

The UK has a range of diverse landscapes

- Overview of the location of major upland/lowland areas and river systems.

The coast is shaped by a number of physical processes

Wave types and characteristics.

Coastal processes:

- **weathering processes** – mechanical, chemical
- **mass movement** – sliding, slumping and rock falls
- **erosion** – hydraulic power, abrasion and attrition
- **transportation** – longshore drift
- **deposition** – why sediment is deposited in coastal areas

Distinctive coastal landforms are the result of rock type, structure and physical processes

- How geological structure and rock type influence coastal forms
- **Erosional Landforms**: headlands and bays, cliffs and wave cut platforms, caves, arches and stacks
- **Depositional Landforms**: beaches, sand dunes, spits and bars.
- **Case study** section of coastline in the UK to identify its major landforms of erosion and deposition – **South Shields**

Different management strategies can be used to protect coastlines from the effects of physical processes

The costs and benefits of the following management strategies:

- **hard engineering** – sea walls, rock armour, gabions and groynes
- **soft engineering** – beach nourishment and re-profiling, dune regeneration managed retreat – coastal realignment.
- **Holderness Coast** coastal management scheme in the UK: reasons for management, the management strategy, effects and conflicts.

Read	**Watch**
	▪ Coast, BBC series

The Challenge of Natural Hazards Key Ideas

Tectonic Hazards	**Natural hazards pose major risks to people and property.** ▪ Definition and types of natural hazards. ▪ Factors affecting **Hazard-Risk.**
	Earthquakes and volcanic eruptions are the result of physical processes. ▪ Plate tectonics theory. ▪ Global distribution of earthquakes & volcanic eruptions (& relationship to plate margins.) ▪ The physical processes taking place at different types of plate margins (**constructive**, **destructive** and **conservative**) that lead to **earthquakes** and **volcanic** activity.
	The effects of & responses to a tectonic hazard vary between areas of contrasting levels of wealth. ▪ Primary and secondary effects of a tectonic hazard. ▪ Immediate and long-term responses to a tectonic hazard. ▪ Comparison of the ***Nepalese 2015*** and ***Christchurch 2011/2016*** EQs.
	Management can reduce the effects of a tectonic hazard. ▪ Reasons why people continue to live in areas at risk from a tectonic hazard. ▪ How 3Ps: prediction, protection and planning can reduce the risks.
Weather Hazards	**Global atmospheric circulation helps determine patterns of weather and climate** ▪ General atmospheric circulation model(GACM): pressure belts and surface winds.
	Tropical storms (hurricanes, cyclones, typhoons) develop due to specific physical conditions ▪ Global distribution of tropical storms (**hurricanes, cyclones, typhoons**). ▪ An understanding of the relationship between tropical storms & GACM. ▪ Cause of tropical storms and the sequence of their formation and development. ▪ The structure and features of a tropical storm. ▪ How climate change might affect the distribution, frequency and intensity of tropical storms.
	Tropical storms have significant effects on people and the environment. ▪ Primary and secondary effects of tropical storms. ▪ Immediate and long-term responses to a tropical storm. ▪ Use named example of a tropical storm to show its effects and responses – Haiyan 2013 ▪ How 3Ps: prediction, protection and planning can reduce the effects of tropical storms.
	The UK is affected by a number of weather hazards. ▪ Overview of types of weather hazard experienced in the UK. ▪ ***Storm Desmond 2015*** causes, social, economic and environmental impacts, how management strategies can reduce risk and evidence that weather is becoming more extreme in the UK.
Climate Change	**Climate change is the result of natural and human factors and has a range of effects** ▪ Evidence for climate change from the beginning of the Quaternary period to the present day. ▪ Possible causes of climate change. **Natural factors**: orbital changes, volcanic activity and solar output & **Human factors**: use of fossil fuels, agriculture and deforestation. ▪ Overview of the effects of climate change on people and the environment.
	Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change). ▪ **Mitigation** – alternative energy production, carbon capture, planting trees, international agreements ▪ **Adaptation** – change in agricultural systems, managing water supply, reducing risk from rising sea levels

Read:	**Watch:**
▪ The big ones: how natural disasters have shaped us, Lucy Jones ▪ Earth debates: Can we protect people from natural disasters? ▪ Hurricanes VS tornadoes VS typhoons: wind systems of the world	▪ The Impossible ▪ Dante's Peak ▪ San Andreas

GCSE Geography: The Living World

Key Ideas of this module

Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.

- Small-scale UK ecosystem, to illustrate inter-relationships within a natural system, producers, consumers, decomposers, food chain, food web and nutrient cycle
- The balance between components. The impact on the ecosystem of changing one component
- Overview of the distribution and characteristics of large scale, natural, global ecosystems

Tropical rainforest ecosystems have a range of distinctive characteristics.

- The physical characteristics
- The interdependence of climate, water, soils, plants, animals and people
- How plants and animals adapt to the physical environment
- Issues related to biodiversity

Deforestation has economic and environmental impacts.

- **Causes** of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth
- **Impacts** of deforestation - economic development, soil erosion, loss of biodiversity, contribution to climate change

Tropical rainforests need to be managed to be sustainable.

- Value of tropical rainforests to people and the environment.
- Strategies used to manage the rainforest sustainably: Selective logging and replanting, Conservation and education, Ecotourism and international agreements about the use of tropical hardwoods, Debt reduction

Cold environments (polar and tundra) have a range of distinctive characteristics.

- The physical characteristics
- The interdependence of climate, permafrost, soils, plants, animals and people
- How animals adapt to the physical conditions
- Issues related to biodiversity

Development of cold environments creates opportunities and challenges.

A case study of a cold environment to illustrate:

- **Development opportunities** in cold environments: mineral extraction, energy, fishing and tourism
- **Challenges** of developing cold environments: extreme temperature, inaccessibility, provision of buildings and infrastructure.

Cold environments are at risk from economic development.

- The value of cold environments as wilderness areas and why these fragile environments should be protected.
- Strategies used to balance the needs of economic development and conservation in cold environments: Use of technology, Role of governments, International agreements, Conservation groups

Read	**Watch**
▪ Rainforest: Dispatches from Earths most vital frontlines, Tony Juniper ▪ Brazil, Michael Palin	▪ Anything David Attenborough has done! Planet Earth, Blue Planet, Seven Worlds one Planet, Frozen Planet, Life, ▪ Simon Reeves BBC documentaries

GCSE Geography: Urban Issues and Challenges

Key Ideas of this module

A growing percentage of the world's population lives in urban areas

- Pattern of urban change, factors effecting, differences in HIC & LIC and emergence of Mega-cities

Urban growth creates opportunities and challenges for cities in LICs and NEEs

Lagos, Nigeria as case study. Location and importance of the city, regionally, nationally and internationally.

- ***Opportunities*** (Social: health, education, water supply and energy. Economic: industrial areas).
- ***Challenges*** (Slums, providing clean water, providing health and education, reducing unemployment and crime).
- ***Managing*** environmental issues (waste disposal, air and water pollution, traffic congestion).
- An example of how urban planning is improving the quality of life for the urban poor

Urban change in cities in the UK leads to a variety of social, economic and environmental opportunities and challenges.

Newcastle-upon-Tyne as case study. Location and importance of the city, regionally, nationally and internationally.

- Impacts of national and international ***migration*** on the growth and character of the city
- How ***urban change*** has created opportunities: social and economic: cultural mix, recreation and entertainment, employment, integrated transport systems environmental: urban greening
- How ***urban change*** has created challenges: social and economic: urban deprivation, inequalities in housing, education, health and employment environmental: dereliction, building on brownfield and greenfield sites, waste disposal.
- The impact of ***urban sprawl*** on the ***rural–urban fringe***, and the growth of commuter settlements.
- An example of an ***urban regeneration*** project to show: reasons why the area needed regeneration and the main features of the project.

Urban sustainability requires management of resources and transport.

Features of ***sustainable urban*** living:

- Water and energy conservation, waste recycling, creating green space.
- How urban transport strategies are used to reduce traffic congestion.

Read	**Watch**
▪ Welcome to Lagos, Chibundu Onuzo ▪ Trash, Andy Mulligan ▪ Future cities, Camilla Ween	▪ Kevin McCloud: Slumming it documentary ▪ Andrew Marr: Megacities documentary ▪ Slumdog Millionaire

GCSE Geography: Changing Economic World

Key Ideas of this module

There are global variations in economic development and quality of life.

- Different ways of classifying parts of the world according to their level of economic development and quality of life
- Different economic and social measures of development: gross national income (GNI) per head, birth and death rates, infant mortality, life expectancy, people per doctor, literacy rates, access to safe water, Human Development Index (HDI).
- Limitations of economic and social measures
- Links between stages of the DTM and the level of development
- Causes of uneven development: physical, economic and historical
- Consequences of uneven development: disparities in wealth and health, international migration

Some LICs or NEEs are experiencing rapid economic development which leads to significant social, environmental and cultural change.

A case study of one LIC or NEE to illustrate (Lagos and Nigeria):

- The location and importance of the country regionally and globally
- The wider political, social, cultural & environmental context for Nigeria
- The changing industrial structure. The balance between different sectors of the economy. How manufacturing industry can stimulate economic development
- The role of transnational corporations (TNCs) in relation to industrial development. Advantages and disadvantages of TNC(s) to the host country
- The changing political and trading relationships with the wider world
- International aid: types of aid, impacts of aid on the receiving country
- The environmental impacts of economic development
- The effects of economic development on the quality of life for the population

Major changes in the economy of the UK have affected and will continue to affect employment patterns and regional growth.

Economic futures in the UK:

- Causes of economic change: de-industrialisation and decline of traditional industrial base, globalisation and government policies
- Moving towards a post-industrial economy: development of information technology, service industries, finance, research, science and business parks
- Impacts of industry on the physical environment. An example of how modern industrial development can be more environmentally sustainable
- Socio-economic changes in rural landscapes in areas of population growth/decline
- Improvements & developments in infrastructure: road, rail, port and airport capacity

Read	**Watch**
• Prisoners of Geography, Tim Marshall • Factfulness, Hans Rosling • How population change will transform our world, Sarah Harper • The bottom billion, Paul collier	• Blood Diamonds (film)

GCSE Geography: Challenge of Resource Management

Key Ideas of this module

Food, water and energy are fundamental to human development

- The significance of food, water and energy to economic and social well-being.
- An overview of global inequalities in the supply and consumption of resources.

The changing demand and provision of resources in the UK creates opportunities and challenges

Food:

- The growing demand for high value **food exports** from low income countries and all year demand for **seasonal food** and **organic produce**.
- Larger **carbon footprints** due to the increasing number of '**food miles'** travelled and moves towards local sourcing of food.
- The trend towards **agribusiness.**

Water:

- The changing demand for water.
- Water quality and pollution management.
- Matching supply and demand – areas of **deficit** and **surplus**.
- The need for **transfer** to maintain supplies.

Energy:

- The changing energy mix - reliance on fossil fuels, growing significance of renewables.
- Reduced domestic supplies of coal, gas and oil.
- Economic and environmental issues associated with exploitation of energy sources.

Demand for energy resources is rising globally but supply can be insecure, which may lead to conflict. Areas of surplus (security) and deficit (insecurity)

- Global distribution of energy consumption and supply.
- Reasons for increasing energy consumption: economic development, rising population, technology.
- Factors affecting energy supply: physical factors, cost of exploitation and production, technology and political factors.
- Impacts of energy insecurity – exploration of difficult and environmentally sensitive areas, economic and environmental costs, food production, industrial output, potential for conflict where demand exceeds supply.

Different strategies can be used to increase energy supply

Overview of strategies to increase energy supply:

- Renewable (biomass, wind, hydro, tidal, geothermal, wave and solar) and nonrenewable (fossil fuels and nuclear power) sources of energy.

An example to show how the extraction of a fossil fuel has both advantages and disadvantages.

Moving towards a sustainable resource future:

- Individual energy use and carbon footprints.
- **Energy conservation**: designing homes, workplaces and transport for sustainability, demand reduction, use of technology to increase efficiency in the use of fossil fuels

An example of a local renewable energy scheme in an LIC or NEE to provide sustainable supplies of energy.

Read	**Watch**
• Turning the Tide on plastic, Lucy Siegle • There is no planet B, Mike Berners-Lee • No one is too small to make a difference, Greta Thunberg	• THE NEWS!! • An inconvenient Truth 1 &2 Film