A-Level Geography Topic Checklists
Paper 1 – Physical Geography

Unit A – Water and Carbon Cycles

Content	Notes	Exam Ready
3.1.1.1 WATER AND CARBON CYCLES AS NATURAL SYSTEMS		
Systems concepts and their application to the water cycle – inputs, outputs, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium		
Systems concepts and their application to the carbon cycle – inputs, outputs, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium		
3.1.1.2 THE WATER CYCLE		
• Global distribution and size of major stores of water – lithosphere, hydrosphere, cryosphere and atmosphere • Processes driving change in the magnitude of these stores over time and space, including flows: evaporation, condensation, cloud formation, causes of precipitation and cryospheric processes at hill slope, drainage basin and global scales with reference to varying timescales involved and transfers in the water cycle at hillslope • Drainage basins as open systems – inputs and outputs, evapo-transpiration and runoff; stores and flows, to include interception, surface, soil water, groundwater and channel storage; stemflow, infiltration, overland flow and channel flow • Concept of the water balance • Runoff variation and the flood hydrograph • Changes in the water cycle over time to include natural variation including storm events, seasonal changes • Changes in the water cycle over time to include human impact including farming practices, land use changes, water abstraction		
3.1.1.3 THE CARBON CYCLE		
• Global distribution and size of major carbon stores – lithosphere, hydrosphere, cryosphere, biosphere, atmosphere • Factors driving change in the magnitude of these stores over time and spaces, including flows and transfers at plant scale, sere and continental scales: photosynthesis, respiration, decomposition, combustion, carbon sequestration in oceans and sediments, weathering • Changes in the carbon cycle over time, to include **natural variation** (including wild fires and volcanic activity) • Changes in the carbon cycle over time, to include **human impact** (including hydrocarbon fuel extraction and burning, farming practices, deforestation and land use change) • The **carbon budget** and the impact of the carbon cycle on land, oceans and atmosphere, including global climate		
3.1.1.4 WATER, CARBON, CLIMATE AND LIFE ON EARTH		
• The role of water and carbon stores and cycles in supporting life on Earth with particular reference to climate • The relationship between the water cycle and carbon cycle in the atmosphere • The role of feedbacks within and between cycles and their link to climate change and implications for life on Earth • Human interventions in the carbon cycle designed to influence carbon transfers and • mitigate climate change		
3.1.1.6 CASE STUDIES		
Case study of a tropical rainforest (TRF) to illustrate themes in water and carbon cycles Case study of a TRF – relationship to environmental change and human activity		
Case study of a river catchment at a local scale – to illustrate and analyse the key themes above and engage with field data Case study of a river catchment at a local scale – consider the impact of precipitation on stores and transfers and implications for sustainable water supply and/or flooding		

Unit B – Coastal Systems and Landscapes

Content	Notes	Exam Ready
3.1.3.1 COASTS AS NATURAL SYSTEMS		
• Systems concepts and their application to the development of coastal landscapes – inputs, outputs, energy, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium • The concepts of landform and landscape and how related landforms combine to form characteristic landscapes		
3.1.3.2 SYSTEMS AND PROCESSES		

• Sources of energy in coastal environments: winds, waves (constructive and destructive), currents and tides
• Low energy and high energy coasts
• Sediment sources
• Sediment cells
• Sediment budgets
• Geomorphological processes: weathering, erosion, transportation, deposition
• Distinctively coastal processes: marine:
  • erosion – hydraulic action, wave quarrying, corrasion/abrasion, cavitation, solution, attrition;
  • transportation: traction, suspension (longshore/littoral drift) and
  • deposition
• Distinctively coastal processes:
  • sub-aerial: weathering, mass movement and runoff		

3.1.3.3 COASTAL LANDSCAPE DEVELOPMENT (UK EXAMPLES & BEYOND THE UK)		

• Origin and development of landforms and landscapes of coastal erosion:
  • cliffs and wave cut platforms,
  • cliff profile features including caves, arches and stacks;
• Factors and processes in their development
• Origin and development of landforms and landscapes of coastal deposition:
  • beaches,
  • simple and compound spits,
  • tombolos, offshore bars, barrier beaches and islands
  • sand dunes;
• Factors and processes in their development
• Estuarine mudflat/saltmarsh environments and associated landscapes; factors and processes in their development
 	
• Eustatic, isostatic and tectonic sea level change: major changes in sea level in the last 10,000 years
• Coastlines of emergence and submergence.
• Origin and development of associated landforms:
  • raised beaches,
  • marine platforms;
  • rias, fjords, Dalmatian coasts
• Recent and predicted climatic change and potential impact on coasts
 	
• The relationship between process, time, landforms and landscape in coastal settings		

3.1.3.4 COASTAL MANAGEMENT		
• Human intervention in coastal landscapes. • Traditional approaches to coastal flood and erosion risk: hard and soft engineering • Sustainable approaches to coastal flood risk and coastal erosion management: shoreline management/integrated coastal zone management		
3.1.3.6 CASE STUDIES		

• Case study of the **Holderness Coast** coastal environment(s) to:
  • illustrate and analyse fundamental coastal processes, their landscape outcomes as set out above and engage with field data.
  • analyse challenges represented in their sustainable management
• Case study of a contrasting coastal landscape (Sunderbans , Bangladesh) beyond the UK to
  • illustrate and analyse how it presents risks and opportunities for human occupation and development
  • illustrate and evaluate human responses of resilience, mitigation and adaptation		

Unit C – Ecosystems under Stress

Content	Notes	Exam Ready
3.1.6.1 ECOSYSTEMS AND SUSTAINABILITY		
• The concept of biodiversity. Local and global trends in biodiversity • Causes, rates and potential impacts of declining biodiversity • Ecosystems and their importance for human populations in the light of continuing population growth and economic development. Human populations in ecosystem development and sustainability		
3.1.6.2 ECOSYSTEMS AND PROCESSES		

• Nature of ecosystems – their structure, energy flows, trophic levels, food chains and food webs
• Application of systems concepts to ecosystems – inputs, outputs, stores and transfers of energy and materials.
• Concepts of biomass and net primary production
• Concepts of succession:
  • seral stages,
  • climatic climax,
  • sub-climax and
  • plagio-climax
• Mineral nutrient cycling (Biomass-Litter-Soil) and factors that affect rates of flows
• Nature of terrestrial ecosystems and the interconnections between climate, vegetation, soil and topography which produce them.
• Ecosystem responses to changes in one or more of their components or environmental controls
• Factors influencing the changing of ecosystems, including climate change and human exploitation of the global environment		

3.1.6.3 BIOMES		

• The concept of the biome. The global distribution of major terrestrial biomes
• **The nature of tropical rainforest:**
  • the main characteristics
  • ecological responses to the climate, soil and soil moisture budget (adaptations by flora and fauna)
  • human activity and its impact
  • typical development issues in the biome to include changes in population, economic development, agricultural extension and intensification, implications for biodiversity and sustainability
• **The nature of savanna grassland:**
  • the main characteristics
  • ecological responses to the climate, soil and soil moisture budget (adaptations by flora and fauna)
  • human activity and its impact
  • typical development issues in the biome to include changes in population, economic development, agricultural extension and intensification, implications for biodiversity and sustainability		

3.1.6.4 ECOSYSTEMS IN THE BRITISH ISLES OVER TIME		
• Succession and climate climax as illustrated by lithoseres and hydroseres • The characteristics of the climatic climax: temperate deciduous woodland biome • The effects of human activity on succession – illustrated by one plagioclimax such as heather moorland		
3.1.6.5 MARINE ECOSYSTEMS		

• The distribution and main characteristics of coral reef ecosystems. Environmental conditions associated with reef development.
• With reference to a named, located coral reef: factors in the health and survival of reefs:
  • natural: water temperature, acidity, salinity, algal blooms
  • human activity and impact: major drainage basin schemes, onshore development, desalination, pollution, tourism, fishing
  • future prospects for coral reefs		

3.1.6.6 LOCAL ECOSYSTEMS		
• The main characteristics of a distinctive local ecosystem (such as an area of heathland, managed parkland, pond, dune system). Ecological responses to the climate, soil and soil moisture budget (adaptations of flora and fauna) • Local factors in ecological development and change (such as agriculture, urban change, the planned and unplanned introduction of a new species) • The impacts of change and measures to manage these impacts. Conservation strategies and their implementation in specific settings		
3.1.6.7 CASE STUDIES		

• Case study of a specified region experiencing ecological chang (**Sundarbans, Bangladesh**) to illustrate and analyse:
  • the nature of the change and the reasons for it
  • how the economic, social and political character of its community reflects its ecological setting and how the community is responding to change		

• Case study of a specified ecosystem at a local scale (**Sefton Coast**) to illustrate and analyse
  • key themes set out above, including the nature and properties of the ecosystem and human impact upon it
  • key themes set out above, including the challenges and opportunities presented in its sustainable development		

A-Level Geography Topic Checklists
Paper 2 – Human Geography

GLOBAL SYSTEMS AND GLOBAL GOVERNANCE

Content	Notes	Exam Ready
3.2.1.1 GLOBALISATION		
• Dimensions of globalisation: flows of capital, labour, products, services and information; global marketing; patterns of production, distribution and consumption • Factors in globalisation: the development of technologies, systems and relationships, including financial, transport, security, communications, management and information systems and trade agreements		
3.2.1.2 GLOBAL SYSTEMS		
• Form and nature of economic, political, social and environmental interdependence in the contemporary world • Issues associated with interdependence including how: unequal flows of people, money, technology within global systems can sometimes act to promote stability, growth and development but can also cause inequalities, conflicts and injustices for people and places • Issues associated with interdependence including how: unequal power relations enable some states to drive global systems to their own advantage and to directly influence geopolitical events, while others are only able to respond or resist in a constrained way		
3.2.1.3 INTERNATIONAL TRADE AND ACCESS TO MARKETS		
• Global features and trends in the volume and pattern of international trade and investment associated with globalisation • Trading relationships and patterns between large highly developed economies (HDEs) such as the United States, the European Union, emerging major economies (EMEs) such as China and India and smaller, less developed economies (LDEs) such as those in sub-Saharan Africa, southern Asia and Latin America • Differential access to markets associated with levels of economic development and trading agreements and its impacts on economic and societal well-being • The nature and role of transnational corporations (TNCs), including their spatial organisation, production, linkages, trading and marketing patterns (TNC's – Apple, Nike) • Detailed reference to a specific TNC including its impacts on those countries in which it operates • World trade in at least one food commodity or one manufacturing product (Case Study: Bananas) • Analysis and assessment of the geographical consequences of global systems to specifically consider how international trade and variable access to markets underly and impacts on students' and other people's lives across the globe. (Examples of trade systems – NAFTA, EU Trad Bloc)		
3.2.1.4 GLOBAL GOVERNANCE		
• The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems • Issues associated with attempts at global governance, including how agencies, including the UN in the post-1945 era, can work to promote growth and stability but may also exacerbate inequalities and injustice (Case Study – Role of UN and work on different continents such as Africa and Europe (Balkans). • Issues associated with attempts at global governance, including how interactions between the local, regional, national, international and global scales are fundamental to understanding global governance		
3.2.1.5 THE 'GLOBAL COMMONS'		

• The concept of the global commons. The rights of all to the benefits of the global commons. Acknowledgement that the rights of all people to sustainable development must acknowledge the need to protect the global commons. Students research Global Common Protocols eg Montreal.
• An outline of the contemporary geography, including climate, of Antarctica (including the Southern Ocean as far north as the Antarctic Convergence) to demonstrate its role as a global common and illustrate its vulnerability to global economic pressures and environmental change
• Threats to Antarctica arising from: climate change, fishing and whaling, the search for mineral resources, tourism and scientific research
• Critical appraisal of the developing governance of Antarctica:
  ◦ International government organisations to include: United Nations (UN) agencies such as the United National Environment Programme (UNEP) and the International Whaling Commission
  ◦ Developing governance: The Antarctic Treaty (1959), the Protocol on Environmental Protection to the Antarctic Treaty (1991)
  ◦ IWC Whaling Moratorium (1982) – their purpose, scope and systems for inspection and enforcement
• The role of NGOs in monitoring threats and enhancing protection of Antarctica
• Analysis and assessment of the geographical consequences of global governance for citizens and places in Antarctica and elsewhere to specifically consider how global governance underlies and impacts on students' and other people's lives across the globe		

3.2.1.6 GLOBALISATION CRITIQUE		
The impacts of globalisation to consider the benefits of growth, development, integration, stability against the costs of inequalities, injustice, conflict and environmental impact		

UNIT B - CONTEMPORARY URBAN ENVIRONMENTS

Content	Notes	Exam Ready
3.2.3.1 URBANISATION		
• Urbanisation and its importance in human affairs • Global patterns of urbanisation since 1945 • Urbanisation, suburbanisation, counter-urbanisation, urban resurgence • The emergence of megacities and world cities and their role in global and regional economies • Economic, social, technological, political and demographic processes associated with urbanisation and urban growth • Urban change: deindustrialisation, decentralisation, service economy • Urban policy and regeneration in Britain since 1979		
3.2.3.2 URBAN FORMS		

• Contemporary characteristics of mega/world cities (Case Study – Mumbai)
• Urban characteristics in contrasting settings
• Physical and human factors in urban forms
• Spatial patterns of land use, economic inequality, social segregation and cultural diversity in contrasting urban areas, and the factors that influence them
• New urban landscapes: (Case Study example – London)
  • town centre mixed developments,
  • cultural and heritage quarters,
  • fortress developments,
  • gentrified areas, edge cities
• The concept of the post-modern western city		

3.2.3.3 SOCIAL AND ECONOMIC ISSUES ASSOCIATED WITH URBANISATION		
• Issues associated with economic inequality, social segregation and cultural diversity in contrasting urban areas • Strategies to manage these (social and economic) issues		
3.2.3.4 URBAN CLIMATE		

• The impact of urban forms and processes on local climate and weather (Case study: Leeds)
  • Urban temperatures: the urban heat island effect
  • Precipitation: frequency and intensity
  • Fog and thunderstorms in urban environments
  • Wind: the effects of urban structures and layout on wind speed, direction and frequency
  • Air quality: particulate and photo-chemical pollution
• Pollution reduction policies		

3.2.3.5 URBAN DRAINAGE		
• Urban precipitation, surfaces and catchment characteristics; impacts on drainage basin storage areas; • Urban water cycle: water movement through urban catchments as measured by hydrographs • Issues with catchment management in urban areas. The development of sustainable urban drainage systems (SUDS) • River restoration and conservation in damaged urban catchments with reference to a specific project. • Reasons for and aims of the project; attitudes and contributions of parties involved; project activities and evaluation of project outcomes		
3.2.3.6 URBAN WASTE AND ITS DISPOSAL		
• Urban physical waste generation: sources of waste – industrial and commercial activity, personal consumption • Relation of waste components and waste streams to economic characteristics, lifestyles and attitudes • The environmental impacts of alternative approaches to waste disposal: unregulated, recycling, recovery, incineration, burial, submergence and trade • Comparison of incineration and landfill approaches to waste disposal in relation to a specified urban area		
3.2.3.7 OTHER CONTEMPORARY URBAN ENVIRONMENTAL ISSUES		
• Environmental problems in contrasting urban areas: atmospheric pollution, water pollution and dereliction • Strategies to manage environmental problems		
3.2.3.8 SUSTAINABLE URBAN DEVELOPMENT		
• Impact of urban areas on local and global environments. Ecological footprint of major urban areas • Dimensions of sustainability: natural, physical, social and economic • Nature and features of sustainable cities • Concept of liveability • Contemporary opportunities and challenges in developing more sustainable cities • Strategies for developing more sustainable cities		
3.2.3.9 CASE STUDIES		
• Case studies of two contrasting urban areas to illustrate and analyse key themes set out above, to include: patterns of economic and social well-being with particular reference to the implications for environmental sustainability • the character of the study areas including air pollution in China, River restoration project S Korea. • the experience and attitudes of their populations • East Manchester and Battersea Power Station developments. Contrast London v Bangalore.		

UNIT C – CHANGING PLACES

Content	Notes	Exam Ready
3.2.2.1 NATURE AND THE IMPORTANCE OF PLACES		
• The concept of place and the importance of place in human life and experience • Insider and outsider perspectives on place • Categories of place: near places and far places; experienced places and media places • Factors contributing to the character of places: endogenous: location, topography, physical geography, land use, built environment and infrastructure, demographic and economic characteristics • Factors contributing to the character of places: exogenous: relationships with other places • Case Study: Liverpool, Glastonbury,		
3.2.2.2(1) RELATIONSHIPS AND CONNECTIONS		
• The impact of relationships and connections on people and place with a particular focus on either changing demographic and cultural characteristics or economic change and social inequalities • How the demographic, socio-economic and cultural characteristics of places are shaped by shifting flows. (Example: EU migrants flows into UK) • The characteristics and impacts of external forces operating at different scales, either government or decisions of TNCS or international or global institutions • How past and present connections, within and beyond localities, shape places and embed them in regional, national, global scales • Specific examples – Real v Media created places (inc examples paintings, poetry, music, film)		
3.2.2.2(2) MEANING AND REPRESENTATION		
• How humans perceive and form attachments to places and represent the world to others, including the way in which place meanings are bound up with different identities (etc.) • How external agencies and community or local groups make attempts to create specific place-meanings and shape actions and behaviours. (Example: Iamsterdam project) • How places may be represented in different forms in diverse media that give contrasting images to that presented formally or statistically • How past and present processes of development influence social and economic characteristics of places and are implicit in present meanings		
3.2.2.4 – PLACE STUDIES		

• Local place study, exploring the developing character of a place local to the home or study centre
• Local place study sources to represent this place in the past and present. Sources must include:
  • qualitative (could be photographs, text from varied media, audio-visual media, artistic representations, oral sources, such as interview, reminiscences, songs etc)
  • and
  • quantitative data (could be statistics, such as census data, maps, geo-located data, geospatial data, including geographic information systems (GIS) applications)
  • Local place study - people's lived experience of the place in the past and at present
  • Local place study - either changing demographic and cultural characteristics or economic change and social inequalities
  • Contrasting place study, exploring the developing character of a contrasting and distant place
• Distant place study sources to represent this place in the past and present.
• Sources must include:
  • qualitative (could be photographs, text from varied media, audio-visual media, artistic representations, oral sources, such as interview, reminiscences, songs etc)
  • and
  • quantitative data (could be statistics, such as census data, maps, geo-located data, geospatial data, including geographic information systems (GIS) applications)
• Distant place study - people's lived experience of the place in the past and at present
• Distant place case study - either changing demographic and cultural characteristics or economic change and social inequalities		