

A Level Geography

Core Knowledge and Concepts



Welcome

Hello and welcome to this booklet! It has been developed to help you analyse key geographical issues that are studied in the A Level programme and aid you in developing a holistic understanding of Geography.

There are several subjects and concepts that permeate through the different individual topics within the A Level Geography course.

By gaining an understanding of these you will be able to apply them where appropriate, particularly when assessing and evaluating issues in exams.

A fundamental skill when assessing/evaluating is to be able to recognise that no issue is black and white and that you can demonstrate understanding of the complexity of a given subject. The true nature and impact of an issue can vary from place to place and over time and is very much dependent on a range of other variables.

Furthermore, there are certain issues and knowledge that transcend the specific units that are studied across the two-year programme.

This booklet explains these in the context of the A Level course, and it is of vital importance that you gain a secure understanding of them.

Section A: Assessment and Evaluation Tools

In this section there are a number of concepts/themes that you need to use when assessing and evaluating, in order to move away from a simple, binary approach such as pros/cons, positives/negatives and so on. You need to be able to demonstrate an understanding of the complexity of geographical issues and these tools allow you to do that.

1. Level of Economic Development

Everyone has a fair idea of what is meant by 'development', but it can be very difficult to explain it. This is a definition from, *The Dictionary of Geography*:

'The use of resources to move from a low-technology, subsistence society, with poor standards of living; to a high-technology, industrial society with high standards of living, including an overall increase in income levels'.

The nature, and impact, of all geographical issues are affected by the level of economic development of a place. It is therefore a key consideration when analysing a wide range of geographical issues such as, but not limited to:

- Vulnerability and management of hazards
- Management of environments
- The impacts of globalisation
- Demographic variations
- Resource Demand/Consumption
- The nature of places
- Geopolitics

There are of course other areas of the course where level of economic development is an important variable.

Broadly speaking we can refer to 'Low Income', 'Middle Income' and 'High Income' countries, whilst also recognising 'Emerging Economies'. However, you must also be aware that levels of development can also vary **within** countries. This links to the idea of '**Scale**', which features later in this document.

Countries at differing levels of development have differing levels of power, resilience and consumption, but also have specific characteristics and priorities that will affect the nature of any given geographical issue.

2. Governance

Governance can be defined as, the system by which organisations (government, private companies etc) are organised, directed and controlled. It is concerned with the structure and processes for decision making, accountability, control and behaviour of the senior players within that organisation.

The quality of governance influences the effectiveness of designing and implementing strategies and policies.

Governance is a system and process, not a single activity and therefore successful implementation of good governance requires a systematic approach that incorporates strategic planning and risk management.

Strong governance will often lead to effective and timely decision making that results in minimal negative impacts and successful implementation of a given strategy.

Weak governance is often a result of corruption or a lack of available resources, but **DO NOT** make the mistake of assuming that poor governance always goes hand-in-hand with low levels of economic development.

Governance is a key variable in assessing the effectiveness or impact of a range of geographical issues.

3. The Role and Attitudes of Different Players

There are different players (individuals, groups and organisations, stakeholders) involved in geographical issues and decisions (interdependence, globalisation, systems).

These include, but are not limited to:

- international players (intergovernmental organisations (IGOs)), national and local government
- large and small private businesses, transnational corporations (TNCs),
- pressure groups and non-governmental organisations (NGOs)
- local organisations and key individuals.

When critically analysing an issue, you must consider whether all players view issues in the same way and whether an issue affects all players to the same extent.

Further to this is to consider that you should recognise that different issues and situations will be perceived differently by different groups and individuals as a result of their lived experience, priorities and values.

There are a range of factors that can influence values and attitudes and these can include:

- identity
- political and religious views
- priorities (economic, environments, security etc)
- It is also heavily influenced by 'Perception', which is explained in the next section.

4. Perception

Perception is a vital part of lived experience and affects how people engage with places and view geographical issues. It varies between individuals and groups of people (**Players**) and depends on demographic factors including age, social class, ethnicity, and overall quality of life; the needs and priorities of an individual/organisation; and the nature of a particular geographical issue. These factors may be real or imagined. People may have mainly positive or negative views about their place, which may alter over time.

This concept is obviously closely linked to the previous section, but again, when examining the outcome of a geographical issue or strategy it is important to consider that the priorities and outcomes may be perceived differently by different players.

5. Scale

Threats, impacts, strategies/policies, governance, and specific geographical issues can all occur at a range of scales. Broadly speaking, you should consider:

- Global/International
- National
- Sub-national.

That said, other scales may also be appropriate. For example:

- Regional
- Continental
- Ecosystem.

Furthermore, when evaluating the impact of physical processes and landforms, you should comment on whether they are macro-, meso- or micro- scale

In 'Evaluate' questions, considering how issues may manifest at a range of scales demonstrates an awareness of the complexity of the subject matter.

6. Spatial Patterns

This is one of the most important variables to consider when you are required to assess and/or evaluate a given subject. As mentioned before, you want to move away from a black and white approach.

The nature and impact of geographical issues can vary from place to place as a result of the previously explained factors – level of economic development, quality of governance, attitudes of players, physical geography and so on.

An example would be the impact of tourism on glacial landscapes will vary from place to place as polar/temperate and active/relict environments are not homogenous and the type of tourism taking place also differs.

To be able to recognise the relevant factors of an issue, but then to be able to explain that they are of particular significance in a particular location as a result of the characteristics of that place, demonstrates a high-level understanding of geographical issues.

7. Temporal Patterns

Just as issues can vary from place to place, they can also change over time. In geography it is possible to contrast current information on historical trends, but also to predict trends and outcomes. This links into the idea that future scenarios/outcomes are uncertain and dependent on a range of unknown variables.

Anything in the future has uncertainty attached to it for a number of reasons. Some of these include:

- All predictions are based on historical and present trends, though they may not continue into the future.
- Any number of unpredictable events or influences can alter the predicted outcome.
- Decisions taken by key decision makers cannot be known in advance

When assessing 'impact' it is a valuable consideration to mention the fact that the exact outcome is uncertain – though you must explain why this is, giving specific and relevant reasons.

Certain exam questions lend themselves more towards temporal patterns (changes over time), but when they do occur, recognising that future scenarios are uncertain is a good move to make.

Section B: Cross-Course Knowledge

Within the A Level course, there are certain subjects, issues and ideas that transcend the specific units that are studied. Here are several of the most important:

1. Globalisation

Globalisation refers to the increasing integration of economies around the world, particularly through the movement of goods, services and capital across borders (IMF).

It considers how through the development of transport and telecommunications, along with governmental decisions, places are becoming more interconnected.

These interconnections can be broadly categorised as economic, socio-cultural, political and technological.

Globalisation is considered one of the most important phenomena affecting people and societies today.

There are a range of attitudes towards globalisation. Those that are proponents (supporters) of globalisation tend to highlight overall economic growth and the massive reduction in extreme poverty that has occurred over the last 40 years. However, there are a range of issues associated with globalisation that people are opposed to. These include, but are not limited to:

- environmental degradation
- exploitation of workers
- industrial decline in HICs
- increasing inequality
- loss of sovereignty, culture and national identity.

Whilst globalisation is directly covered within the Global Systems and Global Governance unit, the causes, impacts and responses associated with it permeate through the whole A Level specification.

It is therefore extremely important that you are 100% secure in the key knowledge in this unit.

Examples of how Globalisation relates to the other units in the A Level Geography course include:

Water and Carbon Cycles

- Increasing demand for resources
- Environmental impact of globalisation
- Increasing demand for energy sources
- Impact of increasing fossil fuel emissions - climate change
- Impact of humans disrupting the carbon cycle – deforestation, increased carbon emissions

Glacial Systems and Landscapes

- Environmental impact of climate change (driven by development and increased emissions) on glacial environments
- Increase demand for resources in extreme environments
- International cooperation for managing cold environments/global commons

Hazards

- Impact of disasters on the global economy.
- Interdependence when managing hazards (e.g. international assistance)

Global Systems and Global Governance

- The whole unit

Changing Places

- The globalisation of places
- The impact of globalisation on places (positive and negative)

Contemporary Urban Environments

- Urbanisation as a result of rapid economic growth
- Contribution of globalisation to industrial decline
- Diversity of places from increased international migration
- Sustainable development.

2. Superpowers

A Superpower is a country that has the capacity to project dominating power and influence anywhere in the world (Alice Lyman Miller – Professor of National Security Affairs). Such is their influence and impact, their actions are relevant to many areas of the A Level course.

There are five areas of power where superpowers can exert their influence: economic, military, political, cultural and resource power.

Currently the USA is considered the sole, global hyperpower, being able to exert global influence in all five areas, however there are a number of other existing and emerging powers that challenge the current world order. These include:

- The European Union
- China
- India
- Russia
- Brazil.

The US's influence is heavily associated with globalisation – the current global economic system (capitalism) and the spread of western culture.

The future presents a range of possible geopolitical situations, broadly categorised as uni-, bi- and multi-polar scenarios.

All superpowers:

- have a disproportionately high demand on resources,
- are disproportionately responsible for global environmental and political issues,
- are disproportionately able to solve the major global environmental and political problems.

Examples of how their actions are relevant throughout the course include:

Water and Carbon Cycles

- Contribution to global climate change

Glacial Systems and Landscapes

- Role and influence of superpowers in managing global commons via international agreements
- Superpower demand for resources

Hazards

- International assistance in hazard response

Global Systems and Global Governance

- USA's economic, political and cultural influence (capitalism, cultural imperialism, westernisation)
- Emerging economic powers
- International governance

Changing Places

- na

Contemporary Urban Environments

- na.

3. Climate Change

The Earth's climate varies naturally, both in the short- and long- term. Anthropogenic (manmade) climate change refers to changes in the planet's climate that have occurred as a result of human activity, primarily the burning of fossil fuels releasing additional greenhouse gases into the atmosphere.

It is extremely important that you do not simply refer to climate change as 'global warming' – that is what random people on the street will say, not A Level Geographers!

The main observed change in the climate has been an increase in average global temperatures, and because of this, precipitation patterns have and are predicted to change.

However, all of these observed and predicted changes vary from place to place.

Therefore, when discussing climate change, you need to consider both the global causes and impacts, but also the local impact of a warming climate.

Climate Change features in a number of units throughout the course and you will find that as you progress through the course, your overall understanding of the causes, impact and management of climate change will deepen.

Here are some of the key pieces of information that you need to be secure with:

- The Intergovernmental Panel for Climate Change (IPCC) state that 'at least half' of the observed warming since 1950 is a result of human activity.
- Through human activities such as increased industrial activity and agriculture, greenhouse gases have been released into the atmosphere which have enhanced the natural greenhouse effect.
- At the same time, human have been removing carbon sinks, primarily through deforestation, thus reducing the planet's ability to sequester (absorb) carbon dioxide.
- These two phenomena have caused the observed warming.
- Warming has triggered positive feedback, which leads to further warming and negative feedback, which has a cooling effect. The net difference between the two is a warming effect.
- The environmental, social and economic impacts of climate change are extremely wide ranging – some are global, but every ecosystem and society will be affected differently and have a unique set of impacts to address.
- Human modification of the carbon cycle is having a significant impact on the hydrological cycle. This in turn is a significant factor in affecting water insecurity around the world.
- The ability to either mitigate or adapt to the impacts of climate change will vary from country to country, whilst also requiring international cooperation.

Examples of where climate change features in the course include, but are not limited to:

Water and Carbon Cycles

- Impact of climate change on the hydrological cycle – precipitation patterns, changing stores (e.g. decline in water stored as ice) and changing river regimes
- Human disruption of the carbon cycle contributing to climate change
- Impact of climate change on the hydrological cycle
- Mitigation and adaptation of/to climate change

Glacial Systems and Landscapes

- Impact of climate change in cold environments
- Changes to the hydrological cycle as a result of climate change

Hazards

- Impact of climate change on the frequency and intensity of meteorological-derived hazards (flooding, wildfires etc)

Global Systems and Global Governance

- Environmental impact of globalisation – increased emissions from economic growth and removal of carbon sinks (deforestation)

Changing Places

- na

Contemporary Urban Environments

- Contribution of urban environments to greenhouse emissions
- Impact of climate change to urban environments
- Challenges of climate change for urban environments.

4. Earth Systems

There are a number of ways in which earth systems can be categorised. It can be argued that there are five main systems, or spheres, on Earth.

The geosphere consists of the interior and surface of Earth, both of which are made up of rocks.

The part of the planet that can support living organisms comprises the second system; these regions are referred to as the biosphere.

The third system consists of the areas of Earth that are covered with water, called the hydrosphere.

The atmosphere is the fourth system, that keeps the planet warm and provides oxygen for breathing and carbon dioxide for photosynthesis.

Finally, the fifth system, which contains huge quantities of ice at the poles and elsewhere, constitutes the cryosphere, though it is important to recognise that this also constitutes part of the hydrosphere.

Though there are parts of the A Level course that focus exclusively on one of these spheres, the most important thing to remember is that all five of these highly complex systems **interact with each other** to maintain a healthy Earth.

In particular is the interaction between the carbon and hydrological cycles. Both of these global systems have shared stores and changes to one system will have consequences on the other. That said, changes to the carbon cycle will have a more significant impact on the hydrological cycle.

There are numerous occasions throughout the course that involve the carbon and/or the hydrological cycle. Below are a handful of examples:

Water and Carbon Cycles

- The entire unit

Glacial Systems and Landscapes

- Permafrost – water and carbon store: thawing allows decomposition to take place which releases more carbon (positive feedback)
- Changes to the hydrological cycle in cold environments (cryosphere and hydrosphere)

Hazards

- The geological carbon cycle – volcanic outgassing, uplift revealing carbonate rocks
- Evidence for plate tectonics – limestone and coal (carbonate rocks)
- Impact of changes to the carbon and hydrological cycles

Global Systems and Global Governance

- Increased energy demand contributing to climate change
- Changing diet – meat-rich produces more greenhouse gases
- Industrialisation – emerging economies
- Increased trade – increased emissions
- Increased demand for water exacerbating water insecurity
- Deforestation as a result of human activities such as urbanisation, agriculture and resource demand
- Increased political interactions allow for international agreements on climate change and transboundary water conflict

Changing Places

- na

Contemporary Urban Environments

- na.

5. Measures of Development

As previously mentioned, development can be defined as, **‘The use of resources to move from a low-technology, subsistence society, with poor standards of living; to a high-technology, industrial society with high standards of living, including an overall increase in income levels’**.

There are various indicators that attempt to give us an understanding of the level of development within a country. Initially these focused on the size of the economy and wealth of places as in theory, a wealthier place should have higher standards of living. However, over time social indicators (health, education etc.) have also been considered, along with measure of inequality within countries. The most common measures are listed below, with a very simple definition:

Economic

- Gross National Income per Capita (GNI): the value of a country's final income in a year, divided by its population.
- Gross Domestic Product per Capita: a measure that breaks down a country's economic output **per** person.
- Average Income per Capita: the **average income** earned **per** person in a given area (city, region, country, etc.) in a specified year.

Social

- Life Expectancy: the average number of years a person born in a particular year will live, based on current mortality trends.
- Literacy Rate: The percentage of adults that have experienced a basic (primary) level of education.
- Average Years of Schooling: the average number of years of education an individual in a given country experiences. This can be considered a ‘knowledge variable’.
- Demographic Data: Birth Rate, Death Rate, Infant Mortality Rate, Population Structure, and others, all give an indication of the level of development within a country.

Composite (includes a number of variables)

- Human Development Index: A measure that incorporates economic (GNI per cap), Health (life expectancy) and education (literacy rate and average years of schooling) data.

Inequality

- Gini Coefficient: is a measure of the distribution of income across a population.
- Gender Inequality Index: measures gender inequalities in three important aspects of human development – reproductive health, empowerment and economic status.

6. Demographic Characteristics

Demography refers to the study of the characteristics of population. Understanding the demographic characteristic of places can be of use in terms of:

- Vulnerability (hazards, health)
- Threats (economic, health, environmental)
- Resilience (hazards, economic)
- Priorities (economic, resource)
- Political Stability
- Place perception (Attitudes and Actions).

Demographic characteristics include, but are not limited to:

- Measures of fertility: birth rate, total fertility rate
- Measures of mortality: death rate, infant mortality rate
- Population Structure: age, gender
- Ethnicity
- Socio-economic Status
- Educational Attainment.

7. Feedback Mechanisms

Feedback mechanisms are those that either amplify a small change and make it larger (**positive feedback**) or diminish the change and make it smaller (**negative feedback**).

In A Level Geography feedback mechanisms are mainly concerned with the climate – either climate cooling or warming.

Climate Warming

Positive Feedback: As the climate warms, permafrost thaws which speeds up the biological processes of decomposition. This releases more carbon into the atmosphere, thus creating a greater warming effect.

Negative Feedback: A warming climate promotes plant growth. As plants sequester carbon through photosynthesis, an increase in plant growth can diminish the warming effect.

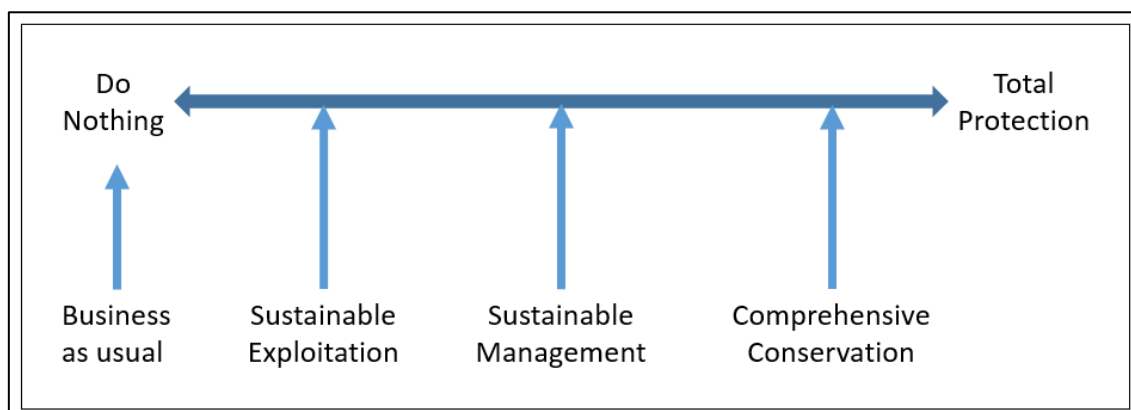
Climate Cooling

Positive Feedback: As the climate cools, global ice coverage increases, thus increasing the amount of solar radiation reflected (increased albedo effect), which results in further cooling.

Negative Feedback: As the climate cools there would be a reduction in evaporation and potentially cloud cover. This allows more solar radiation to reach the Earth's surface, thus having a warming effect.

8. Spectrum of Management

The spectrum of management is a framework for assessing appropriate management strategies for different environments.



It can be used when assessing a range of 'management' topics such as glaciated environments, water security, energy security and any other environment where there are competing demands and differing attitudes.

The most important considerations when evaluating the management of environments are:

- There must be a balance found between the **economic value and needs** of a place and the **environmental sustainability** of it.
- The key is to establish the **most appropriate** strategy/approach.
- Different stakeholders will have differing priorities and attitudes towards a place.
- For example, in places that are densely populated, complete environmental protection is not the most appropriate strategy and that would ruin people's livelihoods.

9. Mitigation and Adaptation

Mitigation and Adaptation are two broad categories of management strategy. This is mainly in relation to hazard, environmental and resource management.

Mitigation attempts to change the cause and minimise the impacts of the issue.

With climate change, for example, this would refer to strategies such as afforestation and changing energy mix to a less polluting combination of sources.

With regards to hazards, some hazard events are more difficult to directly mitigate against (you cannot prevent an earthquake from occurring) than others (areas prone to wildfires will undergo controlled burning). However, the impacts can be (earthquake-resistant buildings etc).

it is impossible to prevent most hazardous events from occurring, but some of the associated hazards can be mitigated; a tsunami wall would be an example.

It is also important to remember that mitigation is often very costly and so the level of economic development of a place may influence their ability to do so.

Adaptation involves an acceptance of the causes and impacts and attempts to adjust ways of living to minimise the negative effects. This could include strategies that improve community preparedness or that change behaviours and habits such as consumption or the places that people live.

With regard to climate change, level of development is again an important variable. For example, if a low income country were to mitigate by going zero-emissions, it would have very little, if any impact on the global climate, therefore their only option is to adapt.

Section C: Summary Glossary

Term	Definition
Development	The use of resources to move from a low-technology, subsistence society, with poor standards of living; to a high-technology, industrial society with high standards of living, including an overall increase in income levels.
Governance	The system by which entities (government, private companies etc) are directed and controlled.
Players	There are different players (individuals, groups and organisations, stakeholders) involved in geographical issues and decisions. They can include governmental, non-governmental, private sector and local organisations.
Perception	This relates to how individuals and societies view a given issue. It is a vital part of lived experience and affects how people engage with places and view geographical issues.
Scale	Geographical issues can be analysed at a global, regional, national and sub-national scale.
Spatial Patterns	The nature and impact of geographical issues can vary from place to place
Temporal Patterns	The nature of issues can change over time.
Globalisation	The increasing integration of economies around the world, particularly through the movement of goods, services and capital across borders
Climate Change	The Earth's climate varies naturally, both in the short- and long- term. Anthropogenic (manmade) climate change refers to changes in the planet's climate that have occurred as a result of human activity. They include an increase in average global temperature and changing precipitation patterns.
Earth Systems	There are five main global systems - Geosphere, Biosphere, Hydrosphere, Atmosphere, Cryosphere – that interact to maintain a stable and healthy planet. The hydrological and carbon cycles exist as integral parts of these global systems.
Measures of Development	There are various indicators that attempt to give us an understanding of the level of development within a country. These can be categorised as economic, social, composite and those that examine inequality.
Demographic Characteristics	Demography refers to the study of the characteristics of population. Demographic characteristics include measures of fertility and mortality, population structure, ethnicity, education, and socioeconomic status.
Feedback Mechanisms	Feedback mechanisms are those that either amplify a small change and make it larger (positive feedback) or diminish the change and make it smaller (negative feedback).
Spectrum of Management	The spectrum of management is a framework for assessing appropriate management strategies for different environments. The most important consideration when evaluating the management of environments is that there must be a balance found between the economic value and needs of a place and the environmental sustainability of it.
Mitigation and Adaptation	Mitigation attempts to change the cause and minimise the impacts of the issue. Adaptation involves an acceptance of the causes and impacts and attempts to adjust ways of living to minimise the negative effects.
Superpowers	A Superpower is a country that has the capacity to project dominating power and influence anywhere in the world.