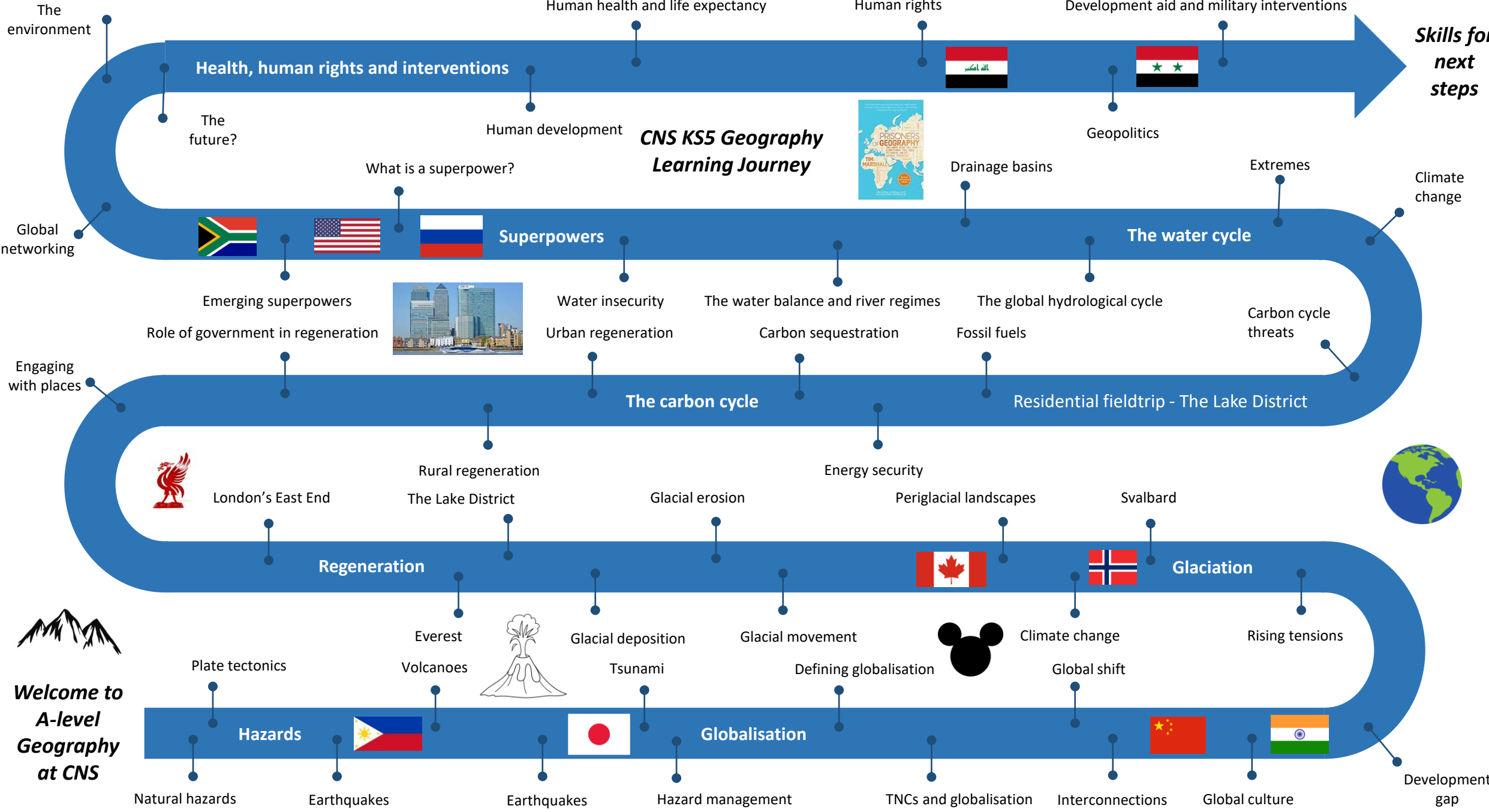


# Geography summer gap task

[@cns\\_geography](#)

## KS5 Programme of study (Pearson)

	Autumn	Spring	Summer
Year 12	<p>Globalisation. Tectonic processes and hazards.</p> <p><i>Baseline assessment. Mid-semester 1 examination .</i></p>	<p>Regenerating places. Glaciated landscapes and change.</p> <p><i>End-of-semester 1 examination.</i></p>	<p>The water cycle and water security. The carbon cycle and energy security.</p> <p><i>Mid-semester 2 examination.</i></p>
Year 13	<p>Health, human rights and intervention. NEA investigation.</p> <p><i>End-of-semester 2 examination.</i></p>	<p>Health, human rights and intervention. Superpowers.</p> <p><i>Mock examination.</i></p>	<p>Exam preparation and revision.</p>



Over the next 4-slides, you will find enquiry questions for the topics studied in Year 12. We ask that you explore two of these enquiry questions (one physical and one human) and bring your findings to class in September. Whilst there is no formal submission of work, we would like you to be prepared to share evidence that supports your findings through an academic poster. This should include:

- subject specific vocabulary
- images, maps and graphs
- succinct summaries
- contemporary examples
- synoptic links
- wider reading

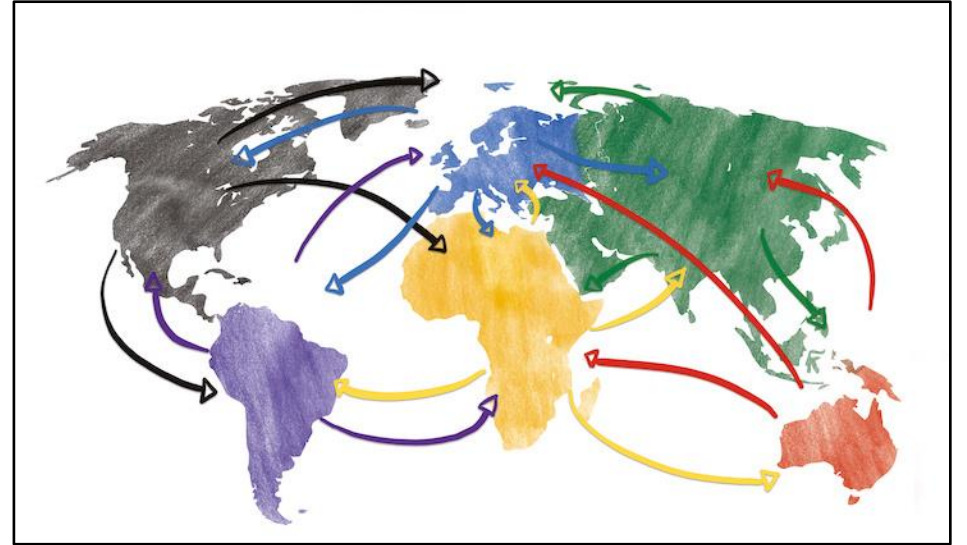
## Tectonic processes and hazards

- Why are some locations more at risk from tectonic hazards?
- Why do some tectonic hazards develop into disasters?
- How successful is the management of tectonic hazards and disasters?



# Globalisation

- What are the causes of globalisation and why has it accelerated in recent decades?
- What are the impacts of globalisation for countries, different groups of people and cultures and the physical environment?
- What are the consequences of globalisation for global development and the physical environment and how should different players respond to its challenges?



## Glaciated landscapes and change

- How has climate change influenced the formation of glaciated landscapes over time?
- What processes operate within glacier systems?
- How do glacial processes contribute to the formation of glacial landforms and landscapes?
- How are glaciated landscapes used and managed today?



# Regenerating places

- How and why do places vary?
- Why might regeneration be needed?
- How is regeneration managed?
- How successful is regeneration (investigate a specific example)?





Additionally, we would like you to read the Geo Factsheets given to you during induction and that are also available on the school website. These are linked to the topics in year one and will also familiarise you with the type of wider reading expected at A-level.

# Geo Factsheet

www.curriculum-press.co.uk # 407

## Plate Tectonics: Digging Deeper into the Theory

**Introduction**  
A key development in Geography over the last 100 years has been the evolution of plate tectonic theory as the processes causing earthquakes, volcanic eruptions and tsunamis are well understood. However, plate tectonic theory remains just a theory. The internal workings of Earth cannot be directly observed by scientists. In fact the deepest humans have drilled into Earth's crust is just 12,000 metres (Kola Superdeep Borehole, Russia, 1989) a mere 0.1% of the distance to the centre of Earth. Plate tectonic theory is still subject to new research and widespread debate.

**Origins**  
The theory of plate tectonics as we know it today evolved slowly. There was no sudden 'light bulb' moment, rather a number of scientists (Table 1) contributed pieces of the jigsaw over time. The foundations of the theory were worked out in the 1960s, and it has been refined since.

**A Complex Jigsaw**  
Earth has seven major tectonic plates (of over 20 million square kilometres) although the Indo-Australian plate is sometimes considered as two separate plates, and 10 minor plates (of 1-20 million square kilometres). There are over 50 microplates usually not shown on world maps of tectonic plates. Microplates are more important than is often assumed. Figure 4 shows the complete pattern of major, minor and microplates in Oceania. The actual tectonic situation here is much more complex than the usual global overview suggests.

**Figure 1** The Complex Pattern of Major, Minor and Microplates in Oceania

**Figure 2** Timeline of Plate Tectonic Theory Developments

Scientist	Date	Contribution
Arthur Holmes	1900s	Believed in the then unpopular 'Continental Drift' theory and proposed the idea that Earth's tectonic plates moved in a clockwise direction from the poles towards the equator.
Hugo Benoit & Kiyoo Wadati	1948	Independently discovered a pattern of earthquakes (occurring on regular paths from ocean trenches to the mid-ocean ridges). The earthquakes are assumed to show the direction of the plates moving towards each other.
Mary Hesse	1950s and 1960s	Investigated mid-ocean ridges and ocean trenches and hypothesized that new oceanic crust was created at ridges and ancient oceanic crust destroyed at trenches.
Frederick Vine & Drummond Matthews	1960s	Identified patterns of magnetic stripes in rocks on the ocean floor either side of mid-ocean ridges. This led to the theory of seafloor spreading.
John Tuzo Wilson	1960s	Identified mantle hotspots and transform faults (which we often call conservative plate boundaries) – both key parts of tectonic theory.
Dan McKenzie	1966	Microplates made major contributions to the understanding of heat convection in the mantle, a key driving force of plate tectonics.

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# Geo Factsheet

www.curriculum-press.co.uk Number 367

## Glacial Mass Balance

**Figure 1a** Pilley glacier **Figure 1b** Cirque glacier

Approximately 10% of the earth's surface is covered by ice, that is an estimated 14.9 million sq. km, of which 4% is comprised of glaciers. A glacier is a large body of ice, built up over a considerable number of years. From accumulated and compressed snow. They can move, as their sheer mass allows them to 'flow'. There are 4 main glacier types mainly located within mountain ranges (see Figures 1a-1d).

**Figure 1c** Outlet glacier (top) **Figure 1d** Icefield (bottom)

**What is mass balance of the glacial budget?**  
Using Systems analysis to investigate glaciers assists in our understanding of the mechanisms of glacial advance and retreat, as they either expand, shrink, or maintain an equilibrium. These structural changes are recognised as Mass Balance (also known as the mass-glacial budget), which is the change in the mass of an ice body over time. The total mass alters because of the difference between 2 major processes:

**Accumulation** – all processes that add to the volume of the glacier i.e. snow (precipitated or windborne), and freezing rain, build up in the accumulation zone, usually in the higher altitude regions of the glacier where there is more precipitation than loss due to melting, etc.

**Ablation** – all processes that reduce the volume of the glacier where snow and ice is lost due to melting, evaporation, and sublimation.

Annual mass balance is the mass balance at the end of the year, calculated as the sum of the winter balance and summer balance. Accumulation and ablation usually show seasonal variation, the mass balance represents an annual cycle of growth and depletion. If more snow accumulates in the winter on a glacier than snow and ice is lost during summer, the mass balance is positive. If summer melting exceeds the accumulation in the previous winter, the mass balance is negative. The seasonal distribution of precipitation is more important than the annual total amount. Mass summer temperature is the key to the dominant process in that season. This leads to considerable regional variation, e.g. mid-latitudes it snows during the winter and melts during the summer, which is different from tropical regions, where ice melting and accumulation can occur at the same time.

**Figure 2** The physical system of glaciers

**Figure 3** The melt zones where these processes occur

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# Geo Factsheet

www.curriculum-press.co.uk # 425

## HS2 – A Giant Step or an Expensive Mistake?

**Introduction**  
On 11 February 2020, a final agreement was made by the UK government that HS2 – a proposed high-speed rail link between London, Birmingham, Manchester, and Leeds – should be built. Design work about the proposal had lasted for over ten years, from the first plans submitted by the Labour Government in 2010, through four General Elections and several local and national reviews, to a final decision by the recently elected Conservative government.

Yet, the conflicts that HS2 proposals have generated over ten years have not disappeared. In some parts of the UK, they have even intensified, particularly in counties along its route such as Buckinghamshire. Local newspaper 'The Buckinghamshire Herald' reported on 11<sup>th</sup> February that:

- Conservative Prime Minister Johnson faced a rebellion from up to 60 of his own MPs, who stood against the scheme because of its cost and the 'destruction of beauty spots in the home counties, including Aylesbury Vale'.
- Johnson's own Chancellor of the Exchequer at the time, 'Geddf Javed, stated that projects such as HS2 should be 'coloured properly, delivered within that cost... and everyone can see that with HS2 that hasn't been the case'.
- Local Conservative MP Rick Butler said that he was 'extremely disappointed... by this decision, as I know there will be throughout the Aylesbury constituency... I believe there are better alternatives and... regret that the government doesn't agree. I shares their concerns over the eye-watering cost of the project'.

What has made people – within and outside government – feel so strongly as to speak out against this decision, even from within the party of government that made it? As is often the case, the argument is a straightforward one to geographers – between local concerns for the environment on one hand, and economic cost and a perceived need to update national infrastructure on the other.

**What is 'HS2'?**  
HS2 refers to 'High Speed 2', the second high-speed rail link in the UK after HS1 between London and Paris/Brexit. Unlike some Western European countries, such as France, the UK high-speed network operates mostly on conventional rail track, constructed during the second half of the 19<sup>th</sup> century, and subsequently upgraded for higher speed working. In contrast to conventional track, high-speed rail consists of dedicated track, completely separate from the mainline, with high-specification engineering, level stations, and fewer points (where tracks cross over) or junctions (where different lines split). Trains would run at up to 400 kilometres per hour (km/h) or 250 miles per hour (mph), compared to current conventional high-speed trains which run at up to 200km/h (125mph). The full details of HS2 and its impacts on journey times are shown in Figure 4 and Table 1.

**Figure 4** The proposed route for HS2

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# Geo Factsheet

www.curriculum-press.co.uk # 417

## Are We in an Era of De-Globalisation?

**Introduction**  
There are many ways of defining the term 'globalisation'. However, in simple terms, we can think about it as 'the increasing inter-connectedness of people and places in an ever-shrinking world'. Globalisation is caused by numerous factors. Many A-level exam boards require you to study some of these factors including: the development of technology (including ICT and transport technology), the expansion of financial systems, changes in security arrangements and trade agreements. These factors work independently, or in many cases, together to encourage globalisation. This Geo Factsheet suggests that in the last few years, there have been indicators such as decreases in the volume of trade, that globalisation in some areas is actually in decline and that a process of de-globalisation is occurring. A number of groups are against globalisation, for a whole array of reasons. It is precisely because of these negatives that some de-globalisation has occurred. For your exam preparation you are required to develop a critique of globalisation which assesses its advantages and disadvantages, environmentally, socio-economically and culturally.

This Geo Factsheet will discuss a number of situations and events that themselves suggest that the world, or indeed parts of it, are involved in a process of de-globalisation with more nationalistic and self-sufficiency era developing.

**Brexit**  
On the 23<sup>rd</sup> of June 2016, the UK held a referendum on membership of the European Union (EU). 51.90% of the population voted to leave, whilst 48.1% voted to remain. The voter turnout was 72% of the population which is judged to be a very significant voter turnout. Following this vote, it has taken a very long time for the UK actually to leave the EU. There have been many debates about the referendum about the form of exit that the UK should take, including discussions on the details of what, if any, deal the UK will leave with the EU. At the time that this Factsheet was written, Boris Johnson had held a general election on the 12<sup>th</sup> December 2019 which saw 365 Conservative MPs returned, giving him a sizeable majority of 80 seats. This allowed Johnson to get legislation through Parliament leading to the UK leaving the EU on 31<sup>st</sup> January 2020. Existing arrangements will continue until 31<sup>st</sup> January 2021 leaving twelve months to negotiate a new relationship regarding trade and other matters. The global crisis caused by the Covid-19 pandemic may delay the agreement, but to date the UK Government are determined it will not do so.

At this stage, it may be worth noting what the claimed advantages and disadvantages of Brexit are. See the following tables.

**Figure 1** Countries of the European Union

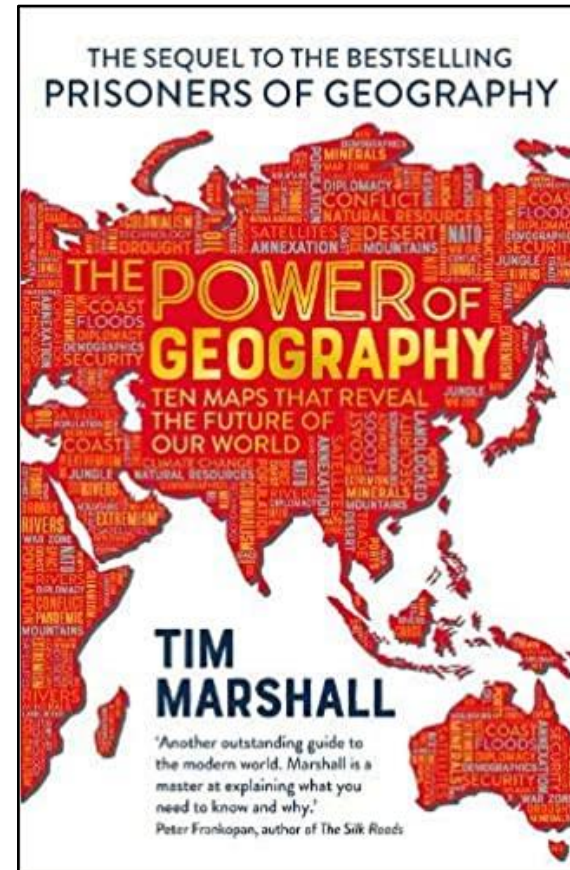
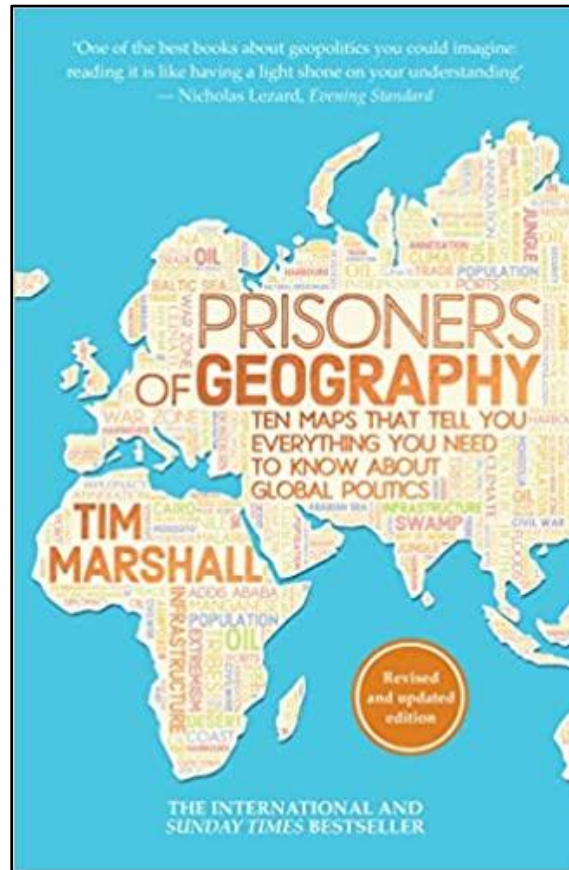
**Advantages of EU and Disadvantages of EU**

**Advantages of EU Membership**

- Although the UK contributed around £13.1 billion to the annual EU budget, some £4.5 billion a year found its way back to the UK through EU spending (e.g. Regional Funds) making the country a net contributor of around £8.6 billion. However, there were also other positive, financial gains in areas such as trade and investment from companies as a result of EU membership.
- The EU operates as a single market. In such a situation, imports and exports between countries are free from tariffs (taxes) and other barriers such as extensive border checks. Furthermore, the UK has been able to benefit from free trade deals that the EU has with other countries such as Canada and Japan. For people in favour of remaining in the EU, trade is a particularly important point as the Office for National Statistics (ONS) figures show that in the period 2006-16, 45% to 55% of the UK's exports went to the EU.
- As a result of being in the EU, many companies invested in London to gain access to the EU. For example, US banks. Some questioned whether this would continue following Brexit.

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We also strongly recommend that you read the following two books below by Tim Marshall.



Have an excellent summer, stay safe and we look forward to seeing you in September!