THE TRAGEDY OF THE COMMONS

GEOGRAPHY A LEVEL TASTER LESSON

THE A LEVEL GEOGRAPHY COURSE

Physical geography: Coastal systems and landscapes (HCF **Yr 12**)

Hazards (HCF **Yr 13**)

Water and Carbon Cycle (RJM **Yr 13**)

40%

EXAM

Human geography: Changing places (HCF & RJM **Yr 12**)

Contemporary urban environments (RJM **Yr 12**)

Global systems and global governance (RJM **Yr 13**)

40%

EXAM

Geography fieldwork investigation: NEA (RJM & HCF End of Year 12)

20%

3000-4000 word write up independent investigation

Geographical skills: HCF & RJM throughout course

The exam board is AQA

EXAM ASSESSMENT IN GEOGRAPHY

- **You will not be asked to write out your notes**

- The syllabus is large
- You will be expected to know your material inside out, the questions will often ask you to use that knowledge **to apply it to something new**
- **Questions are almost all evaluative** – in other words they require an informed judgement by you I.e. not just what something is but how much you agree or how strong something is.
- E.g. you will learn about earthquakes case studies but a question could be

"Earthquakes don't kill people, buildings do" To what extent do you agree with this statement? /20

You need to be prepared to do a lot of reading and research both guided and independently and the more the better so that you can shape these opinions and sound like you know what you are talking about!

THIS TASTER LESSON…

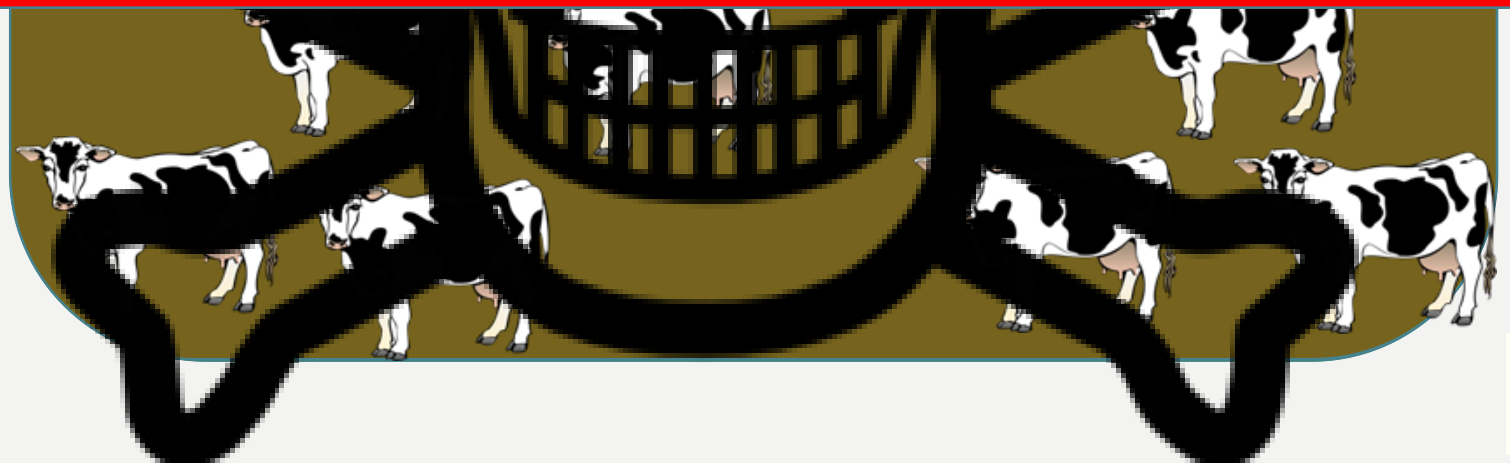
- Aims to inform you of one small area of the A level course
- And encourage you to participate and think about the wider application
- Discuss and try out ideas
- Arrive at an informed and detailed piece of writing

WE ARE GOING TO START WITH A STORY….

- The story is called **The Tragedy of the Commons.**

4 farmers have grazing rights to the land

The tragedy of the commons is…
Freedom of the commons brings ruin to all!



NOT A HAPPY ENDING!

Do we think there is some truth in the story?

Does the use of all commons have such an inevitable and tragic ending?

Can you think of examples of "commons" that this could be applied to?

What are the global commons?

https://www.youtube.com/watch?v=WYA1y405JW0

THE 'GLOBAL COMMONS'

The 'global commons' refers to resource domains or areas that lie **outside of the political reach of any one nation**.

→ Sustainability= protecting the global commons

International law recognises four global commons:

- The high seas
- The atmosphere
- Antarctica
- Outer Space

Each of the global commons is covered by a number of international laws or treaties.

- *Cyberspace (arguably a shared resource)

FOR YOUR GLOBAL COMMON COMPLETE THE FOLLOWING TASK:

What are the main threats?

Why is it so important?

There is an A3 sheet for each commons to help you to think further about it.
TIME _____

The atmosphere

Challenges of managing it…

Examples of how it is being managed…

Another example and wider applications if required?: https://www.youtube.com/watch?v=CxC161GvMPc

Who owns outer space?

By Yasmin Ali
Science reporter

25 September 2015

The US flag was planted on the Moon in 1969, two years after the Outer Space Treaty was created

When space crops up in conversation, ownership does not immediately spring to mind. But as the human race continues to advance in this field, and with commercial space enterprises just around the corner, questions about power politics and their interaction with space exploration must be asked and answered.

Neil Armstrong famously planted a US flag on the Moon in 1969. This gesture may have implied territorial ownership, but was purely symbolic because of the 1967 Outer Space Treaty.

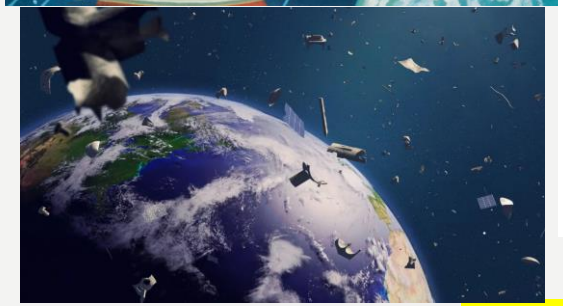
129 countries, including China, Russia, the UK and the US, have committed to this treaty, which is overseen by the **United Nations Office for Outer Space Affairs**.

Mining the Moon

Commentators agree that the Outer Space Treaty is an excellent foundation for international space law, but it makes no reference to commercial space activities, such as the exploitation of space resources; presumably because this was not foreseen back in 1967.

"International law is ambiguous about private companies setting up mining operations in space. There is a strong case for revisiting the Outer Space Treaty to bring it up to date," argued Ian Crawford, a professor of planetary science at Birkbeck College, University of London.

There is an argument that in the future, when assets are developed in space, it is more cost-effective to use raw materials mined from space rather than transporting them from Earth.



House Armed Services Committee votes to create a U.S. Space Corps

by **Sandra Erwin** — June 13, 2019

The House Armed Services Committee marks up the National Defense Authorization Act for Fiscal Year 2020 June 12, 2019. Credit: HASC

HASC creates a United States Space Corps led by a four-star commandant.

WASHINGTON — The House Armed Services Committee voted to establish a United States Space Corps within the Department of the Air Force. The vote came in the overnight hours Thursday. The committee began its markup of the 2020 National Defense Authorization Act Wednesday morning. After a nearly 21-hour session, the committee passed the NDAA 33-24.

Want to Buy a Ticket to the Space Station? NASA Says Soon You Can

NASA plans to open the International Space Station to commercial business, including tourism. But the tickets won't be cheap.

For roughly $35,000 a night, up to two private citizens could visit the space station each year.
Roscosmos,via NASA

The Moon Treaty (1979)

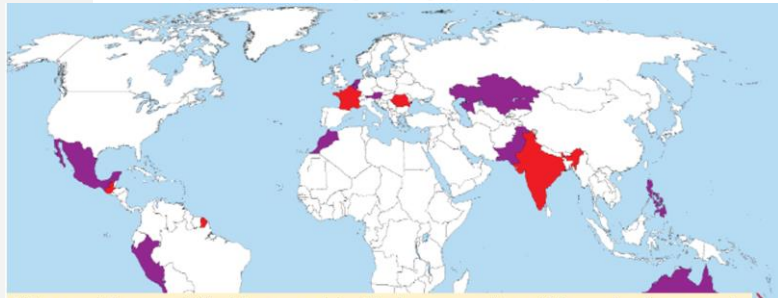
- The treaty makes a declaration that the Moon should be used for the benefit of all states and all peoples of the international community.
- Bans any military use of celestial bodies, including weapon testing or as military bases.
- Requires that the Secretary-General must be notified of all celestial activities
- Declares all states have an equal right to conduct research on celestial bodies.
- Declares that for any samples obtained during research activities, the state that obtained them must consider making part of it available to all countries/scientific communities for research.
- Bans any state from claiming sovereignty over any territory of celestial bodies.

Technology Intelligence

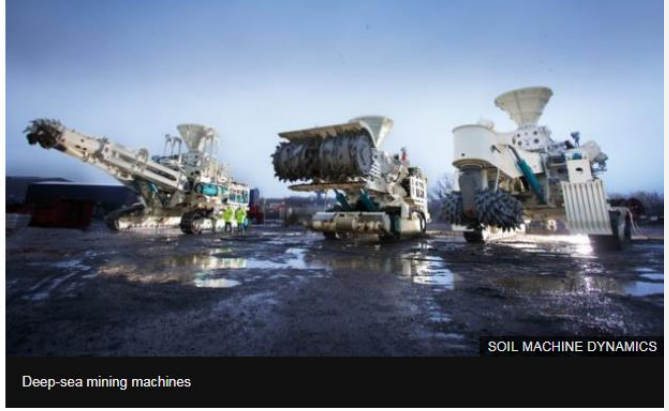
India unveils spacecraft for second moon mission in race to become space 'superpower'

share

Indian Space Research Organization (ISRO) scientists work on various modules of lunar mission Chandrayaan-2. CREDIT: CHRIS THOMAS/REUTERS



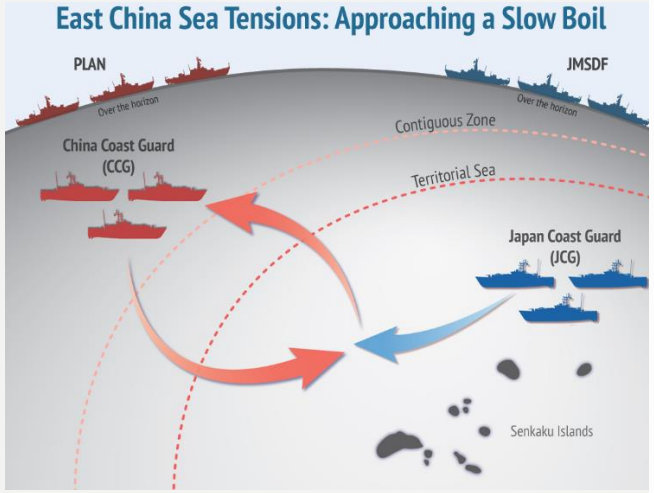
It has not been ratified by any state that engages in self-launched manned space exploration or has plans to do so (e.g. the USA, parts of the European Space Agency, Russia, China and Japan) since its creation in 1979, and thus has a negligible effect on actual spaceflight.



Deep-sea mining machines

What are the big threats to the high seas?

Researchers believe the high seas may be a major source of mineral resources in years to come. Just **last year**, a team of British scientists exploring an underwater mountain in the Atlantic Ocean discovered high concentrations of a rare and valuable substance used to build solar panels.



Climate change: Warming oceans may reduce sea life by 17%

The biggest animals in the world's oceans are going to be hit hardest as climate change intensifies, a new study says.

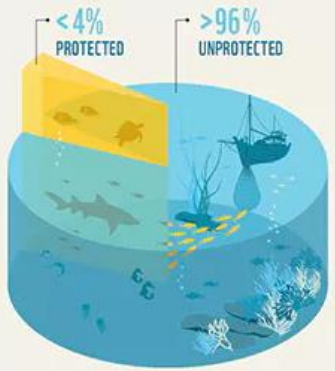
12 Jun 2019


Healthy oceans are required for planetary stability, scientists say [JaysonPhotography/Getty Images]

Arctic claim

Canada will make a bid for sovereignty over the North Pole, says foreign minister

- Russia and Denmark expected to file overlapping claims
- Interest in the polar region has grown since rising temperatures have opened up shipping routes and made mineral resources easier to exploit

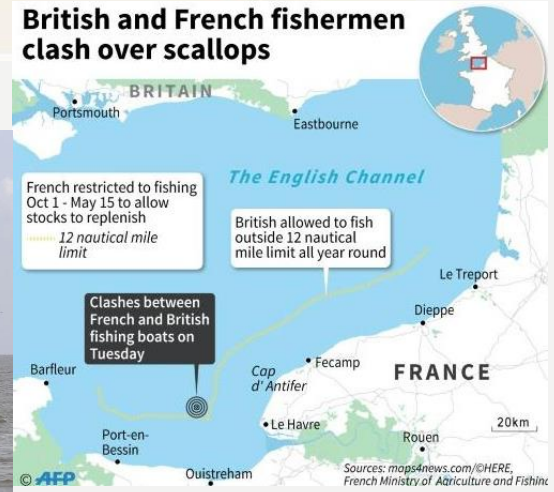


WWF

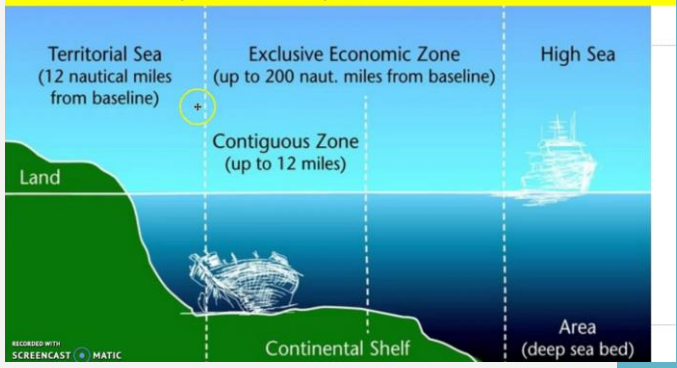
LESS THAN 4% OF THE OCEAN IS DESIGNATED FOR PROTECTION

But in many cases designation ≠ real protection. With the right enforcement, marine protected areas could rebuild ocean health.

British and French fishermen clash over scallops

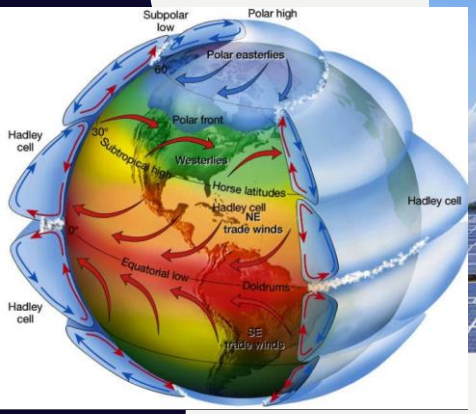


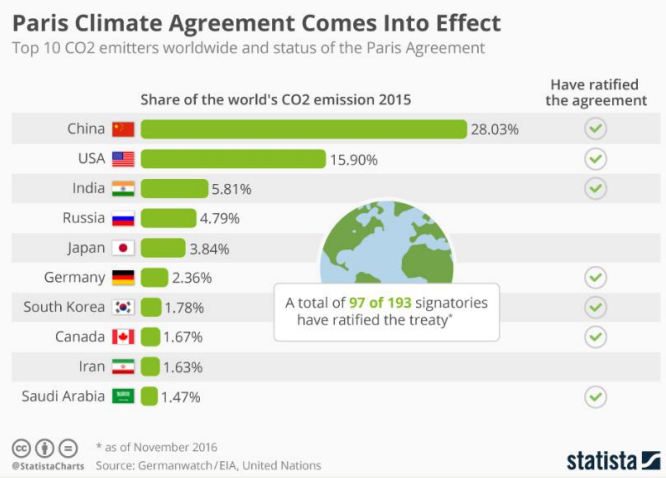
The **United Nations Convention on the Law of the Sea** (**UNCLOS**) 1982

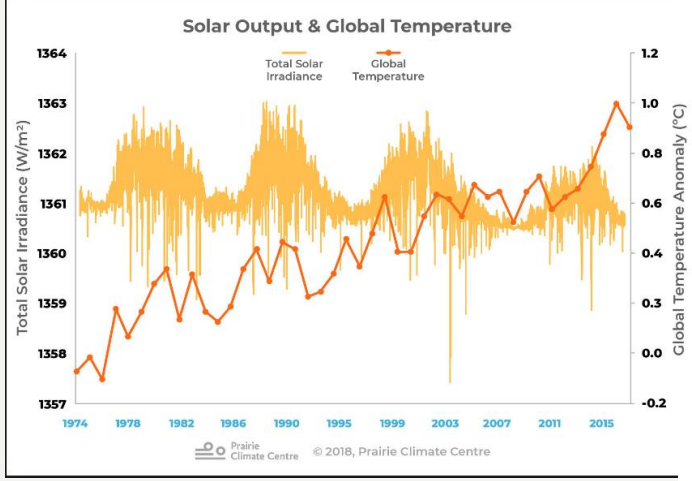


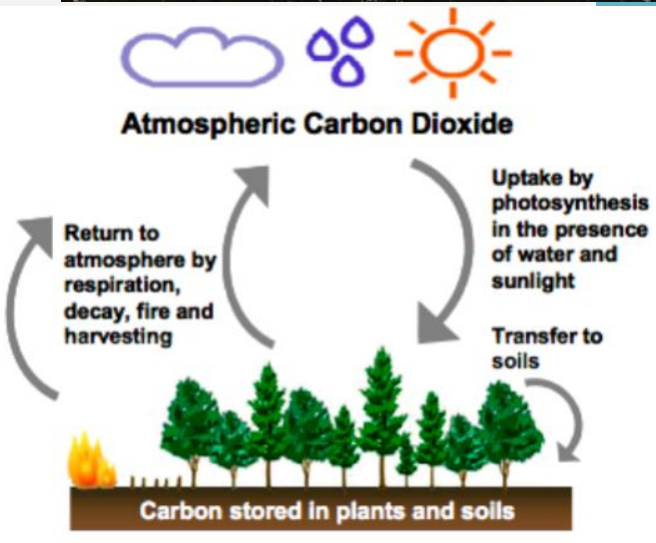
Atmosphere

- The ***atmosphere*** is a mixture of gases that surrounds the planet and makes conditions on Earth suitable for living things.-all life on Earth depends on the gases that are in the atmosphere







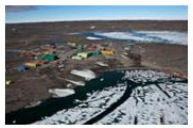


TASK: Locate the images below onto your map of Antarctica:

The Dry Valleys of Antarctica

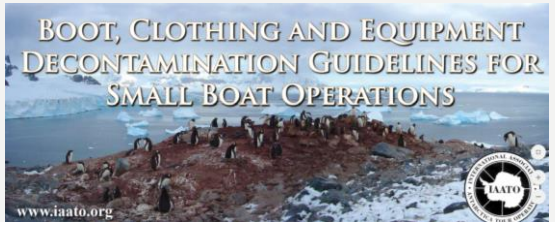
The Transantarctic Mountains

McMurdo Station



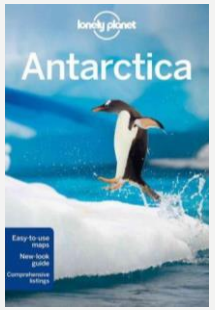
Davis Base

Ross Ice Shelf



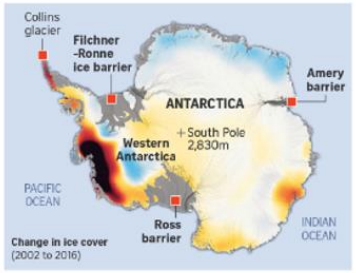
ICE PATROL SHIP RETURNS FROM ANTARCTIC MISSION

January 21, 2016



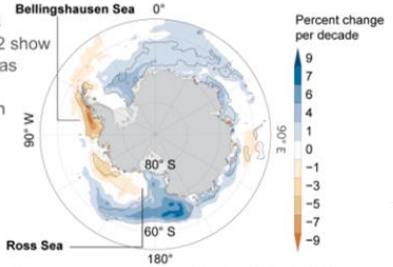
Melting ice in Antarctica

Significant change has taken place in as little as 14 years

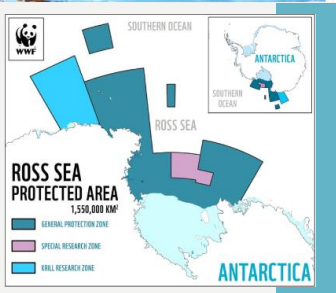


Change in Antarctic sea ice

Satellite measurements between 1979 and 2012 show that sea ice coverage has grown in some parts of Antarctica and shrunk in others, leading to an overall increase.



Source: National Snow and Ice Data Center — John King, Nature Publishing Group



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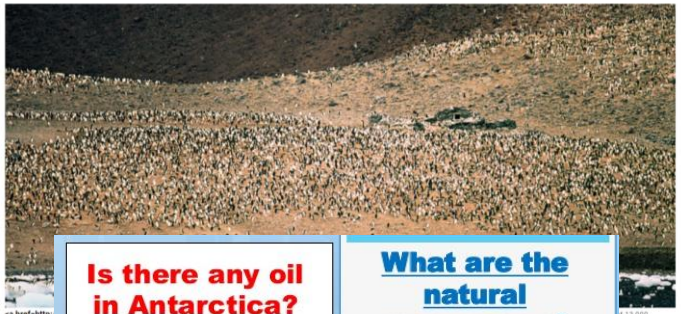
Landmark accord agreed on world's largest marine sanctuary for Antarctica's Ross Sea – UN



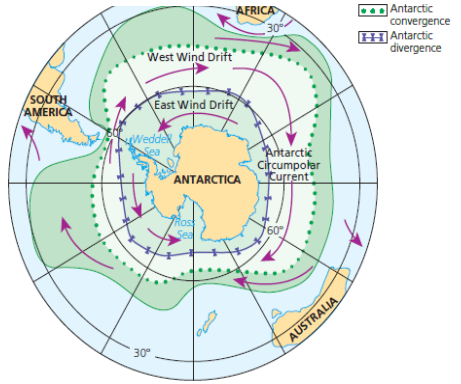


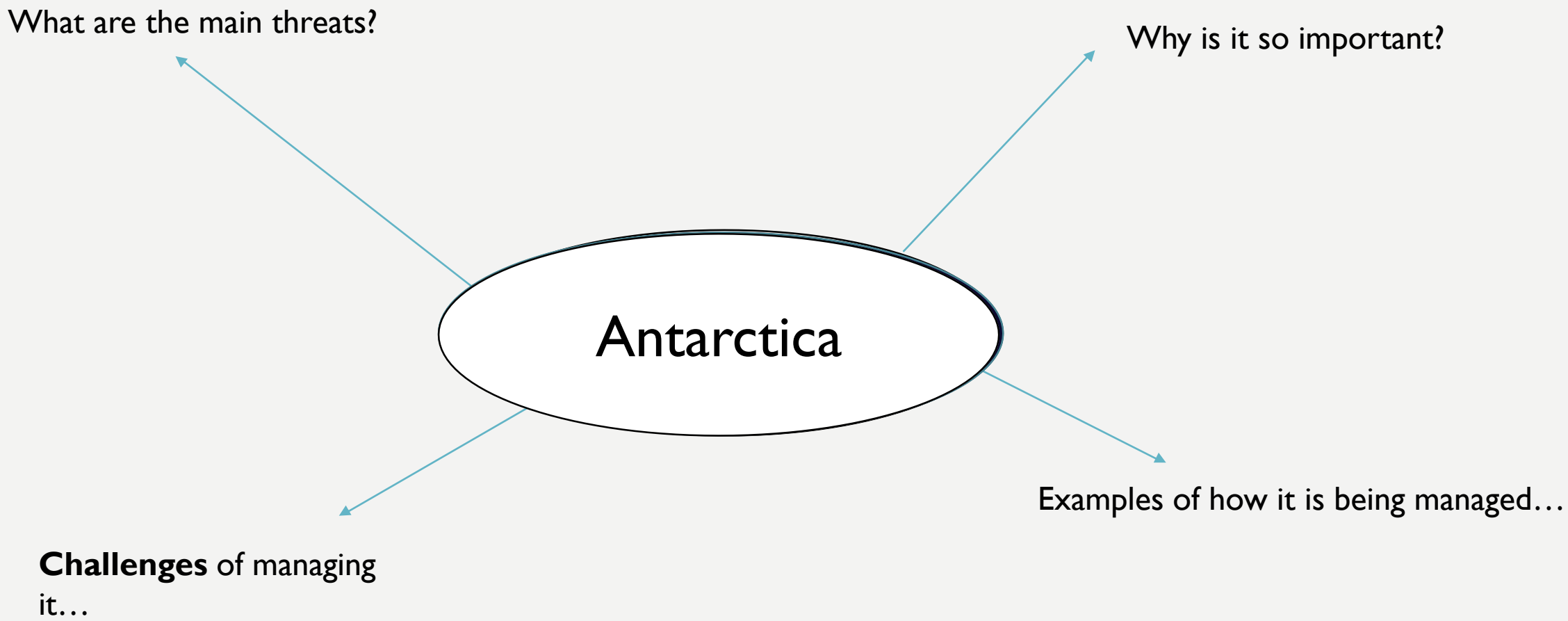
Figure 7.41 The Antarctic Convergence Zone – Circumpolar Current and Divergence Zone of easterly and westerly flowing currents

Is there any oil in Antarctica?

The most valuable resources of **Antarctica** lie offshore, namely the **oil** and natural gas fields found in the Ross Sea in 1973. Exploitation of all mineral resources by signatory states is banned until 2048 by the Protocol on Environmental Protection to the **Antarctic** Treaty.

What are the natural resources of Antarctica?

Some of the natural resources of Antarctica include its mineral deposits of iron ore, chromium, **gold, copp er**, nickel, and platinum, marine wildlife and small reserves of coal and hydrocarbons.


What are the main threats?
Why is it so important?
Antarctica
Examples of how it is being managed…
Challenges of managing it…

WHICH COMMON WOULD YOU CHOOSE TO BE IN CHARGE OF MANAGING? JUSTIFY YOUR ANSWER.

- The high seas
- The atmosphere
- Antarctica
- Outer Space

WHICH COMMON IS THE MOST IMPORTANT TO LIFE ON EARTH? JUSTIFY YOUR ANSWER.

- The high seas
- The atmosphere
- Antarctica
- Outer Space

You have 5 minutes to choose one and plan your justification

READING:

Geo Factsheet

www.curriculum-press.co.uk Number 375

What are the Global Commons?

The **global commons** are defined under international law as *"resource domains or areas that lie outside of the political reach of any one nation State"* (United Nations Law Division). This means that an area defined as a global common is available for use by any country and cannot be claimed for exclusive use by any one country or privatised for the exclusive use of a company. The four global commons identified by international law are:

- The High Seas
- The Atmosphere
- Antarctica
- Outer Space

This Geography Factsheet will focus on the first three global commons, namely the High Seas, the Atmosphere and Antarctica.

Figure 1 Fishing Trawler

Source: CT Cooper, Wikimedia

Why are the Global Commons important?

The global commons all make crucial contributions to life on Earth, from regulating the global climate to supporting national economies via the provision of resources. Each global common is connected in a **feedback loop system**, in which environmental changes in one can result in changes to the other global commons as they are bound together as part of the earth's global ecosystem.

1) **High Seas**

- **Climate Regulation**: The oceans cover 71% of the Earth's surface, meaning they play a critical role in the global heat budget. It is estimated that the oceans redistribute 25% of the Earth's global heat budget via a combination of **wind driven surface currents** and deep ocean **thermohaline currents** which circulate warm and cold water around the world's oceans. The interaction of these warm and cold currents with the atmosphere affects global wind patterns and the location of different global climates and ecosystems.
- **Climate Change**: The world's oceans are an important carbon sink, absorbing large quantities of carbon dioxide from the atmosphere. It is estimated that 26% of all CO2 released into the atmosphere from 2002 to 2011 (about 2.5 billion tons per year) was absorbed by the ocean.
- **Weather Events**: Millions of people across the world live in areas prone to tropical storms. Hurricane Irma of 2017 was just one example of how these large storms can have devastating effects on the people and economies of both rich and poor countries. Warm oceans are the key causal factor for tropical storms, which create preparation, management and response challenges for many governments and communities across the globe.
- **Resources**: The oceans provide $3 trillion of goods and services per year, from fish to hydrocarbons. These good and services contribute to economic growth and provide essential resources and food supplies for people worldwide, with billions of people deriving their primary source of protein from fish.
- **Economics**: Access to the sea is an important means of trade and economic growth. The World Bank estimates that annual economic growth is 1.5% greater for the 148 countries with a coastline than the 45 countries that are land-locked. This economic advantage has been largely facilitated by the shipping container revolution, which has enabled goods to be cheaply distributed in large volumes across the world's oceans, thereby promoting trade and economic growth on a global scale.

2) **Atmosphere**:

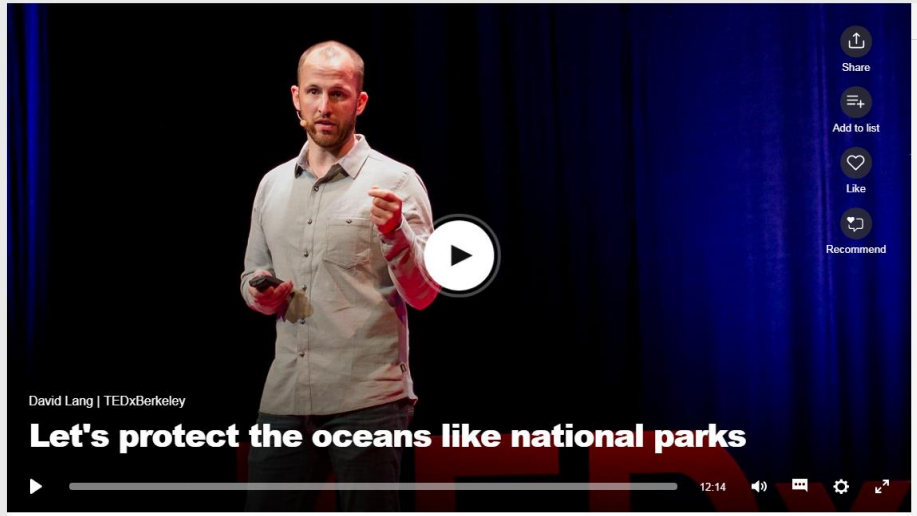
- **Life on Earth**: The atmosphere not only provides a suitable environment for the wide range of complex life on Earth but also protects that life from the harmful radiation emitted from the sun. The **greenhouse effect** is a naturally occurring atmospheric phenomenon that maintains an average global surface temperature of 14°C, which would otherwise be -19°C. Oxygen is also critical to life on earth as it is essential for the purpose of respiration. In its O_3 form, oxygen creates **ozone**, which naturally forms a layer in the stratosphere protecting the Earth's surface from harmful ultraviolet radiation.
- **Climate**: The atmosphere is the crucial component for global and local climates. Seasonal and diurnal temperature and precipitation patterns are determined by atmospheric conditions in conjunction with factors like latitude and prevailing wind. Temperature and precipitation affect what flora and fauna may be found in an area, but also influence human settlement patterns with their associated social, economic and political networks.
- **Economics**: The atmosphere became an important component of the global economy in the 20th Century with the advent of the **aviation age**. There are 9.9 million people directly employed in the aviation industry and 63 million are indirectly employed in associated industries. Although only 1% of the volume of global exports occur via air freight, the value of these exports is 37%

UN SYSTEM TASK TEAM ON THE POST-2015 UN DEVELOPMENT AGENDA

Global governance and governance of the global commons in the global partnership for development beyond 2015

Thematic Think Piece

OHCHR, OHRLLS, UNDESA, UNEP, UNFPA



TO WHAT EXTENT IS IT POSSIBLE FOR HUMANS TO MITIGATE THE TRAGEDY OF THE COMMONS? /20

- Mitigate?...
- Reduce the effects of

Last Ted clip if needed: https://www.youtube.com/watch?v=CxC161GvMPc