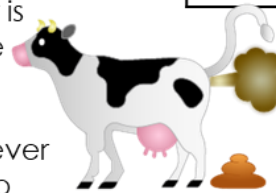


## Key Vocabulary...




<b>Climate</b>	Climate means the usual condition of the temperature, humidity, atmospheric pressure, wind, rainfall, and other meteorological elements in an area of the Earth's surface for a long time. In simple terms climate is the average condition for about thirty years.
<b>Natural causes</b>	These are natural occurring, NOT influenced by humans. For example, Orbital changes, Volcanic activity and Solar output
<b>Human causes</b>	These are causes influenced by human activity for example, Burning fossil fuels, deforestation, dumping waste in landfill and agriculture.
<b>Impacts</b>	Impacts can be social (people), economic (money or environmental). It is how climate change effects us and our surroundings
<b>Sustainable management</b>	Sustainable management means ensuring that it is a sustained in a way for future generations to use. Sustainable management also involves making sure local people are not disadvantaged, and ensuring that management is environmentally friendly.

## Did you know..?

Methane is a greenhouse gas and it is produced by cows. In fact methane enters our atmosphere when a cow passes wind! Due to our growing population and more people than ever eating meat, we need more cows to feed everyone; therefore more methane in our atmosphere. Scientists believe by eating just one meat free meal a week can help reduce the effects of climate change on our planet!



## Key summits...

<b>Kyoto Protocol</b>		The Kyoto Protocol was adopted on 11 December 1997. It is an international treaty among industrialized nations that sets mandatory limits on greenhouse gas emissions.
<b>Doha Amendment</b>		The Doha Amendment refers to the changes made to the Kyoto Protocol in 2012. The Amendment adds new emission reduction targets for Second Commitment Period (2012-2020) for participating countries.
<b>Paris Agreement</b>		The Paris Agreement is a pact within the United Nations Framework Convention on Climate Change (UNFCCC) between 197 countries that focuses widely on reducing greenhouse gases emissions, adapting to the impacts of climate change, and to provide financial assistance to developing countries affected by a changing climate.

## Sea levels will rise...

According to an IPCC report, parts of London could be submerged if the sea levels rise by more than two metres. Coastal and low-lying areas will be the affected the most, meaning large areas of the North East could also disappear if ice caps melt.



## Picture this...

**Agriculture**



**Deforestation**



## The BIG questions..

1. Explain the social, economic and environmental impacts of climate change
2. Do you think climate change is a more natural or human cause? Discuss your answer

## Deeper Learning...

Everywhere on Earth ice is changing. The famed snows of Kilimanjaro have melted more than 80 percent since 1912. Glaciers in the Garhwal Himalaya in India are retreating so fast that researchers believe that most central and eastern Himalayan glaciers could virtually disappear by 2035. Arctic sea ice has thinned significantly over the past half century, and its extent has declined by about 10 percent in the past 30 years. NASA's repeated laser altimeter readings show the edges of Greenland's ice sheet shrinking. Spring freshwater ice breakup in the Northern Hemisphere now occurs nine days earlier than it did 150 years ago, and autumn freeze-up ten days later. Thawing permafrost has caused the ground to subside more than 15 feet (4.6 meters) in parts of Alaska. From the Arctic to Peru, from Switzerland to the equatorial glaciers of Man Jaya in Indonesia, massive ice fields, monstrous glaciers, and sea ice are disappearing, fast.

**Activity:** You live on a coastal town effected by rising sea levels in the UK. Write a letter to your local MP informing them of the impacts (S,E,EN) and what management strategies they should put in place to help your community.

Selected Key words and definitions	
<b>Arab Spring</b>	A wave of unrest and protests which began in Tunisia (North Africa) in 2010, and spread to other Arab countries.
<b>Conflict</b>	Serious disagreement, which may lead to violence and even full-scale war.
<b>Desalination plant</b>	Where sea water is turned into fresh water which people can drink, by removing the salt.
<b>Development</b>	A process of change to improve people's lives
<b>Dictatorial</b>	Keeps tight control over the people, so they have little freedom.
<b>Hydroelectricity</b>	Electricity generated when flowing water spins a turbine.
<b>Independence</b>	When a country that had been a colony begins to govern itself.



**Did you know?**

- The Dead Sea is so salty that no animals can live in it.
- The salty water is so dense that you can float around in it, reading a book



The Middle East has an abundance of Oil and a shortage of Water. The money made from selling oil has meant parts of the region can afford to use technology to help solve the problem of a lack of water.

The oil money has also meant that a number of ambitious projects have possible. The region has embraced a number of new technologies to create some amazing places to live and work. What can you find out about them? Do some research to present to the class.

**WATER IN THE MIDDLE EAST AND NORTH AFRICA IS A CRISIS WAITING TO HAPPEN**

**WATER USE EXCEEDS SUSTAINABLE LIMITS**

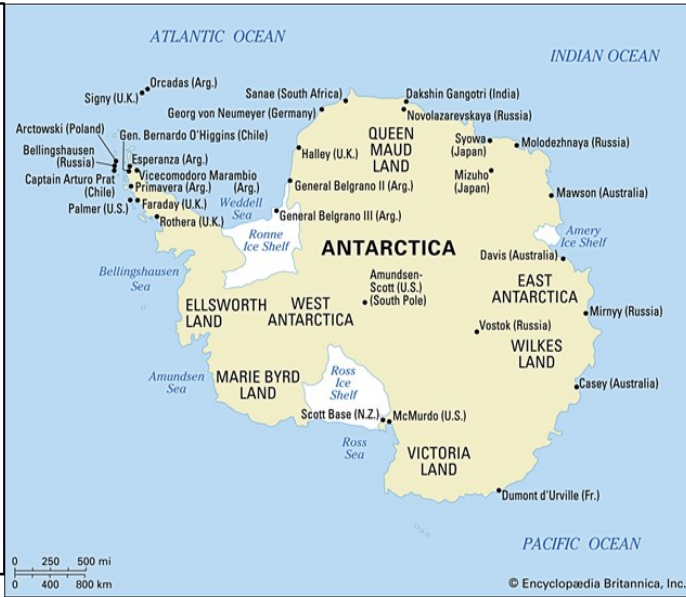
**6 out of 10** of the region's population live in areas with high or very high surface water stress

**SOME OF THE SOLUTIONS**

- RECYCLING WASTEWATER would help meet water demands. **82%** of the wastewater is not recycled.
- PLANNING to manage freshwater resources sustainably.
- HARNESSING PRIVATE SECTOR Innovation and financing for recycling wastewater.

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**Project: Who owns the South Pole?**  
 Research into the ownership of Antarctica and create a leaflet explaining which countries own the least populated continent. Use maps, diagrams and your own text (not cut and paste) to explain.



TRAVEL TO ANTARCTICA IN 2019/20 WITH THE EXPERTS

NATIONAL GEOGRAPHIC | PONANT

FROM ANTARCTICA TO AFRICA 23 March 19:00 to 26 March 07:00 GMT

EMBLEMATIC ANTARCTICA 26 March 08:00 to 29 March 20:00 GMT

FALKLANDS, SOUTH GEORGIA & ANTARCTICA

Halley Research Station is an internationally important platform for global earth, atmospheric and space weather observation in a climate sensitive zone. Built on a floating ice shelf in the Weddell Sea, Halley VI is the world's first re-locatable research facility.

Temperatures at Halley rarely rise above 0°C although temperatures around -10°C are common on sunny summer days. Typical winter temperatures are below -20°C with extreme lows of around -55°C

