



**Geography
Teacher**

Ready-Made Lessons

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Climate Change

Climate Change: The Impacts

- Classroom & Distance Learning
- Google Classroom



Starter Activity

Starter Activity

1. Where do you think this is?
2. How are these islands being impacted by climate change?
3. How might this image change in 50 years from now?

Stretch & Challenge

- What are the environmental, social and economic impacts of climate change for these islands?



Learning

& Mini-Plenary

Climate Change



Climate Change: The Impacts

Lesson Objectives

In today's class, we will:

1. Identify how climate change impacts the environment.
2. Explain how climate change affects people.
3. Evaluate the social, economic and environmental impacts of climate change.

Regardless of whether human or natural factors are to blame, climate change appears to be impacting the environment.

What is Climate Change?

Climate change is any **significant change** in the **earth's climate** over a **long time period**.

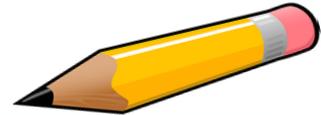
- The climate **constantly changes**.
- The climate **always has changed**.
- The climate **always will change**.

What may be the climate change risks for Miami?

Could Miami really be submerged?

Discuss

Brainstorm: Groupwork



1. Work in pairs.
2. Draw a 2-column table in your notebooks: how does climate change affect:
 - a. environment?
 - b. people?
3. You have 3 minutes to discuss and note down ideas.
4. Then we will share with the class.

How climate change affects the environment	How climate change affects people

Positive and Negative Impacts of Climate Change

- 1. Colour code/sort the statements into negative and positive impacts of climate change.**
- 2. Colour code/sort the statements into social, environmental and economic impacts.**
- 3. Rank the negative impacts from most to least severe.**

<p>Frozen regions of the world such as Siberia and northern Canada may be able to grow crops in a milder climate</p>	<p>Arctic ice may melt completely</p>	<p>Longer growing season in rich agricultural areas such as Europe and North America will increase food production</p>	<p>Alpine ski resorts may be forced to close due to lack of snow</p>
<p>Tropical storms affecting the Caribbean and the USA may increase in magnitude</p>	<p>Energy consumption may go down as temperatures increase in densely populated parts of the world such as North-West Europe</p>	<p>Cereal yields are expected to decrease in Africa, the Middle East and India</p>	<p>Higher sea levels may flood low-lying areas such as Bangladesh, Myanmar and the Netherlands, threatening the lives of 80 million people</p>
<p>Parts of Africa may become drier and more prone to droughts, leading to starvation and civil war</p>	<p>Some species, whose habitat changes, may become extinct – there is considerable concern about polar bears in the Arctic</p>	<p>Hazards such as landslides, floods and avalanches may become more common in mountainous areas such as the Alps</p>	<p>Canada's North-West Passage may become ice-free and can be used by shipping</p>
<p>Fewer deaths or injuries due to cold weather such as in China and Japan</p>	<p>Loss of glaciers (fresh water) in the Himalayas may threaten agriculture and water supply in India, Nepal and China</p>	<p>Islands such as the Maldives and Tuvalu may completely disappear as sea levels rise</p>	<p>An additional 220-400 million people may be at risk from malaria, particularly in China and Central Asia</p>

Temperatures are expected to rise by 0.3 to 4.8 °C between 2005 and 2100. This is already starting to have some effects on the environment.

The Earth is Getting Warmer



Task: Collating the Evidence

- In the same pairs, you are going to collate information from around the classroom:
 - How climate change impacts the environment.
 - How climate change impacts people.
- Decide which theme each partner will do to get started.
- You will then sit back down and **peer-teach** one another, about what you discovered, to complete the other side of your research worksheet.

How does climate change impact the Environment?		

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How does climate change impact People?		

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Climate Change Impacts the Environment

Climate change affects the environment

- **Rising temperatures** are causing **glaciers** to **shrink** and **ice sheets** to **melt**. Melting land ice, like the ice sheets of **Greenland** and **Antarctica**, means that water stored on land is returning to the oceans, resulting in **rising sea levels**.
- There is a **loss** of **polar habitats** due to shrinking sea ice also.
- Rising sea levels implies **low-lying** and **coastal areas** (e.g. **Miami, USA**) **flooding** more regularly. There could be an **increase** in **coastal erosion** as sea levels rise and some coastal areas will become submerged. Therefore, habitats will be lost.
- Other **species** are in **decline** due to global warming. For example **coral reefs**, such as the **Great Barrier Reef** in **Australia**, are suffering from **bleaching**. Bleaching is when coral expel the algae that lives in them, as sea temperatures rise, causing them to starve and die.
- **Precipitation** (Niederschlag) **patterns** are changing all over the world. Global warming is **affecting how much rain** regions receive.
- The **quantity** and **distribution** of many species will likely change and **biodiversity** could **decrease**.
 - **Some species** now live at **higher altitudes** due to rising temperatures.
 - **Some habitats** are being **damaged** or **destroyed** because of climate change. Species that are adapted to these areas might become **extinct**. For example climate change may limit **bamboo growth**, resulting in the decline of **giant panda** numbers, a species that relies on **bamboo** as a **food source**.

