Climate Change Geography

**Recent climate change**

**Global climate change**

The world's climate is changing. Evidence for this has come from many sources, including:
- Observations of increased air and ocean temperatures
- Longer-term changes in precipitation (rain, snow, and heat) over large regions
- Substantial melting of sea ice
- Shrinking of Arctic sea ice
- Rising global average sea level

Average surface air temperature of the world has risen by about 0.7 °C over the last century.

Widespread changes in extreme temperatures have also been observed, for example, cold days, cold nights and frost have become less frequent, while hot days, but nights and heatwaves have become more frequent. Mountain glaciers and snow cover have reduced in both temperate and tropical mountains, and Arctic sea ice has shrunk over the last 50 years. Sea level has risen throughout the 20th Century by about 17 cm. The number of heavy precipitation events has increased in most land areas.

**Regional climate change**

Temperature changes have occurred in all regions of the world. Over the last 50 years, the Arctic has warmed on average twice as fast as the rest of the world. The southern hemisphere has warmed more than the northern hemisphere. Tropical regions have warmed more than higher latitudes.

Over most and most days and nights have got warmer, including in cold areas of northern Europe.

Glaciers have resulted in a reduction in the amount of ice mountains on this planet. This has led to a decrease in the amount of water available to people, animals, and plants. Climate warming has been caused by a combination of greenhouse gases, including carbon dioxide, methane, and nitrous oxide. These gases are released by human activities, such as burning fossil fuels, deforestation, and industrial processes.

**Climate change impacts**

Here are some examples of how climate change can affect people and places around the globe:

- **Agriculture and ecosystems**
  - Higher sea level would increase the risk of coastal flooding, in some areas, and increased heatwaves, in some areas, are expected to increase. Increased flooding from more severe or greater than normal precipitation is likely to destroy the risk of flooding in some coastal areas.
  - In the 21st Century, millions of people are expected to be flooded in coastal areas of the world such as Bangladesh, where there is high risk of flooding. In some areas, the risk of flooding is expected to increase.
  - Coral reef bleaching is a sign of ocean warming. In some areas, the risk of coral bleaching is expected to increase. In some areas, the risk of coral bleaching is expected to decrease.
  - In the UK, average annual temperature increases of between 2–3.5 °C have been predicted by the end of this century and more warming is expected in the South East of England.

- **People who do not have access to water**
  - Droughts and wildfires are expected to increase. Increased wildfires are expected to lead to more failed harvests and famine, particularly where they are already occurring. Droughts and wildfires are likely to cause considerable damage to people, property, plant and animal life, and to the environment.

- **Coral reefs**
  - Coral reefs are affected by changes in temperature, pH, and ocean acidification. Coral reefs are likely to be affected by increased ocean acidity. Coral reefs are expected to become more vulnerable to climate change, as ocean temperatures are expected to increase. Increased temperature stress and ocean acidification are likely to lead to coral bleaching and coral death. Coral bleaching is a sign of ocean warming. In some areas, the risk of coral bleaching is expected to increase. In some areas, the risk of coral bleaching is expected to decrease.

- **Health**
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- **Future climate change**

- **Regional climate change**
  - Increased temperatures are expected to lead to increased heatwaves and wildfires. Increased heatwaves and wildfires are expected to lead to increased heat stress and increased risk of heat-related illness. Increased heatwaves and wildfires are expected to lead to increased heat stress and increased risk of heat-related illness. Increased heatwaves and wildfires are expected to lead to increased heat stress and increased risk of heat-related illness.

- **Crops**
  - Crop yields in some areas are expected to decrease. Crop yields are expected to decrease in some areas, while in other areas, crop yields are expected to increase.

- **Forest fires**
  - Forest fires are expected to increase. Increased forest fires are expected to lead to increased risk of fire. Increased forest fires are expected to lead to increased risk of fire. Increased forest fires are expected to lead to increased risk of fire.

- **Droughts and wildfires**
  - Droughts occur because there is a little or no rain, and for no recent precipitation. Since 1980, the area of land experiencing drought has increased worldwide. As the climate warms, evaporation is expected to increase, and drought is expected to expand. This could lead to more damaged forests and famine, as droughts are expected to increase. Droughts are expected to lead to increased risk of forest fires and increased risk of fire.

- **Access to food**
  - Access to food in many African regions could be severely affected by future changes in climate. Access to food is expected to become more difficult in areas where food is not produced locally, such as in the UK, where there is a high risk of food shortages due to climate change.

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