

### Indicators and Effects of Climate Change

**Global Warming:** An increase in the global average temperature

The rate of increase in global temperature has increased since the 1960s

### Changes in Polar and Glacier Ice

Large amounts of ice are melting at higher rates in recent years

**Impacts of Melting Ice** Raises sea levels

Affects the habitats of polar animals

Affects the traditional lifestyles of the Inuit population

### Rising Sea Level and Ocean Acidity

The melting of ice caps and glaciers could raise global sea levels by 20cm - 40cm within the next 100 years

Thermal expansion of sea water will also result in higher global sea levels

Large populations of people will be displaced by rising sea levels as many of the largest cities are coastal

The influence of tides, prevailing winds, and ocean currents will increase/decrease the effects in different areas

Changes in ocean pH make coral reefs vulnerable and affect the ability of oceanic organisms to reproduce

The ocean will become more acidic due to absorption of CO<sub>2</sub> produced by the burning of fossil fuels

Rising sea levels will cause loss of coastal land and increase flooding potential

### Climate and Health

Climate is closely related with risk of disease and injury/death due to natural disasters

Some disease outbreaks are more likely in higher temperatures

The risk of waterborne diseases increases as climate change affects precipitation

Increasing temperatures may adversely affect those with asthma, allergies, or other respiratory disorders

### Changing Wind and Precipitation Patterns

Changes in heat distribution affect wind currents

The speed, frequency, and direction of winds have fluctuated due to climate change

High temperatures increase the rate of evaporation and precipitation

### Desertification and Drought

An increase/decrease of precipitation affects the levels of reservoirs and ground water

Declines in precipitation can lead to *desertification*

**Desertification:** The process by which land slowly dries out until little or no vegetation can survive and the land becomes a desert

Desertification may lead to famines

Global warming may lead to a shortage of freshwater

Changes in agriculture and food supply will affect international trade

### Storm Intensity and Frequency

Warmer seas result in stronger hurricanes

Climate change can also lead to stronger/more frequent wildfires, heavy rains, and strong winds

### Changing Biomes

Up to 1 million species are threatened with extinction due to climate change

### Deforestation

The destruction of the world's forests through direct human activity and indirect effects of climate change, pollution, and acid rain

A shrinking forest reduces the amount of CO<sub>2</sub> absorbed from the atmosphere

Global warming lends to increased chances of forest fires or insect infestations

### Shrinking Wetlands

Lower water levels in the Great Lakes will dry out surrounding wetlands → reduces habitats

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