

CLIMATE CHANGE AND GLOBAL WARMING

Εμμανουήλ Κουνδουράκης Τάξη Β'2
(Emmanuil Koundourakis Class B'2)



Erasmus+

WHAT IS CLIMATE CHANGE ?

DEFINITION



☐ Climate change is a long-term change in the average weather patterns that have come to define Earth's local global climates

☐ These changes have a broad range of observed effects that are synonymous with the term

☐ Changes observed in Earth's climate since the mid-20th century are from human activities, particularly fossil fuel burning, which increases heat and gas levels in Earth's atmosphere, raising Earth's average surface temperature



WHAT IS CLIMATE CHANGE ?

Scientists use observations from the ground, air, and space, along with computer models, to monitor and study past, present, and future climate change

Climate data records provide evidence of climate change key indicators, such as:

- global land and ocean temperature increases
- rising sea levels
- ice loss at Earth's poles and in mountain glaciers
- frequency and severity changes in extreme weather such as:
 - hurricanes,
 - heatwaves,
 - wildfires,
 - droughts and floods



WHAT IS GLOBAL WARMING ?

❑ Glaciers are melting, sea levels are rising and cloud forests are dying. It has become clear that humans have caused most of the past century's warming by releasing heat-trapping gases as we power our modern lives



➤ Called greenhouse gases, their levels are higher now than at any time in the last 800,000 years

- We often call the result “global warming”, but it is causing a set of changes to the Earth's climate, or long-term weather patterns, that goes from place to place
- While many people think of global warming and climate change as synonyms, scientists use “climate change” when describing the complex shifts now affecting our planet's weather and climate systems—in part because some areas actually get cooler in the short term



EFFECTS OF CLIMATE CHANGES

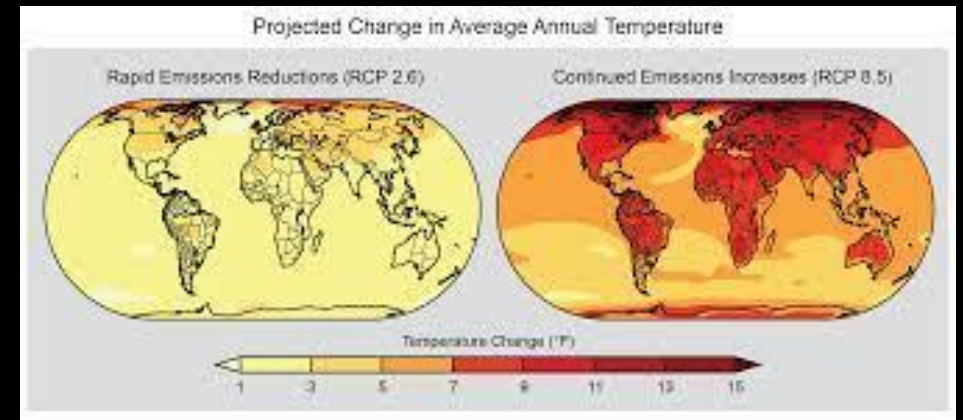
- Fossil fuels – coal, oil and gas – are by far the largest contributor to global climate change, accounting for over 75 per cent of global greenhouse gas emissions and nearly 90 per cent of all carbon dioxide emissions
- As greenhouse gas emissions blanket the Earth, they trap the sun's heat. This leads to global warming and climate change. The world is now warming faster than at any point in recorded history
- Warmer temperatures over time are changing weather patterns and disrupting the usual balance of nature. This poses many risks to human beings and all other forms of life on Earth



EFFECT OF GLOBAL WARMING

□ There are two major effects of global warming:

➤ Increase of temperature on the earth by about 3° to 5° C, by the year 2100



➤ Increase of sea level by 25 meters

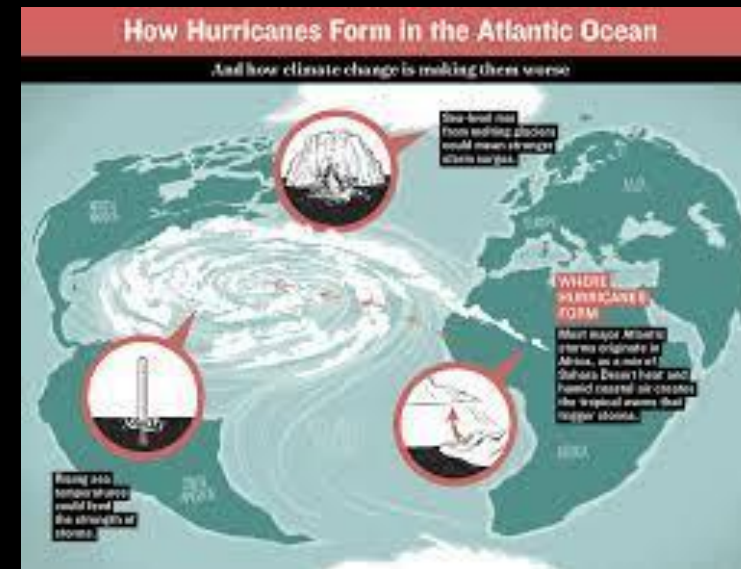
EFFECT OF GLOBAL WARMING

❖ Increasing global temperatures are the primary effects of global warming. However, they are causing a broad range of additional, secondary effects :

✓ Sea levels are rising due to thermal expansion of the ocean, in addition

✓ to melting of land ice

✓ Increase of hurricanes



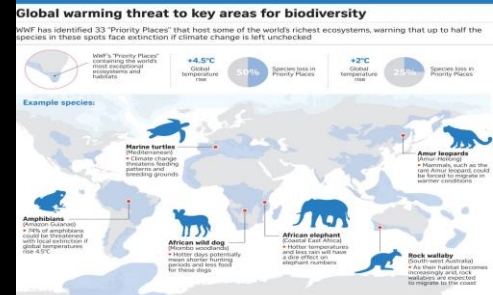
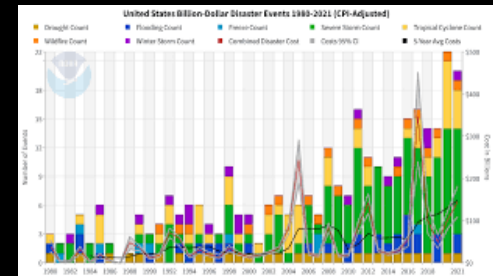
EFFECT OF GLOBAL WARMING

✓ Changes in temperature have also global effects on extreme weather events:

○ They increase the frequency, duration, and intensity of floods, droughts, heat waves, and tornadoes

✓ Other effects of global warming ,reduced summer stream flows, species extinctions

✓ As further effects of global warming, diseases like malaria are returning into areas where they have been extinguished earlier



WEBSITES, LINKS

- I found the information on the following websites

<https://timeforchange.org/effects-of-global-warming/>

<https://www.un.org/en/climatechange/science/causes-effects-climate-change> UNITED NATIONS

<https://www.nationalgeographic.com/environment/article/global-warming-overview/> NATIONAL GEOGRAPHIC

<https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html> NASA