

Green Enough

Module 1.1 Climate Change

Green Enough: Educational program to raise ecological behaviour through an inclusive methodology using Augmented Reality Technology

2022-1-EL01-KA220-ADU-000086368

Module 1.1 Learning Objectives

By the end of this module trainees will be able to:

- Demonstrate the ability to understand the causes of climate change (L01)
- Demonstrate the ability to understand the impacts of climate change (L02)

Learning Outcomes	Knowledge	Skills	Competences
L01: Demonstrate the ability to understand the causes of climate change	Explain what climate change is.	Select the major contributors of climate change	Distinguish between personal and social responsibility related to the causes of climate change
L02: Demonstrate the ability to understand the impacts of climate change	Name the main impacts of climate change	Identify action points for combating the effects of climate change.	Examine climate change as a contributing factor in the recent wildfires in Canada and Greece.

1.1.1 What is climate change?



- Long-term shifts in temperature and weather patterns
- Climate changes due to natural cycles

So, why the sudden concern now?

Climate **changing faster than**
ecosystem's **adaptation ability**



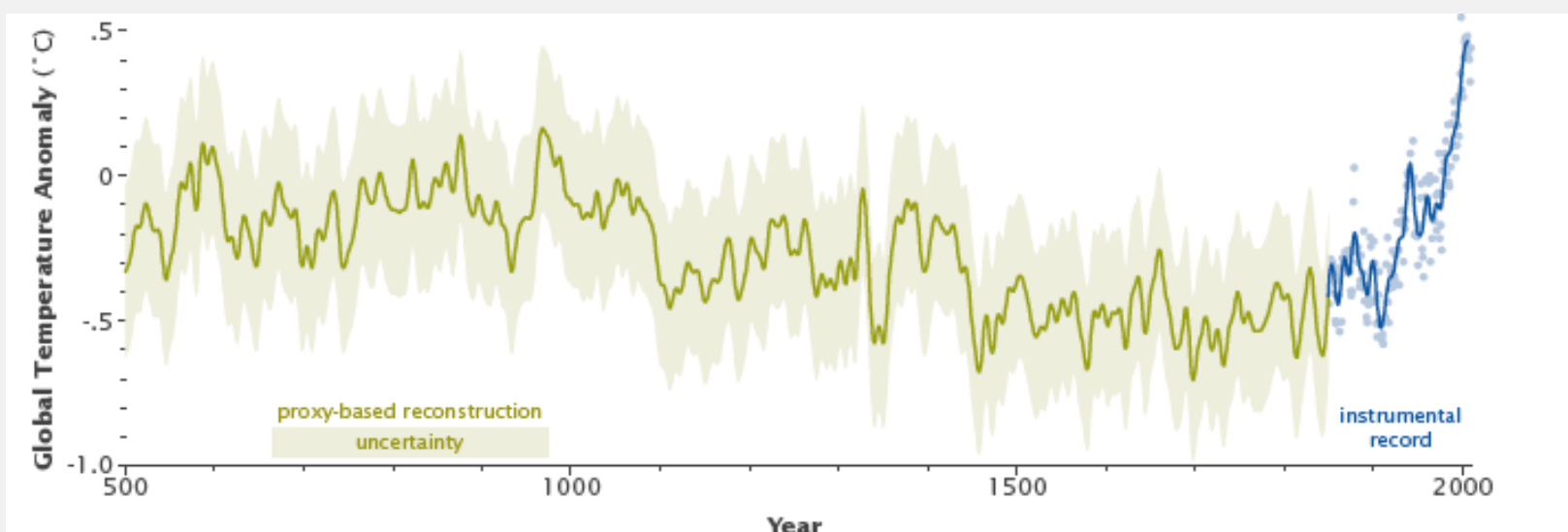
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Human activities are the
main driver of climate change
(mainly burning fossil fuels)

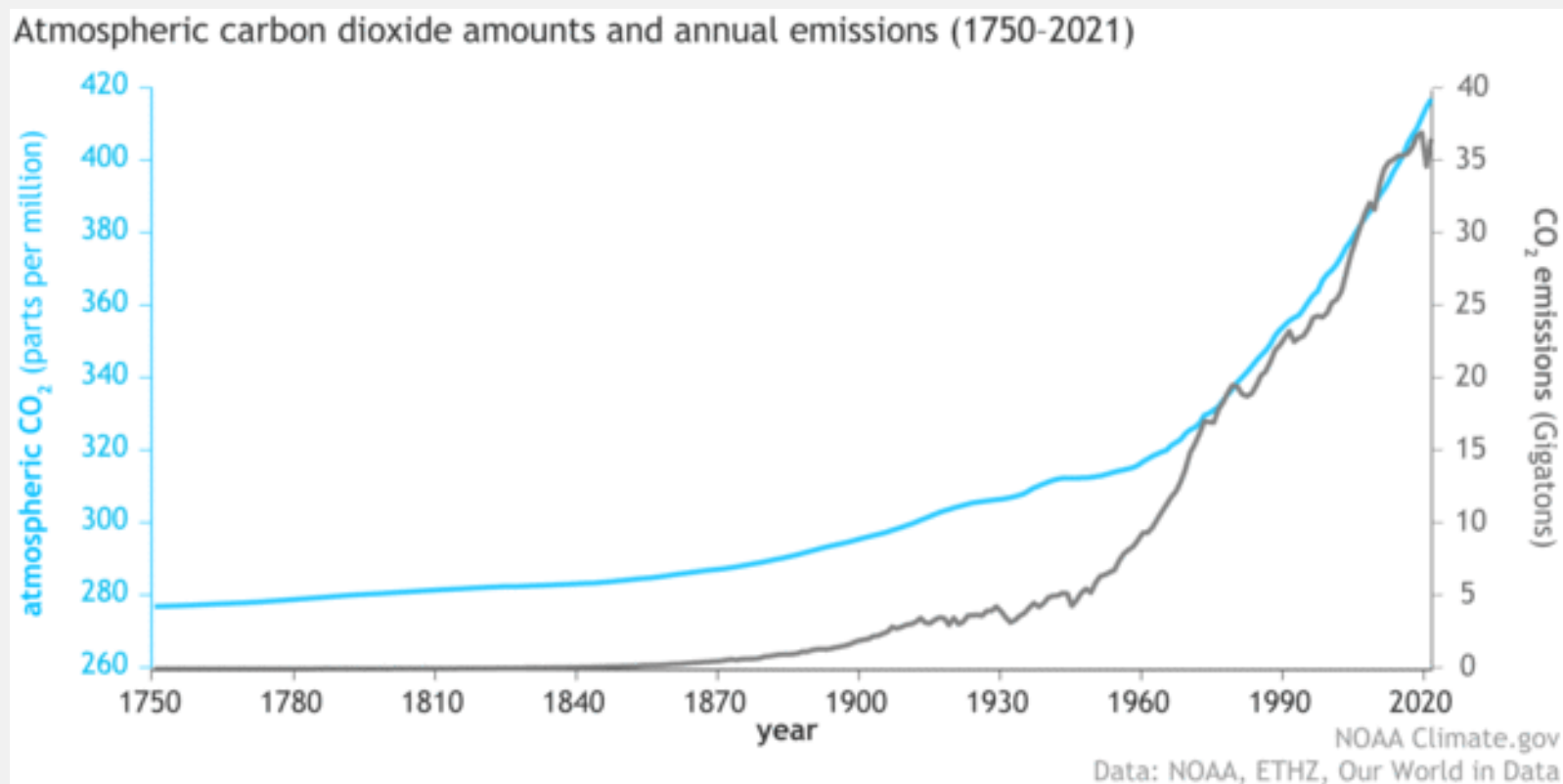
1.1.2 Human-made Climate Change

- Over the past million years, the Earth has moved in and out of ice ages
- Every time the Earth moved out of an ice age; the global temperature rose between 4-7 degrees Celsius over about 5,000 years
- In the last 100 years, the temperature has risen 0.7 degrees Celsius. 10 x faster than the average rate of ice age recovery warming.
- The Earth will warm 3-6 degrees Celsius in the next century. 30 x faster than average. This is very unusual.

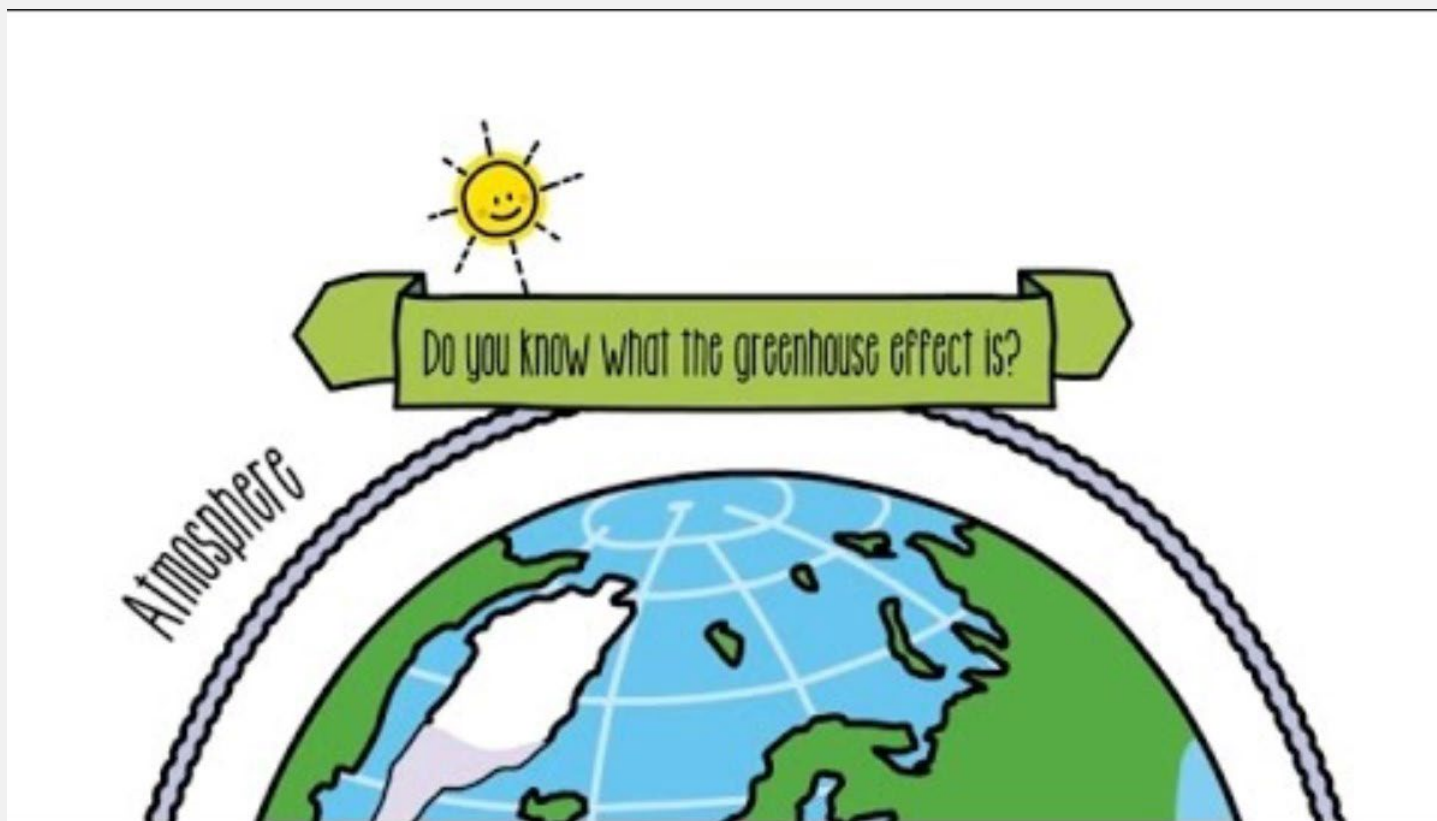
Consequences?



Increases in temperature follow carbon dioxide emissions related to human activity



CO₂ and the greenhouse effect



Scan to watch



bitly

1.1.3 The main contributors to climate change





Burning fossil fuels

- Goods manufacturing

Burning of fossil fuels

- Transportation



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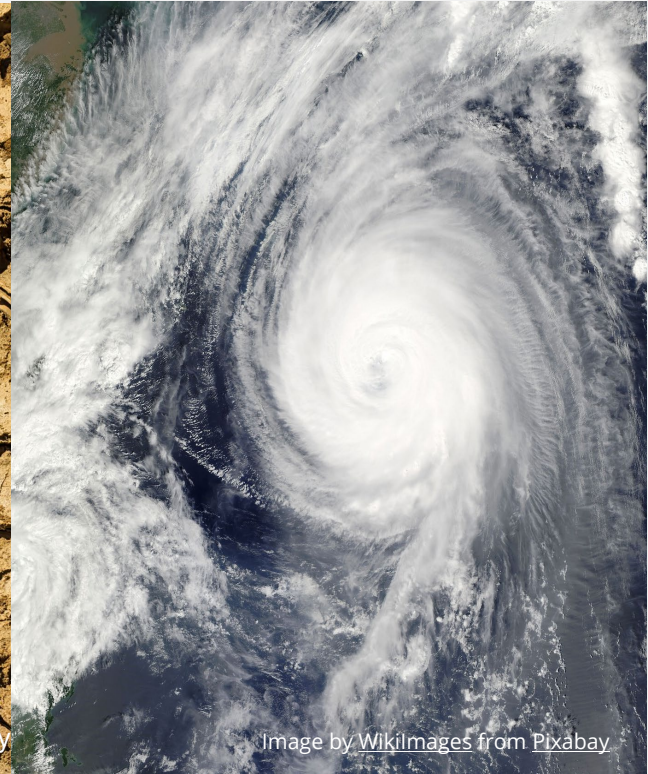
Food production

- Intensive agriculture

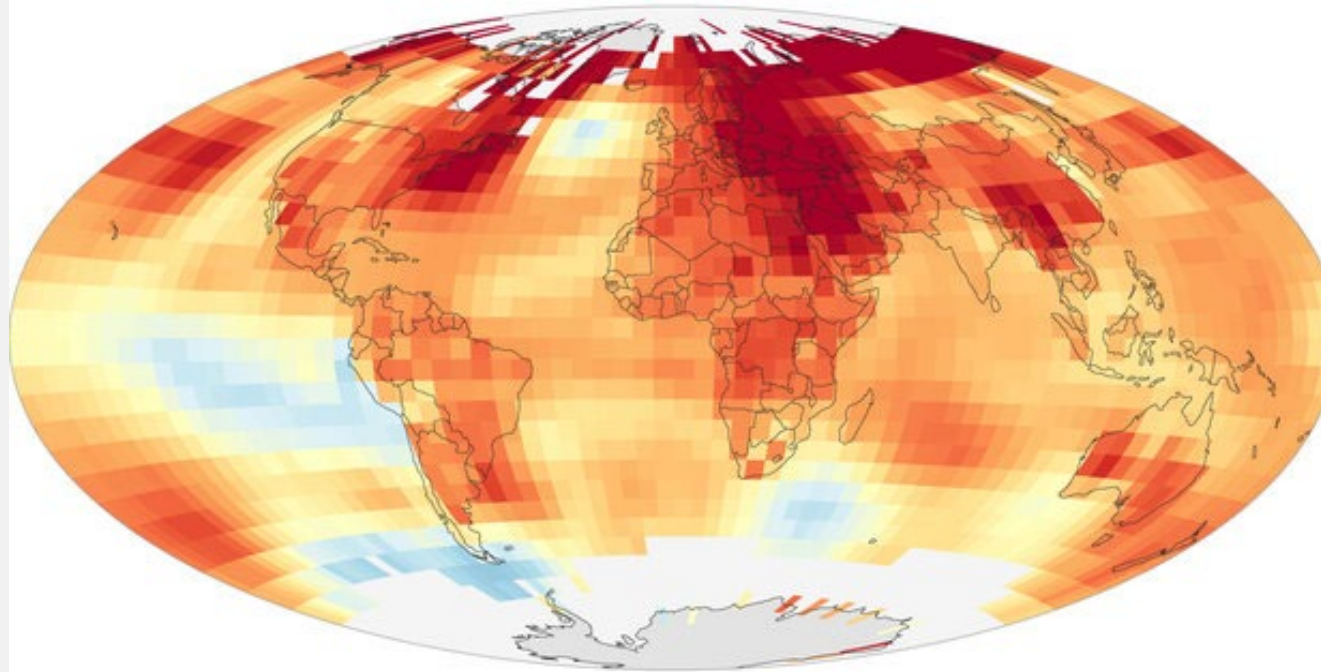
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Overconsumption

1.1.4 The effects of climate change

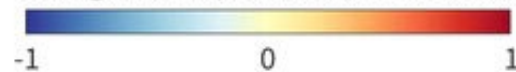


RECENT TEMPERATURE TRENDS (1990-2021)



1990-2021

Change in temperature (°F/decade)



NOAA Climate.gov
Data: NCEI

1. Hotter temperatures



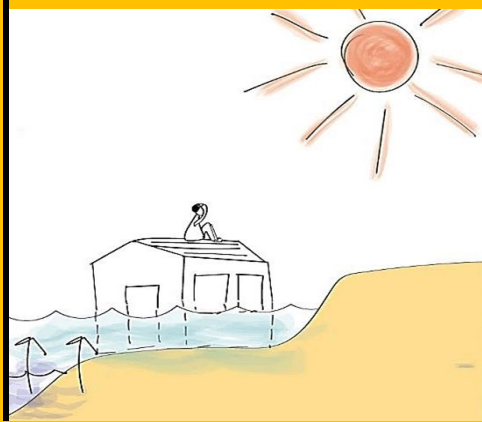
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2. Increased droughts & wildfires → desertification

3. More severe storms



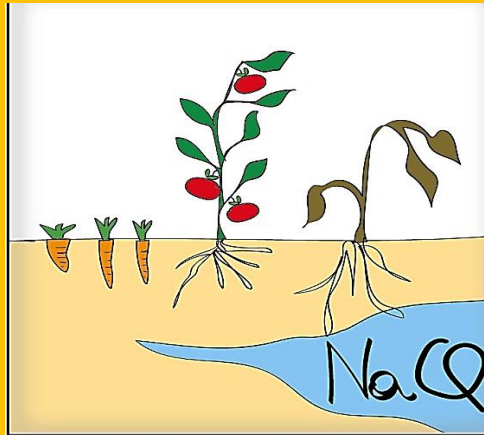
Floods



Coastal Erosion



Loss of Biodiversity



4. Rising sea levels

- ice caps are melting
- oceans are expanding (warmer water takes up more space).



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5. Loss of biodiversity

In water due to hotter oceans/seas, on land due to droughts etc.



Image by prostoolleh on Freepik

6. Health risks

Dust and breathing difficulties, new viruses and bacteria, heatstroke, malnutrition etc.

7. Poverty and displacement



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Image by MAMADOU TRAORE from Pixabay

- Each year, 31.5 million people leave their homes due to increasing intensity and frequency of extreme weather events, prolonged droughts, desertification, sea level rise, environmental degradation.
- 1.3 billion climate refugees by 3050 are estimated.
- Strong correlation between climate crisis and conflict

1.1.5 Combating climate change



Use renewable energy sources
(e.g., Solar/Wind/Hydro energy)

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Consume less energy

- Ensure fronts of vents are cleared of obstructions
- Switch to LED lamps
- Turn off lights when not in use
- Opt for energy efficient transportation (e.g., public transport, cycling, walk)

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Conservation & Reforestation

Participate/organise:

- a clean-up activity
- a tree-planting activity
- an awareness-raising campaign

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Urban Planning

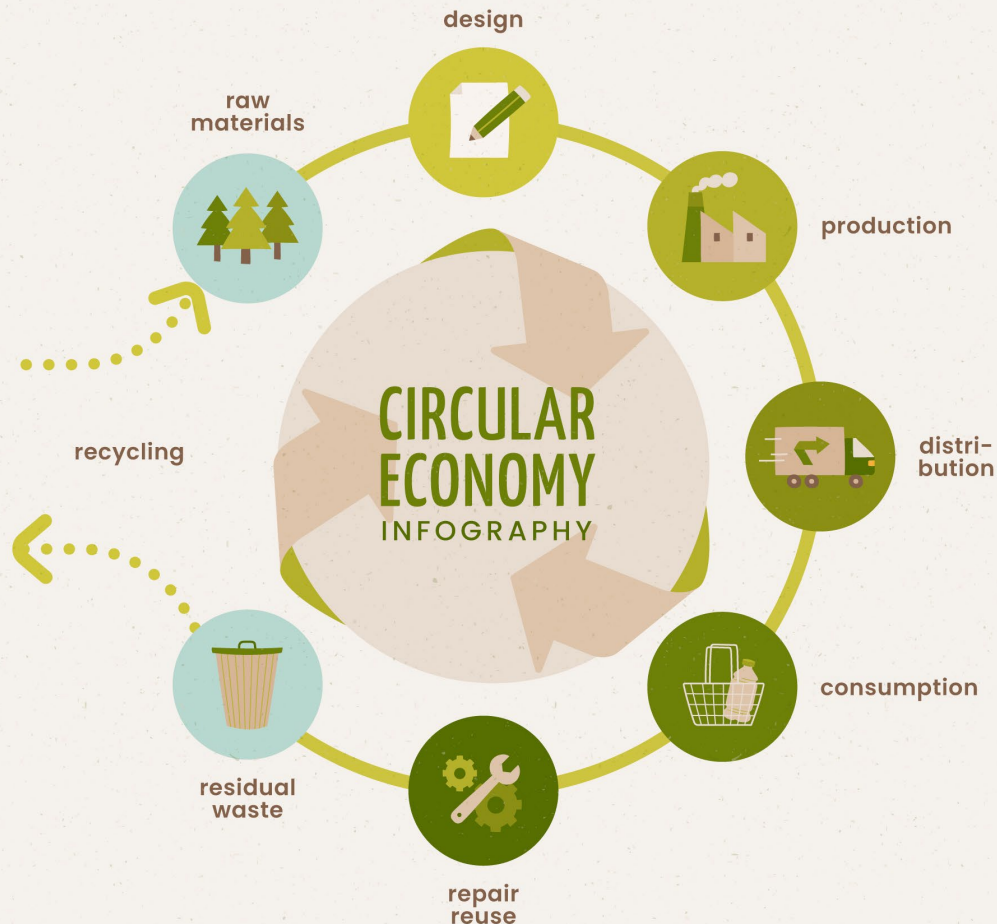
- Advocate for more trees and green areas in urban locations



Minimise food related emissions

- Eat more fruit & vegetables
- Minimise consumption of food from intensive agriculture/farming (e.g., corn, wheat, rice)
- Eat local & seasonal (transport-related emissions)
- Minimize food waste

Image by [Gabe Raggio](#) from [Pixabay](#)



Circular economy

- Consume responsibly (e.g., save water, buy second-hand)
- Reuse & refurbish products (e.g., use a reusable eco-bag/water bottle/cup)

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Thank you!