

Climate Change: Causes and Effects

Understanding the impact of global warming on our planet



Presented by: *Gabriel Dascalu*

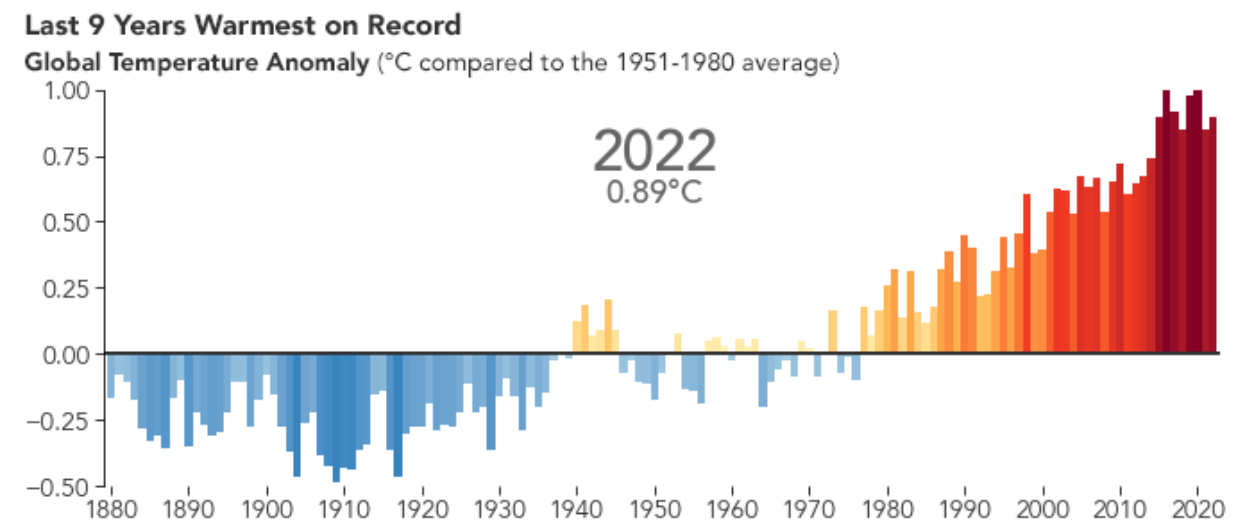
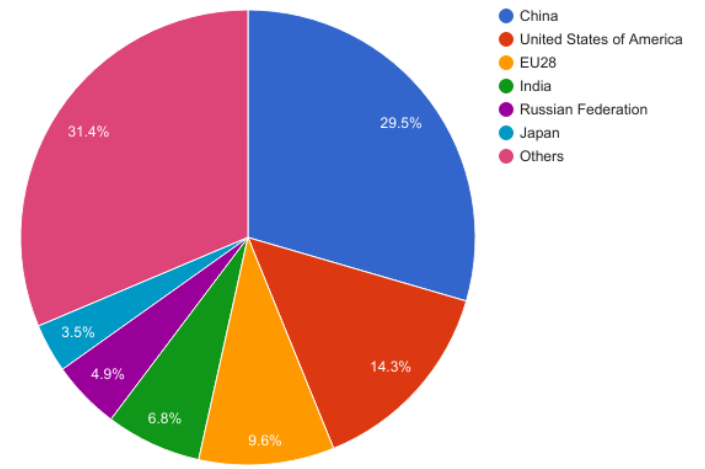
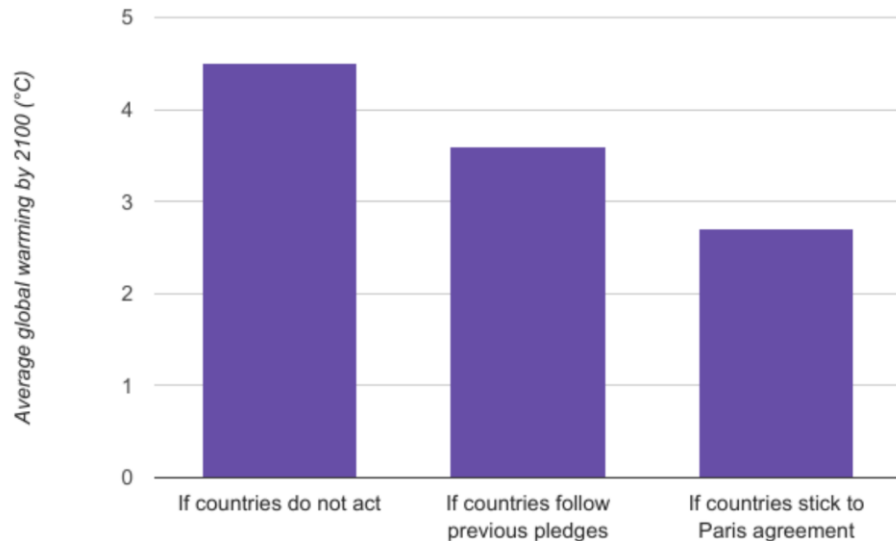
Main Causes of Climate Change

Human activities causing climate change:

- burning fossil fuels such as coal, oil, and natural gas
- deforestation and loss of forests
- industrial production and factory emissions
- agriculture and livestock farming
- increased energy consumption and transportation

These activities release greenhouse gases into the atmosphere.





Greenhouse Effect

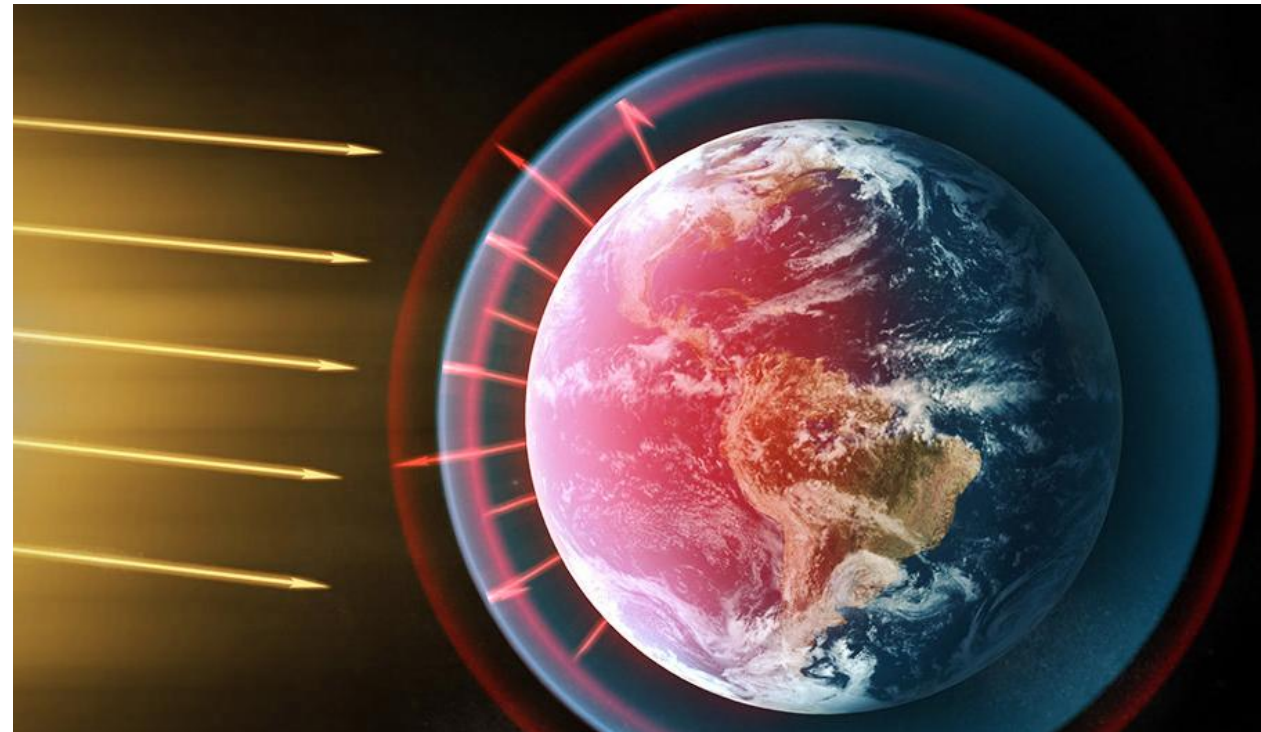
How does the greenhouse effect work?

The greenhouse effect is a natural process that keeps Earth warm. However, excessive greenhouse gases trap too much heat.

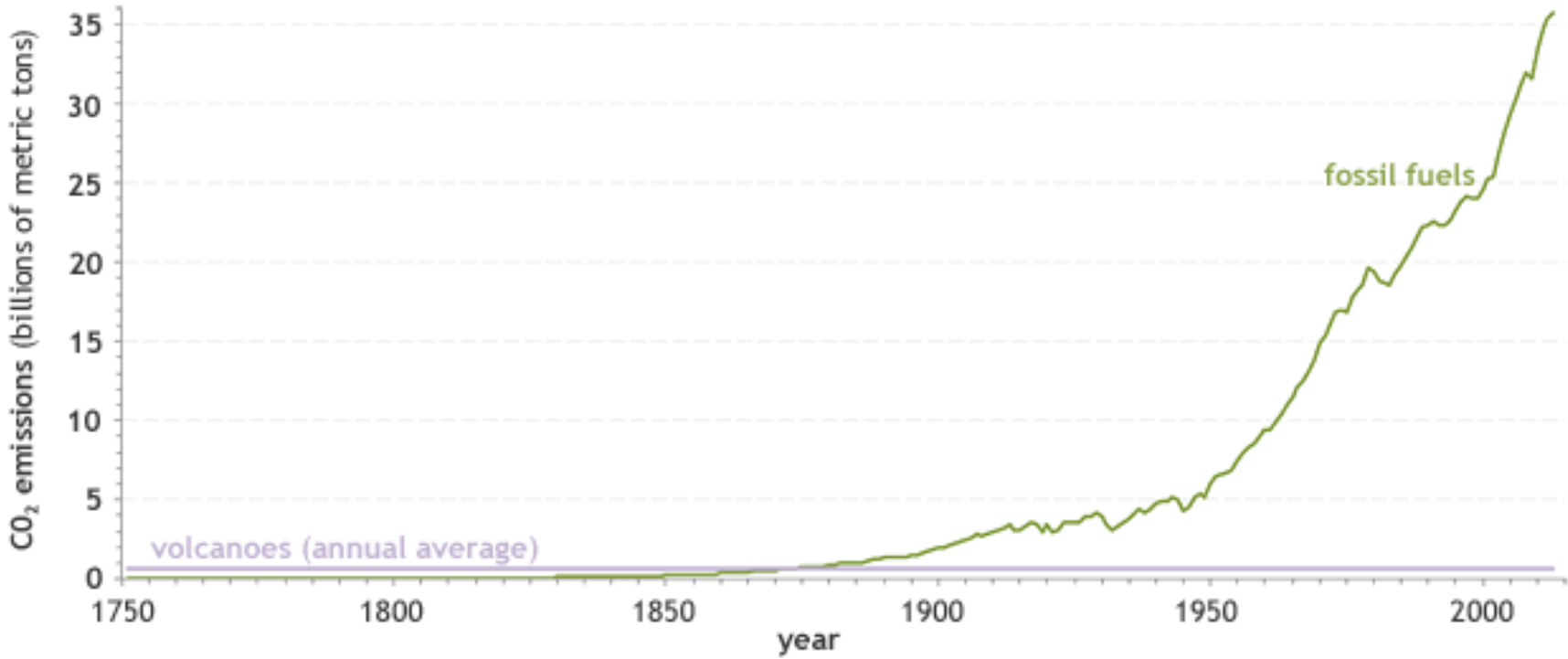
Main greenhouse gases include:

- carbon dioxide (CO₂)
- methane (CH₄)
- nitrous oxide (N₂O)
- water vapor

As concentrations increase, global temperatures rise.

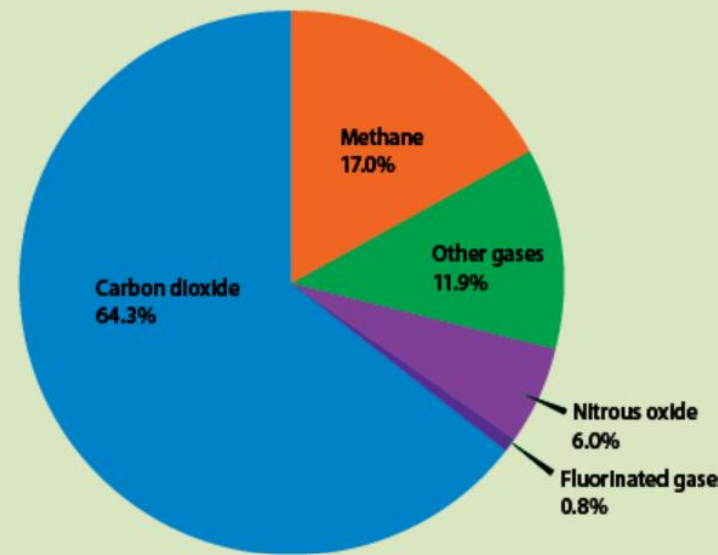


Fossil fuel versus volcanic emissions



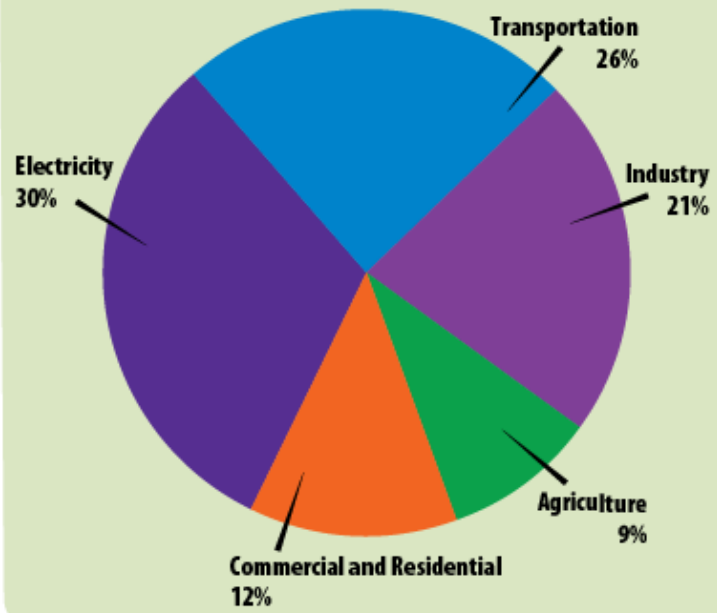
NOAA Climate.gov
Data: CDIAC, Burton et al, 2013

Major Greenhouse Gases from People's Activities



Source of U.S. Greenhouse Gas Emissions (2014)

(not including U.S. Territories)





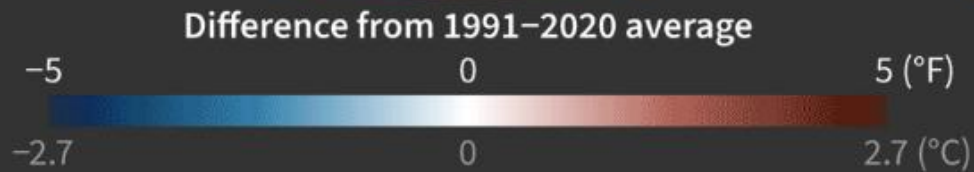
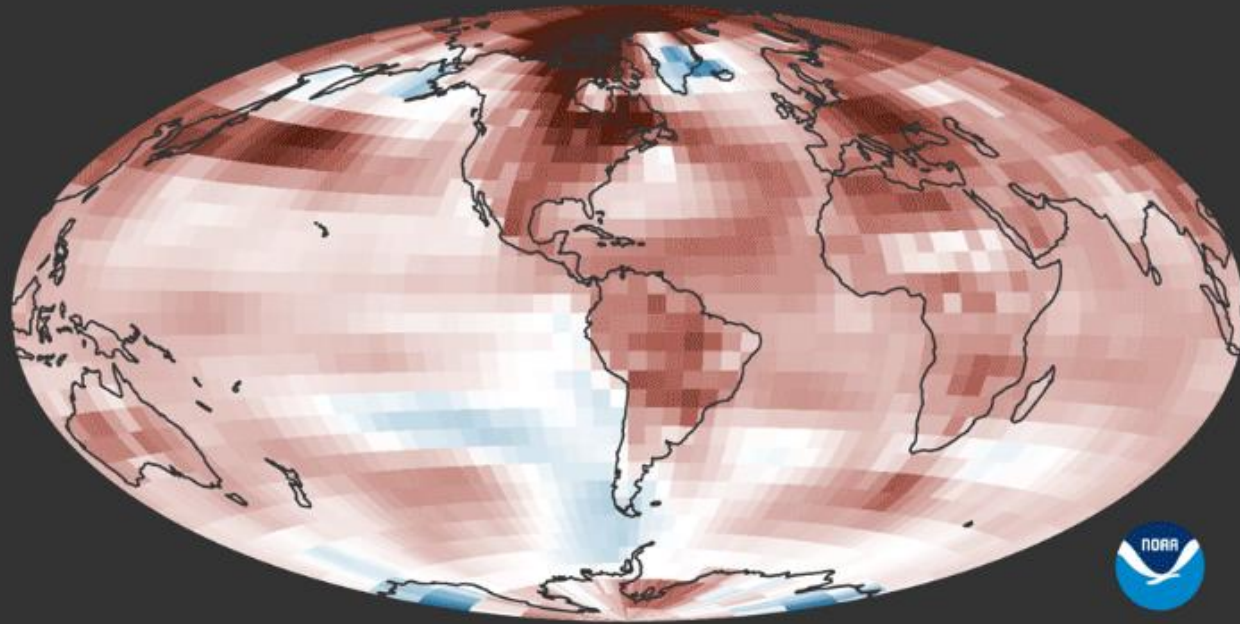
Environmental Effects

Effects on nature and ecosystems:

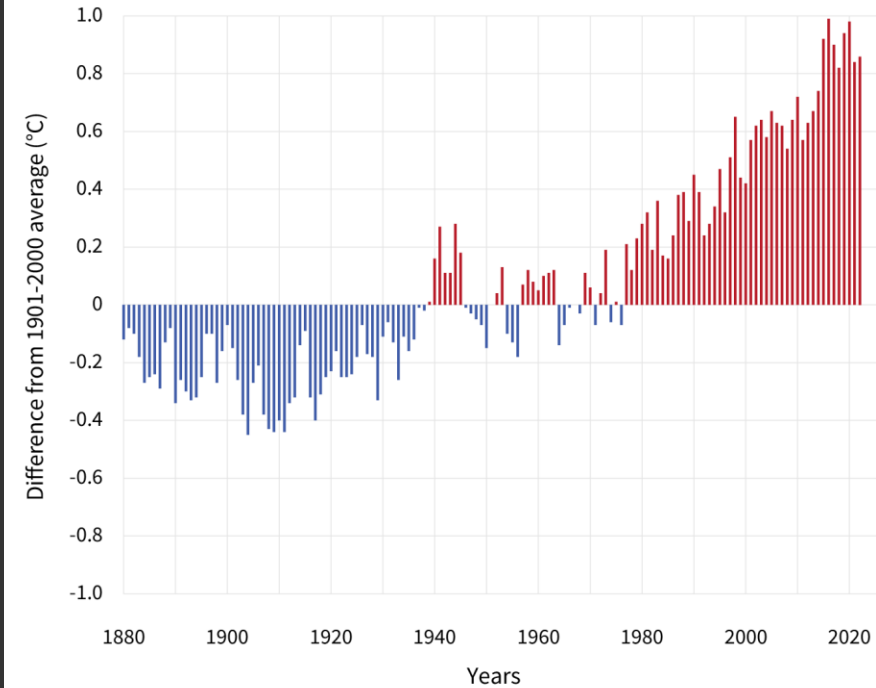
Climate change has serious environmental consequences:

- rising global temperatures
- melting glaciers and polar ice caps
- rising sea levels
- more frequent droughts and floods
- loss of biodiversity
- habitat destruction

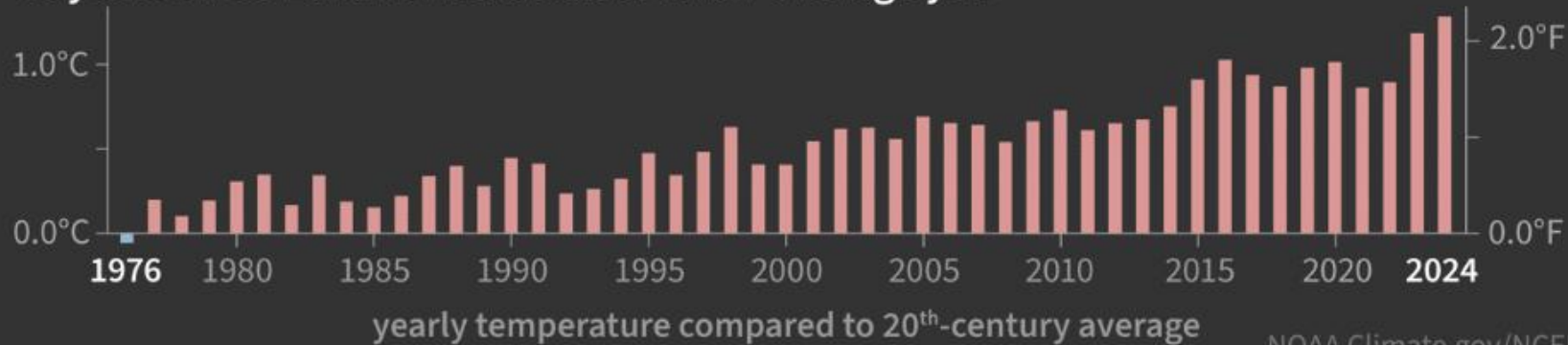
2024 was the world's warmest year since records began in 1850

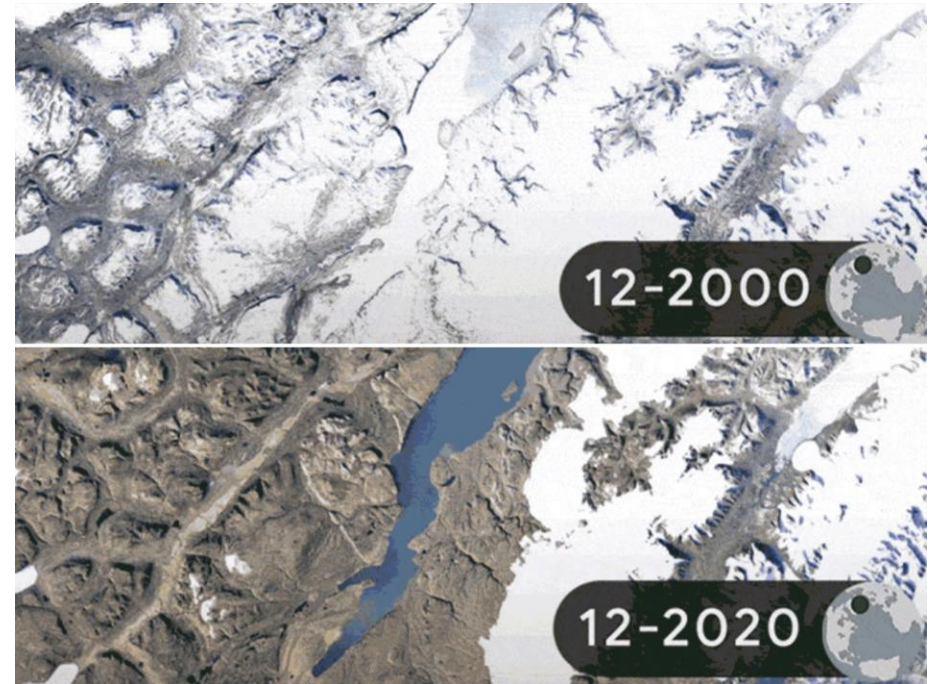
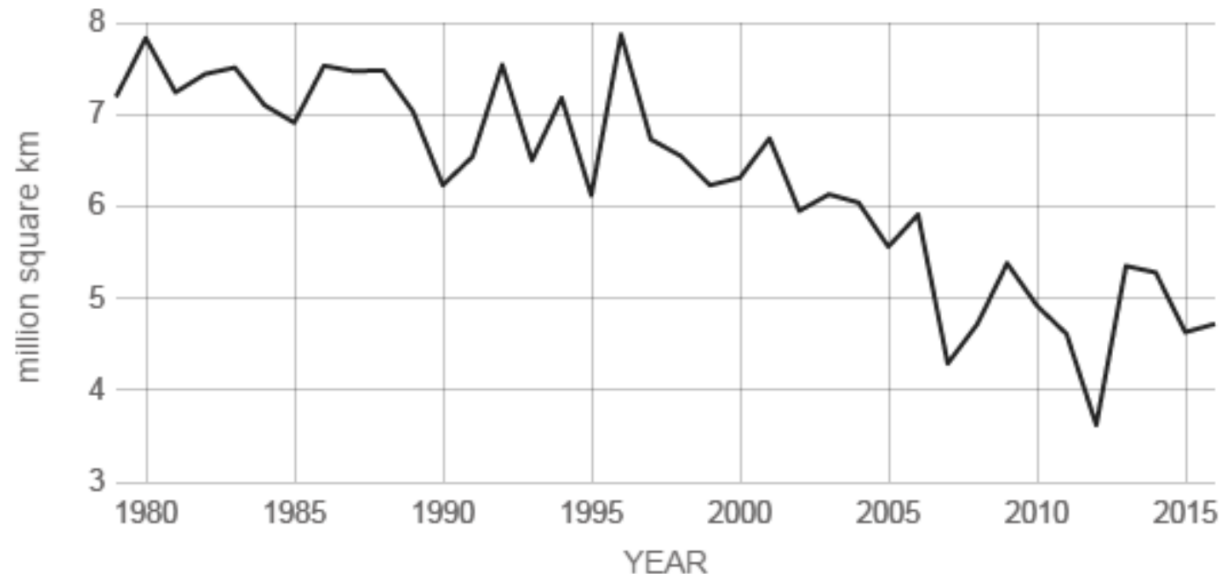
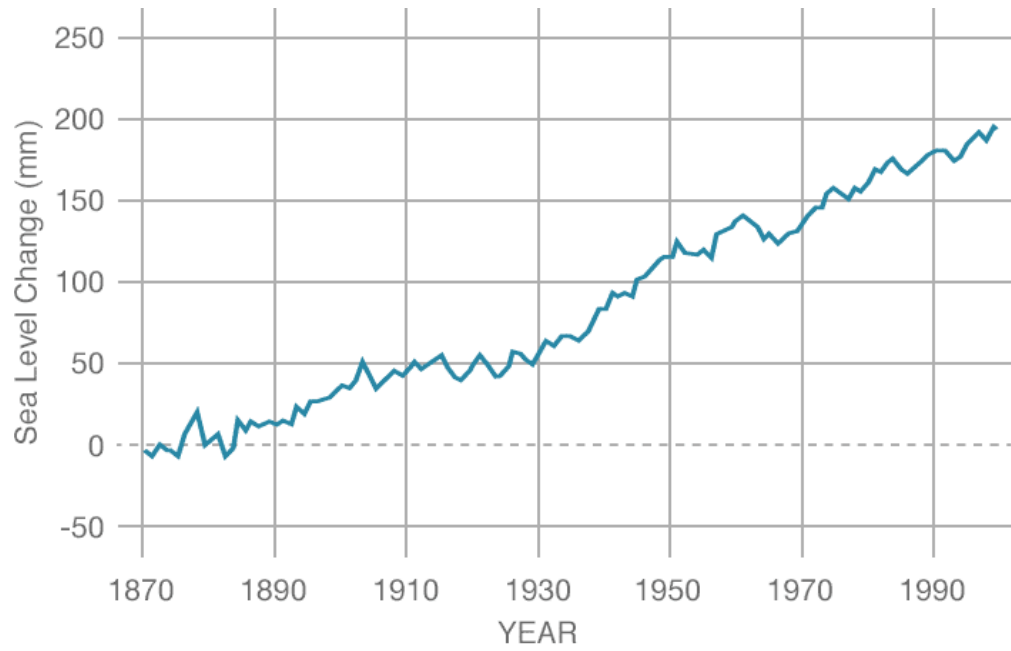


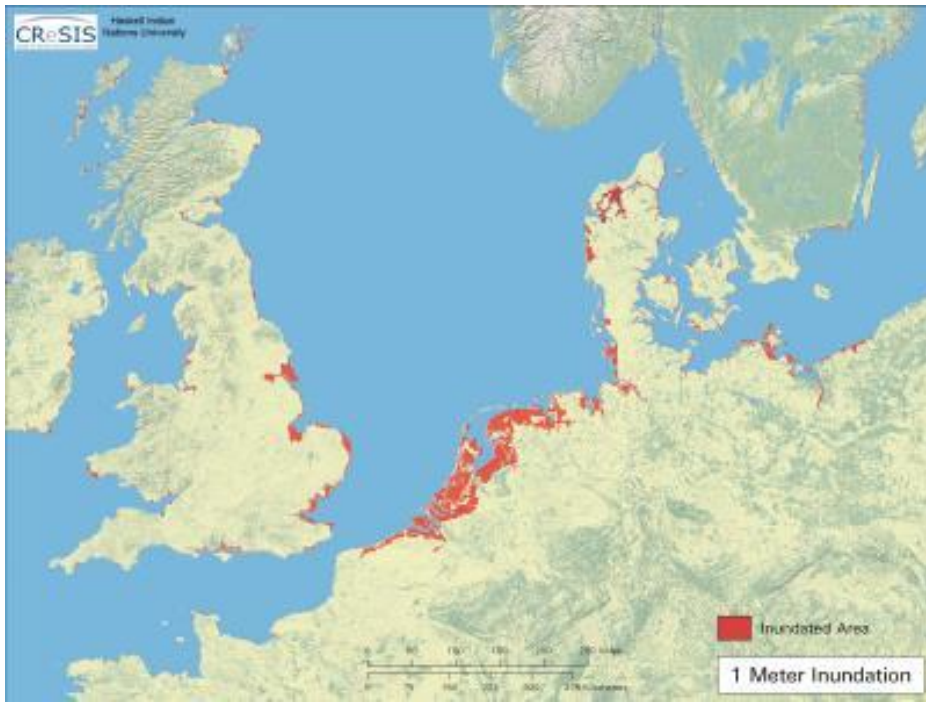
GLOBAL AVERAGE SURFACE TEMPERATURE



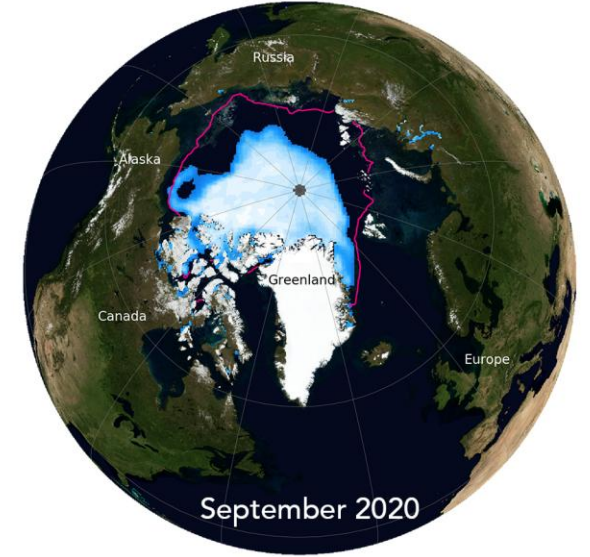
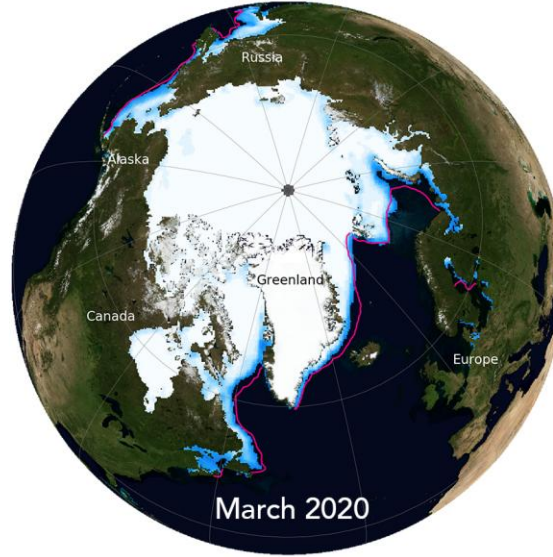
48 years since Earth's had a colder-than-average year



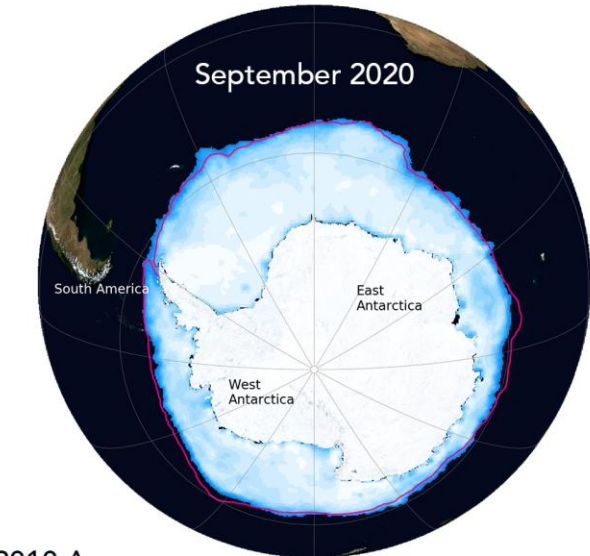
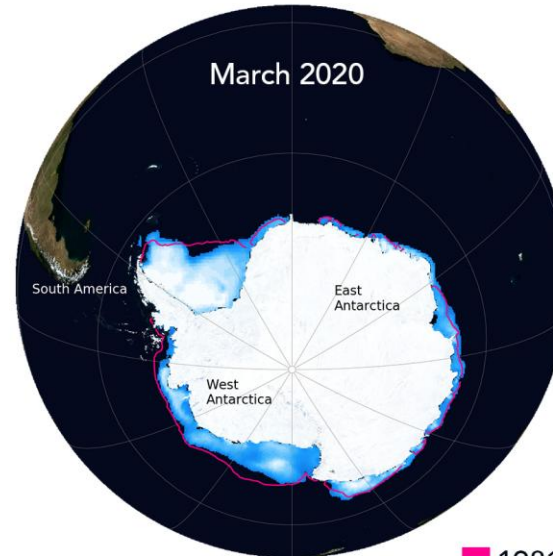




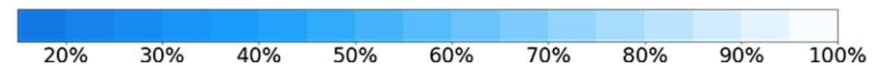
Arctic Sea Ice



Antarctic Sea Ice

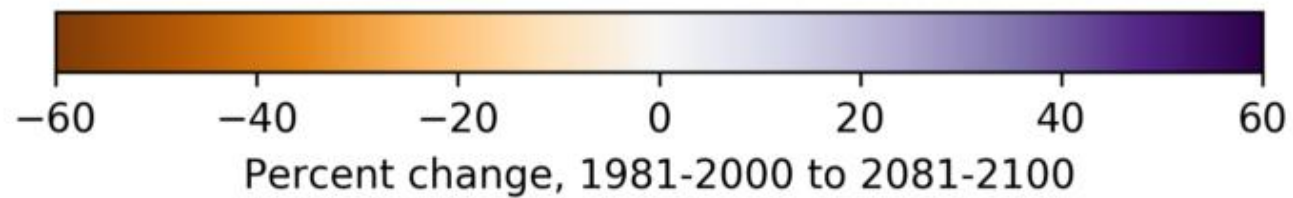
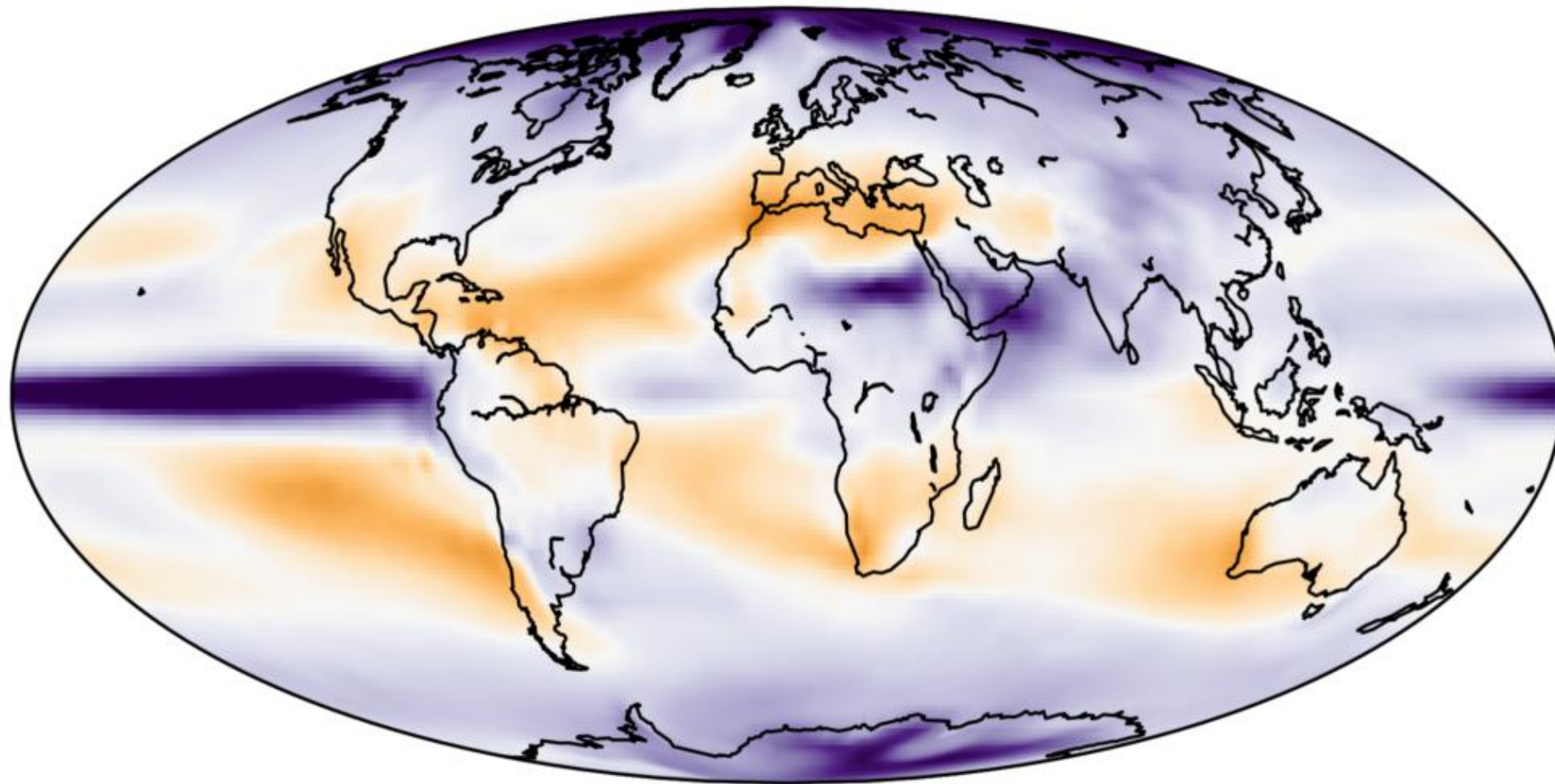


■ 1981 to 2010 Average



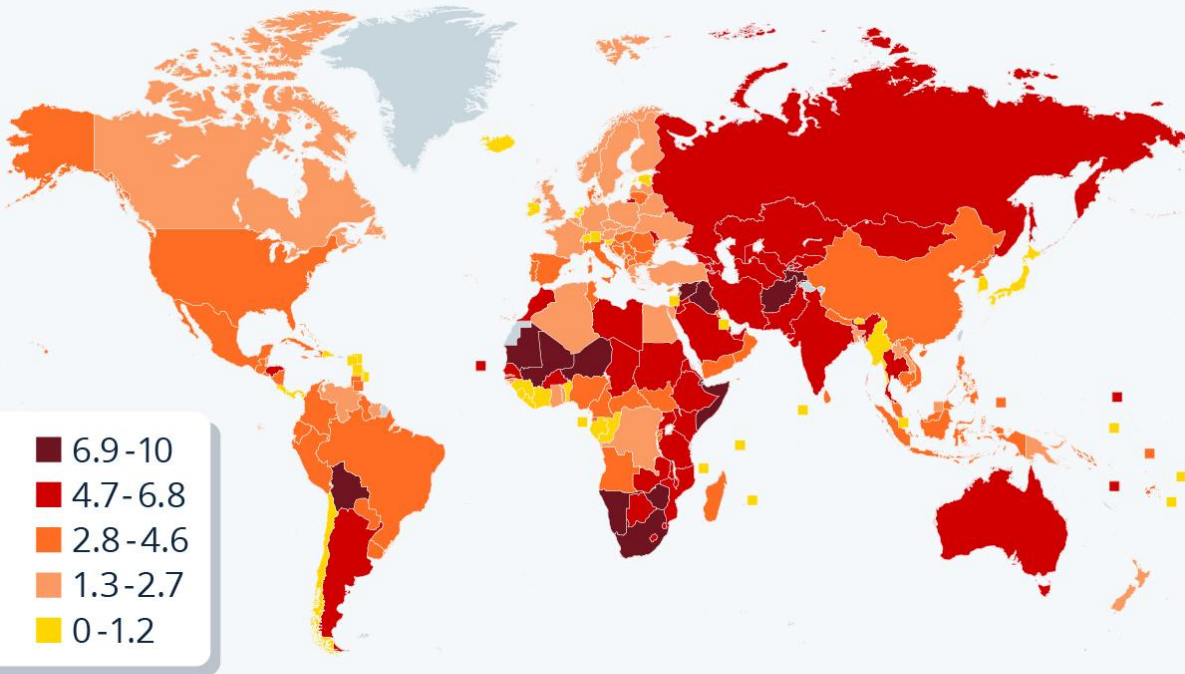
Percent of Sea Ice Concentration

CMIP5 RCP8.5 multimodel mean all precipitation



Mapping Global Drought Risk

Global drought risk by country in 2025 according to the INFORM Risk Index (0=lowest risk, 10=highest risk)



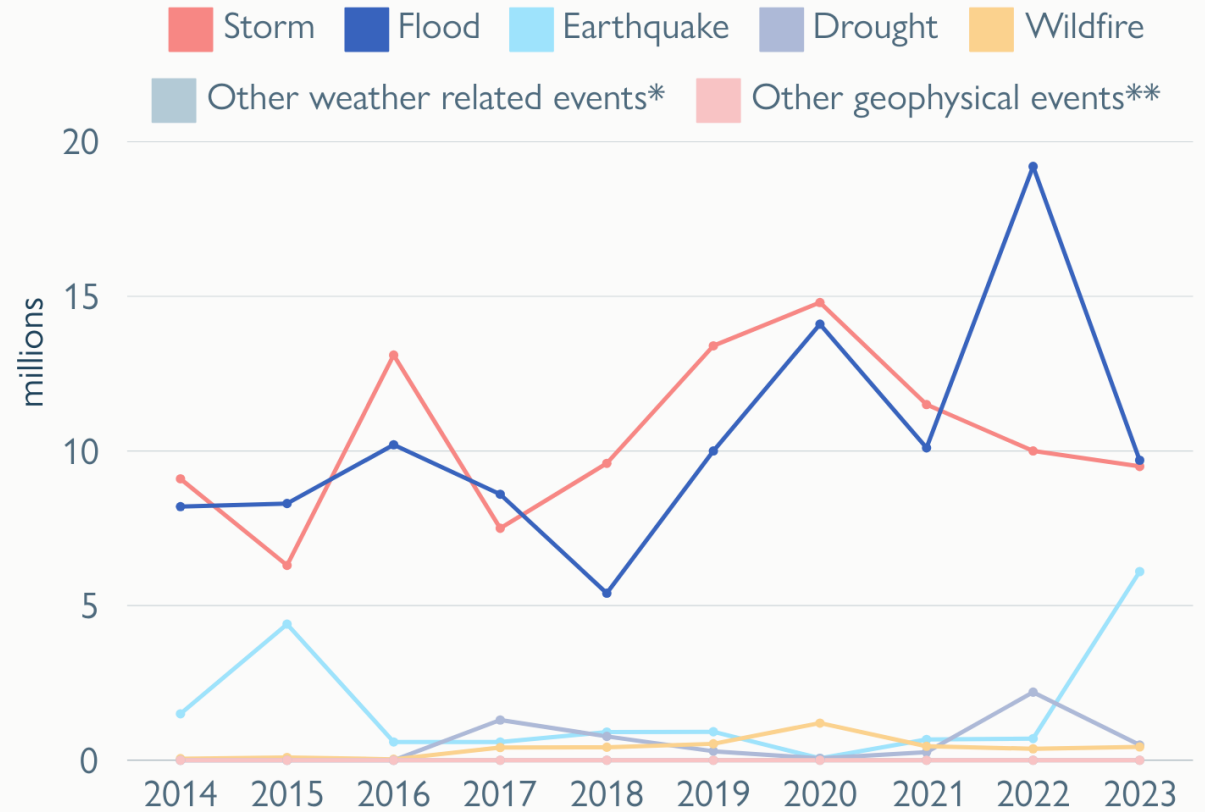
Source: Joint Research Centre of the European Commission



statista



NEW INTERNAL DISPLACEMENTS DUE TO DISASTER, BY HAZARD, 2014 - 2023



*includes extreme temperatures, wet mass movements, erosion and wave action

**Includes volcanic eruptions and dry mass movements

Source: IDMC, 2024.

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www.migrationdataportal.org

Effects on Human Society

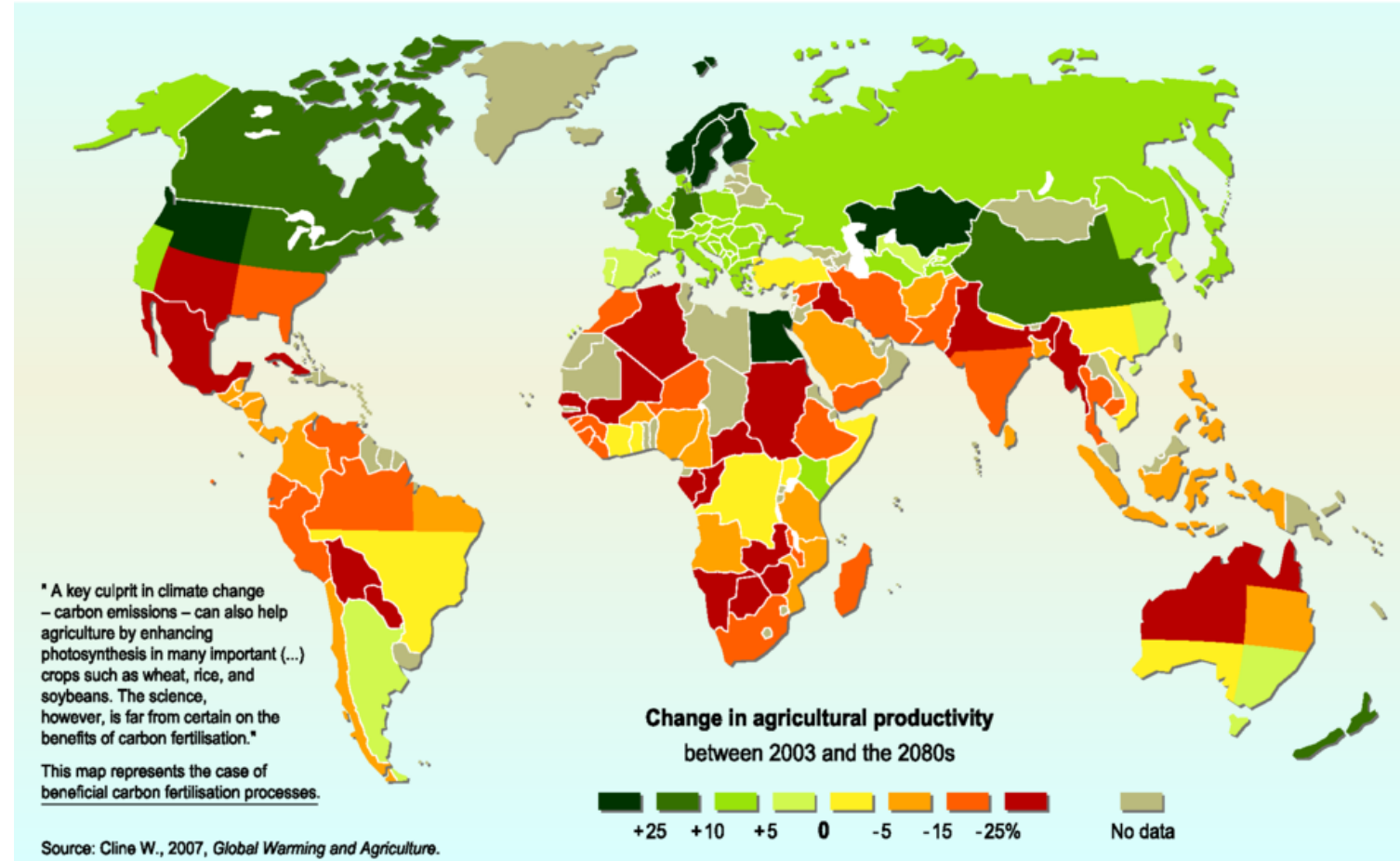
Impact on people and communities

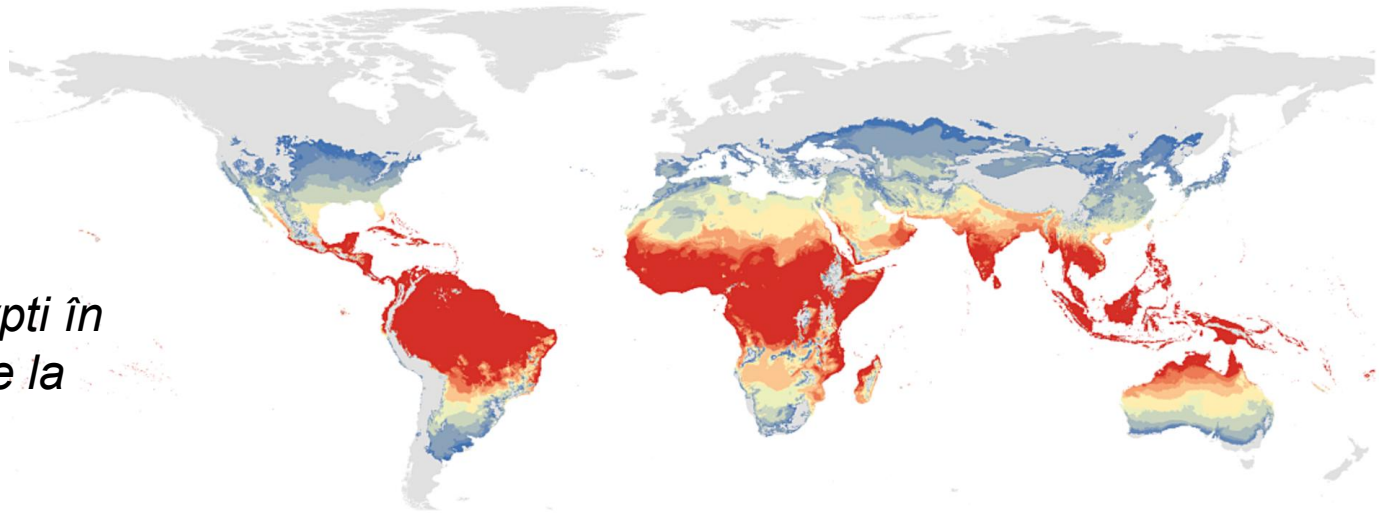
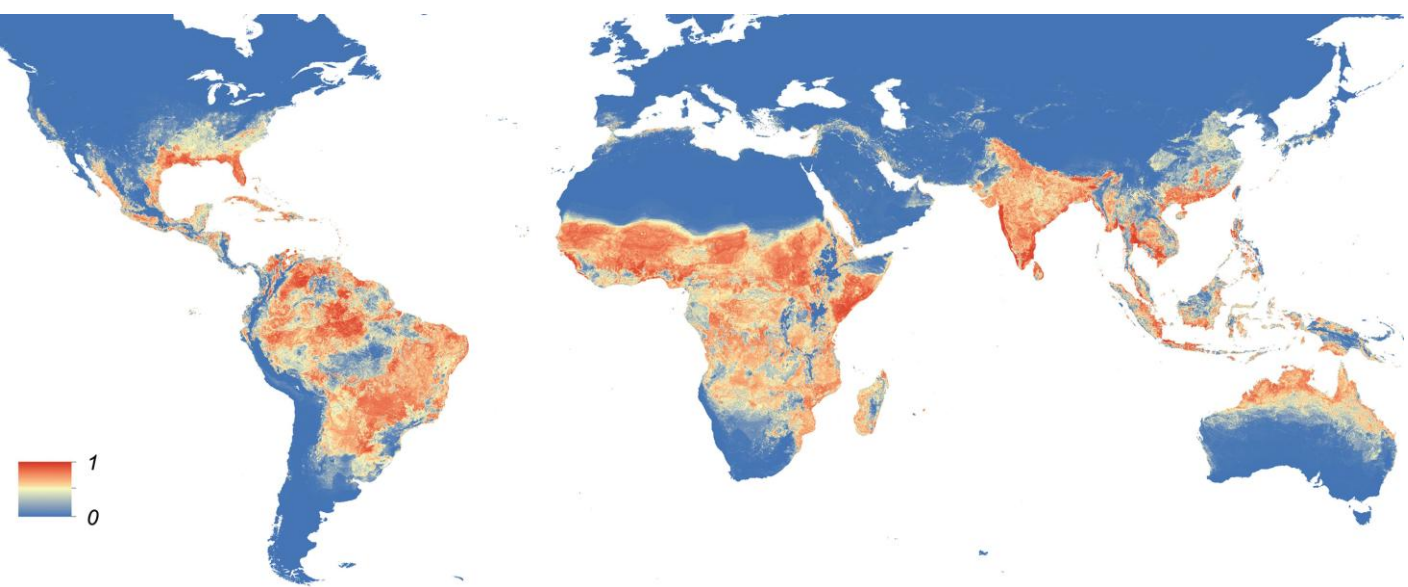
Climate change affects human life in many ways:

- food shortages caused by reduced agricultural production
- water scarcity in some regions
- increased health problems
- more extreme weather events
- economic losses
- population displacement and climate migration

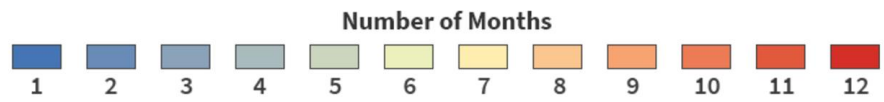
Communities around the world are becoming more vulnerable.

Projected impact of climate change on agricultural yields





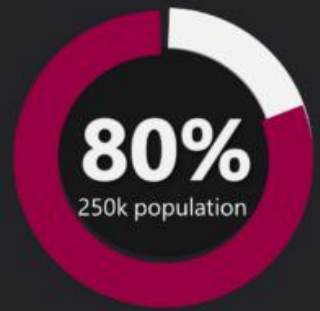
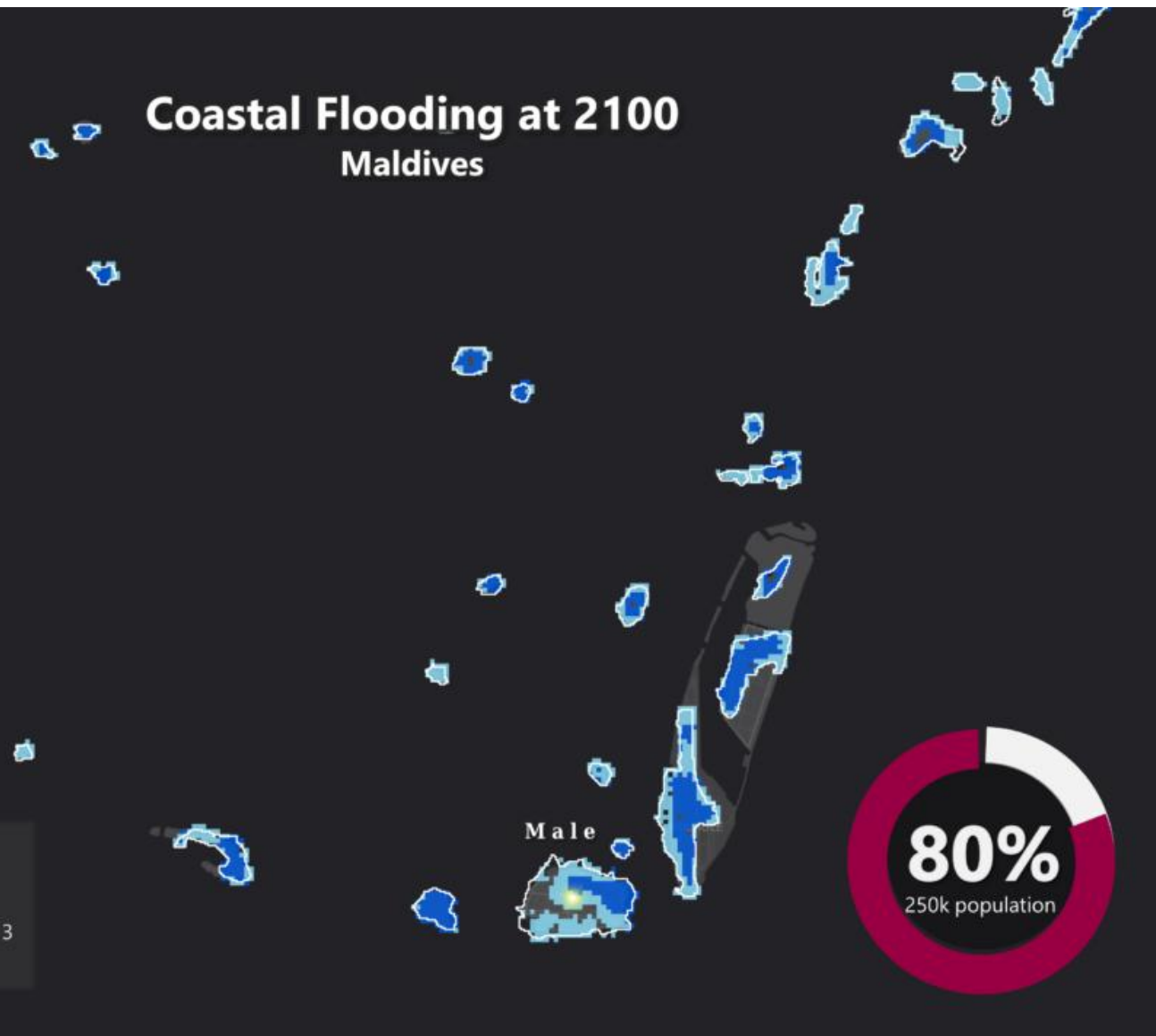
Aria de răspândire a țânțarului Aedes Aegypti în 2080, dacă se va depăși ținta Acordului de la Paris



Climate migration



Coastal Flooding at 2100 Maldives



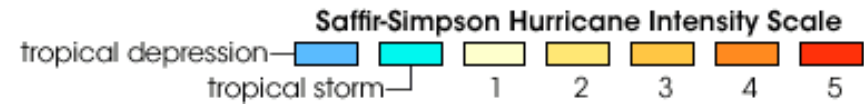
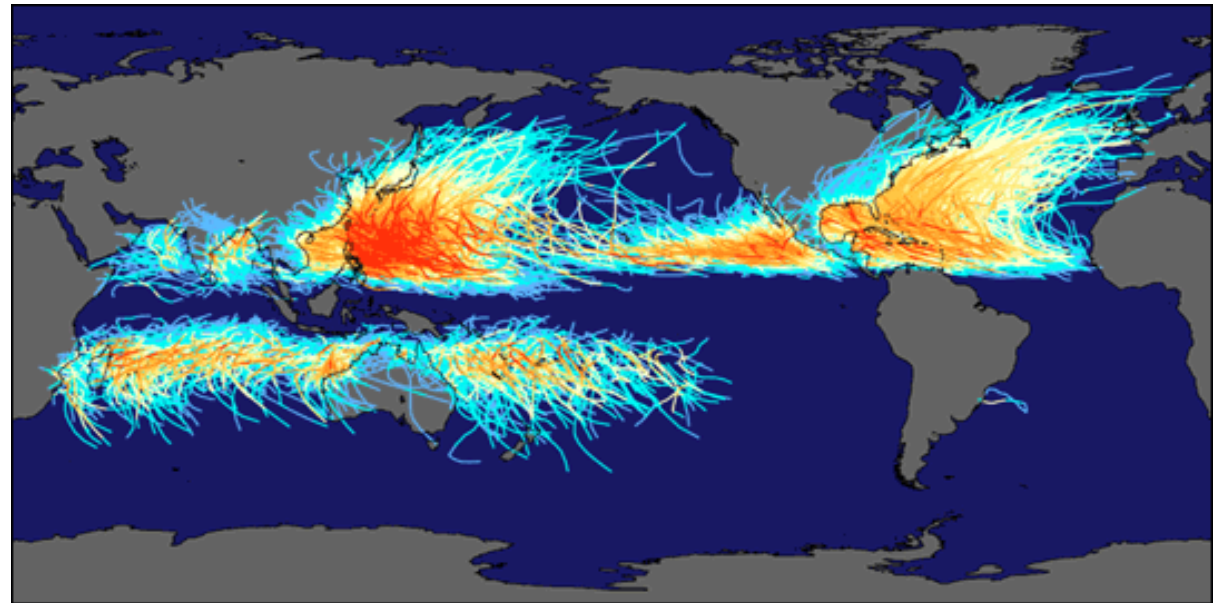
Extreme Weather Events

Increasing climate risks

Climate change contributes to:

- heat waves
- stronger hurricanes and storms
- wildfires
- heavy rainfall
- flooding
- extended drought periods

These events are becoming more frequent and severe.



Possible Solutions

How can we reduce climate change?

Some important solutions include:

- using renewable energy sources
- reducing fossil fuel consumption
- planting more trees
- improving energy efficiency
- recycling and reducing waste
- promoting sustainable transportation

Global cooperation is essential.



What Can Individuals Do?

Small actions matter

People can help by:

- saving electricity
- using public transport
- recycling materials
- reducing plastic use
- conserving water
- supporting environmental initiatives

Individual actions can contribute to larger changes.



Tips to Save Energy at Home



Turn off lights when leaving a room



Switch to energy efficient appliances



Use LED lights



Unplug devices when not in use



Keep thermostat at low temperature



Reduce water consumption



Use smart automated devices



Switch to double glazing



Cook with the lid on



Use a smart meter to track usage



Wash at a cold temperature



Use solar powered devices



Sealing air leaks with caulk and weatherstripping



Insulating your home to improve energy efficiency



Conducting an energy audit to identify areas of energy waste

Final thoughts

Climate change is one of the greatest challenges facing humanity today. Understanding its causes and effects is important for creating effective solutions. Protecting the environment requires cooperation between governments, businesses, and individuals.

“The future of our planet depends on the actions we take today.”