

Cyclones

A satellite image of a cyclone, showing a large, circular cloud system with a distinct eye in the center. The clouds are white and dense, spiraling inward from the outer edges. The surrounding ocean is a deep blue color. The word "Cyclones" is overlaid in the center of the image in a large, bold, black font.

Cyclones

Cyclones are a climate phenomenon due to a temperature gradient between sea surface and the wind.

The turbulent wind heats up due to the sea and becomes more saturated in water

Atmosphere



Atmosphere

Due to Earth's weight, the gravity field holds gases acting as a heat barrier that is heated by the sun and earth own radiative field.

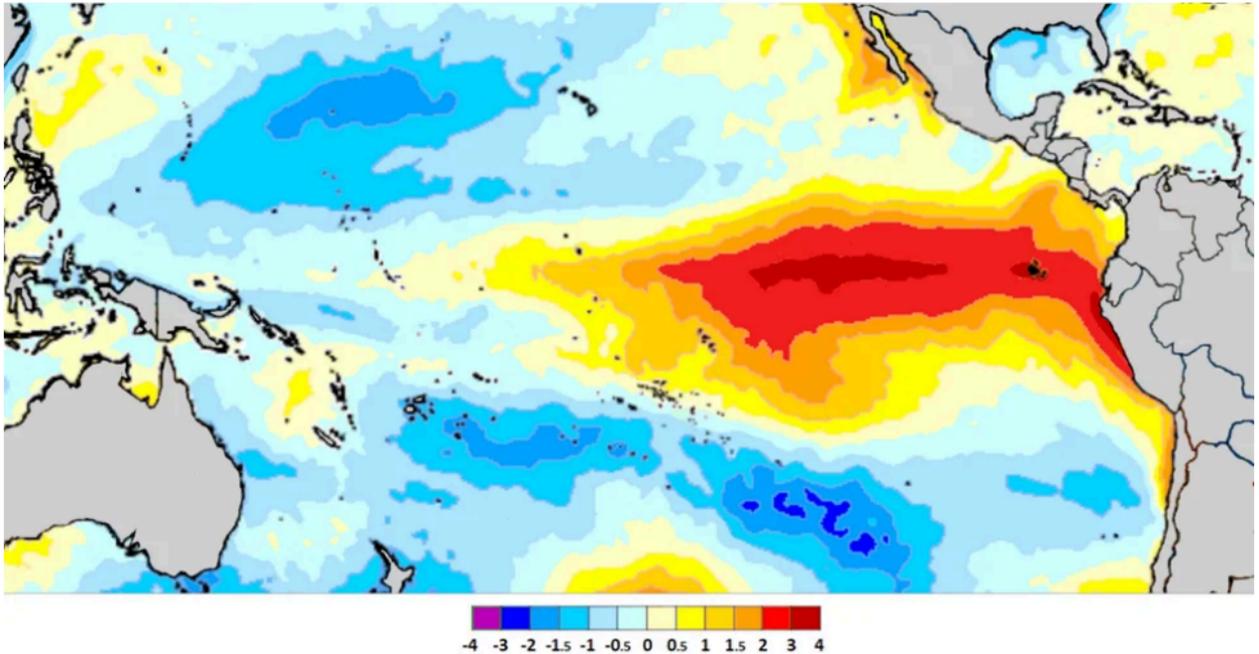
Greenhouse gases



Greenhouse gases

Greenhouse gases absorb IR light thus
Heating up due to the sun and the earth
radiation.

El Niño



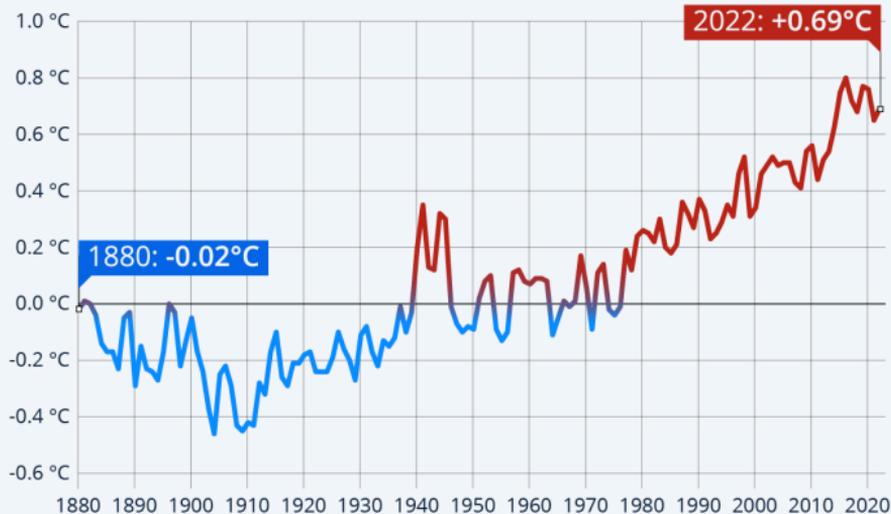
El Niño

El Niño events lead to a rise in air temperatures by warming the surface waters of the central and eastern Pacific Ocean. The excess ocean heat is then transferred to the atmosphere.

Ocean temperature rise

The Oceans Are Getting Warmer

Annual divergence of global ocean surface temperature from 20th century average



Ocean temperature rise

CO₂ is a greenhouse gas mainly absorbed by the ocean. However, as the ocean warms, its capacity to absorb CO₂ decreases, leaving more in the atmosphere and intensifying global warming.

Ice melting



Ice melting

Melting ice reduces the Earth's albedo, or reflectivity, meaning less sunlight is reflected back into space. As a result, more solar energy is absorbed by the Earth's surface.

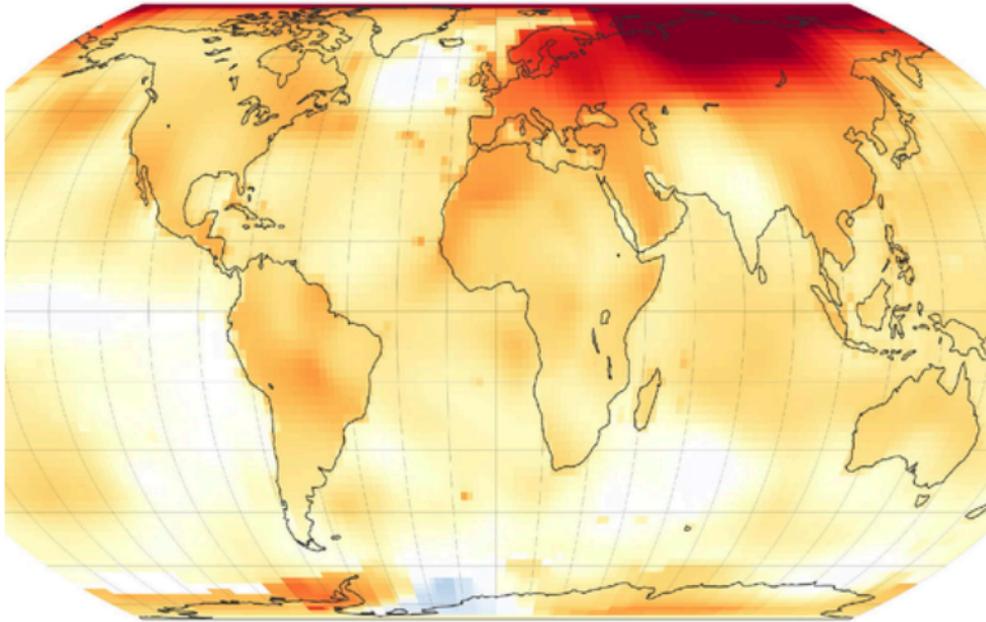
Human activities



Human activities

Humans developed industry and began using fossil fuel-powered engines for transport, leading to a significant increase in carbon emissions and contributing to climate change.

Air temperature rise



Air temperature rise

Air temperature rise is a key effect of climate change, with many causes and far-reaching consequences. It plays a central role in disrupting natural and human systems.

Deforestation



Deforestation

Deforestation contributes to air temperature rise by reducing the number of trees that absorb carbon dioxide, a major greenhouse gas. It also changes local climates by disrupting rainfall patterns and reducing shade, which leads to hotter, drier conditions.

Drought



Drought

Rising air temperatures increase evaporation, drying out soil and reducing water availability.

This leads to more frequent and intense droughts, causing water stress for people, agriculture, and ecosystems.

Health problems



Health problems

Rising air temperatures increase the risk of heatstroke, heart issues, and respiratory problems, especially during heatwaves. Vulnerable groups like the elderly and children are most affected.

A wide-angle photograph of a massive glacier flowing through a mountain valley. The glacier is a mix of white and grey, with dark lines of moraine material visible on its surface. In the background, jagged mountain peaks are partially covered in snow under a clear blue sky. The foreground shows dark, rocky terrain.

Glaciers melting

Glaciers melting

Because of air temperature rise the area of glaciers is decreasing. Glaciers play a very important role in the regulation of climate and in water cycle