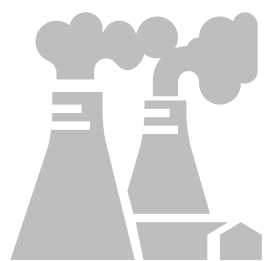


STATE OF THE GLOBAL CLIMATE 2022



CO₂
415.7 ± 0.2
PARTS PER MILLION

CH₄
1908 ± 2
PARTS PER BILLION

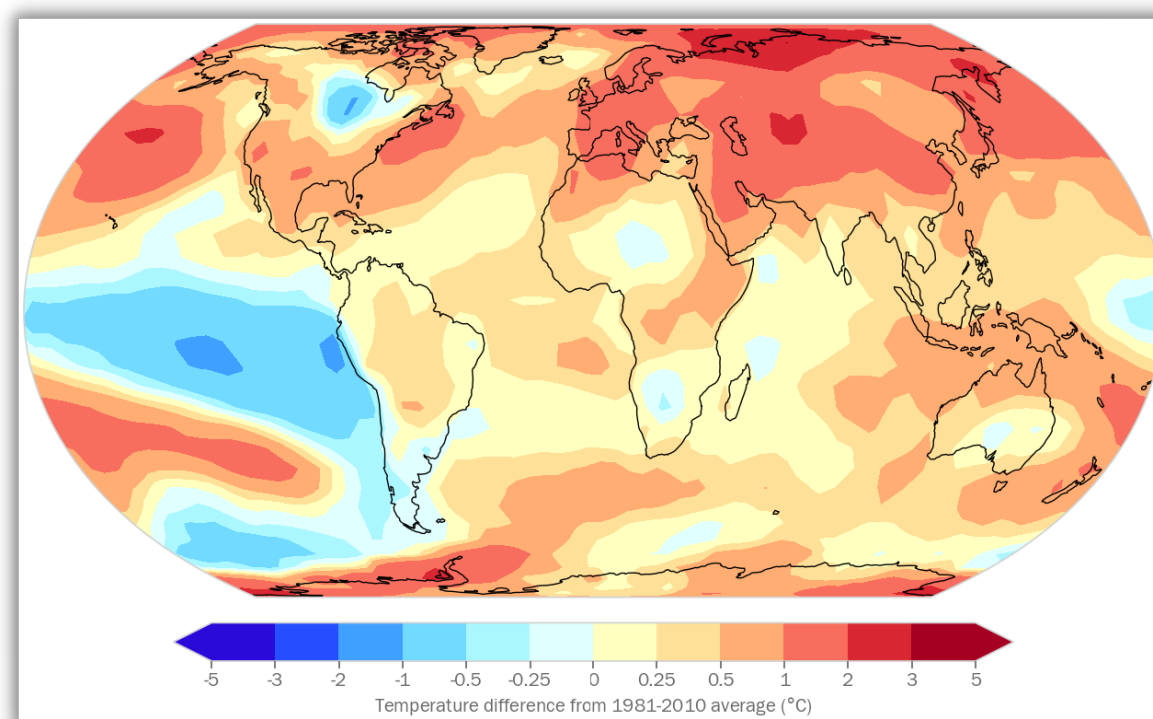
N₂O
334.5 ± 0.1
PARTS PER BILLION

Greenhouse gases continued to reach record highs. The annual increase in methane concentration was the highest on record, a gas 25x more potent at trapping heat in the atmosphere than carbon dioxide.



1.15 ± 0.13 °C
ABOVE 1850-1900 AVERAGE

Despite La Niña conditions keeping global temperature low for the second consecutive year, 2022 is still most likely to be 5th or 6th warmest year on record. The last 8 years are likely to be the warmest on record.



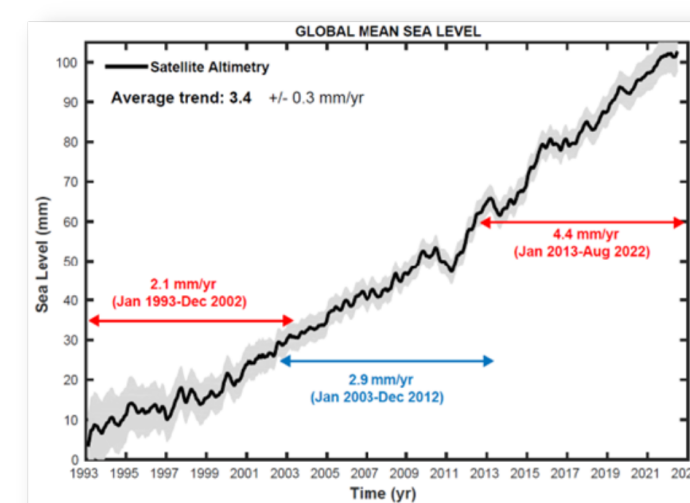
90% OF WARMING STORED IN THE OCEAN

Heat levels in the ocean continued to reach record high levels, and are expected to continue to warm well into the future, contributing to sea level rise.



10MM SEA LEVEL RISE SINCE JANUARY 2020

A substantial fraction of the global mean sea level rise since 1993 (≈ 100 mm).



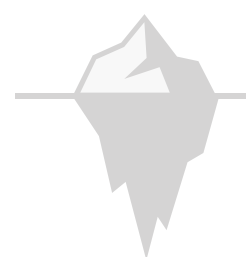
6% LOSS SWISS ALPS GLACIER MASS

Record mass loss followed low winter snowpack, dust coating from the Sahara and an exceptionally warm summer in Europe. Meanwhile Greenland experienced 26th consecutive year of negative mass balance.



1.54 MILLION KM² BELOW MEAN ARCTIC SEA ICE

The September extent was greater than the average minimum values of the last decade but tied for the 11th lowest monthly minimum ice extent in the satellite record.



1 MILLION KM² BELOW MEAN ANTARCTIC SEA ICE

Antarctic sea-ice extent reached a record low in February 2022, at almost 1 million km² below the long-term (1981-2010) mean.



SELECTED EXTREME EVENTS

DROUGHT

intensified in the Greater Horn of Africa region, driven by La Niña and IOD. Around 18.4-19.3 million people were facing acute food insecurity through June 2022.

TROPICAL CYCLONES

battered Southern Africa over two months, including Tropical Storm Ana, Tropical Cyclone Gombe, and Subtropical Depression Issa. In September, hurricane Ian crossed western Cuba before intensifying and making landfall in southwest Florida causing extensive damage and loss life.

HEATWAVES & DROUGHT

Exceptionally hot and, in places, dry conditions affected China, Europe and North Africa during the summer. Exacerbating droughts and wildfires. Rivers including the Rhine, Loire and Danube fell to critically low levels. Warm summer temperatures led to widespread melting in Greenland.

FLOODING

Pakistan experienced exceptional flooding during monsoon season. 1700 people and 936000 head of livestock died. Approximately 9% of Pakistan's area was inundated at some point.



WORLD METEOROLOGICAL ORGANIZATION

For more information, contact cpa@wmo.int

[Interactive and PDF report here](#)

