HUMAN-INDUCED CLIMATE CHANGE:
FACT OR FICTION?

A Geoscientist’s View

Dr Geoff Derrick
Section 7: Does CO\textsubscript{2} cause any warming?

\textit{CO}_2 \text{ may be innocent} . .
If NOT CO\textsubscript{2}, try CLOUDS – cloud cover cools you at the beach

IPCC: “Our models do not do clouds very well. ”
Figure 1a showing the ISCCP global averaged monthly cloud cover from July 1983 to Dec 2008 over-laid in blue with Hadcrut4 monthly anomaly data. The fall in cloud cover coincides with a rapid rise in temperatures from 1983-1999. Thereafter the temperature and cloud trends have both flattened. The CO2 forcing from 1998 to 2008 increases by a further ~0.3 W/m² which is evidence that changes in clouds are not a direct feedback to CO2 forcing.
So what else might drive climate change, if not CO\textsubscript{2} emissions? Planetary wobbles?
Or major oceanic circulations?

These are temperature profiles as measured by ocean buoys, 14 months apart at about the Equator, showing how massive volumes of water transfer heat across the Pacific Ocean.

These are all part of the oceanic circulations that can form El Nino and La Nina events. NONE of these are related to CO2 emissions.

https://www.pmel.noaa.gov/elnino/what-is-el-nino
The El Niño and La Nina cycles, 1998 and 2000, and Ocean Temperatures

El Niño (White Is Warm)  
14 Mar 98

La Niña (Purple Is Cool)  
11 Mar 00

https://sealevel.jpl.nasa.gov/science/elninopdo/elnino/
Warm and cold ‘blobs’ developing in the Pacific Ocean at different times and places are major determinants for weather and climate in areas like the west coast of north America and California.

$\text{CO}_2$ emissions have nothing to do with it.
And then there are sunspots

*NASA say that a quiet sun dramatically cools the upper atmosphere*

An active sun, with many sunspots

A quiet sun, with no sunspots (March 2019)
The counting of sunspots dates from 1600 approx – the invention of the telescope
Low sunspot numbers and a cool sun equate historically to cooler climate e.g. the Maunder minimum

Fig. 3. Variation in the TSI drawing on the data reconstruction of Lean, J.L. (2000) and Wang Y.-M., Lean J.L., Sheeley N.R. (2005) up to 1978, sunspot activity of the Sun from 1611, and changes forecast by us after 2008 (dotted lines).
Figure 1. Cyclic variations of the TSI (data are taken from [14]) and sunspot number (data are taken from [15]) are synchronized and inter-correlated in both phase and amplitude (the hot Sun is marked by (yellow) gray and the cool Sun is marked by (red) black). The arrow indicates the beginning of the new Little Ice Age epoch.