

CliSciPol

Climate Science and Policy for Nonscientists

One Picture is Worth a Thousand Words.

DISASTERS, DISASTER DEATHS

The number of climate disasters per year continues to show no trend through the end of 2024 according to the most-widely cited database, EM-DAT, which is collected and published by the Center for Research on the Epidemiology of Disasters, located in Brussels.

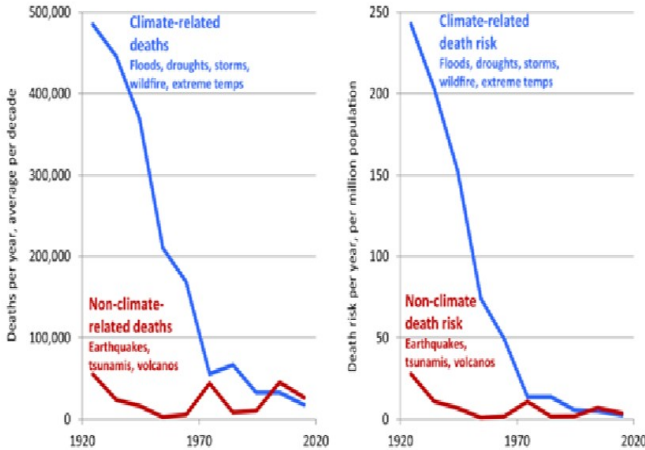
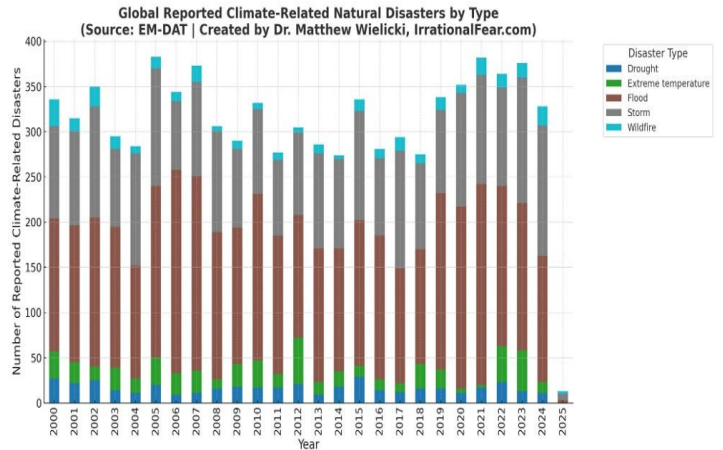
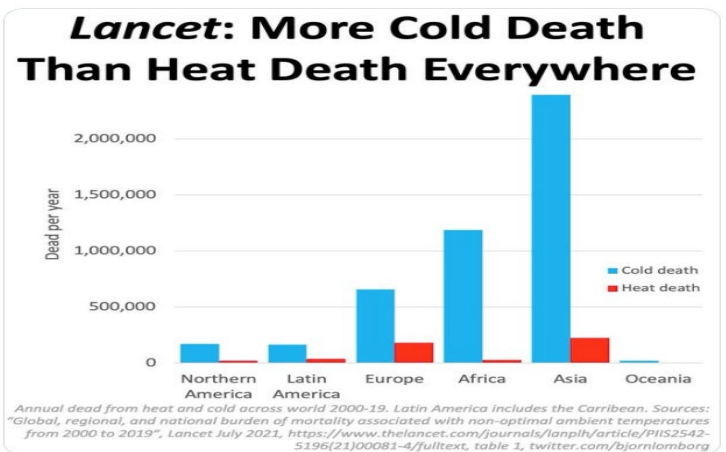
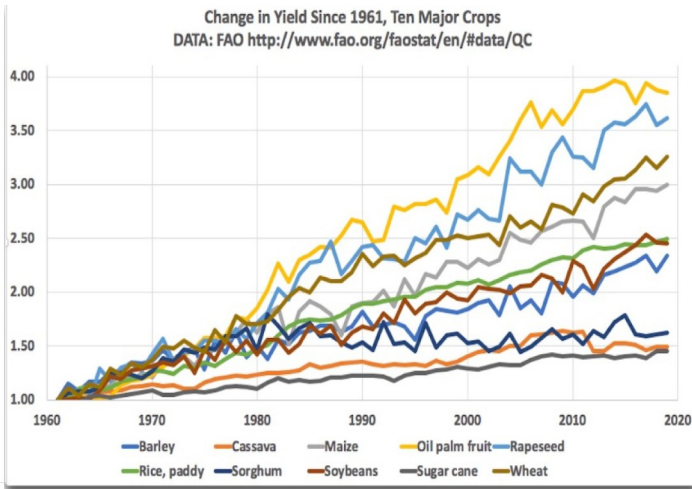


Figure 1: Climate and non-climate-related deaths and death risks from disasters 1920–2018, averaged over decades. Data comes from EM-DAT (2019), using floods, droughts, storms, wildfire, and extreme temperatures for climate-related deaths, and earthquakes, tsunamis, and volcanos for non-climate-related deaths. Source: Lomborg (2020).

Both the total number of deaths from climate disasters and the risk of death from such disasters have decreased tremendously over the past century.

Virtually all studies have concluded that cold kills substantially more people than heat. The world is warming, and so the number killed by heat will rise. But the number killed by cold is declining by a much larger number.





FOOD PRODUCTION

A recent Forbes article was titled, “Climate Change Threatens Food Security.” But food yield has been steadily rising for over 60 years.

Despite the world population increasing from 3.0 billion in 1960 to 8.2 billion in 2025, the per capita availability of food has increased.

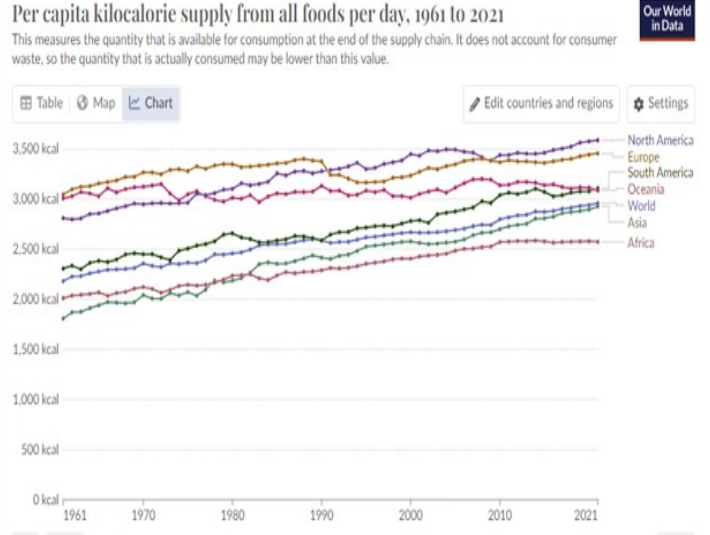
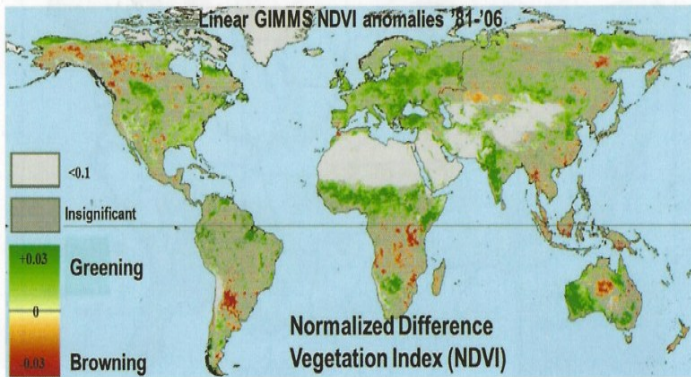


Figure II-3: Thanks to our changing climate, much of the world is greening.



(modified from de Jong 2011)

The world has been greening significantly, caused primarily by the rising CO₂ levels (plant food) and rising temperatures. (See CliSciPol Science Topic: Greening World). One 2024 study concluded: (1) that greening is occurring and accelerating over 55% of land area while desertification is increasing over only 7%, and (2) that the CO₂ rise was the dominant cause (76%) of the greening. The percentages vary from study to study.

This image shows the positive effect on plant growth of rising CO₂ levels. The present CO₂ level is 420 ppm. Most greenhouses use CO₂ generators to raise the CO₂ level above 1,000 ppm to achieve faster growth.

Plants love CO₂ for a good reason

Dr. Craig Idso

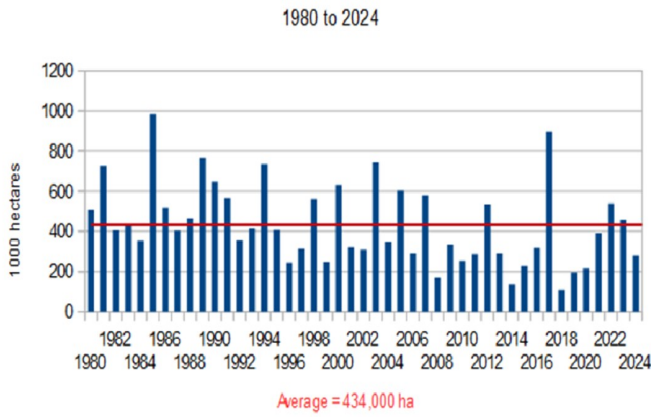
CO₂ SCIENCE

385 ppm 535 ppm 685 ppm 835 ppm

Idso 2013 The positive externalities of CO₂
CO₂ Science <http://www.co2science.org>

Wildfire Area - Mediterranean Region (Portugal, Spain, France, Italy & Greece)

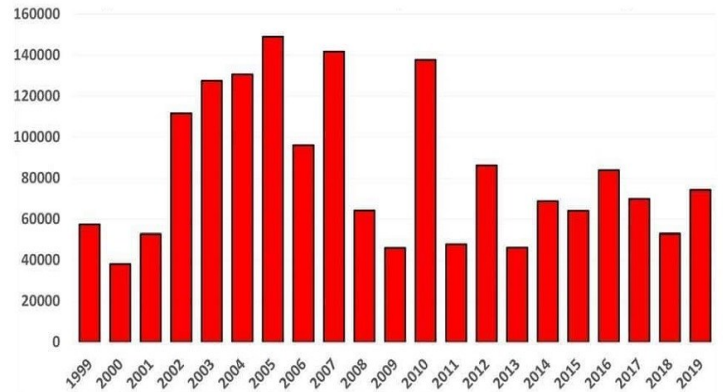
WILDFIRE ISSUES



Last month's newsletter provided graphs showing wildfires declining worldwide but increasing in particular regions of the US, such as California. Acres destroyed by wildfires vary around the world for various reasons. As shown, wildfires in the European Mediterranean region show no trend up or down.

Deforestation of the Amazon is a significant concern with fires being a primary cause. Fires have been trending down slightly, and in 2024 Amazonian deforestation dropped to a 9-year low. In Brazil fires commonly are deliberately set to clear land for farming. There is also extensive illegal logging. All of this activity should be regulated by the Brazilian government. The current president has pledged to end deforestation by 2030.

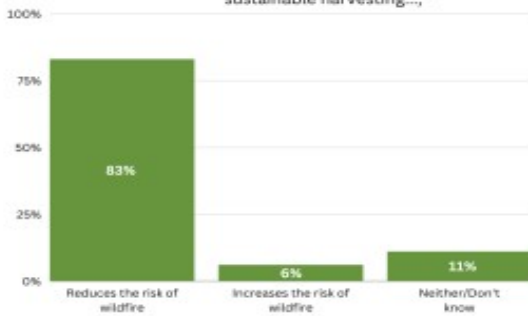
Forest fires in Brazil from January to August by year (1999-2019)
Total forest fire spots detected by satellite



Source: National Institute for Space Research (http://queimadas.dgi.inpe.br/queimadas/portal/estatistica_paises)

83% believe managing forests reduces the risk of wildfire

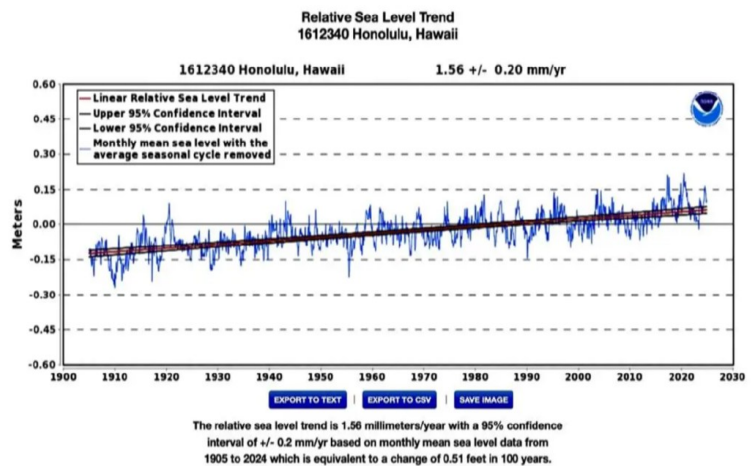
"When it comes to Washington's forest lands, do you think that managing forests lands, including sustainable harvesting..."

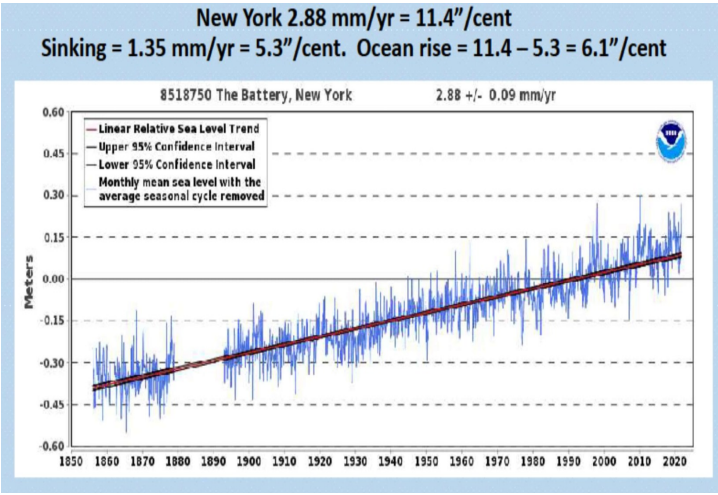


In the state of Washington, and among forest scientists, it is generally recognized that active forest management helps reduce wildfires. But California for many years has effectively prohibited most such activities at the behest of environmentalists. Now, on March 3, after the Los Angeles fires, Governor Newsom has declared a state of emergency and suspended the state's environmental regulations to allow the clearing of flammable brush. Newsom also specifically mentioned fuel breaks and prescribed fires to protect vulnerable communities. Better late than never.

SEA LEVEL RISE

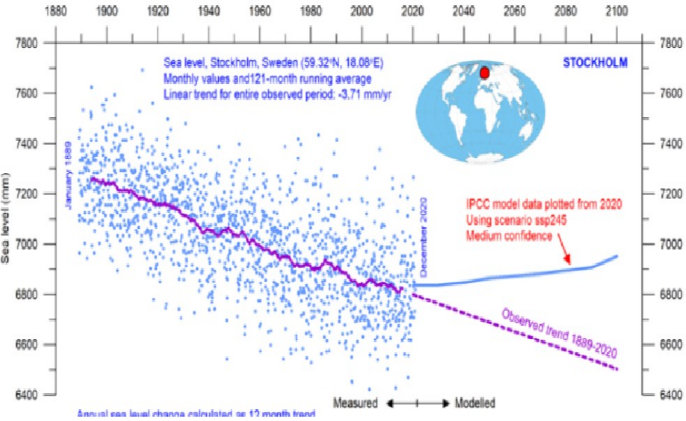
The 2024 tide gauge data on sea levels shows the continuation of the linear trend rise of roughly 5-8 inches per century. The data shown for Honolulu is typical, 1.56 mm/year, or 0.51 feet/ century, or 6.1 inches/century. For most coastal areas sea level rise is not a significant problem.



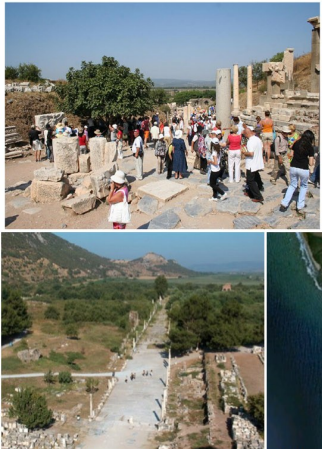


But the elevation of many coastal cities is also changing. The tide gauge data for New York shows a relative rise of 11 inches per century of which 6.1 inches is due to actual sea level rise and 5.3 inches is due to New York sinking by that amount. Some stretches of the Virginia, Louisiana, and Texas coast are sinking much more rapidly than the ocean is rising., which can cause significant problems.

Some cities, like Stockholm, are rising much faster than the ocean is rising. The Stockholm tide gauges show the sea level (which is a relative number) declining at the rate of 14.7 inches per century. Assuming the sea is rising at the rate of 6 inches per century, this means that Stockholm is rising at the rate of 20.7 inches per century.



Port of Ephesus



ephesus.us/ephesus/port_of_ephesus.htm aoi.com.au/bcw/Sealevel/index.htm
Ephesus was a centre of travel and commerce with its one of the greatest seaports of the ancient world. The great port created a big city with over 250,000 inhabitants in Ephesus during the Roman time. There were three major roads from the Ephesus seaport; one road went south to the Meander Valley, another east towards Babylon via Laodicea and a third to the north via Smyrna. Because of the excellent port in Ephesus, the early Ionian colonists from Athens chose there as a trade-link city for transporting goods from the west to the Asian interior. Important items of trade around the Mediterranean were olive oil, animals, glass, stone such as marble, tiles etc, wine, grain, pottery vessels, metals such as iron, copper, lead, gold, tin etc and slaves.

the coast has retreated some 9 kilometres from its position in ancient Greek and Roman times

Ephesus was one of the great sea ports of the Roman world. It is now 5.6 miles inland. Thus the problems caused by sea level rise vary significantly from one coastal area to another.

EV ISSUES

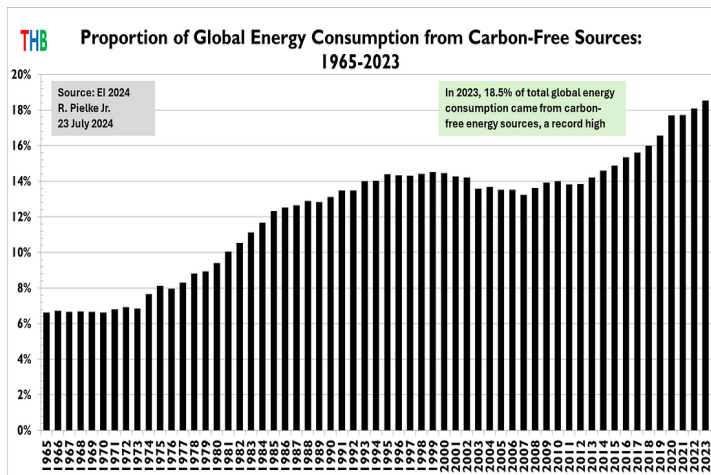
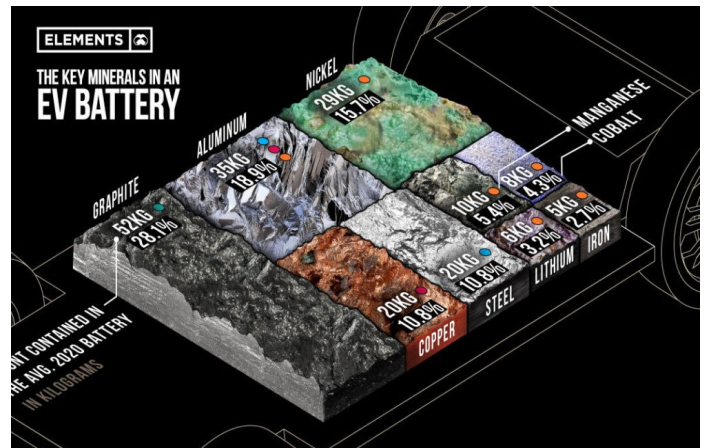
Ten states including New York and California have rules requiring the transition to electric heavy trucks. A diesel truck can be fueled in ten minutes and then can drive for 2,000 miles. An electric truck takes ten hours to charge its battery and then can drive for 500 miles.





A Canadian company, Lion Electric, was given \$159 million in US government subsidies to manufacture 435 electric school buses for 55 school districts. It has now collapsed into bankruptcy and laid off its workers, having delivered less than half of the promised buses.

The LA fires destroyed not only buildings but also thousands of EV cars. The US EPA has over 1,000 response personnel at work retrieving the car batteries, crushing them, and transporting the remnants to proper toxic waste sites. The NewsNation calls this the “biggest hazardous-waste cleanup ever.” Recent data from Experian shows that the average monthly premium for EV insurance is approximately 44% higher than for gas-powered vehicles, due to factors like expensive repairs, specialized parts, and complex technology.



RENEWABLES+FOSSIL FUELS

The amount of global energy produced by carbon-free sources (which includes hydro) has been rising significantly. But such sources still produce less than 20% of global total energy consumption.

Last month’s newsletter included a graph showing that the global use of coal still continues to rise. This graph confirms the rising use of coal and also shows that the use of oil and natural gas continues to rise. It is becoming more and more obvious that Net Zero by 2050 is an impossible goal and is unlikely to be achieved even by decades beyond 2050.

