

As a result of the NRC's slow and burdensome regulation, the costs of building a nuclear power plant in the US are much higher than in any other country in the world.

Nuclear Power Cost Comparison

Average construction cost (inflation adjusted million GBP) per MW for all plants with reliable cost data built since 2000.

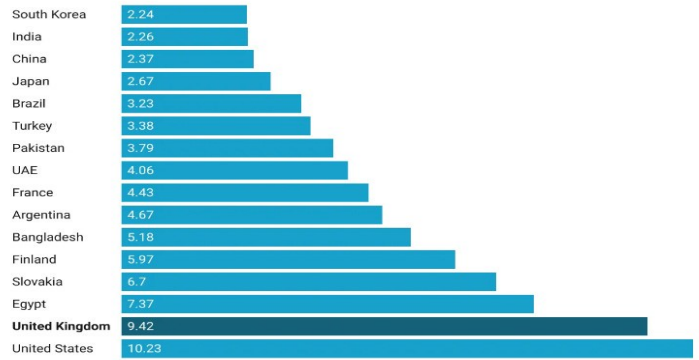
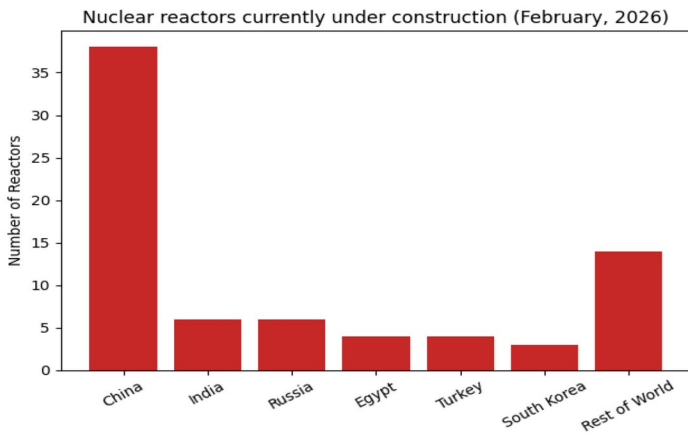


Chart: Britain Remade - Created with Datawrapper

As a result, large numbers of nuclear power plants are being built in other countries, particularly China, but virtually none in the US.



Note: China has more under construction than every other country combined. Data from World Nuclear Association.

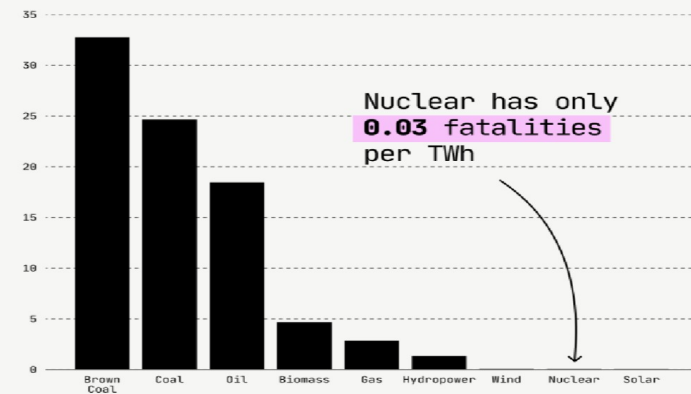
As the unreliability and high overall costs of wind and power generation (see CliSciPol policy topic: Wind + Solar - Unreliable? Expensive?) become more and more apparent, attention is shifting towards nuclear power as a source of reliable base load power with zero CO2 emissions. Public approval of nuclear power has been rising.

% of U.S. adults who favor more nuclear power plants to generate electricity in the country



Power from nuclear fission is much safer

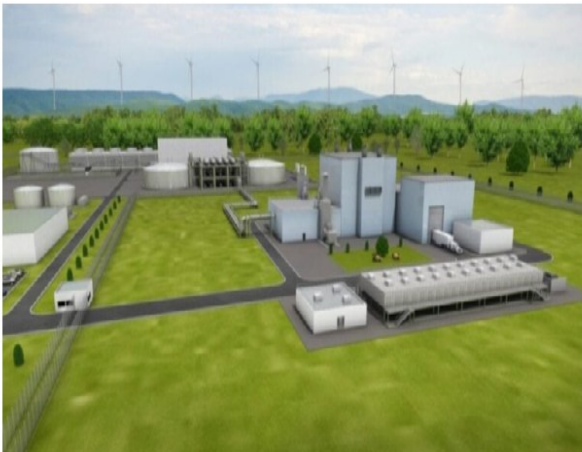
Fatalities per TWh produced



Nuclear has only 0.03 fatalities per TWh

Nuclear power has now been in use for some 70 years and has an impressive safety record. The NRC has now promulgated a new set of rules (Part 53) designed to reduce regulatory review times from decades to 18 months or less.

The design of nuclear power plants has improved dramatically over the years. Chernobyl was a very early Russian design that did not even have a containment structure for the reactor vessel. With Three Mile Island and Fukushima the active shut-down systems failed, so the reactors melted down, but the containment structures successfully prevented any significant release of radioactive material. Modern designs not only have containment structures but also fail-safe systems to prevent meltdowns from even occurring.



The Sodium system features a 345-MWe reactor and can be optimized for specific markets. Fi

The US Department of Energy has created a new procedure whereby advanced reactors can be built for testing and demonstration purposes at national laboratories, thus completely bypassing the NRC. In February 2026 DOE approved Radiant’s Kaleidos nuclear micro reactor design. Radiant hopes that commercial deployment will occur in 2028, making this the world’s first mass-produced micro reactor.

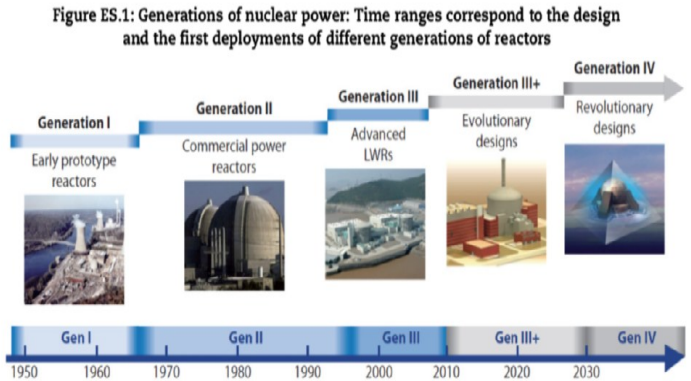
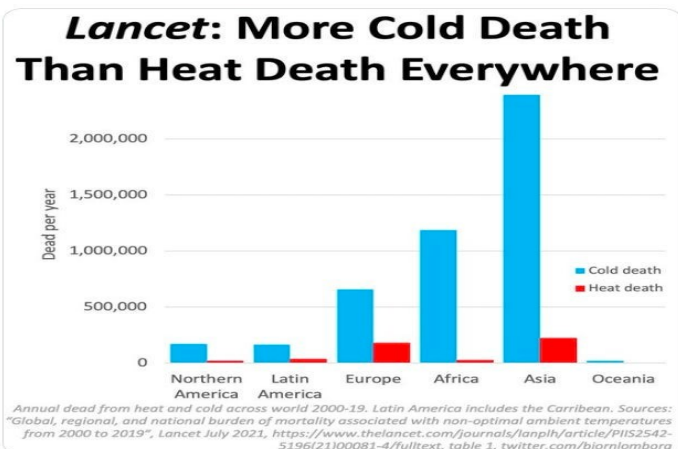


Figure 38: Generations of nuclear power: Time ranges correspond to the design and the first deployments of different generations of reactors (Source: Gen IV International Forum)

On March 4, 2026, the NRC issued a construction permit for TerraPower (founded by Bill Gates) to build its Sodium project in Kemmerer, Wyoming. There are no cooling towers, because this design uses liquid sodium for cooling rather than water, so the plant does not need to be built on the coast, on a lake, or on a river. This greatly reduces the plant’s environmental impact. Completion of the project is expected in 2030.

Kaleidos. a Portable Nuclear Microreactor that Replaces Diesel Generators.
 Kaleidos is a ~1 MWe microreactor designed to fit within the physical envelope of a single shipping container, making it road, rail, air and sea transportable;
 • Kaleidos high-temperature gas-cooled microreactor,
 each Kaleidos core eliminates 1.8 million gallons of diesel fuel.



TEMPERATURE-RELATED DEATHS

It is generally agreed that cold weather kills many more people than warm weather, although the ratio tends to vary by country and by the methodology used for the particular study. One study has concluded that in the US from 2000 to 2020 cold weather killed over 72,000 people while only 6,000 deaths were attributable to hot weather - a ratio of over 12:1.

The risk of temperature-related death is the risk of cold-related death plus the risk of heat-related death. As the temperature warms the risk of cold declines and the risk of heat rises. A recent study has examined the question, “What temperature results in the least overall risk of temperature-related death?” The answer found was 73 F. On the graph the horizontal axis is not temperature but a temperature percentile. But the study makes the point that, as temperatures either decline from 73 F or rise above 73 F, the overall risk of temperature-related death rises. The average temperature of the US is 53 F and of the world is 59 F., so at present rising temperatures are reducing risk.

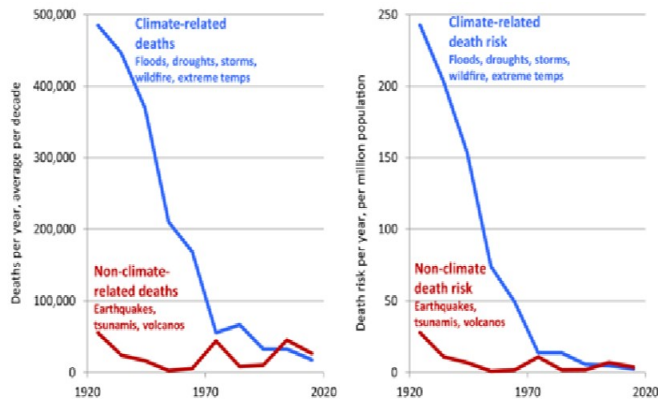
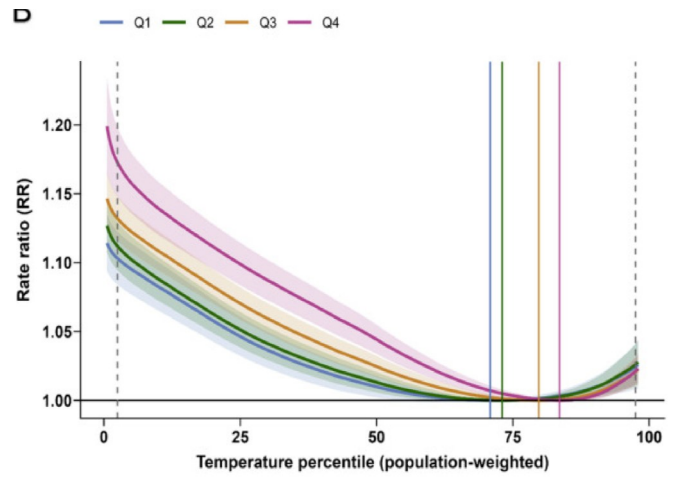
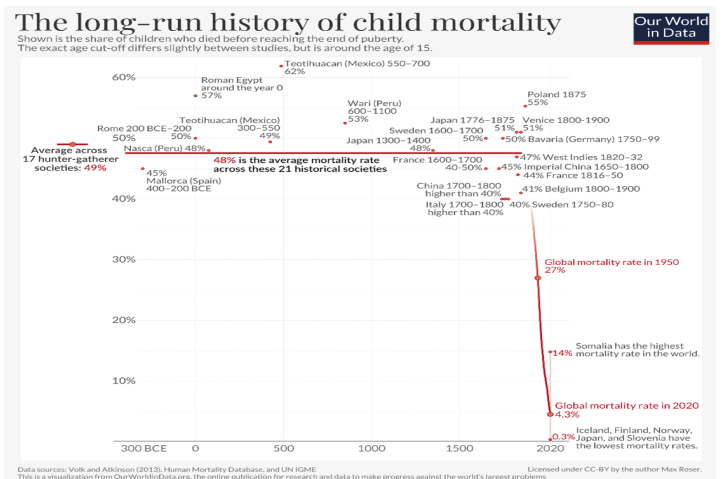


Figure 13: Climate and non-climate-related deaths and death risks from disasters 1920–2018, averaged over decades. Data comes from EM-DAT (2019), using floods, droughts, storms, wildfire, and extreme temperatures for climate-related deaths, and earthquakes, tsunamis, and volcanos for non-climate-related deaths. Source: Lomborg (2020).

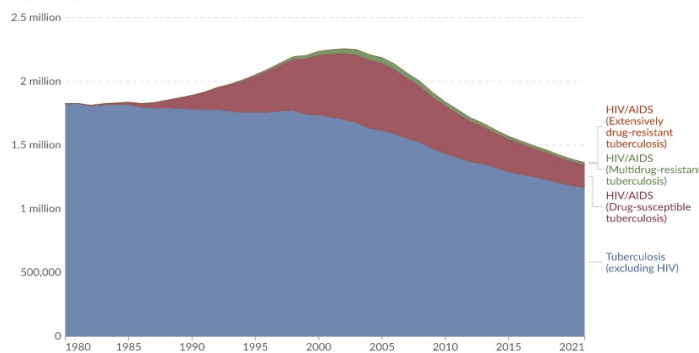
Scientists agree that the world is getting warmer, but the data shows that both the number of climate-related deaths and the risk of climate-related death have fallen tremendously over the last century.

Good news worth remembering with respect to deaths - the rate of childhood mortality has fallen tremendously over the last century.



Deaths from tuberculosis including those from HIV/AIDS, World, 1980 to 2021

Estimated annual number of deaths from tuberculosis. This includes deaths among people with HIV/AIDS that are related to tuberculosis.



Data source: IHME, Global Burden of Disease (2024) OurWorldInData.org/tuberculosis | CC BY

Bad news worth remembering - over one million people die of tuberculosis per year. When the media focuses on the so-called “climate crisis,” it takes attention away from other serious issues that require serious attention, such as deaths from tuberculosis and malaria.

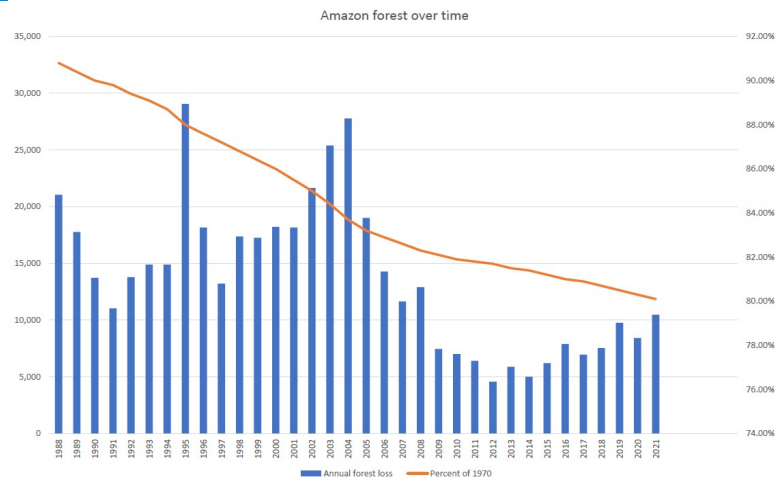
THE CHANGING AMAZON

Environmentalists commonly claim that the Amazon Rainforest is shrinking due to climate change. But a March 25, 2026, article reports, “Half a Million Balsa Trees Illegally Logged in Amazon Rainforest Every Year to Feed Global Wind Turbine Demand.” Since balsa wood is both lightweight and strong, it is commonly used in the core of giant wind turbine blades. Each set of three blades on a tower can use up to 40 trees

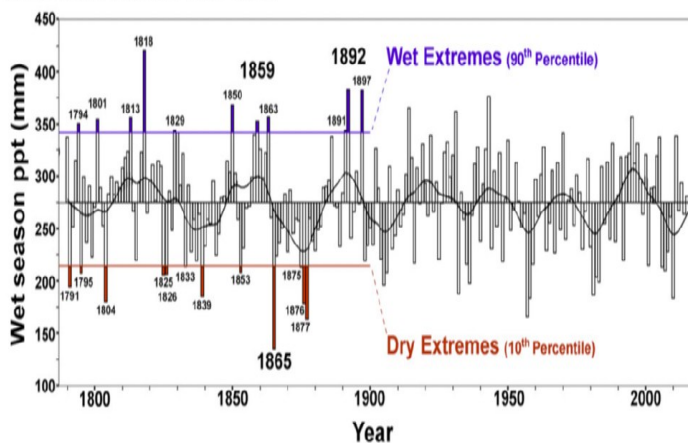


The Amazon Rainforest is massive, about 80% of the size of the continental US, or more than 9 times the size of Texas. It is located mainly in Brazil but also extends into many neighboring countries

The forest is declining in area. The rate of decline was lessening through 2012 but has been increasing since then. What is causing the decline of forest area?



a. Eastern Amazon 1790-2016

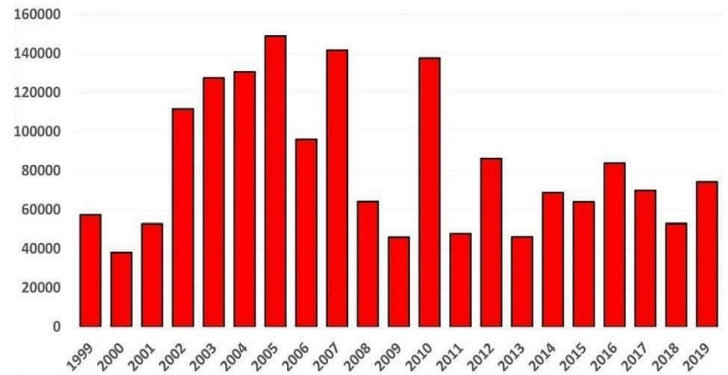


It is not drought. Rainfall varies in a cyclical manner with no apparent long-term trend.

It is not wild fires. The number has been declining, as has the area burned worldwide. (see CliSciPol science topic: Wildfires)

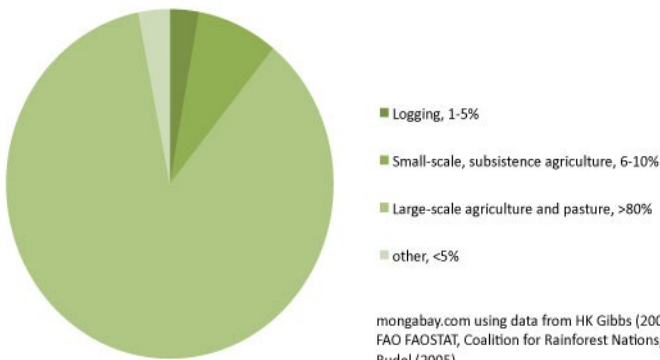
Forest fires in Brazil from January to August by year (1999-2019)

Total forest fire spots detected by satellite



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

Drivers of Deforestation in South America, 1990-2000



Various studies come to somewhat different conclusions on the causes, but there is a general consistency with the findings of this particular study. By far the most significant driver of deforestation is that Brazilians want to use the land for agriculture or pasture or logging. Climate change is, at most, a small contributing factor to deforestation. What happens in the rainforest is determined mainly by the environmental and enforcement policies of the Brazilian government.

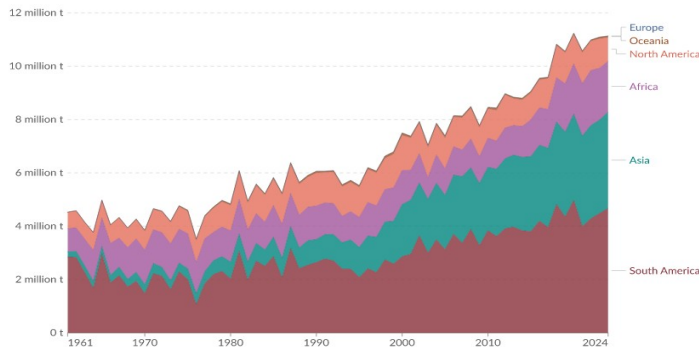
AFRICAN WETLANDS/COFFEE

A recent study analyzed changes in African wetlands from 1984 to 2021 and the causes of change. The study found a decrease in coastal wetlands of about 0.5% caused mainly by economic development. It also found an increase in inland wetlands of about 0.5% due to CO2 enhancement and better moisture conditions. So the area of wetlands was basically unchanged over the period studied. (And see CliSciPol science topic: Greening World)



Coffee production by region, 1961 to 2024

Green coffee beans are coffee seeds (beans) that have not yet been roasted.



Data source: Food and Agriculture Organization of the United Nations (2025) OurWorldinData.org/agricultural-production | CC BY

Occasionally there appears an article in the media making dire predictions (based on unsubstantiated models) as to the effect of climate change on the growth of coffee, e.g. claiming, "Climate change is severely threatening global coffee production, with studies predicting up to 50% of current suitable coffee-growing land could be lost by 2050." The actual data, however, shows that world coffee production is soaring.

