

The New Science



AIR POLLUTION

Indicator 3.3: In 2020, there were approximately 32,000 deaths in the U.S. due to exposure to ambient anthropogenic PM_{2.5}. Of these, 37% were directly related to fossil fuel burning.

Indicator 4.1.4: In 2020, the monetized value of these deaths due to air pollution was estimated to be \$142 billion (0.7% of the U.S. GDP), equivalent to the annual income of over 2.2 million people under average income in the U.S. combined.



HEAT

HEAT AND EXPOSURE TO WARMING

Indicator 1.1.1: Average U.S. summer temperatures from 2017–2021 were 1.4°F (0.8°C) higher than the 1986–2005 average, and this is 0.5°F (0.3°C) above the global average increase during the same period.

HEAT EXPOSURE AMONG SENSITIVE POPULATIONS

Indicator 1.1.2: Adults over age 65 experienced 137 million more person-days* of heatwaves,[§] meaning that, on average, each older adult experienced an additional 3 heatwave days per year from 2012–2021 compared to 1986–2005.

Indicator 1.1.2: Infants under 1 year experienced 12 million more person-days* of heatwaves,[§] meaning that each infant experienced, on average, an additional 0.24 heatwave days per year from 2012–2021 compared to 1986–2005.

HEAT-RELATED MORTALITY

Indicator 1.1.5: Heat-related mortality for people over 65 is estimated to have increased by approximately 74% from 2000–2004 to 2017–2021.

ECONOMIC BURDEN OF HEAT

Indicator 4.1.2: In 2021, the monetized value of global heat-related mortality in the U.S. was estimated to be equivalent to over 850,000 people receiving the average U.S. income.

Indicator 1.1.4: In 2021, heat exposure led to the loss of 2.5 billion potential labor hours, a 36% increase from the 1990–1999 average.

Indicator 4.1.3: In 2021, \$68 billion (0.3% of the U.S. GDP) was lost in potential income from reduced labor due to extreme heat.



INFECTIOUS DISEASE

Indicator 1.3: From 1951–1960 to 2012–2021, the amount of time each year that *Ae. aegypti* mosquitoes are able to spread dengue increased by 48%.

Indicator 1.3: The contagiousness of dengue by *Ae. aegypti* (as defined by the basic reproductive number, R₀) was 64% higher in 2012–2021 compared to 1951–1960.

Indicator 1.3: The duration of malaria transmission season lengthened by 38% in U.S. lowland areas[&] in 2012–2021 compared to 1951–1960.

Indicator 1.3: From 2003 to 2020, 5% more of U.S. coastal waters have become suitable for transmission of *Vibrio cholerae*.



SEA LEVEL RISE

Indicator 2.3.3: Over 1.7 million people lived less than 3 feet above current sea level in 2020.



INDICATORS RELEVANT TO BRIEF POLICY RECOMMENDATIONS

GREENHOUSE GAS EMISSIONS

Indicator 4.2.5: In 2019, the U.S. was the second-greatest emitter of CO₂ by both production- and consumption-based accounting, contributing 13.3% and 15.7% of the world's production- and consumption-based CO₂ emissions, respectively. In 2019, the U.S. was also one of the five leading emitters of PM_{2.5} by both production- and consumption-based accounting, contributing 2.9% of the world's production-based PM_{2.5} emissions and 4.9% of the world's consumption-based PM_{2.5} emissions.

TRANSPORTATION

Indicator 3.4: In 2019, electricity represented only 0.1% of total fuel use for road travel. Although this was a 24% increase in electricity use in transportation from the prior year, fossil fuel use in road transport declined by just 0.8% in 2019.

ADAPTATION

Indicator 2.2.3: In a study of 50 urban centers in the U.S., only half were classified as moderately green or above in 2021.

* Person-days- the number of heatwave days multiplied by sensitive population count.

§ Heatwave is defined as a period of two or more days where both the minimum and maximum temperatures are above the 95th percentile of the U.S. climatology (defined on the 1986–2005 baseline).

& Any part of the US that is <1500 meters above sea level is considered lowland.

All indicator data listed in this table come from the 2022 Global Lancet Countdown report. For detailed information regarding the indicators and indicator methodology, please see the global Lancet Countdown report Appendix.¹