

Earthweek: Diary of a Changing World

By Steve Newman

2024 Year in Review

Unbridled Warming

A U.N. report warns that global warming is now on track to exceed 3 degrees Celsius (5.4 F) by the end of the century and that only a “quantum leap in ambition” to curb greenhouse gas emissions can avert a planetary climate catastrophe.

Drought Crisis

Brazil faced its most severe and widespread drought on record, leading to devastating wildfires and record-low levels of the Amazon River. Dried-up streams stranded many communities that rely on water access, while the main Paraguay and Paraná rivers became so low that transport of key regional commodities was halted.

Earthquakes

A Jan. 1 temblor killed 475 people on Japan's Noto Peninsula, lifting the ground by more than 13 feet and shifting it sideways by more than 1 foot.

- A magnitude 7.4 quake in eastern Taiwan killed at least 18 people and wrecked buildings on April 3.

- At least 14 people perished in a massive Vanuatu quake that collapsed buildings in the capital on Dec. 17.

Antarctic Sea Melt

The extent of summertime ice coverage surrounding the Antarctic continent reached an alarmingly low level for the third consecutive year, according to an analysis by the Colorado-based National Snow and Ice Data Center.

Penguin Peril

Climate change is occurring faster than some emperor penguin colonies in Antarctica can adapt, and record-low sea ice levels have contributed to the second-worst year for chick mortality on record.

Some colonies have moved to more stable ice, but researchers say it is only a temporary solution.

Eruptions

Iceland's restive Reykjanes Peninsula was blanketed by massive amounts of lava from a series of seven eruptions during the year.

- A powerful eruption of Indonesia's Mount Merapi forced thousands to evacuate in central Java during late January.

- Around 87,000 people were ordered to evacuate their homes in the central Philippines during early December after Mount Kanlaon's strongest eruption in years blanketed nearby areas in thick ash.

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The Hottest Day

Earth experienced the hottest day ever measured, breaking the previous record by a tiny fraction of a degree, set a day earlier.

Europe's Copernicus climate service calculated through satellite observations that the average global temperature on July 22 was 62.76 degrees Fahrenheit.

The planet's average temperature was also 1.5 degrees Celsius (2.7 F) warmer than in preindustrial times across an entire year for the first time on record. Copernicus calculated the period from February 2023 to January 2024 reached 1.52 degrees Celsius of warming.

Solar Storms

The most intense geomagnetic storms to strike Earth's atmosphere in more than 20 years produced vivid aurora displays around the world, disrupted some high-frequency radio communications and brought farm equipment to a standstill at the height of the planting season.

Farmers in the Canadian Prairies and American Midwest suffered hours of shutdowns during early May when the high-precision GPS units on their tractors were knocked out by one of the year's strongest solar storms.

Tropical Cyclones

Cyclone Remal left 84 people dead in eastern India and Bangladesh in late May as one of the longest-lasting such storms on record there.

- Category-5 Hurricane Beryl ravaged Grenada on July 1. It later struck the Yucatan Peninsula and Texas coast as a much weaker storm. At least 18 people were left dead in its wake.

- Hurricane Helene killed 234 people and unleashed catastrophic flooding in Florida, Georgia and North Carolina during September.

- It was quickly followed in early October by Category-5 Hurricane Milton, which raked Florida as the second strongest ever recorded in the Gulf of Mexico and the strongest worldwide for 2024. Milton left 35 dead.

- The Philippines was ravaged by six consecutive typhoons in less than a month, punctuated by Typhoon Man-yi in mid-November.

- Category-4 Cyclone Chido left hundreds dead as it devastated the French territory of Mayotte in the Indian Ocean on Dec. 14. It then killed at least 42 others in Mozambique and Malawi.

