

# Earthweek: Diary of a Changing World

Week ending Friday, January 10, 2025

By Steve Newman

## Warming 'Havoc'

The 2024 Global Water Monitor Report concludes that last year's record heat disrupted the world's water cycle, leading to an unprecedented number of water-related disasters.

The international study found that as the planet experienced its hottest year on record, following years of record heat, water systems were hit hardest.

"Rising sea surface temperatures expanded tropical cyclones and droughts in the Amazon Basin and southern Africa," said Australian National University hydrologist Albert van Dijk, who led the study. "Global warming also contributed to heavier downpours and slower-moving storms, as evidenced by deadly flash floods in Europe, Asia and Brazil."

## Earthquakes

At least 126 people perished and thousands of homes were wrecked when a magnitude 7.1 temblor struck Tibet.

Tremors were also felt in the far southern Philippines, western Pakistan, southern Iran, southwestern Turkey and El Salvador.

## Surging Illness

Infectious diseases surged dramatically in 2024, driven by climate change, declining vaccination rates and the emergence of new pathogen variants, according to a preliminary analysis by the London-based disease forecasting firm Airfinity.

Dengue cases reached a record 13 million, nearly tripling in Central and South America, with global fatalities nearing 10,000. Whooping cough cases rose tenfold compared to 2023.

Other diseases, such as mpox, Oropouche fever and polio, also saw alarming increases, with Marburg virus emerging in Rwanda and a record number of human cases of H5N1 avian influenza reported in the U.S.

Airfinity attributed the surge to warmer temperatures that expanded disease ranges, as well as disruptions caused by armed conflicts.

## From the Brink

The Iberian lynx, once on the brink of extinction with fewer than 50 mature animals left in the wild two decades ago, has become a global conservation success story, with wild populations now surpassing 2,000 across Spain and Portugal.

Once decimated by habitat loss, hunting and a sharp decline in the number of rabbits (the lynx's primary prey), it faced near-total extinction by the early 2000s.

Europe's \$19.3 million LIFE LynxConnect project has been pivotal in the species' recovery by enhancing genetic diversity, increasing population size and expanding the lynx's range.

## Eruptions

Smoke and debris began spewing from central Ethiopia's long-dormant Mount Dofen volcano as earthquakes of increasing magnitude jolted the region for a third consecutive month. Additional geothermal activity was also reported across the area. The Ethiopian government said it was working to evacuate more than 80,000 residents after a magnitude 5.8 earthquake struck the Afar region.

Activity at Hawaii's Kilauea volcano quieted down, but hazardous volcanic fog, or vog, was still producing a health risk in the area.



The Iberian Lynx will be introduced into even more habitats in one of the world's most successful conservation efforts. Photo: Manuel Moral Castro

## Less Than Forever

Japanese researchers say they have developed a method to break down, within hours, human-made PFAS, also known as "forever chemicals" due to their inability to degrade naturally.

These compounds are found in waterproof clothing, fire extinguishing agents and nonstick cookware.

With more than 10,000 types of PFAS known to exist, they accumulate in the environment and the human body, raising health concerns.

Scientists at Ritsumeikan University report that they completely and quickly broke down a type of PFAS by exposing it to light from a purple light-emitting diode.

This method is more practical than the energy-intensive use of ultraviolet radiation combined with very high temperatures and pressure currently available.

## Tropical Cyclone

An area of disturbed weather spinning up over the central Indian Ocean was predicted to strike the northern tip of Madagascar as a tropical storm over the weekend.

