

Earthweek: Diary of a Changing World

Week ending Friday, March 14, 2025

By Steve Newman

Global Melting

Combined global sea ice cover reached an all-time low in February, with both the Arctic and Antarctic experiencing extreme declines.

Arctic sea ice remained 8% below average, continuing a three-month streak of record lows, while Antarctic sea ice was 26% below average, nearing its second-lowest summer minimum.

Scientists warn that shrinking ice cover could weaken vital ocean currents and accelerate global warming by reducing Earth's ability to reflect solar radiation.

With global temperatures 1.59 degrees Celsius (2.8 F) above preindustrial levels last month, experts say the melting ice threatens polar ecosystems as well as global climate stability.

Earthquakes

People in Naples, Italy, slept outdoors after the strongest quake in 40 years damaged buildings.

Tremors were also felt from Greenland and Iceland to Norway, and in southern Greece, the Azores, Armenia, Azerbaijan, the Tibet-Nepal border region, Taiwan, southern Peru and Los Angeles.

Laser Weeding

A new farming robot is revolutionizing weed control by using high-powered lasers instead of herbicides, offering a more sustainable and cheaper alternative.

Developed by Seattle-based Carbon Robotics, the system is said to precisely target weeds through AI, cutting weed control costs by up to 80% while eliminating the need for manual labor or chemicals.

Equipped with GPS, satellite internet and cutting-edge optics, it operates day and night across a variety of crops and farm sizes.

The company claims the technology is poised to be a major advancement in agriculture, with U.S. farmers reporting that the lasers bring increased efficiency, reduced soil compaction and improved sustainability.

Antarctic Flu

The highly pathogenic H5N1 strain of bird flu has for the first time been detected in dead birds on the Antarctic mainland, sparking concerns it could spread rapidly and devastate vulnerable seabird populations.

Researchers surveying the Antarctic Peninsula between November and January found 35 dead skuas, 11 of which tested positive for H5N1, with unconfirmed reports of dead penguins emerging as well.

Because penguins breed in dense colonies, scientists fear the virus could spread quickly in populations already threatened by the effects of climate change.

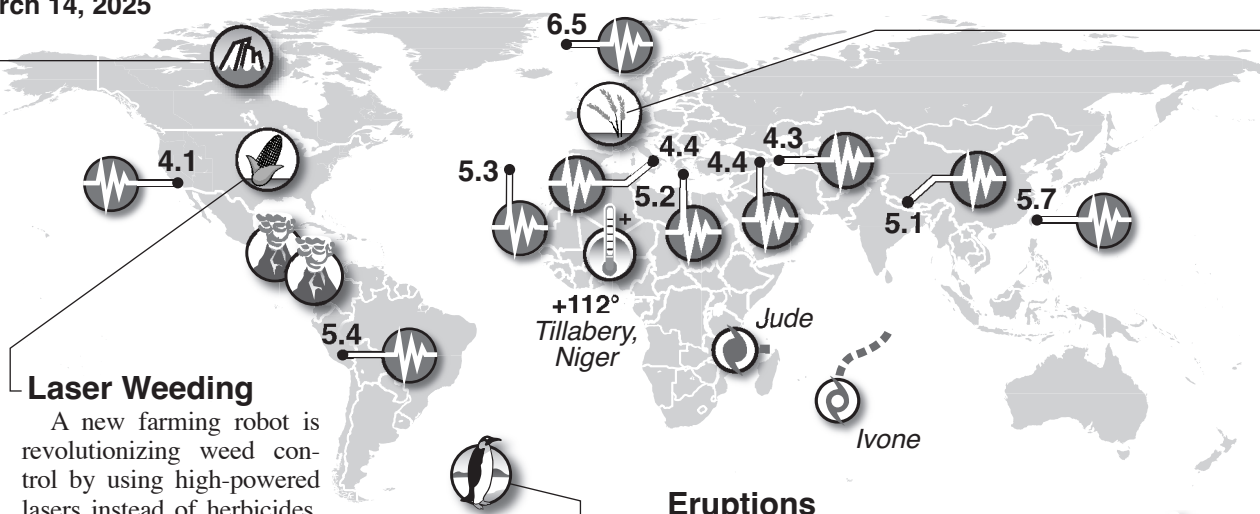
Eruptions

A brief but powerful eruption of Guatemala's Volcano of Fire dumped ash on nearby farmland and forced nearly 300 families to flee the mountain's slopes.

Costa Rica's Poás volcano erupted with a plume of vapor and debris that soared nearly 1,000 feet above the national park of the same name.



A robotic tractor shoots 250-watt lasers to kill weeds more quickly, enabling growers to cover more acres in less time. Photo: Carbon Robotics



Plastic Dimming

Microplastic pollution is reducing the ability of plants to photosynthesize, potentially cutting global crop yields and worsening food insecurity, according to a new study published in *Proceedings of the National Academy of Sciences*.

Researchers estimate that microplastics could reduce wheat, rice and maize harvests by 4% to 14% and seafood production by up to 7%, putting an additional 400 million people at risk of hunger over the next two decades.

Researchers say the plastic particles block sunlight, damage the soil and interfere with nutrient absorption in crops, which weakens plant growth.

Tropical Cyclones

Category-1 Cyclone Jude killed at least six people when it roared onto Mozambique's northeastern coast with winds of up to 75 mph, causing significant flooding and extensive damage.

Cyclone Ivone churned the open waters of the central Indian Ocean.

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