

Earthweek: Diary of a Changing World

Week ending Friday, February 28, 2020

By Steve Newman

AI Antibiotic

Scientists at MIT say they have found one of the most powerful antibiotics ever discovered by using machine learning for the first time in such a quest.

The researchers say the new drug is able to wipe out a range of antibiotic-resistant strains of bacteria in a different way than existing treatments.

Found thanks to artificial intelligence and named after the HAL 9000 computer in the movie *2001: A Space Odyssey*, the antibiotic compound halicin works by altering a bacteria's electrochemical characteristics.

While tested successfully in mice, there is no word on when human trials of halicin will begin.

Earthquakes

At least nine people perished along the northwestern

Iran-Turkey border when a magnitude 6.0 temblor struck the region. A strong aftershock occurred about 10 hours later, keeping residents on edge.

• Earth movements were also felt in northeastern Taiwan and southern Maine.

Early Birds

One of the most comprehensive studies of North American bird observations shows that at least one winged species has conducted its spring migration earlier and earlier over the past 50 years.

The black-throated blue warbler was chosen for the study because its movements have been the most accurately documented.

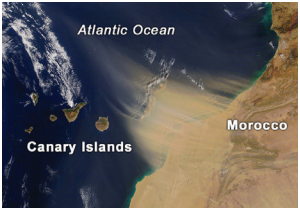
Writing in the journal *Auk: Ornithological Advances*, researcher Kristen Covino and colleagues from Loyola Marymount University found that the species passed by key monitoring locations one day earlier each decade than they did 50 years ago.

And while the timing of the fall migration peak hasn't changed, Covino says the autumnal migration southward now takes longer than it did five decades ago.

Sandy Shutdown

A wind pattern off the coast of Africa known as a Calima transported so much red Saharan sand into the skies above Spain's Canary Islands that air traffic was halted there for the better part of two days.

Aviation experts don't remember ever experiencing a Calima episode quite as bad.



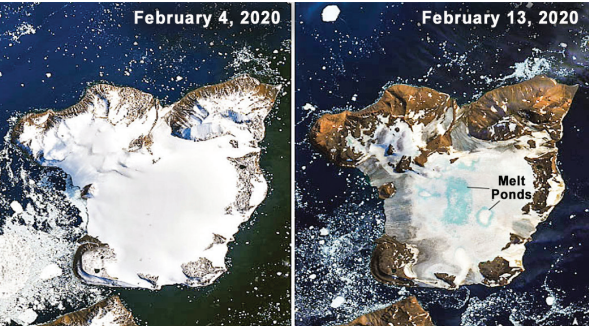
Lanzarote and Fuerteventura were the first of the Canary Islands to be shrouded in sand. Image: NASA

Antarctic Melt

Images from NASA satellites reveal that the record-breaking heat across parts of Antarctica in early February caused an unprecedented melting of the ice cap.

Ice covering Eagle Island, off the tip of the Antarctic Peninsula, shrank dramatically as temperatures at times became as warm as those in Los Angeles.

It was the third major melting event of the 2019-2020 southern summer. Scientists say such phenomena have become more and more frequent this century.



Images from the Landsat 8 satellite show how Antarctica's warmest days on record during early February caused a never-before-seen melting of the ice cap on Eagle Island. Image: Joshua Stevens / NASA

Tropical Cyclones

Tropical Storm Esther brought locally heavy rain to parts of Australia's Northern Territory and neighboring Queensland. Cyclone Ferdinand churned the far eastern Indian Ocean, between Australia and Indonesia.

• Short-lived tropical storms Vicky and Wasi spun up in quick succession near Samoa before dissipating near the South Pacific island country of Niue.

Historic Firestorms

Bushfires across eastern Australia from last September to January burned a fifth of Australia's forest, blackening an area of unprecedented size anywhere in the world, researchers say.

Matthias Boer at Western Sydney University, along with an international team, found that the blazes had charred about 14.3 million acres, or about 21% of the region's forest cover by early January.

A separate study found that the New South Wales blazes were far more intense than any climate models had predicted, even in a much warmer future.

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