

Earthweek: Diary of a Changing World

Week ending Friday, February 14, 2020

By Steve Newman

Rising Seas

The rate that sea level is rising along many stretches of U.S. coastline from the Atlantic to Alaska accelerated during 2019 in a trend that started seven years ago.

Researchers at the Virginia Institute of Marine Science say sea levels at 25 of the 32 official tide-gauge stations rose more quickly in 2019 than in 2018.

Experts say the world-wide ocean rise is driven by the melting of large glaciers and the thermal expansion of ocean waters caused by global heating.

The highest rate increases last year were recorded along the Gulf Coast, with Grand Isle, Louisiana, experiencing nearly a third of an inch increase, more than double the global average.

Earthquakes

Southern Croatia was jolted by its third significant earthquake so far this year. The tremor was also felt in neighboring Bosnia and Herzegovina.

• Other earth movements were felt in far eastern India's Assam state and far northeastern Japan.

Radiation Eaters

Scientists say they have begun to experiment with a type of fungus that feeds on radiation around Ukraine's crippled Chernobyl nuclear power plant and shows promise of protecting humans and equipment from radiation.

While *Cryptococcus neoformans* has been known to science for more than a century, it was only recently found to have properties that can block radiation.

The fungus contains melanin that absorbs radiation and turns it into chemical energy. It can also decompose radioactive materials such as the hot graphite debris from the Chernobyl blasts.

Astronauts aboard the International Space Station recently received samples of the melanin derived from *C. neoformans* and are testing to see if it can protect against radiation in space.

Eruption

A volcano on the French overseas territory of Réunion spewed lava onto the surrounding landscape and sent plumes of vapor soaring high into the western Indian Ocean sky.

Cracks in Piton de la Fournaise's crater that opened up during a 2019 eruption appear to be releasing lava from the new eruption, according to officials.

The volcano is one of the world's most active but doesn't threaten any inhabited areas of the island.

It has erupted 20 times during the last 10 years, drawing tourists from around the world to view its vivid lava flows.

Airborne Defense

The U.N. Food and Agriculture Organization (FAO) is poised to dispatch a fleet of drones across East Africa to battle the region's worst locust infestation in at least a quarter of a century. The hybrid remote aircraft would use atomizers to spray pesticides into the swarms.

"Nobody's ever done this with desert locusts before. So we have no proven methodology for using drones for spraying on locusts," said FAO senior locust forecasting officer Keith Cressman. He adds that it will take trial and error to find the best speed and height to kill the pests.



This image of desert locusts mating in Kenya was taken on Jan. 21, 2020. The FAO warns that another generation of nymph (baby) locusts will emerge in East Africa within 3-4 weeks. Photo: ©FAO/Sven Torfinn

Climate Confusion

As one research station on the Antarctic Peninsula experienced its hottest temperature on record with a high of 64.9 degrees Fahrenheit, freak warmth in Siberia awakened badgers early from hibernation.

The animals typically remain in slumber until late February. But above-freezing temperatures 46 degrees warmer than a year ago have caused them to stir.

An unusually warm December caused similar hibernation confusion among bears in Russia and Ukraine.

Last winter, hundreds of brown bears in a southern Russian reserve didn't hibernate at all due to the unusual warmth.

Tropical Cyclones

High winds from powerful Cyclone Damien pummeled parts of northwestern Australia's iron-producing Pilbara region as heavy downpours from the storm washed out roads.

• Heavy rains from the outer bands of Cyclone Uesi threatened flash flooding in southern Queensland.

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