

Earthweek: Diary of a Changing World

By Steve Newman

2019 Year in Review

Record Lightning

A new report said that U.S. weather satellites detected the longest lightning ever observed — a 300-mile bolt from Texas to Kansas.

Other researchers measured the most powerful thunderstorm on record, with an electric potential of 1.3 billion volts in India.

Plastic Homes

A Mexican engineer has developed a process to recycle plastic into houses that may last for up to 150 years.

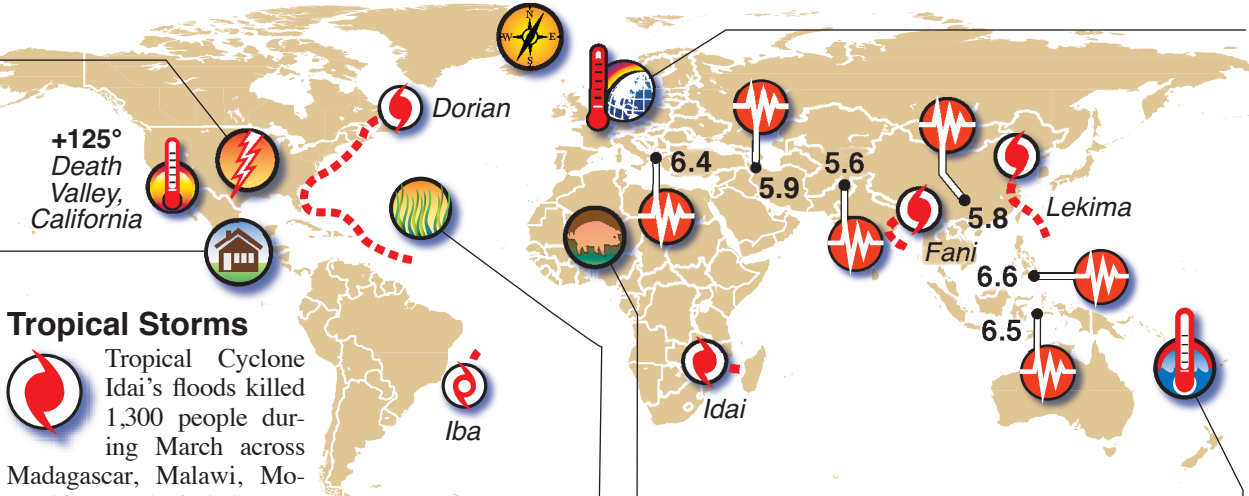
Ramón Espinosa's Eco Plástico Ambiental company converts the ubiquitous debris into strong sheets of "plastic wood" that can be used to build homes, furniture and other objects.

Plastic is now one of the world's most pervasive environmental pollutants.

Magnetic Shift

Earth's magnetic North Pole has drifted so much since 2014 that navigation aids were updated in January and December to reflect the shifting position.

The pole is racing toward Siberia from the Canadian Arctic.



Tropical Storms

Tropical Cyclone Idai's floods killed 1,300 people during March across Madagascar, Malawi, Mozambique and Zimbabwe as one of the worst such storms to ever strike the region.

- Hurricane Dorian inflicted catastrophic damage to the Bahamas on Sept. 1-2, while killing more than 60 in the country's worst-ever natural disaster.
- Cyclone Fani killed nearly 90 people in eastern India and Bangladesh during early May, inflicting \$8.1 billion in damage.
- Typhoon Lekima became China's second-most costly storm after it left 90 people dead along the east coast during early August.
- Tropical Storm Iba became the third known tropical storm to form in the South Atlantic as it spun up off Brazil on March 24.

Seaweed Bloom

A huge belt of Sargassum seaweed, stretching 5,500 miles from Africa to the Yucatán Peninsula, became the largest such algae bloom ever observed. Climate change and runoff from agriculture are being blamed for the vast mats of seaweed that clog many resort beaches, especially along Mexico's Caribbean coast.

Swine Deaths

A quarter of the world's domestic pigs have died or been put down this year due to outbreaks of African swine fever, with China losing nearly half of its pigs.

There is no vaccine for the disease, making such outbreaks hard to prevent.

Earthquakes

Albania's strongest earthquake in almost 40 years, and the world's most deadly during 2019, killed 51 people and caused extensive damage on Nov. 26.

- A magnitude 5.9 temblor killed seven people, injured 300 others and wrecked three villages in Iran's East Azerbaijan province on Nov. 7.
- Thirty people perished in three strong quakes that rocked the same area of the southern Philippine island of Mindanao during the latter half of October.
- A magnitude 5.6 quake in Pakistan's Punjab province killed 40 people and wrecked thousands of homes on Sept. 24.
- Forty people died as 6,000 buildings were wrecked and giant landslides were unleashed on Sept. 26 by a magnitude 6.5 temblor in Indonesia's Maluku province.
- China's Sichuan province was rocked by a sharp temblor that killed 13 people on June 17.
- Southern California's strongest series of quakes in 20 years sparked fires during early July. The shaking was felt across a vast area from Las Vegas to Los Angeles.

Climate Emergency

More than 11,000 scientists from 153 countries warned that "untold human suffering" is unavoidable unless we make large and lasting lifestyle changes to curb global warming.

The call to cut activities that contribute to climate change came as it became clear that the effects of global warming are worsening more rapidly than predicted.

The U.N. later cautioned that the world can now only avoid catastrophic effects of climate change by cutting carbon emissions by 7.6 percent each year until 2030.

Oceanic Heat

A new study found that marine heat waves are now more frequently disrupting the ocean's ecosystems and the lives of those humans who depend upon them for food and livelihood.

A report in *Nature Climate Change* said the soaring numbers of ocean heat waves are killing marine species like "wildfires that take out huge areas of forest."

It said the number of oceanic heat waves has tripled in recent years.