

Earthweek: Diary of a Changing World

Week ending Friday, November 27, 2015

Daily Disasters

Weather-related disasters have nearly doubled over the past 30 years — now occurring almost daily somewhere in the world, according to a new report.

Published by the United Nations Office for Disaster Risk Reduction (UNISDR), *The Human Cost of Weather Related Disasters* fell short of directly blaming climate change for the increase.

But it warned, “predictions of more extreme weather in the future almost certainly mean that we will witness a continued upward trend in weather-related disasters in the decades ahead.”

The report found that 600,000 people have died as a result of floods, storms, heatwaves, droughts and other weather-related events since 1995.



Earth hasn't been the same since an ecological shift occurred in the 1980s. NASA

Tree Extinction

More than half of the Amazon's diverse tree species may be at risk of extinction due to deforestation conducted to clear land for ranching, farming and other human activities, according to a new international study.

It concluded that if the trend continues, between 36 and 57 percent of the estimated 15,000 tree species in the Amazon Basin could qualify as threatened with extinction by 2050.

Global Shift

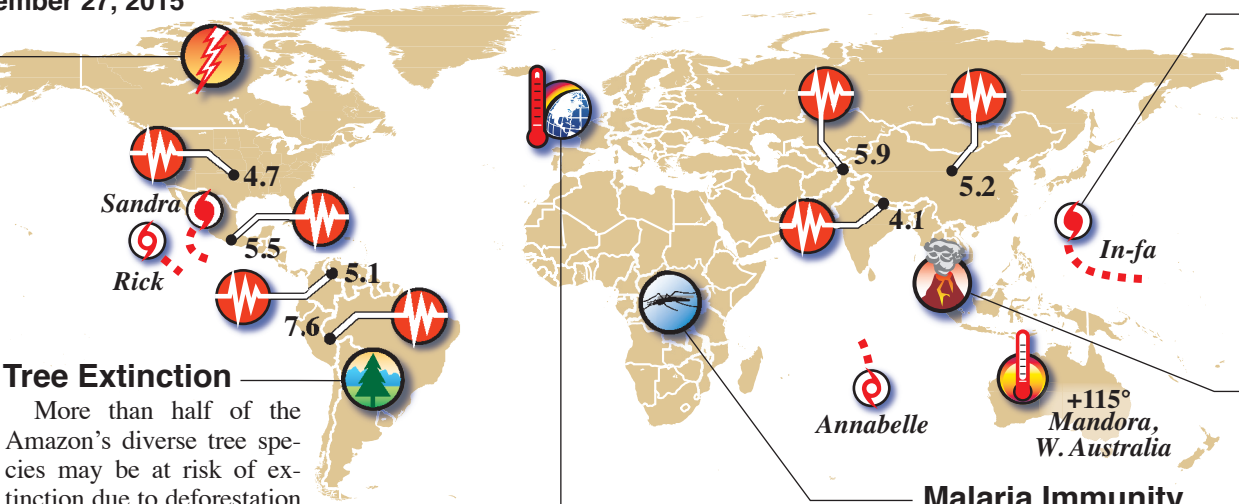
Earth underwent an unprecedented global ecological and climate shift late in the 1980s, which a new report says was triggered by a combination of manmade global warming and a powerful volcanic eruption.

British and Swiss researchers write in the journal *Global Change Biology* that they found the shift throughout nature, from the upper atmosphere to the depth of the oceans.

The shift was manifest in atmospheric and ocean temperatures, pH levels of rivers, timing of land events, behavior of plants and birds, wind speeds and amount of ice and snow, according to the report.

The study found that the shift appeared to have moved regionally around the world from west to east, starting with South America in 1984, and moving through North America in 1985, the North Atlantic in 1986, Europe in 1987 and Asia in 1988.

The researchers say the shift was sparked by the 1982 eruption of Mexico's El Chichón volcano as it interacted with an already changing climate.



By Steve Newman

Tropical Cyclones

Typhoon In-fa churned the western Pacific for a second consecutive week.

- Tropical Storm Rick and Hurricane Sandra were among the latest such storms in the season to form off Mexico in recorded history.
- Tropical Storm Annabelle formed briefly over the central Indian Ocean.

Eruption

Indonesia's Mount Sinabung spewed ash thousands of feet into the air above Sumatra. Superheated debris cascaded down its slopes 13 times within a single day.

Earthquakes

A pair of 7.6 magnitude temblors along the Peru-Brazil border rocked buildings in Peru, Bolivia and Argentina. There were no immediate reports of damage.

- Earth movements were also felt in southwestern Mexico, western Venezuela, central Nepal, China's Qinghai province, the Afghanistan-Pakistan border region and from northern Oklahoma to southern Kansas.

Malaria Immunity

Scientists announced that they have created a new strain of mosquitoes through gene editing that cannot spread malaria, giving hope that the disease may one day be eradicated.

By inserting DNA into the insect's genome, malaria-blocking antibodies are created that prevent the mosquito from being able to transmit the disease.

Inserting another set allows the characteristic to be inherited by 99.5 percent of the offspring.

If the new mosquitoes were released into the wild, it's believed the resistance genes would spread rapidly, creating a malaria-immune population.