

# Earthweek: Diary of a Changing World

Week ending Friday, January 20, 2023

By Steve Newman

## El 'Flip'

The waters of the Pacific between South America and Indonesia are predicted to shift from the ongoing La Niña cooling of the past three years to a warming El Niño later this year.

Atmospheric scientists warn this could push global temperatures "off the charts" and make 2024 the first year global heating rises higher than 1.5 degrees Celsius above pre-industrial times.

The last hottest year on record was in 2016, which was also a major El Niño year.

The U.S. environment agency NOAA says there is a 66% chance of El Niño quickly replacing the current La Niña between August and October of this year.

## Earthquakes

At least 70 people were injured and more than 300 homes damaged by a sharp quake in northwestern Iran.

- A swath from the southern Philippines to Indonesia's Banda Sea was rocked by a magnitude 7.0 temblor.

- Earth movements were also felt in northwestern Sumatra, the Philippine province of Leyte and Albania.

## Dolphin 'Shouts'

Researchers have observed that dolphins appear to overcome human-made noise during echolocation and communications with other dolphins by what they describe as "shouting."

The discovery comes as noise pollution in the world's oceans from such sources as shipping and construction has increased dramatically in recent years.

Tests conducted at the Dolphin Research Center in the Florida Keys measured the communication skills between two of the marine mammals at different levels of noise from a submerged speaker.

They found that the success of coordinated test activities dropped significantly at the highest levels of generated noise.

## Windthrow

More severe storms brought to the Amazon in the future by climate change means their intense winds could cause additional tree damage on top of the human-made deforestation already inflicted on the region.

A new study says that increasing "windthrow" events, or the uprooting or breaking of trees, has the potential to turn parts of the Amazon rainforest into killing fields that would leave untold numbers of trees rotting on the ground.

That would convert parts of the Amazon from a carbon sink into a carbon source, resulting in more atmospheric greenhouse carbon dioxide.

## War on Birds

Environmental advocates warn that the Kenyan government's plans to poison as many as 6 million red-billed quelea birds, which have been ravaging crops, could also contaminate raptors, humans and other creatures.

The ongoing severe drought in the Horn of Africa has wiped out much of the voracious quelea's main diet of native grass seeds, forcing them to invade grain fields.

The organophosphate pesticide fenthion, which has been the chemical of choice to kill the birds, is believed by many to be far too dangerous to use, even in the current quelea invasion.



Sensors measure dolphin exposure to noise pollution. Photo: Current Biology

## Volcanic Legacy

Coral reefs that were turned into rubble by the record volcanic blast, which also devastated the island nation of Tonga, are still a vast wasteland a year later.

Once teeming with marine life, the waters used by Tonga fishermen are now practically devoid of life as those fish who weren't pulverized by the titanic eruption have migrated elsewhere in the South Pacific.

When Hunga-Tonga-Hunga Ha'apai exploded on Jan. 14, 2022, with a force greater than any other eruption on record, it sent seismic shockwaves around the world and shot a massive plume of water and ash higher into the atmosphere than ever seen before, even to the edge of outer space.

## Volcanic Alerts

Eruptions at volcanoes across Indonesia have prompted officials to raise alert levels.

Of particular concern are the residents around Mount Maapi in West Sumatra, Java's Semeru volcano and Lewotolok volcano in East Nusa Tenggara.

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