

Earthweek: Diary of a Changing World

Week ending Friday, December 20, 2024

By Steve Newman

Dammed Arctic

The expansion of beaver ranges into a warming Arctic means there are now more beaver ponds across the region, transferring more heat to the surrounding soil and thawing more long-frozen ground, a new report says.

Human-caused climate change has already allowed more shrubs and woody plants to grow at high latitudes, making the Arctic region more inviting to the toothy dam builders.

University of Alaska Fairbanks researcher Emily Graham told the annual meeting of the American Geophysical Union that analysis of high-resolution airborne radar data reveals there are more than 850 new beaver ponds on Alaska's Seward Peninsula, near Nome.

Earthquakes

More than a dozen people perished in a massive Vanuatu quake that collapsed buildings in the capital, Port Vila.

Earth movements were also felt in northern Tonga, the central Philippine province of Negros Occidental, northern Greece, central Chile and southern Ohio.

Mating Odyssey

Scientists have documented the record migration of a humpback whale that traveled 8,000 miles across three oceans in search of a mate.

Writing in the journal *Royal Society Open Science*, they explain that migration routes typically run north to south, as whales seek out feeding grounds in colder waters and breeding grounds in warmer tropics.

Whales rarely migrate east to west to avoid encroaching on the territories of other males. This makes the epic journey of one particular humpback highly unusual.

It was first observed off Colombia's Pacific coast in 2013 and 2017 before reaching Zanzibar in the Indian Ocean in 2022.

Earlier this year, humpback whales were observed mating for the first time, and both were male.

Freed Iceberg

The world's largest iceberg has started moving again off Antarctica after being trapped in the Weddell Sea for decades.

Iceberg A23a spans more than 1,400 square miles and had been grounded on the Weddell Sea floor for over 30 years after having broken off from the Filchner-Ronne ice shelf in 1986.

It eventually melted enough to break free but became trapped again earlier this year, spinning in a rotating column of water near the South Orkney Islands.

A23a is predicted to drift toward warmer waters, where it will break up and melt.

Hottest Year

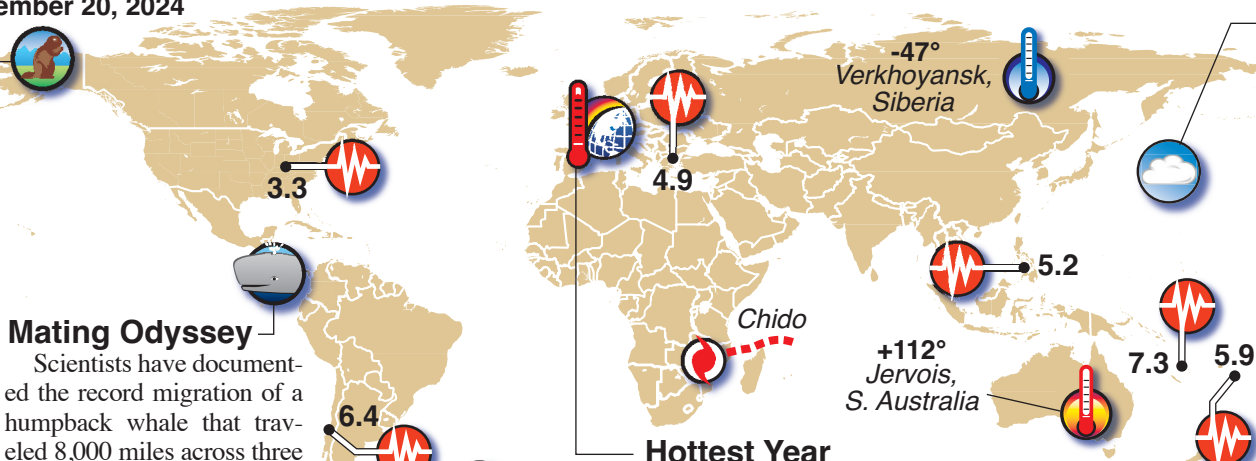
Earth is on track to experience the hottest year on record after global temperatures in November were the second-warmest ever recorded.

"With Copernicus data in from the penultimate month of the year, we can now confirm with virtual certainty that 2024 will be the warmest year on record," said Europe's Copernicus Climate Change Service Deputy Director Samantha Burgess. It would also be the first calendar year above the 1.5-degree Celsius warming threshold.

Experts say permanent temperature increases beyond 1.5 degrees Celsius above preindustrial levels will bring more frequent and severe droughts and heat waves, with stronger storms and more intense rainfall in some areas.



Massive iceberg A23a is now drifting free after spinning in place off Antarctica for several months. Photo: Richard Sidey/Eyos Expeditions



Cloudless Heating

A new study concludes that decreasing cloud cover has contributed to the hotter global temperatures of the past two years, which exceeded climate scientists' predictions.

Writing in the journal *Science*, researchers say the decline in sunlight reflected back into space from clouds is likely the cause of the unexpectedly high temperatures in 2023.

Scientists analyzed climate models and NASA satellite data on the planet's reflectivity to reach their conclusion.

It remains unclear whether this is a temporary trend or signals a climate shift.

Cyclone Disaster

Hundreds were feared dead after the eye of Category-4 Cyclone Chida made a direct hit on the impoverished French overseas territory of Mayotte in the western Indian Ocean.

Officials said 90% of the island nation's buildings were destroyed.

Chida went on to leave dozens dead in Mozambique and neighboring Malawi.

Dist. by: Andrews McMeel Syndication ©MMXXIV Earth Environment Service