



**Week ending Friday, November 26, 2021**

### **Gone in a Flash**

Researchers say they have found a new and effective way to kill bacterial superbugs and viruses without harming human cells — ultrashort pulses of lasers. A team at Washington University School of Medicine in St. Louis says its findings could lead to new ways to sterilize wounds and blood products. “At a certain laser power, we’re inactivating viruses. As you increase the power, you start inactivating bacteria,” first author Shaw-Wei (David) Tsen said. “But it takes even higher power than that, and we’re talking orders of magnitude, to start killing human cells.” He proposes that scanning a wound with tuned lasers could reduce the chances of infection.

### **Tropical Cyclone**

Tropical Storm Paddy formed over the Indian Ocean, to the south of Australia's remote Christmas Island. It was a threat only to shipping at minimal tropical storm force.

### La Niña Outbreak

A pronounced cooling of the tropical Pacific in recent weeks between the coasts of South America and Indonesia has prompted Australia's Bureau of Meteorology to declare that a La Niña weather event has begun. The opposite of El Niño, the ocean cooling typically causes much wetter weather for eastern, northern and central parts of Australia. It has also historically been responsible for potent storms in the Pacific Northwest and British Columbia, which are currently suffering weather disasters from wet storms this month. Despite the ocean cooling already in place across the Pacific, the World Meteorological Organisation has yet to declare La Niña's return.

### Wayward Voyager

One of the world's rarest birds of prey appears to be taking a hemispheric grand tour after being spotted almost half a world away from its typical home in Far East Russia, China and Japan. The lone Steller's sea eagle has so far been spotted this year by birdwatchers in Alaska, Texas, and the Canadian Maritime provinces. Larger than the bald eagle, the Steller's sea eagle usually feeds on salmon and trout, but ornithologists say it will feast on what protein it can find, living or dead. Experts believed it migrated the wrong way, was blown off course or is just looking for a better home.

### Volcanic Gas Hazard

High concentrations of carbon dioxide spewing from volcanic vents on the Italian island of Vulcano have prompted officials to order hundreds of residents to leave home at night for fear of them being suffocated in their sleep. While the island's volcano, located off the northern coast of Sicily, hasn't erupted since 1890, CO2 levels six times higher than normal from it have already caused breathing difficulties for some residents and health issues for pets. Since the heavy gas can hug the ground on windless nights, officials fear it could seep into homes, killing those sleeping in the low-lying areas around Porto di Levante.

### Seafood Distress

It may one day be illegal to boil lobsters and crabs alive after a new report claims they and other types of popular seafood have the capacity to feel pain. A British government study concludes that those animals can not only experience pain, but they also suffer distress when harmed. "After reviewing over 300 scientific studies, we concluded that cephalopod mollusks and decapod crustaceans (octopuses and squids) should be regarded as sentient, and should therefore be included within the scope of animal welfare law," lead investigator Jonathan Birch of The London School of Economics Centre's Foundations of Animal Sentience project said.

### Earthquakes

Eastern Azerbaijan's Shamakhi region was jolted by a magnitude 5.1 quake. It occurred near the epicentres of more powerful and deadly temblors in 1667 and 1859. • Earth movements were also felt in northwestern Sumatra, western India's Rajasthan state and eastern Turkey's Erzurum province.

## Earthweek: Diary of a Changing World

Written by Gallupsun Staff

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