



Week ending Friday, October 18, 2019

Earth Archive

A pair of Colorado State University scientists propose creating a high-resolution, 3D image of Earth's surface in its current state before the effects of climate change alter the landscape forever. Geographer Steve Leisz and archaeologist Chris Fisher propose scanning the planet with airborne lasers to initially capture the world's most vulnerable locations. The same technology has been used to discover remote archeological sites. The pair says that once completed, their nonprofit Earth Archive project would be the ultimate gift to future generations, which will be able to look back at Earth's entire land area during the first half of the 21st century in unrivaled detail.

Tropical Cyclones

Typhoon Hagibis killed scores of people in Japan with the worst destruction and flooding in decades from such a storm.

- Tropical Storm Melissa formed off the coast of New England while Ema briefly churned the Pacific to the west of Hawaii.

Lake Blooms

Algal blooms have increased during the summer months over the past three decades in many of the world's lakes, according to the first global survey. Such blooms have made headlines in recent years from Florida to Lake Erie, because of the harmful effects of the toxin-producing phytoplankton they contain. Carnegie University and NASA scientists studied summer algal blooms in 71 large lakes in 33 countries on six continents. They found the blooms increased since the 1980s in all but six of those lakes. They say the reasons for the blooms varied from lake to lake, but the algae was affected by fertilizer use, rainfall and climate change.

Arctic Survival

Increasingly harsh Arctic weather due to climate change could threaten the survival of plants and animals in Greenland, according to researchers from Denmark's Aarhus University. They say 2018 snowfall was so heavy that it prevented almost all plants and animals in northeastern Greenland from reproducing. Niels Martin Schmidt writes that, as opposed to the vanishing Arctic sea ice, the late-season heavy snow could be a problem if it becomes the new normal. That's because the Arctic growing and breeding season lasts for only a few weeks in July and August.

'Stormquakes'

Scientists say they have identified a geological phenomenon that can result in vibrations on the ocean floor equivalent in force to magnitude 3.5 earthquakes. Florida State University seismologist Wenyuan Fan says big storms such as hurricanes can generate giant waves in the oceans, which in turn create secondary waves that pound the seafloor. Seismographic records suggest that such stormquakes can last from hours to days and are common in Western Europe, Western Australia and North America. But Fan says they should not be considered dangerous.

Human Biases

Scientists say some species of monkeys have the knack for using more efficient ways of solving problems than humans. Writing in *Scientific Reports*, psychologists from Georgia State University say they found that capuchin and rhesus macaque monkeys can look beyond preconceived notions better than people to find shortcuts to get what they want. Humans and the monkeys were put through the same challenging test, and while nearly all the monkeys learned to incorporate an available shortcut, a full 61 percent of the humans did not.

Earthquakes

The strongest temblor in memory centered on the southern Philippine island of Mindanao killed at least five people as it collapsed walls, knocked out power and sparked a large shopping mall fire.

- Buildings were damaged by a magnitude 4.9 quake in western Iran.
- Earth movements were also felt in eastern Japan, South China, Bhutan and the San Francisco Bay Area.

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