

Export restrictions lead to higher global food prices, which can lead to more trade restrictions. Poor countries suffer most from the drop in food imports, the authors note. *Environ. Res. Lett.* 10, 024007 (2015)

PALAEOHYDROLOGY

Drying lakes linked to extinctions

Climate change in Australia may have played a part in the extinction of many large animals some 50,000 years ago.

The cause of the mass die-off is debated, with some saying that ecological collapse was sparked by human use of fire 40,000 to 60,000 years ago. Climate-related factors had been dismissed because there seemed to be little change in Australia's climate at that time. However, Tim Cohen of the University of Wollongong in Australia and his colleagues looked at sediments along the shores of two huge lakes, Eyre and Frome, and found that their water levels decreased drastically around the time when megafauna went extinct.

Lakes that shrank under a changing climate could have led to the demise of plants and herbivorous animals, the authors say.

Geology <http://doi.org/z8n> (2015)

ECOLOGY

Traps target tricky toads

Habitats that attract invasive species can be turned into 'ecological traps' that wipe out the invaders.

In Australia, invasive cane toads (*Rhinella marina*; pictured) are devastating native wildlife, and they have proved difficult to eradicate. To survive the dry season, the toads flock to ponds that store water for livestock, and then use these 'invasion hubs' as staging posts to invade more

areas during the rains.

To trap the toads, Mike Letnic at the University of New South Wales in Sydney and his colleagues used fences to exclude them from the ponds in Australia's Northern Territory.

Toads that were attracted to the water but unable to access it died in their hundreds at the fenced sites, and populations remained suppressed a year later. The authors suggest that other species that rely on invasion hubs could be controlled in a similar way.

J. Appl. Ecol. <http://doi.org/z8p> (2015)

NEUROSCIENCE

Breathe in to boost brain-fluid flow

An inwards breath drives the flow of fluid that bathes the human brain.

Cerebrospinal fluid cushions the brain, flushes out waste and in rodents seems to be controlled by pulsating blood flow. To find out how the fluid is regulated in humans, Steffi Dreha-Kulaczewski at the University Medical Center Göttingen in Germany and her colleagues used real-time magnetic resonance imaging to scan the brains of ten healthy volunteers while they did breathing exercises. The researchers found that an intake of breath had a stronger effect on fluid flow than the heartbeat did.

The approach could be used to study disorders that result in disruptions to the flow of cerebrospinal fluid.

J. Neuro. 35, 2485–2491 (2015)

PARTICLE PHYSICS

New particles found at collider

High-energy collisions between protons have unearthed two new particles.

SOCIAL SELECTION

Popular articles on social media

Science in 200 words or less

Even in this age of texts, tweets and sound bites, most scientific papers remain long and dense. But a new online journal promises to bring a little brevity to science by accepting submissions of 200 words or less. *The Journal of Brief Ideas* (<http://beta.briefideas.org>) has published only a few papers so far, but has already generated a buzz on social media. Katie Mack, an astrophysicist at Melbourne University in Australia, urged her many Twitter followers to check it out, noting that

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the journal was effectively "reducing the minimum publishable unit to 200 words". But she also cautions that it could turn into a collection of preliminary ideas that are not ready for scientific consumption.

Named Ξ_b^- and Ξ_b^{*-} , the particles were discovered by the LHCb experiment team at the Large Hadron Collider at CERN, Europe's particle-physics laboratory near Geneva, Switzerland. Like protons, the particles are made up of three quarks, but they each include a heavyweight 'beauty' or 'bottom' quark, making the particles six times heavier than the proton. Although consistent with the standard model, these particular arrangements of quarks have never previously been observed.

Studying the properties of these particles could help scientists to better understand the strong nuclear forces that bind protons and neutrons together in an atom.

Phys. Rev. Lett. 114, 062004 (2015)

OCEANOGRAPHY

Arctic ice warms from below

Shrinking Arctic sea ice could cause more-vigorous mixing of ocean heat in northern waters, eventually leading to further melting.

Tom Rippeth of Bangor

University, UK, and his colleagues measured water temperatures at different depths and locations across the Arctic Ocean. They found that heat rose more quickly from warm, deep layers of water that ran into rough patches on the sea floor than from areas that have a more even floor.

Such mixing might become more common in a warming world, the authors say. As sea ice disappears, the atmosphere can transfer more of its energy into the ocean, which drives ocean mixing. The rising heat from this mixing could cause sea ice to decline even more.

Nature Geosci. <http://dx.doi.org/10.1038/ngeo2350> (2015)

CORRECTION

The Research Highlight 'Capsules collect carbon dioxide' (*Nature* 518, 140; 2015) stated that all authors are at Harvard University. In fact, Jennifer Lewis and a co-author are at Harvard; her collaborators are at Lawrence Livermore National Laboratory, California, and at the University of Illinois at Urbana-Champaign.

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