News in brief

CLIMATE CHANGE CONTRIBUTED TO AUSTRALIA'S EXTREME BUSH-FIRE WEATHER

Global warming increased by at least 30% the risk of the weather conditions that drove the recent catastrophic bush fires in Australia, says a group of climate scientists who analysed the disaster.

Australia experiences bush fires regularly, but the latest event was unprecedented in its severity and scale.

The World Weather Attribution (WWA) project sought to measure climate change's contribution to the bush-fire conditions seen in southeast Australia. Fires in the region were particularly severe, and killed dozens of people and destroyed thousands of homes.

The group assessed bush-fire conditions with an index that tracks 'fire weather'. This calculates the chance of fire in a location on the basis of variables such as temperature, humidity, wind and rainfall. The analysis did not consider non-weather factors, such as how a fire started.

"This is a highly conservative assessment," says David Karoly, a climate scientist based in Melbourne at the Commonwealth Scientific and Industrial Research Organisation, who was not involved in the analysis.

The project's researchers also say that the result is conservative. Models have mostly underestimated the rise in temperatures that has been observed since the Industrial Revolution, says Geert Jan van Oldenborgh, a climate researcher at the Royal Netherlands Meteorological Institute in De Bilt, the Netherlands, and co-author of the WWA analysis.

The team also examined whether climate change had influenced two of the components that are used to measure fire weather: extreme temperatures and drought. The results, which were posted on the group's website and have not been peer reviewed, suggest that human activity doubled the chance of heatwave conditions during the fires, but do not show that climate change contributed to the extremely dry conditions that Australia experienced.

Climate change definitely played a part in the fires, says Andy Pittman, a climate scientist at the University of New South Wales in Sydney, Australia. But he questions whether the results are meaningful, because models struggle to simulate fires.

EU CHAMPIONS BOLD NEW CLIMATE LAW

The European Commission has proposed a law that would give it far-reaching power to dictate the course of political action on climate change in the European Union.

The draft climate law, unveiled in Brussels on 4 March, would create a legally binding commitment for the EU to reduce its greenhouse-gas emissions to net zero by 2050 — which means any emissions would have to be offset by greenhouse-gas uptake, for example by trees or through carbon capture and storage technologies.

The proposal would also give the commission power to set binding short-term climate targets that don't need unanimous approval from all 27 member states. Policy analysts say that some countries could strongly oppose these measures, so the current draft is unlikely to be approved without substantial amendments.

The draft does not mention specific EU emissions-reduction milestones between now and 2050. Climate campaigners — including Swedish teenager Greta Thunberg (pictured, right, with commission president Ursula von der Leyen) — say the law doesn't go far enough. "We don't just need goals for 2030 or 2050. We, above all, need them for 2020 and every following month and year to come," a group of 34 young activists wrote in an open letter to EU leaders.

CORONAVIRUS: CHILDREN AS SUSCEPTIBLE AS ADULTS

Children are just as likely as adults to become infected with the new coronavirus, according to a detailed study on the spread of the virus. The analysis, based on data from Shenzhen in China, provides a partial answer to a key question surrounding the outbreak: the role of children.

Previous studies have suggested that children are less likely than other age groups to develop severe symptoms when infected by the coronavirus. But it was not clear whether this was because they weren't getting infected or because they were fighting off the infection more effectively.

"Kids are just as likely to get infected," says Justin Lessler, an infectious-disease epidemiologist at Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland, who co-led the study, which was posted to the medRxiv preprint server on 4 March (Q. Bi *et al.* http://doi.org/dpf9; 2020).

The researchers followed 391 people diagnosed with coronavirus, and 1,286 of their close contacts to see whether these contacts tested positive for the virus even if they didn't show symptoms. Overall, the team found that children under 10 who had potentially been exposed to the virus were just as likely to become infected as other age groups, with between 7% and 8% of contacts of known cases later testing positive.

The findings could influence measures intended to halt the spread of the virus. "This is a key piece of data that may support school closures as an effective intervention," Caitlin Rivers, an epidemiologist at Johns Hopkins Bloomberg School of Public Health, said in a tweet on 5 March.

FIRES: PETER PARKS/AFP/GETTY; EU: ISOPIX/SHUTTERSTOCK

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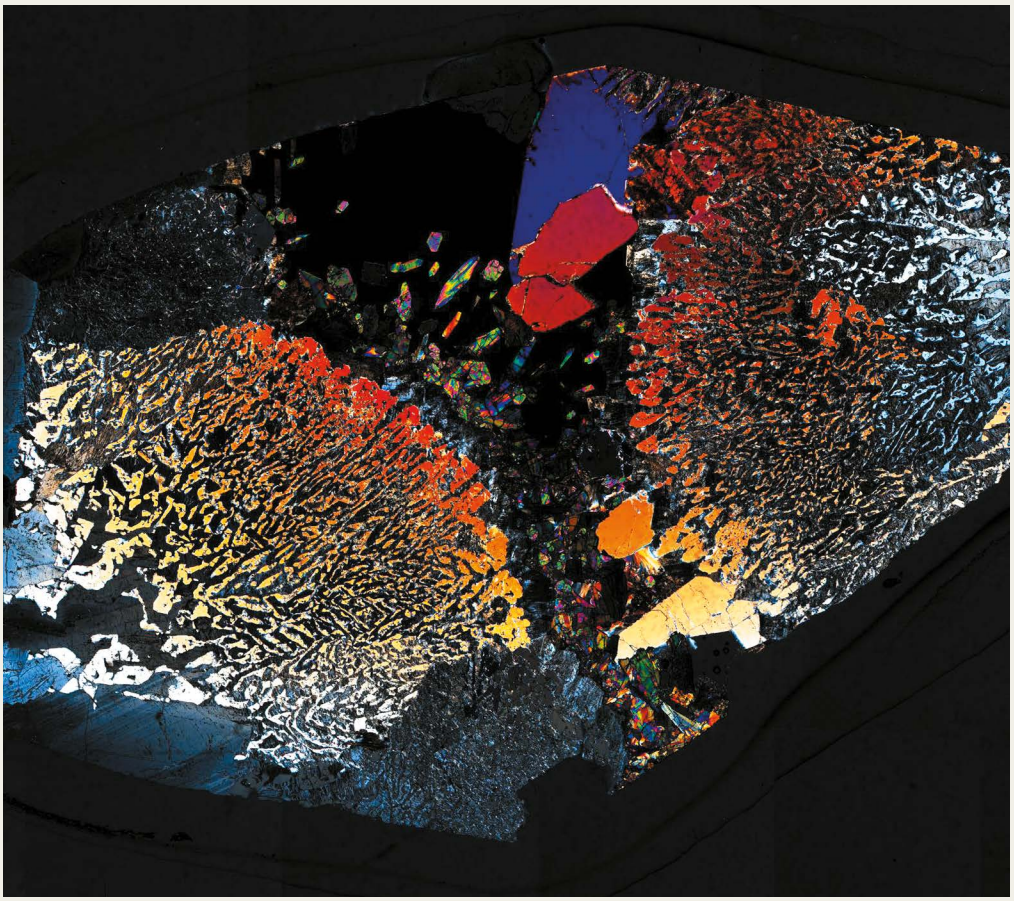

BACTERIA: FRIEDER KLEIN/WHOI; AMBER: XING LIDA

Microbes found deep in Earth's crust

This thin slice of rock, viewed using a microscope, is part of a sample taken from the Atlantis Bank at the bottom of the Indian Ocean, where researchers have found microbes living deep within Earth's oceanic crust.

A team led by marine microbiologist Virginia Edgcomb at Woods Hole Oceanographic Institution in Massachusetts identified a range of bacteria,fungi and archaea that inhabit hairline cracks in rocks up to 750 metres below the ocean floor, where they are able to live and grow despite extremely limited resources (J. Li *et al*. *Nature* **579**, 250–255; 2020). By measuring enzyme activity and gene expression, the researchers showed that these microbial communities have adapted to their conditions by maintaining low levels of cellular activity and feeding on carbon from fragments of amino acids and other organic molecules carried by deep ocean currents.

TINY DINOSAUR PRESERVED IN AMBER FOR 100 MILLION YEARS

A creature exquisitely preserved in amber for 100 million years is the smallest known dinosaur of its era.

The animal's skull, described this week in *Nature*, is less than 2 centimetre long – and suggests the dinosaur was about the size of a bee hummingbird (*Mellisuga helenae*), the smallest living bird (L. Xing *et al*. *Nature* 579, 245–249; 2020). Researchers put the new dinosaur in a genus they called *Oculudentavis*, meaning 'eye-teeth bird'. "It reveals to us a whole new lineage of birds," says Jingmai O'Connor, a palaeontologist at the Chinese Academy of Sciences Institute of Vertebrate Paleontology and Paleoanthropology in Beijing, who co-led the study.

The fossil, which was found in Myanmar and comes from the Mesozoic era, is exceptionally well preserved for a specimen of its size. Its beak is crammed with dozens of sharp teeth, suggesting that in life, the creature preyed on insects and other small invertebrates. Its eyes protrude from either side of its skull so, unlike most modern predators, this dinosaur did not have binocular vision. And its size and age mean that miniaturization in birds occurred earlier than scientists previously thought.

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