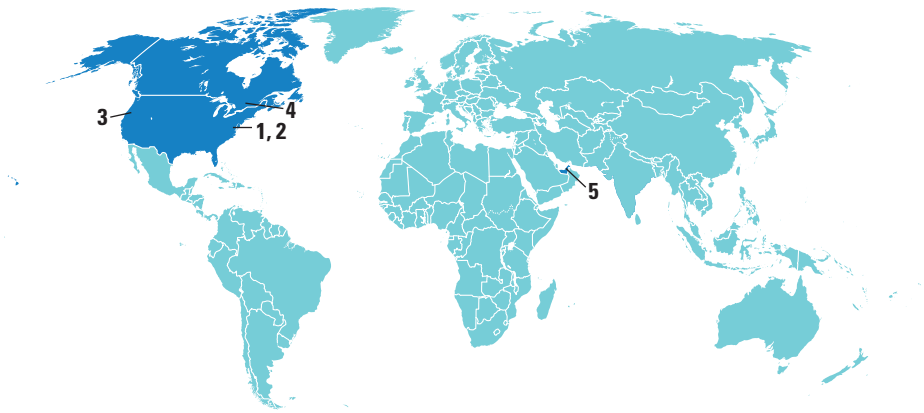
AROUND THE WORLD



Washington, D.C. **1**

Rallying Against Research Cuts

Thousands of scientists and patient advocates poured into a square in downtown Washington, D.C., earlier this week in what organizers called the largest-ever rally to call for more funding for biomedical research. The event, which drew many researchers who were in town for the annual meeting of the American Association for Cancer Research (AACR), highlighted the 5% cut to the National Institutes of Health's (NIH's) $31 billion budget imposed by Congress last month through sequestration, as well as the flat growth of NIH's budget over the past decade.

AACR attendees and others from more than 200 supporting organizations chanted "more progress, more hope, more life" and listened for nearly 2 hours as members of Congress, patient advocates, and celebrities spoke in support of increasing NIH's budget. Emcee Cokie Roberts of ABC News and NPR declared that "it could not be a stupider time to cut back on funding for medical research." The event was "historic and really unprecedented," said AACR CEO Margaret Foti. For a while, she added, tweets with the rally's tag #RallyMedRes were second to only tweets about former U.K. Prime Minister Margaret Thatcher's death.

Washington, D.C. **2**

Next Up for NASA: Exoplanets And Neutron Stars

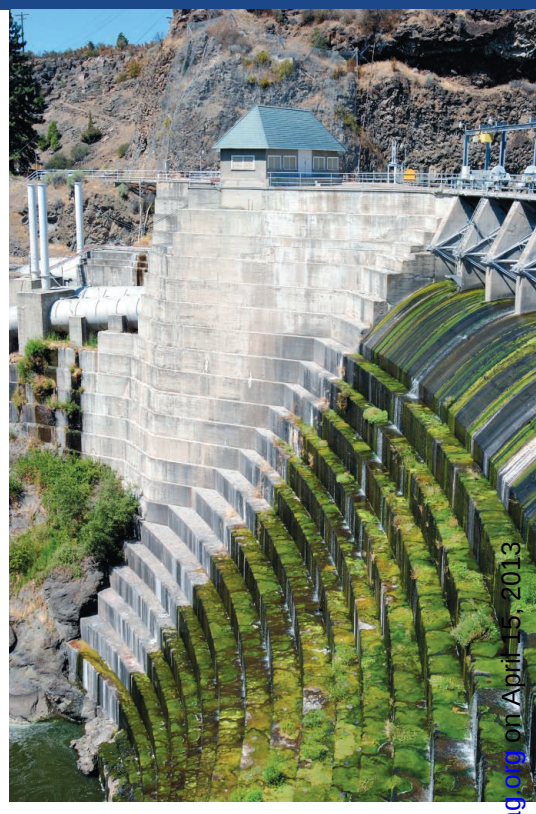
NASA's Astrophysics Explorer Program on 5 April announced it has selected two missions—an exoplanet-hunting satellite and an instrument to study neutron stars—for launch in 2017. The Transiting Exoplanet Survey Satellite (TESS) will use wide-field cameras to survey the brightest stars in the sun's neighborhood, searching for gas giants and terrestrial planets, particularly those that are Earth-sized. Those planets, researchers hope, could be candidates for follow-up studies of their atmospheres by the James Webb Space Telescope, scheduled for launch in 2018.

The Neutron Star Interior Composition Explorer (NICER), which will be deployed on the International Space Station, will observe x-rays flashed by neutron stars, helping researchers understand the nature of matter contained in these dense, spinning objects that result from the collapse of massive stars. TESS will get up to $200 million, and NICER will receive up to $55 million.

Klamath River, California and Oregon **3**

Klamath Dams Should Go, Interior Dept. Says

Remove four aging dams along the Klamath River in northern California and southern Oregon, the U.S. Department of the Interior advised in an environmental impact statement (EIS) released last week. The dams, completed between 1918 and 1962, block salmon migration and raise water temperatures and algae levels, changes that also lower salmon survival.



Worth a dam. The Copco 1 Dam is one of four dams recommended for removal to restore salmon habitat.

Habitat restoration and sediment removal, together with the dams' demolition, would cost about $1 billion. But that's cheaper than the other three options that the EIS panel considered, which leave some or all of the structures in place. If the dams remain, the operators will be required to pay for maintenance and upgrades, including installing expensive new fish ladders.

The EIS was carried out as part of the Klamath Hydroelectric Settlement Agreement (KHSA), an agreement reached in 2010 by 40 stakeholder groups—including the states of California and Oregon as well as three Native American tribes—to determine

NOTED

>After years of pressure, Swiss drug company Roche says **it will release all of its clinical trial data on Tamiflu**, a controversial anti-influenza drug stockpiled by many nations despite some claims that there is not enough evidence of its efficacy. But some scientists remain skeptical, wondering what Roche might redact.

CREDITS (TOP TO BOTTOM): JEFF BARNARD/AP PHOTO; C. SMITH/SCIENCE

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whether removing the dams would restore salmon fisheries. KHSA also requires authorization by Congress before the dams can be removed. But there is now little momentum for such legislation on Capitol Hill.

Ottawa **4**

Canada to Investigate Alleged Muzzling of Scientists

Since Stephen Harper was sworn in as Canada's prime minister in February 2006, reporters and government scientists have bristled at the government's restrictions on communications with the press and public. On 27 March, Information Commissioner Suzanne Legault confirmed that she has opened an investigation into whether scientists in seven government departments are being muzzled by senior politicians.

The government's policy, which it says is to ensure that government employees speak with "one voice," requires federal civil servants and scientists to get permission for press interviews from their minister or the Privy Council Office (Harper's central shop) and that questions be submitted in advance. The Department of Fisheries and Oceans also recently required department scientists to get approval from senior officials before publishing papers.


Legault

Critics contend that these policies are tantamount to a gag order, and in February, two groups—the Environmental Law Centre at the University of Victoria and Democracy Watch, a nonpartisan group that advocates for government accountability—asked Legault to investigate. The timeline on Legault's investigation, or whether a final report will be submitted to Parliament, is unclear. **http://scim.ag/Canmuzz**

Abu Dhabi **5**

Camel Connection To New Coronavirus?

Scientists in Germany are hoping that a camel owned by a man from the United Arab Emirates who died in Munich on 26 March will give them clues to the origins of a new coronavirus that has killed 11 people so far. The patient, a wealthy 73-year-old man from Abu Dhabi, was taken to the Klinikum Schwabing in Munich on 19 March and was confirmed to suffer from the new virus, nCoV, 4 days later (*Science*, 5 April, p. 17).

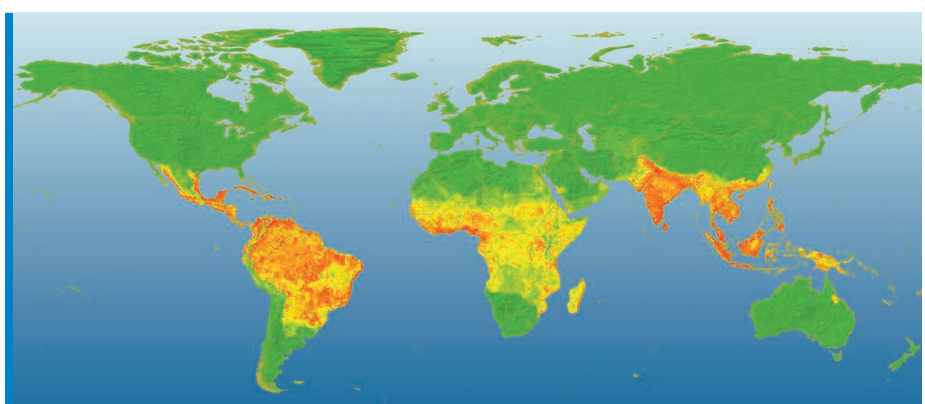

Hump hypothesis. An nCoV patient from Abu Dhabi had been in close contact with a sick racing camel.

The patient owned racing camels and had been in close contact with a sick camel shortly before he fell ill, says Clemens Wendtner, a physician at the Munich hospital; a male relative also became sick after contact with the same camel. Researchers from the group of Christian Drosten, a virologist at the University of Bonn, are planning to travel to the United Arab Emirates to take samples from the camel, Wendtner says, to find out if it was infected with nCoV. Previous anecdotal reports had linked the virus to livestock, but so far, its origins remain a mystery. **http://scim.ag/CamelCor**

THEY SAID IT

"[T]he secretary's action was politically motivated, scientifically unjustified, and contrary to agency precedent."

—Judge Edward Korman of the Eastern District of New York, slamming a 2011 decision by U.S. Department of Health and Human Services Secretary Kathleen Sebelius to prevent younger teenagers from accessing the emergency contraceptive Plan B without a prescription. Korman ruled last week that Plan B should be available over the counter to women of all ages.



Dengue More Prevalent Than Thought

There is no current vaccine for dengue, a mosquito-borne viral disease so painful that it's sometimes called "breakbone fever." To keep it in check—through mosquito control and vaccination campaigns—planners have to know where the disease is. Now, a new study estimates that there are 390 million global cases of dengue (pictured)—several times the World Health Organization's estimates.

Jeremy Farrar, a clinician at the University of Oxford Clinical Research Unit in Ho Chi Minh City, Vietnam, and epidemiologist Simon Hay of the University of Oxford in the United Kingdom compiled 8300 reports of dengue infections and considered new evidence on risk factors, such as population growth in urban areas where the virus-carrying *Aedes aegypti* mosquito thrives. Using new modeling techniques, they concluded that in 2010, dengue sent 96 million people to clinics or caused them to miss school or work, while another 294 million had mild or asymptomatic infections, the researchers reported online on 7 April in *Nature*. http://scim.ag/moredengue

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FINDINGS

On Twitter, #Antivaccination Goes Viral

When fear goes viral on the Internet, it can help spread viruses in the real world. Antivaccination tweets, researchers find, spread much faster than those supportive of vaccines.

Biologist and computer scientist Marcel Salathé and colleagues at Pennsylvania State University, University Park, collected almost half a million vaccine-related tweets during the 2009 influenza pandemic and categorized those relevant to flu as positive, negative, or neutral. (Undergrads rated the first 47,143 tweets; then an algorithm took over.) Negative tweets were often retweeted, while positive ones generally weren't, the team reported in a paper published online on 4 April in *EPJ Data Science*. Instead, too much positive sentiment appeared to backfire: Twitter users who received many provaccine tweets sent out more negative messages themselves. Perhaps some held antivaccination views that they didn't express "until they were bombarded with positive messages," Salathé says.

"We are more compelled by fear than by rational thinking," says Paul Offit, director of the Vaccine Education Center at The Children's Hospital of Philadelphia in Pennsylvania. To reach the public, vaccine advocates may have to go negative themselves, he adds—for instance, by tapping into people's fear of losing a child.

Random Sample

Game of Habitable Zones

In the world of *Game of Thrones*, summer can last for years, winter for a generation. Fans have long debated the reason for these unpredictable seasons—and now astronomers at Johns Hopkins University in Baltimore, Maryland, offer a hypothesis: The show's setting may be a world that orbits two stars instead of one.

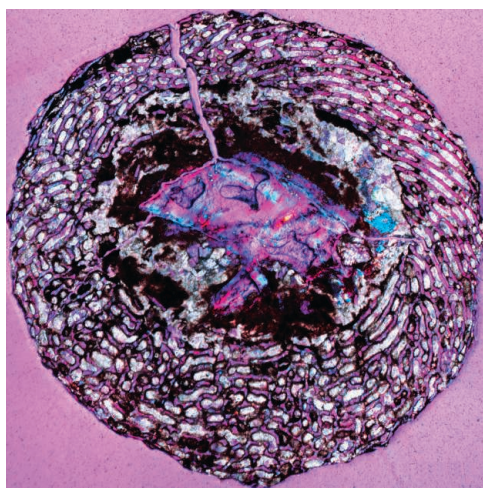
On this hypothetical planet, years last 700 days, and the two sunlike stars orbit each other every 100 days. This complicated dance results in erratic seasons, with winters that can last anywhere from 600 to 850 days. Because the orbit is a three-body problem, predicting the length of the seasons in advance would be impossible for the computerless maesters of Westeros. "With heavy hearts, we conclude that our attempts to provide the good folks of Westeros with a reliable weather forecast are inconclusive," the authors wrote in a paper posted on the arXiv server on 1 April.

Kit Harrington as Jon Snow on *Game of Thrones*.

Other earth scientists are skeptical. The pattern of winters and summers plotted in the paper "doesn't quite seem chaotic enough" to cause the turmoil observed in Westeros, says Stephen Kane, an astronomer at the California Institute of Technology in Pasadena who has studied the habitable zones of exoplanets in such circumbinary orbits. He suggests injecting a bit more chaos by introducing a third star to the system or reimagining the planet as an exomoon orbiting a gas giant. Still, this paper "is on the right path to providing a purely physical explanation" of the Westerosi seasons, he says. "Of course, if there's magic involved, all bets are off."

Tiny Bones, Giant Dinosaurs

Nearly 200 million years ago, one species of sauropodomorph—those long-necked, herbivorous dinosaurs known to grow to great sizes—nested its eggs at a site near what has become southern China's Yunnan Province. Periodically, the nests were destroyed by floods, washing away all but some of the eggs and the tiny bones they contained.



Today, this rare jumble of embryonic bones—some as thin as pencil lead—gives an unprecedented look at dinosaur embryos at various stages of development. Examining cross-sections of 24 different femurs from the species (probably of the genus *Lufengosaurus*), a team led by paleontologist Robert Reisz of the University of Toronto, Mississauga, in Canada observed a high proportion of vascular space inside the bones (pictured), indicating that these embryos grew extremely quickly—faster than any other known dinosaur and all living birds. This rapid embryonic development may have been the key to adult sauropodomorphs' towering physiques, the team reports online this week in *Nature*.

The bone bed is a "spectacular find," because it offers a look at how the species grew over time, something no single embryo can do, says Luis Chiappe, a vertebrate paleontologist at the Natural History Museum of Los Angeles County in California.

Science LIVE

Join us on Thursday, 18 April, at 3 p.m. EDT for a live chat on **genetic privacy**. How safe is your genome? **http://scim.ag/science-live**

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