

SEVEN DAYS

The news in brief

RESEARCH

Lightning records

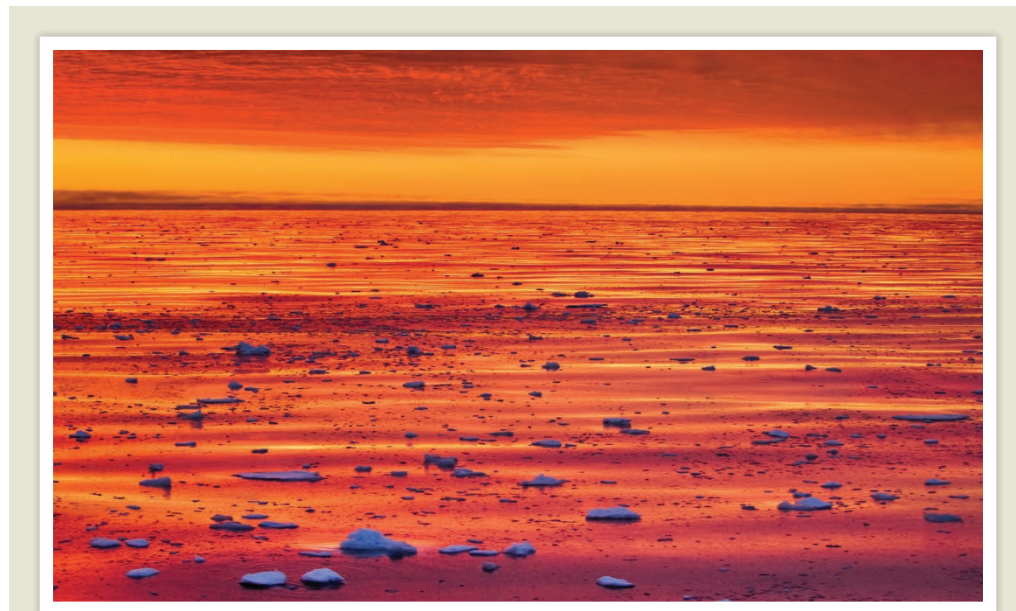
The World Meteorological Organization (WMO) has recognized two world records for extreme lightning: the longest-distance flash covered 321 kilometres in 2007 in Oklahoma, and the longest-duration flash lasted 7.74 seconds in southern France in 2012. The WMO has added lightning records, announced on 16 September, to its list of other weather extremes — such as temperature and precipitation — given the improved monitoring of the phenomenon in recent years.

Terror discovered

Marine archaeologists have found the probable remains of HMS *Terror*, the second of two ships lost in a failed 1845 Arctic expedition led by John Franklin. Following a tip from an Inuit crew member, a search party from the Arctic Research Foundation, a Canadian charity, found the submerged vessel in the aptly named Terror Bay, on the coast of Canada's King William Island. The wreck was in good condition with its hatches closed, suggesting that crew members abandoned it and boarded Franklin's second ship, HMS *Erebus* to sail farther south. The *Erebus* was later abandoned and all 129 expedition members lost. Parks Canada said on 14 September that it aims to validate the find.

Dystrophy drug

The US Food and Drug Administration has approved its first drug to treat Duchenne muscular dystrophy. The decision, announced on 19 September, is controversial owing to the small size and lack of a placebo control in the key clinical trial conducted by the developer, Sarepta



FRANS LANTING/NGC

Arctic ice cover hits second-lowest level

Despite a relatively cold and cloudy summer, sea ice in the Arctic Ocean dropped to its second lowest extent since satellite observations began 37 years ago. Arctic sea ice seems to have reached its seasonal minimum on 10 September, according to the National Snow and Ice Data Center (NSIDC)

in Boulder, Colorado. Ice cover stood at 4.14 million square kilometres, which ties with 2007 as the second-lowest minimum in the satellite record. The ten lowest extents have all occurred since 2005. In September 2012, Arctic sea-ice cover dropped to a record-low 3.39 million square kilometres.

Therapeutics in Cambridge, Massachusetts. The agency will require Sarepta to conduct another study to verify the effects of the drug, eteplirsen.

Gaia reveals

The European Space Agency released the largest, most detailed star map yet of the Milky Way on 14 September, in the first data release from its Gaia space observatory. The data suggest that the Milky Way is slightly bigger than previously estimated. See page 459 for more.

PEOPLE

New GSK chief

GlaxoSmithKline (GSK) will become the only major global drug firm to be led

by a woman. The company announced on 20 September that Emma Walmsley, head of its consumer-health-care division, will replace Andrew Witty as the company's chief executive. Witty, one of the biggest names in the industry, will stand down in March 2017.

Cosmic upgrade

The Pierre Auger Observatory, a facility spread over 3,000 square kilometres in Argentina that aims to reveal the origins of ultra-high-energy cosmic rays, began a US\$14-million upgrade on 15 September. The improvements should enable it to tell apart different types of cosmic ray. Sensors called scintillators are being added

to each of the observatory's Cherenkov detectors (water tanks) to measure the ratio of electrons and muons that rain down when a cosmic ray hits the atmosphere above. That, in turn, will improve estimates of the mass of the particles that make up these rays.

BUSINESS

Agriculture merger

Agricultural biotech giant Monsanto has accepted a US\$66-billion takeover bid by Bayer, a health-care and chemical company in Leverkusen, Germany. The deal, announced on 14 September, could reshape the agricultural technology industry, which has recently seen the consolidation of

VCG/GETTY

several large companies. The combined firm will be headquartered in St Louis, Missouri, and have a research-and-development budget of about €2.5 billion (US\$2.8 billion). The deal has yet to be approved by regulators and Monsanto shareholders, but is expected to be finalized by the end of 2017.

EVENTS

Nuclear go-ahead

The UK government approved the building of an £18-billion (US\$23-billion) nuclear power plant at Hinkley Point in southwest England on 15 September, seven weeks after it put a surprise break on the project. The government had said that it needed time to review the deal, which is being funded two-thirds by French energy company EDF and one-third by China. Hinkley Point C will be the first new UK nuclear plant this century, and it is expected to meet 7% of UK electricity demand. The government says that it has imposed national-security safeguards on the deal.

Chinese space lab

China has launched its second orbiting space lab — marking another step towards the country's goal of building a space station by the early 2020s. Tiangong 2 (meaning 'heavenly palace') launched



on a Long March rocket from the Jiuquan Satellite Launch Center in the Gobi desert on 15 September (pictured). It will initially fly uncrewed in low-Earth orbit, but a planned second launch will carry two astronauts to it in November. The 8-tonne module carries several scientific experiments, including a γ -ray detector.

POLICY

Trial transparency

Long-awaited US rules intended to crack down on the large number of clinical trials that are never reported were released on 16 September. The US Department of Health and Human Services (HHS) will require that researchers report the design and results of all clinical trials, and those who do not comply can be penalised. And the US National Institutes of Health (NIH) is imposing new rules on agency-funded work, including stricter reporting

requirements for phase I trials. Both sets of laws go into effect in January. Separately, US vice-president Joe Biden announced that the NIH has developed a user-friendly registry for cancer trials. See page 450 for more.

Value science

Science should be valued more highly in international decision-making, argues a United Nations report released on 18 September. Prepared by the UN Scientific Advisory Board, the report says that policymakers should consider the role of science in policy and society more seriously when addressing issues such as sustainable development, climate change, food and water security and inequality. It also recommends that nations invest a greater fraction of gross domestic product in science, technology and innovation.

State of the EU

Research stands to do well out of the European Commission's mid-term review of its budget for 2014–20. The review, released on 14 September, proposes freeing up €6.3 billion (US\$7 billion) from budget reserves and other sources for programmes that foster job creation and address the refugee crisis. The Commission proposed allocating €400 million to top up its Horizon 2020

COMING UP

30 SEPTEMBER

The European Space Agency's Rosetta craft crash-lands on comet 67P/Churyumov-Gerasimenko.

27 SEPTEMBER–7 OCTOBER

The International Civil Aviation Organization discusses aircraft emissions at its summit in Montreal, Canada. go.nature.com/2d1bmt

research-funding programme, and €200 million to strengthen its student exchange scheme Erasmus+. It also promised to unwind some of the red tape that comes with its grants. The proposals require approval by the European Parliament and Council of Ministers.

AWARDS

Million-dollar prize

The first winners of a set of US\$1-million prizes awarded for research done in China were announced on 19 September. The Future Science Prize for life sciences was awarded to pathologist Yuk Ming Dennis Lo at the Chinese University of Hong Kong for the discovery that DNA from a fetus can be extracted from the mother's blood, and for the non-invasive prenatal test it enabled. Qi-Kun Xue at Tsinghua University in Beijing won the physics prize for discovering experimentally the quantized anomalous Hall effect (an unusual motion of electrons in a conductor at low temperature) and high-temperature superconductivity at material interfaces. The prizes, billed in Chinese media as 'China's Nobels', are funded by Robin Li, head of China's Internet giant Baidu, and other business executives.

NATURE.COM

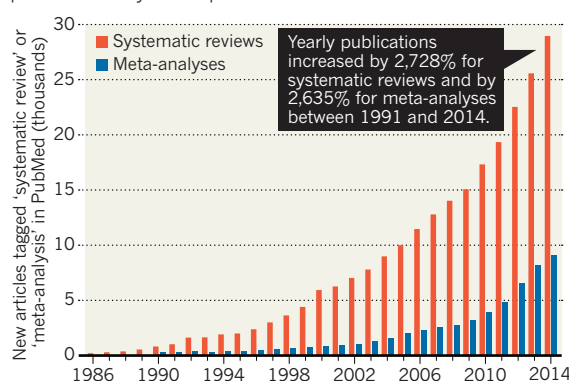
For daily news updates see:
www.nature.com/news

TREND WATCH

Systematic reviews and meta-analyses distil articles on similar research into what is meant to be an authoritative take on a topic. But valuable work is being diluted by a torrent of "unnecessary" articles, according to a report by a leading meta-researcher. The number of such studies added to PubMed each year is more than 27 times what it was in 1991 (J. P. A. Ioannidis *Milbank Q.* **94**, 485–514; 2016). The increase might stem from articles intended to increase citations, or to serve as marketing tools, the report says.

META MASS PRODUCTION

The number of systematic reviews and meta-analyses published each year has proliferated since 1986.



A systematic review analyses and compiles all papers, and sometimes unpublished work, on a topic. A meta-analysis is a systematic review that combines data from multiple papers.

SOURCE: J. P. A. IOANNIDIS *MILBANK Q.* **94**, 485–514 (2016)

CORRECTION

The item 'Nuclear go-ahead' (*Nature* **537**, 455; 2016) should have said that Hinkley Point C is expected to supply 7% of UK electricity — not energy — demand.