

# SEVEN DAYS

The news in brief

## POLICY

### Marine reserves

US President Barack Obama said on 17 June that he wants to expand the Pacific Remote Islands Marine National Monument, near Hawaii, from 225,000 square kilometres to around 2 million square kilometres. Meanwhile, another large marine reserve, the Phoenix Islands Protected Area in Kiribati, will close to commercial fishing by the end of the year, Kiribati's President Anote Tong said on 16 June. The area is an important spawning ground for tuna.

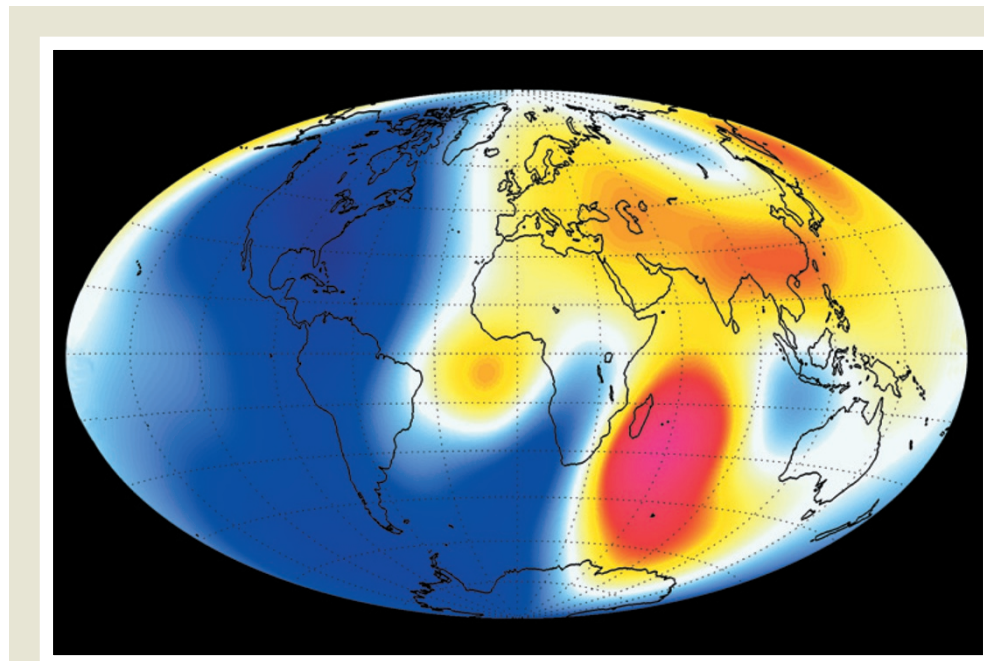
## PEOPLE

### Research fraud

A scientist who faked HIV vaccine data was charged by US prosecutors on 19 June with making false statements. Dong-Pyou Han, a former researcher at Iowa State University in Ames, had already been found guilty of misconduct by the US Department of Health and Human Services' Office of Research Integrity and banned from working with US government agencies for three years, beginning in November 2013. Han was found to have added antibodies to blood from rabbits that had been given an experimental HIV vaccine, making it seem as if the vaccine had generated an immune response against the virus.

### Chemist fined

Patrick Harran, a chemist at the University of California, Los Angeles, has been ordered to pay US\$10,000 to the burns unit where research assistant Sheharbano Sangji was treated but died in 2009 after a chemical fire while working in Harran's lab. The fine is part of a deferred-prosecution deal reached on 20 June, which will probably spare Harran a public trial and jail time. Harran was



DTU SPACE/ESA

## Satellites show magnetic field in decline

The first images from Europe's three-satellite Swarm constellation show that Earth's magnetic field is weakening on average by about 5% every century. The magnetic field shields Earth from charged particles emitted by the Sun. The blue areas in the image, released by the European Space Agency on 19 June, show where the field is weakening, most dramatically, in the Western

Hemisphere. The yellow and red areas indicate where the field is strengthening — notably, over the Indian Ocean. The measurements, collected from January to June 2014, also confirm the movement of the north magnetic pole from Canada across the Arctic towards Siberia. Scientists will continue to analyse the data to understand why the magnetic field is weakening.

charged in 2011 with "willful violation of an occupational safety and health standard causing the death of an employee". See [go.nature.com/vpdwvz](http://go.nature.com/vpdwvz) for more.

## RESEARCH

### Vanishing waves

Scientists who claimed to have seen gravitational waves in the Big Bang's afterglow now admit that dust may be getting in the way (P. A. R. Ade *et al. Phys. Rev. Lett.* **112**, 241101; 2014). In March, a team operating the BICEP2 telescope at the South Pole said that it had seen evidence of gravitational ripples from a period of rapid

expansion just after the Big Bang (see *Nature* **507**, 281–283; 2014). But critics said that the telescope might have been confused by dust floating inside the Milky Way. See [go.nature.com/f6fnbo](http://go.nature.com/f6fnbo) for more.

### HIV prevalence

Epidemics of HIV infection in people who inject drugs are flourishing in one-third of the 23 Middle Eastern and North African countries, finds the first large study on this region. The data, published on 17 June, show that, in some places, HIV prevalence among injecting drug users is among the highest in the world (G. R. Mumtaz *et al. PLoS Med.* <http://doi.org/10.1371/journal.pmed.1001401>).

For example, in Tripoli, Libya, more than 87% of injecting drug users are infected. There are around 2 injecting drug users per 1,000 adults in the region — a comparable figure to other parts of the world. High-risk behaviour, such as sharing needles, and low rates of condom use could be fuelling the surge, the study says.

## FUNDING

### Graphene boost

Europe's Graphene Flagship collaboration doubled in size on 23 June, when the European Commission announced that 66 new partners would join

SEYLOU/AFP/GETTY

the €1-billion (US\$1.4-billion) initiative. Funding awards for 2014–15 were also announced, with €9 million to be shared by 21 winning proposals. Public and private researchers will work together in the decade-long initiative to commercialize graphene, a one-atom-thick carbon material.

## FACILITIES

## Satellite record

The Russian rocket Dnepr carried 33 satellites into space on 19 June, a record for a single launch. It hauled payloads from 17 nations, including remote-sensing spacecraft for Spain and Kazakhstan; a joint US–Saudi Arabian mission to test technology for gravitational-wave detectors; and two Japanese probes that will monitor the environment around nuclear power plants. The company Planet Labs in San Francisco, California, sent up 11 craft for its planned network of 100 Earth-imaging satellites.

## EVENTS

## Ebola outbreak

West Africa is in the grip of the largest-ever outbreak of disease caused by the Ebola virus, the World Health Organization said on 23 June. Thirty-eight new cases and 16 deaths have been reported from Guinea (pictured) and Sierra Leone



since 14 June, and 19 new cases and 13 deaths from Liberia since 11 June. This brings the official total to 599 confirmed or suspected infections and 338 fatalities since the outbreak began in March. This is the first known Ebola outbreak in West Africa; the virus was first reported in 1976 in the Democratic Republic of the Congo (then Zaire).

## Anthrax exposure

Dozens of scientists working at the US Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, may have been exposed to live *Bacillus anthracis*, the bacterium that causes anthrax, the agency said on 19 June. Scientists did not follow proper procedures to kill the bacteria when preparing them for transportation to other CDC labs. Believing the bacteria harmless, the staff did not wear protective clothing. The labs also may have inadvertently allowed the bacteria to become airborne,

directly exposing about seven employees. Both the CDC and the Federal Bureau of Investigation are looking into the incident, and at least 70 employees are being treated with antibiotics. See page 443 for more.

## BUSINESS

## Patent ruling

The US Supreme Court moved to limit software patents in a ruling issued on 19 June. The case, *Alice Corporation v. CLS Bank International*, was a lawsuit over patents on programs to reduce financial risk in certain transactions. The Supreme Court said that the patents were invalid because they represented abstract ideas, which are not patentable. The decision could limit broad software patents that are fodder for patent trolls, and could have implications for other kinds of patents, including those covering methods for medical diagnosis (see *Nature* 507, 410–411; 2014).

## Personal genetics

The genetic-testing company 23andMe in Mountain View, California, is trying to get regulatory approval for a test it intends to sell direct to consumers. On 20 June, the firm said that the US Food and Drug Administration (FDA) had accepted its application for a report on Bloom syndrome,

## COMING UP

### 30 JUNE–4 JULY

The European Week of Astronomy and Space Science is taking place in Geneva, Switzerland. [go.nature.com/y9tm64](http://go.nature.com/y9tm64)

### 2–9 JULY

Physicists meet at the 37th International Conference on High Energy Physics in Valencia, Spain. [go.nature.com/226uku](http://go.nature.com/226uku)

an inherited condition that causes skin problems, short stature and elevated risk of cancer. The FDA had told 23andMe to stop marketing its tests because the company had not provided information showing that its DNA service is safe and effective.

## AWARDS

## Kyoto prizewinners

This year's ¥50-million (US\$500,000) Kyoto prizes in science have been won by biomedical engineer Robert Langer and mathematician and theoretical physicist Ed Witten. Langer was honoured for pioneering tissue engineering and Witten for advancing superstring theory. The Inamori Foundation in Tokyo announced the awards on 20 June.

## Maths prize

Five people were awarded the inaugural Breakthrough Prize in Mathematics on 23 June. The awards — worth US\$3 million each — were given for work largely at the intersection of pure maths and theoretical physics. They are sponsored by billionaire philanthropists, including Internet entrepreneur Yuri Milner and Facebook co-founder Mark Zuckerberg. See [go.nature.com/yijkrc](http://go.nature.com/yijkrc) for more.

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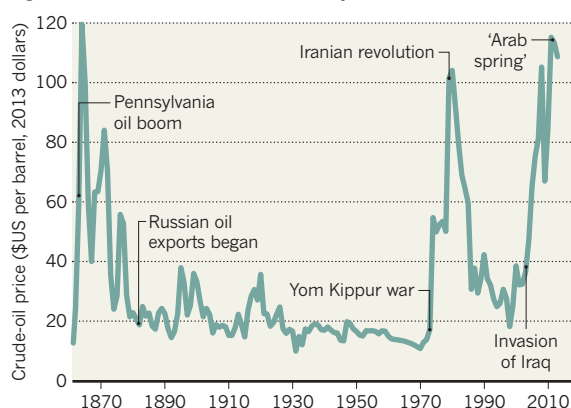
For daily news updates see: [www.nature.com/news](http://www.nature.com/news)

## TREND WATCH

Oil remains the world's dominant energy source, according to the *BP Statistical Review of World Energy*, released last week. Its share has declined steadily, however: from close to 50% of energy consumption by raw (or 'primary') fuel source in the 1970s, to 32.9% in 2013. And its price has remained above US\$100 a barrel for three years, owing to disruptions to supply in the Middle East and Africa. Non-fossil sources crept up to 13.3% of primary energy consumption last year, equal to 1999 levels.

## THE HIGH PRICE OF OIL

Despite huge US production increases, average oil prices are at their highest — in real terms — since the Pennsylvania oil boom of the 1860s.



SOURCE: BP