



Off the rails: a Japanese earthquake last weekend caused the first derailment of a bullet train.

Warning system for quakes still on track, say Japanese experts

Tokyo An earthquake of magnitude 6.8 tore up the western coastal region of Niigata in Japan on the weekend of 23 October. The tremor claimed at least 25 lives, and demonstrated its power by throwing one of Japan's bullet trains from its track — the first derailment since the trains came into service in 1964.

The train fortunately kept travelling in a straight path after derailing, as if it were “driving on an unpaved road”, says earthquake engineer Yutaka Nakamura of Tokyo-based System and Data Research. No one was hurt in the incident.

The derailment has thrown open a debate about the country's early-warning system for earthquakes, which can send out an alert faster than the waves of an earthquake in order to give some areas a vital few seconds of warning (see page 1032). Some critics wonder if such a system is worth the cost if it isn't fast enough to stop a train. But Nakamura, who helped to develop the system, points out that it is also critically useful to slow it down.

In this instance, the train slowed from 216 km h⁻¹ to 200 km h⁻¹ in its few seconds of warning. Although that may seem trivial, it is estimated to have cut 10% from the distance the train travelled after derailing — from 2.2 km to 2 km. This could in some instances prove life-saving, engineers believe.

Report calls for transgenic label on US maize exports

San Diego Transgenic maize imported into Mexico should be ground up and labelled as genetically modified (GM), according to a panel of scientists advising North American governments on trade issues.

This move would prevent the accidental flow of genes between GM crops and natural maize varieties, they say. The

United States and Canada currently export millions of tonnes of transgenic maize to Mexico.

The recommendation has been made to officials with the Commission for Environmental Cooperation, a body within the North American Free Trade Agreement. Scientists on the panel say they are frustrated by delays in publishing the report; it is now scheduled for release in mid-November, after the US presidential election. But the environmental group Greenpeace secured a confidential copy of the panel's recommendations and released them on 18 October, hoping to spur faster consideration of the advice.

A spokeswoman for the US Environmental Protection Agency said the panel's recommendations were flawed and in need of more rigorous peer review.

Russia gives green light to climate treaty

Munich The Kyoto Protocol on climate change can finally come into force, following a positive vote on 22 October by the Russian parliament. The protocol, drafted in 1997, will become a binding international agreement 90 days after Russia formally informs the United Nations of its ratification. This is expected to happen in the next few weeks.

Russia is the thirty-sixth industrialized country to agree to cut its emissions of six greenhouse gases, including carbon dioxide, by at least 5% below 1990 levels between 2008 and 2012. The United States and Australia have said that they do not intend to ratify the protocol.

Russia's decision ends a year-long debate (see *Nature* 431, 12–13; 2004). Environmental and scientific groups worldwide have hailed the move as a major breakthrough in international climate-change mitigation efforts, although most agree that more needs to be done to stem global warming.

Dozy jellyfish sink to a deep sleep

Sydney Jellyfish have been spotted ‘sleeping’ on the sea floor. Jamie Seymour's research team at James Cook University in Cairns, Australia, observed this behaviour by glueing radio-transmitters to box jellyfish (*Chironex fleckeri*) in the wild. From mid-afternoon until dawn, the team noticed, the jellyfish lay motionless (see picture). “They go completely catatonic,” says Seymour.

Seymour had seen box jellyfish napping in his lab before, but he assumed this was a quirk caused by the stress of captivity. No other jellyfish have been seen to sleep in tanks — though this may be a result of the unnatural environments found in aquaria.

Many sea animals, including fish, have

Schering stocks up with stem cells in Japan

Kobe In a vote of confidence for Japan's emerging biotechnology industry, Berlin-based company Schering has opened a research division in Kobe's biomedical park.

Major investment by foreign companies in Japan's biomedical industry is rare, but Günter Stock, a member of Schering's board of directors, says it is a wise move for the company. “The field of stem-cell biology could well first bear fruit in Asia,” he says. The company estimates that the centre will have an annual operating cost of about €10 million (\$12.8 million); it kept set-up costs down to €8 million by renting pre-existing research facilities.

The opening was celebrated with a two-day workshop on regenerative medicine, featuring presentations from several stars of the neighbouring Center for Developmental Biology. Stock says centres like these should provide fertile grounds for collaborations.

Home helpers chip in to the rise of the robots

Paris Robots haven't quite taken over, but their numbers are steadily increasing, according to a survey by the United Nations Economic Commission for Europe and the International Federation of Robotics.

Nearly a million industrial robots are now in service, according to the World Robotics 2004 survey. In the car-manufacturing industry, Japan and some European countries now employ one robot for every ten workers. Household robots are on the rise as well — about 600,000 autonomous lawn-mowers and vacuum-cleaners are in use, the report says.

The market for speciality robots — for use under water, in surveillance or demolition work, or for medical purposes, for example — is projected to increase several-fold over the next few years, thanks to falling prices.



periods of rest. The researchers say that sleeping makes sense for predators such as the box jellyfish, which may need a long break to recover after active bouts of hunting.