

## World News Roundup

## Summit

## 'Protect waters'

## US, Chile move on marine parks

VALPARAISO, Chile, Oct 5, (AP): President Barack Obama will declare new marine sanctuaries in the tidal waters of Maryland and Wisconsin's Lake Michigan Monday, while Chile is expected to block off a more than 200,000 square miles of sea from commercial fishing and oil and gas exploration in an area of the Pacific Ocean near the world-famous Easter Island.



Obama

The announcements were to be made when top officials, including US Secretary of State John Kerry, attend an international conference on marine protection in the Chilean port city of Valparaiso on Monday. There, several nations also will outline plans for tracing seafood imports to combat overfishing and stem increased pollution in the ocean.

The new protected waters in the United States are the first to be designated as such in 15 years, the White House said in a statement.

The 875-square mile area of Lake Michigan extends from Port Washington to Two Rivers, containing a collection of 39 known shipwrecks. Fifteen are listed on the National Register of Historic Places.

The Malloes Bay-Potomac River in Maryland encompasses a 14-square mile area of the tidal Potomac River next to Charles County. Nearly 200 vessels, some dating back to the Revolutionary War, are found in the largely undeveloped area that provides habitat for endangered species of wildlife and fish.

## Actions

The actions are the latest in a series of environmental steps by Obama, who last year set aside some 400,000 square miles of the central Pacific Ocean from commercial fishing, deep sea mining and other forms of resource extraction. The Pacific Remote Islands Marine National Monument is now the largest marine reserve in the world.

Chile was set to make a similarly ambitious declaration, cordoning off a large area of the South Pacific Ocean.

In a videotaped message to conference participants, Obama noted that he grew up in Hawaii and Indonesia and said he always has had "a special love for the ocean and I've always had a firsthand understanding of just how essential they are to our people's way of life."

"Our economies, our livelihoods and our food all depend on our oceans," he said, "and yet we know that our actions are changing them. Greenhouse gas emissions are making our seas warmer and more acidic. Marine pollution harms fish and wildlife, affecting the entire food chain. Illegal fishing depletes the world's fisheries."

Obama said that his administration already has taken "serious steps" to curb carbon pollution and protect waters, and his actions Monday further that effort.

"These actions will protect waters of historic and natural importance, and in the coming months I will look for opportunities to protect even more of our waters," Obama announced.

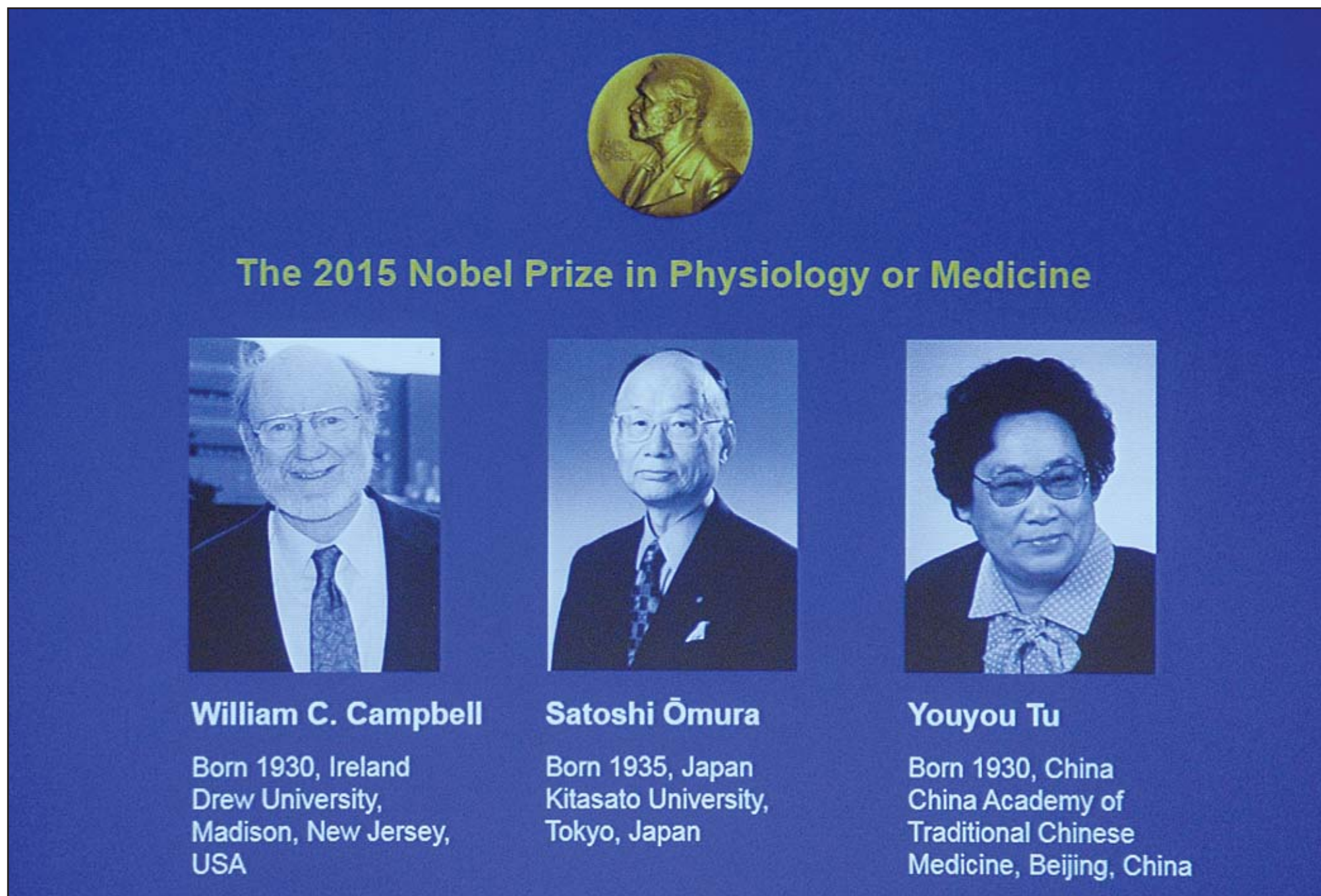
## Designate

A coalition of local politicians and environmental groups has urged Chilean authorities to designate Easter Island, celebrated for its hundreds of human statues carved out of volcanic rock, and the surrounding waters as a protected marine reserve. President Michelle Bachelet vowed last week that such action would come "soon," and campaigners said the announcement Monday would create the third-largest protected zone worldwide.

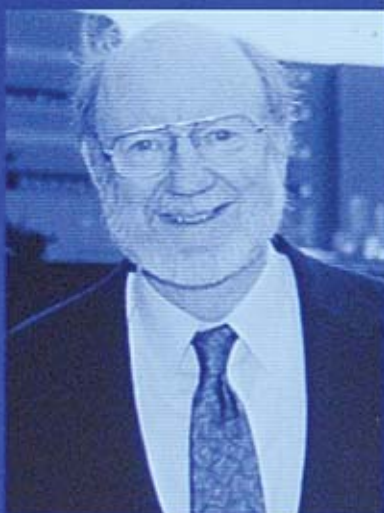
Britain, Gabon, Kiribati, New Zealand and Palau have taken steps as well to protect sections of the sea in recent months.

The "Our Ocean" conference also seeks to combat marine pollution resulting from discarded plastics and increasing levels of ocean acidification, which damages coral reefs and shellfish populations. Such concerns are shared by the US which imports 90 percent of the fish it consumes, and Chile, whose coastline of almost 2,500 miles is vital to the economy.

To combat overfishing, the Obama administration said it would launch a global initiative it dubbed "Sea Scout" to identify unregulated and unreported activity, and help prosecute illegal fishing organizations. The National Oceanic and Atmospheric Administration is expanding a program for detecting boats that use lights to attract fishery catch at night and will implement it in Indonesia, the Philippines and three other countries next year.



## The 2015 Nobel Prize in Physiology or Medicine



William C. Campbell

Born 1930, Ireland  
Drew University,  
Madison, New Jersey,  
USA



Satoshi Omura

Born 1935, Japan  
Kitasato University,  
Tokyo, Japan



Youyou Tu

Born 1930, China  
China Academy of  
Traditional Chinese  
Medicine, Beijing, China

The portraits of the winners of the Nobel Medicine Prize 2015 (left to right), Irish-bor William Campbell, Satoshi Omura of Japan and China's Youyou Tu are displayed on a screen during a press conference of the Nobel Committee to announce the winners of the 2015 Nobel Medicine Prize on Oct 5, at the Karolinska Institutet in Stockholm, Sweden. (AFP)

## Nobel

## Medicine prize goes to Japanese, Chinese and Irish scientists

## Beating parasites wins 3 Nobel awards

STOCKHOLM, Oct 5, (Agencies): Three scientists from the US, Japan and China won the Nobel Prize in medicine on Monday for discovering drugs to fight malaria and other tropical diseases that affect hundreds of millions of people every year.

The Nobel judges in Stockholm awarded the prestigious prize to William Campbell, who was born in Ireland and became a US citizen in 1962, Satoshi Omura of Japan and Tu Youyou — the first-ever Chinese medicine laureate.

Campbell and Omura were cited for discovering ivermectin, derivatives of which have helped lower the incidence of river blindness and lymphatic filariasis, two diseases caused by parasitic worms that affect millions of people in Africa and Asia.

Tu discovered artemisinin, a drug that has helped significantly reduce the mortality rates of malaria patients.

"The two discoveries have provided humankind with powerful new means to combat these debilitating diseases that affect hundreds of millions of people annually," the committee said. "The consequences in terms of improved human health and reduced suffering are immeasurable."

River blindness is an eye and skin disease that ultimately leads to blindness. About 90 percent of the disease occurs in Africa, according to the World Health Organization.

Lymphatic filariasis can lead to swelling of the limbs and genitals, called elephantiasis, and it's primarily a threat in Africa and Asia. The WHO says 120 million people are infected with the disease, without about 40 mil-

lion disfigured and incapacitated.

Campbell, 85, is a research fellow emeritus at Drew University in Madison, New Jersey. Omura, 80, is a professor emeritus at Kitasato University in Japan and is from the central prefecture of Yamanashi. Tu, 84, is chief professor at the China Academy of Traditional Chinese Medicine.

## Surprise

Campbell, a retired scientist who spent 33 years at pharmaceutical company Merck and now lives in North Andover, Massachusetts, said the award came as a huge surprise.

"It was a great team effort by the people at Merck and Company," Campbell said.

Omura wondered whether he deserved the prize.

"I have learned so much from microorganisms and I have depended on them, so I would much rather give the prize to microorganisms," Omura told Japanese broadcaster NHK.

Omura isolated new strains of Streptomyces bacteria and cultured them so that they could be analyzed for their impact against harmful microorganisms, the Nobel committee said.

Campbell showed that one of those cultures was "remarkably efficient" against parasites in animals. The bioactive agent was purified and modified to a compound that effectively killed parasitic larvae, leading to the discovery of new class of drugs.

Tu turned to herbal medicine to discover a new anti-malarial agent, artemisinin (pronounced ar-tuh-MHS'-ih-n-ih-n), that was highly effective against malaria, a disease that was on the rise in the 1960s, the committee

said.

Malaria is a mosquito-borne disease that still kills around 500,000 people a year, mostly in Africa, despite efforts to control it.

Colin Sutherland, reader in parasitology at London School of Hygiene and Tropical Medicine, said that the impact of artemisinin had been profound. It's so widely used across the world that there's a risk of resistance problems.

"The writing is on the wall already. We probably have about five to 10 years of effective use of artemisinins before resistance becomes a problem," he said.

The WHO says artemisinin resistance has already been confirmed in Cambodia, Laos, Myanmar, Thailand and Vietnam.

The last time a Chinese citizen won a Nobel was in 2012, when Mo Yan got the literature award. But China has been yearning for a Nobel Prize in science. This was the first Nobel Prize given to a Chinese scientist for work carried out within China.

"This is indeed a glorious moment," said Li Chenjian, a vice provost at prestigious Peking University. "This also is an acknowledgement to the traditional Chinese medicine, for the work began with herbal medicine."

The medicine award was the first Nobel Prize to be announced. The winners of the physics, chemistry and peace prizes are set to be announced later this week. The economics prize will be announced next Monday. No date has been set yet for the literature prize, but it is expected to be announced on Thursday.

The winners will share the 8 million

Swedish kronor (about \$960,000) prize money with one half going to Campbell and Omura, and the other to Tu. Each winner will also get a diploma and a gold medal at the annual award ceremony on Dec 10, the anniversary of the death of prize founder Alfred Nobel.

Last year's medicine award went to three scientists who discovered the brain's inner navigation system.

Three scientists from Japan, China and Ireland whose discoveries led to the development of potent new drugs against parasitic diseases including malaria and elephantiasis won the Nobel Prize for Medicine on Monday.

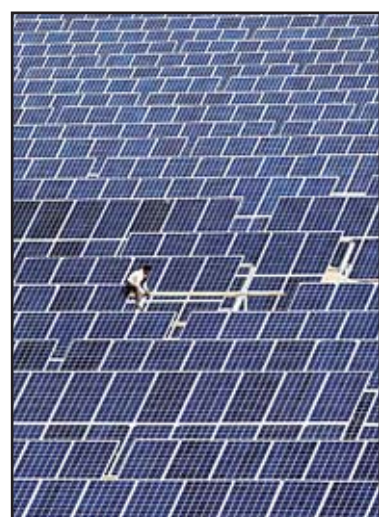
Irish-born William Campbell and Japan's Satoshi Omura won half of the prize for discovering ivermectin, a derivative of which has been used to treat hundreds of millions of people with river blindness and lymphatic filariasis, or elephantiasis.

Some 3.4 billion people, most of them living in poor countries, are at risk of contracting the three parasitic diseases.

"These two discoveries have provided humankind with powerful new means to combat these debilitating diseases that affect hundreds of millions of people annually," the Nobel Assembly at Sweden's Karolinska Institute said.

"The consequences in terms of improved human health and reduced suffering are immeasurable."

Today, the medicine ivermectin, a derivative of ivermectin made by Merck & Co, is used worldwide to fight roundworm parasites, while artemisinin-based drugs from firms including Novartis and Sanofi are the main weapons against malaria.



In this photograph taken on Aug 23, an Indian labourer works on panels at the Roha Dyechem solar plant at Bhadla some 225 kms north of Jodhpur in the western Indian state of Rajasthan. Under a blistering sun, workers install a sea of solar panels in a north Indian desert as part as of the government's clean energy push - and its trump card at upcoming climate change talks in Paris. (AFP)



Lamb



Steve

## Discovery

**NASA consults sub force:** As NASA contemplates a manned voyage to Mars and the effects missions deeper into space could have on astronauts, it's tapping research from another outfit with experience sending people to the deep: the US Navy submarine force.

The space agency is working with a military laboratory at the submarine base in Groton, Connecticut, to measure how teams cope with stress during month-long simulations of space flight.

While one travels through outer space and the other the ocean's depths, astronauts and submariners face many of the same challenges. Isolated for long stretches of time, they rely on crewmates for their lives in remote, inhospitable environments.

"We have a shared interest with the Navy in team resilience," Brandon Vessey, a scientist with NASA's human research program, told The Associated Press.

"When you stick people together for a long period of time, how are they going to do?"

The Navy research that piqued NASA's interest started about five years ago when the Groton-based Naval Submarine Medical Research Laboratory, at the request of the submarine force, began examining ways to make tactical teams work together better. Through observation of submarine crews, the Navy scientists developed a way to evaluate how teams are performing. The study singled out important team practices including dialogue, critical thinking and decision-making and developed a way to assess how teams respond to setbacks. The research was made available more than a year ago to submarines' commanding officers, but it has not yet been institutionalized by the Navy.

"If this tool can identify precursors of when a team is about to change, that's particularly what we're hoping for," said Jerry Lamb, the lab's technical director.

The experiment with NASA is expected to begin in January or February. The space

agency is taking a bigger interest in human behavior issues as it pursues the capability to send humans to an asteroid by 2025 and to Mars in the 2030s.

NASA is using a capsule about the size of a two-bedroom apartment at the Johnson Space Center in Houston to study how astronauts might perform and behave during lengthy missions. Four volunteers at a

time live and work for 30 days at a time aboard the habitat, known as the Human Exploration Research Analog, which includes an airlock and is supported by a small version of mission control. (AP)

Post-apocalyptic 'beaver' thrived:

The world had been wrecked. An asteroid

impact in Mexico compounded by colossal volcanism in India 66 million years ago had killed about three-quarters of Earth's species including the dinosaurs.

But relatively soon afterward, a plucky critter that looked like a beaver was thriving, exemplifying the resilience of the mammals that would arise from the margins of the animal kingdom to become

Earth's dominant land creatures.

Scientists on Monday announced the discovery in northwestern New Mexico's badlands of the fossil remains of Kimbetopsalis simmonsae, a plant-eating, rodent-like mammal boasting buck-toothed incisors like a beaver that lived just a few hundred thousand years after the mass extinction, a blink of the eye in geological time. Kimbetopsalis, estimated at 3 feet long (1 meter), would have been covered in fur and possessed large molar teeth with rows of cusps used to grind down plants.

Asked what someone's impression of Kimbetopsalis might be, New Mexico Museum of Natural History and Science curator of paleontology Thomas Williamson said, "They would probably think something like, 'Hey, look at that little beaver! Why doesn't it have a flat tail?'"

It lived in a lush area of forests, rivers, streams and lakes as Earth's ecosystems began to recover from the catastrophe that ended the Cretaceous Period and opened the Paleocene Epoch. "It's larger than almost all of the mammals that lived with the dinosaurs, and also had a plant-eating diet, which few if any dinosaur-living mammals had."

It shows just how quickly mammals were evolving in that brave new world after the asteroid cleared out the dinosaurs," said paleontologist Steve Brusatte of Scotland's University of Edinburgh. "Mammals, which actually originated hundreds of millions of years earlier at the same time as the dinosaurs, now found themselves in an empty world, and they took advantage," Brusatte added. (RTS)



This Nov 15, 2013 photo released by NASA shows the three-story Human Exploration research Analog habitat at the Johnson Space Center in Houston. The space agency, which is contemplating a future journey to Mars, is working with a military laboratory at the submarine base in Groton, Conn, to measure how teams handle stress during month-long simulations of space flight. (AP)

## Rocket spaceflight was proposed in 1861: expert

BURLINGTON, Ontario, Oct 5, (AP): Rocket-based spaceflight was proposed 30 years earlier than previously thought by a Canadian university head, a space historian says. Historian Robert Godwin says William Leitch of Queen's University in Kingston, Ontario, accurately described the concept of reaching space by rocket in 1861.

Previous histories of spaceflight credited Russian Konstantin Tsiolkovsky and American Robert Goddard with the first scientific proposals of rocket-powered space travel in the late 1800s. Both claimed science-fiction author Jules Verne as their inspiration. Godwin says Leitch published his thoughts four years before Verne's famous "space gun" in "From the Earth to the Moon."