

Canadian Press

System needed to monitor oceans' vital stats, warn of disasters: scientists

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A mother and her daughter stand in flood waters which submerged theirs and other homes in Badin district, 100 kilometers (62 miles) northeast of Karachi, Pakistan on Tuesday, August 5, 2003. Scientists are urging governments around the world to invest in a ocean-based system that could provide warnings of droughts, floods and other environmental disasters. THE CANADIAN PRESS/AP-Pervez Anjum

Scientists are urging governments around the world to pour billions of dollars into a high-tech network of devices that would monitor the ocean's vital signs and warn of floods, droughts and other natural disasters.

An international consortium of researchers is in Beijing this week to press for an expanded ocean-based system that could identify salinity, temperature and

anomalies that might alert countries to everything from earthquakes to tsunamis and droughts.

Trevor Platt, a marine biologist with the Partnership for Observation of Global Oceans, said nations need to speed up investment in the system that could cost \$15 billion, but save them from future economic losses.

"Without the proper information, we are powerless to anticipate and prepare for what may come in the future," he said before the start of meetings Wednesday.

"Our best defence is an observing network for the global ocean to warn of trouble."

Platt, a professor at Dalhousie University in Halifax, admitted the system carries a heavy price tag at a time of global economic restraint.

But the marine biologist said such a system would have been helpful in foreshadowing the recent monsoon floods in Pakistan that killed at least 1,500 people, affected 20 million more and could cost up to \$9.5 billion.

The scientists from 38 oceanographic institutions in 21 countries said the system they want in place by 2015 and covering the world would yield continuous data on changes linked to global warming.

That would include physical and chemical variations tied to climate change, Platt said, citing recent heat waves in Europe, droughts in the U.S. and forest fires in Russia that are all traceable to the oceans.

It's estimated that only about \$1 billion is now being spent on monitoring a fraction of marine ecosystems every year.

Researchers say governments need to direct significant funds into marine study since the ocean surface is 30 per cent more acidic today than it was in 1800, with much of that occurring in the last 50 years.

The rise in acidification, due largely to an increase in atmospheric carbon dioxide, hurts most marine life forms and the coral reefs where many species

live. A recent study found that high acidity was slowing the growth of key plankton central to planetary climate regulation and oxygen production.

"Most ocean experts believe the future ocean will be saltier, hotter, more acidic and less diverse," said Jesse Ausubel, a founder of the global oceans group.

"It is past time to get serious about measuring what's happening to the seas around us."

Platt said that despite pleas dating back to 2007 for the system and rising concerns over the state of the world's oceans, governments aren't moving quickly to get the network in place.

Canada has installed an underwater network of gadgets — called Neptune — off the West Coast that will take continuous measurements on the seafloor. It will identify masses of fish, microbial species and plankton.

It has also invested in a "robotic navy of 3,000 probes" around the world called Argos that measure pressure, salinity and temperature at depths down to two kilometres and transmit readings via satellite.

Other programs have tagged elephant seals, tunas, white sharks and turtles to record the light, depth, temperature and salinity conditions they pass through, while revealing biodiversity hotspots and migratory routes that need protection.

Shubha Satheyendranath, assistant director of the oceans group, said some countries are slowly introducing the technologies, but there is a large gap between rich and poor nations — the latter of which are home to most of the world's seas.

She said tsunami warning systems are improving and cites Japan, which invested \$100 million in a seafloor alert system that could prevent roughly 7,500 deaths and about \$10 billion in economic losses if another major earthquake hits.

"Tsunami warning systems are better, but not as improved as much as we would like," she said from Plymouth, England.

"Much of the capacity for observing the oceans lie in the Northern Hemisphere and most of the oceans are in the Southern Hemisphere."