Press release

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ICSU Pursues New Initiative that Challenges Science to Do More to Prevent Natural Disasters

As part of new research, investigators must address why decision makers either ignore or fail to understand clear evidence risk

Suzhou, China—Responding to a world where natural disasters are increasingly disrupting nations rich and poor—the Asian tsunami, hurricanes on the U.S. Gulf Coast, flooding in Bangladesh, the earthquake in Kashmir—the International Council for Science (ICSU) today approved a new initiative focused on using science to prevent natural hazards from becoming catastrophic events.

"It's time to change the mindset that natural disasters are inevitable," said Gordon McBean, Chair in Policy for the Institute for Catastrophic Loss Reduction at the University of Western Ontario and head of the ICSU Scoping Group on Human-Induced Environmental Hazards. "We can't actually stop hurricanes or tsunamis or other extremes of nature. But if we bring together the right mix of research— work that integrates such disciplines as engineering, climate, health, and social sciences—and find a better way to plug these insights into the policy making process, we can avoid a lot of unnecessary human and economic losses."

McBean said the goal of the initiative, which was presented to ICSU members at their 28th General Assembly in Suzhou, China, is to provide a strong scientific basis for reducing the risks and consequences of natural and human-induced environmental hazards.

The scoping Group's report on natural hazards presented at the conference makes it clear that recent disasters in the US and Asia are not anomalies but are in fact part of a long-term and dramatic increase in natural disasters. Between 1900 and 2000 recorded natural disasters rose from 100 to 2800 per decade, with most of the events being weather related. The report notes that natural hazards now kill, injure or displace millions each year and cause great economic loss. In 2004 natural disasters caused US$140 billion in damage. Events in 2005 are, unfortunately, likely to dwarf that number.

If the ICSU initiative is to make a difference, McBean said it must address two fundamental challenges. On one hand, there is a need for new research that reveals more about why disasters are increasing and precisely pinpoints human activities that can aggravate or mitigate their effect.

But McBean said there is also a communication problem that needs to be addressed. He noted that scientists already have provided strong evidence that natural disasters are a growing threat and have offered advice for specific actions that can be taken to reduce exposure to harm. For example, years before Katrina struck, scientists had provided detailed analyses of the shortcomings of the New Orleans levee system and the dangers posed by the loss of surrounding wetlands

“We have found a lot of evidence that policy-makers may at times act in ignorance or simply disregard relevant scientific evidence of what’s needed to prepare for or prevent devastation from a natural, predictable event like a hurricane,” McBean said. “Why are we removing mangrove swamps from vulnerable coastlines? Why do we continue to see land-use practices around the world that clearly boost the risks of floods, wildfire, and landslides? Why are we not making better use of satellite data to anticipate vulnerabilities?”

McBean said the answer to all these questions is, in part, that societies frequently find it easier to focus on short-terms gains than guard against the potential long-term losses. The challenge to ICSU, he said, is to organize a natural hazards initiative that moves beyond our traditional focus on the physical sciences and addresses how scientific results interact with the policy-making process.

“We need to find new ways to communicate science to decision makers so that they understand how to integrate scientific evidence into their political and policy processes,” he said. “A strong component of this initiative will focus on linking scientific advances to end-users, which include local, regional and national governments and also development agencies and those providing humanitarian assistance.”

The ICSU natural hazards initiative will begin with the establishment of a planning committee of scientific experts from a range of disciplines and backgrounds, who are to design a plan of action to be implemented over the next three years. The goal is to establish an international collaborative research and communications programme that will last for a decade or more.

“The coordinated research that’s needed to understand and reduce the risks of natural hazards plays to ICSU’s strength,” McBean said. “We’re multidisciplinary, our membership is global and we have access to an incredible range of scientific expertise and influential policy makers.”

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