News Release
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Study Shows Escalating Climate Change Impacts on Human Health, the Environment, and the Economy

NEW YORK-November 1, 2005-The Center for Health and the Global Environment at Harvard Medical School, along with co-sponsors Swiss Re and the United Nations Development Programme, today released a study showing that climate change will significantly affect the health of humans and ecosystems and these impacts will have economic consequences.

The study, *Climate Change Futures: Health, Ecological and Economic Dimensions* (CCF), surveys existing and future costs associated with climate change and the growing potential for abrupt, widespread impacts. The study reports that the insurance industry will be at the center of this issue, absorbing risk and helping society and business to adapt and reduce new risks.

"We found that impacts of climate change are likely to lead to ramifications that overlap in several areas including our health, our economy and the natural systems on which we depend," said Paul Epstein, the study's lead author and Associate Director of the Center for Health and the Global Environment at Harvard Medical School.

"A comparable event would be the aftermath of flooding, contamination and homelessness witnessed after Hurricane Katrina hit the US Gulf coast in August," he said. "Analysis of the potential ripple effects stemming from an unstable climate shows the need for more sustainable practices to safeguard and insure a healthy future."

The CCF study is comprised of three primary elements: trends, case studies and scenarios, which detail and analyze current climate change related consequences for human health, ecological systems and the global economy. Through two potential scenarios, the CCF report examines possible impacts of climate change that may impose severe strains on the financial sector.

"As a reinsurance company, our goal is to evaluate and plan for the long-term," said Jacques Dubois, Chairman of Swiss Re America Holding Corporation. The parent

company, Swiss Re, is a leading global reinsurance company and a co-sponsor of the study. Dubois continued, "Swiss Re has an ongoing effort to focus on potential economic impacts of climate change. This study adds to this by helping to review areas of increased vulnerability to climate change from a unique perspective. Whereas most discussions on climate change impacts hone in on the natural sciences, with little to no mention of potential economic consequences, this report provides a crucial look at physical and economic aspects of climate change. It also assesses current risks and potential business opportunities that can help minimize future risks."

There are 10 case studies within the report, written by scientific experts, that outline current effects of climate change with regard to infectious diseases such as malaria, West Nile virus, Lyme disease and asthma; extreme weather events such as heat waves and floods; and ecosystems such as forests, agriculture, marine habitat and water. Economic implications as well as possible near-future impacts are projected for each case.

The study shows that warming and extreme weather affect the breeding and range of disease vectors such as mosquitoes responsible for malaria, which currently kills 3,000 African children a day, and West Nile virus, which costs the US $500 million in 1999.

Lyme disease, the most widespread vector-borne disease, is currently increasing in North America as winters warm and ticks proliferate. The study notes that the area suitable for tick habitat will increase by 213% by the 2080s. The report also finds that ragweed pollen growth, stimulated by increasing levels of carbon dioxide, may be contributing to the rising incidence of asthma.

Charles McNeill, Environment Programme Manager for the United Nations Development Programme, a co-sponsor of the study, pointed out that these costs will fall disproportionately on developing nations.

"While developed nations are not immune to the impacts of climate change, those populations that are already struggling with myriad social challenges will bear the greatest brunt of climate change," said Dr. McNeill.

Background

The CCF project stemmed from a common concern of the Center for Health and the Global Environment at Harvard Medical School, Swiss Re and the United Nations Development Programme. This concern was centered on the emerging threats to health from climate change and the implications of diseases of humans and Earth's life-support systems for economies and development.

Unique aspects of the study include:

- Integration of corporate stakeholders in the assessment process;
- Combined focus on physical, biological and economic impacts;
- Anticipation of short-term impacts, rather than century-scaled projections;
- Scenarios of plausible futures with gradual and step-wise change;
- A framework to deal with and plan for climate-related surprise impacts.

In September 2003, a Scoping Conference for the CCF project was held at the United Nations in New York and involved more than 80 participants from multiple scientific disciplines, corporations, UN agencies and non-governmental organizations. Through the initial deliberations, follow-up workshops and teleconferences, a set of case studies and impact scenarios was developed.

In June 2004, a conference and Executive Roundtable were held at Swiss Re's Centre for Global Dialogue at RŸschlikon near Zurich, Switzerland. This gathering expanded the reach of the project to include more representatives from the financial sector, allowing deeper exploration of the links between health, environmental and economic consequences of the changing climate. Risks and opportunities were addressed, as were policies and measures commensurate with the magnitude of the possible futures envisioned.

In August 2004, a follow-up workshop was facilitated to standardize the methodology for the case studies and scenarios. The resulting study was released today at the American Museum of Natural History.

About the study sponsors

The Center for Health and the Global Environment, Harvard Medical School

Swiss Re

United Nations Development Programme