
Global Change NewsLetter

The following excerpt was taken from the *Global Change NewsLetter*, No. 63, September 2005 by special permission. The *Global Change NewsLetter* is the quarterly newsletter of the International Geosphere-Biosphere Programme (IGBP), which is a programme of global change research, sponsored by the International Council for Science.

“Everybody agrees that the Sun drives the Earth’s climate system,” says Juerg Beer, but “until recently, almost no one believed that the Sun had anything to do with climate change.” In this *NewsLetter*, Juerg Beer discusses solar variability and climate change, while Ulrike Lohmann and Martin Wild discuss the issue of solar dimming—the reduction of solar radiation at the Earth’s surface due to increasing emissions of aerosols from human activity. A related “Science Feature reports on aspects of ACE-Asia, focusing particularly on the impacts of soot and considering whether mitigating soot emissions can help mitigate global warming.”

Readers may go online to view the *Global Change NewsLetter*, at the IGBP website: <http://www.igbp.net>.

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Living on the Edge: the coastal collision course

The following excerpts are taken from articles appearing in the *Natural Hazards Observer*, Volume XXX, Number 2, November 2005 by special permission. It is the bi-monthly periodical of the Natural Hazards Center and covers current disaster issues; new international, national (USA), and local disaster management, mitigation, and education programs; hazards research; political and policy developments; new information sources and websites; upcoming conferences; and recent publications.

The earthquake and tsunami in the Indian Ocean in December 2004 claimed over 240,000 lives across 12 countries and injured, displaced, or otherwise impacted millions, providing a sobering reminder of the importance of strengthening our nation’s disaster resilience.

How should society reduce the inevitable risks of living near the shore? Obviously, we cannot expect people to leave the coasts, but we can expect sound government policies that protect their long-term sustainability and diminish damage to the build environment through mitigation.

Coastal erosion is a national problem; best estimates are that almost 90% of the nation’s sandy beaches are receding. This nearly ubiquitous beach erosion problem is particularly troublesome in that the rate of coastal erosion is about two orders of magnitude greater than the rate of sea-level rise (SLR), so that even small changes of SLR result in significant land loss. The rate of global SLR and the already severe coastal erosion problems witnessed in the twentieth century will be exacerbated in the coming decades.

Growing populations and concomitant beachfront development in the face of rising sea levels and shoreline recession define a coastal collision course. There is also a collision of management philosophy and policies of the three principal federal agencies with statutory authority: the U.S. Army Corps of Engineers, the Coastal Zone Management (CZM) Program administered by the National Oceanic and Atmospheric Administration, and the Federal Emergency Management Agency’s (FEMA) National Flood Insurance Program.

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