

ENCYCLOPEDIA OF NATURAL HAZARDS

Edited by Peter T. Bobrowsky

Few subjects have caught the attention of the entire world as much as those dealing with natural hazards. The first decade of this new millennium provides a litany of tragic examples of such hazards that have affected millions of individuals around the globe. The human losses (some 225,000 people) associated with the 2004 Indian Ocean earthquake and tsunami, the economic costs (exceeding 100 billion USD) of Hurricane Katrina in 2005, the collective social impacts of tragedies experienced during the 2008 Sichuan, China earthquake and landslides, all provide repetitive reminders that we are all but temporary guests occupying a very dynamic planet.

Fewer subjects share the true interdisciplinary dependency that characterizes the field of natural hazards. From geology and geophysics, to engineering and emergency response, to social psychology and economics, the study of natural hazards draws input from an impressive suite of unique and previously independent specializations. Natural hazards provide a common platform to reduce disciplinary boundaries and facilitate a beneficial synergy in the provision of timely and useful information and action on the critical subject matter.

As social norms change regarding the concept of acceptable risk and human migration leads to an explosion in the number of megacities, coastal over-crowding and unmanaged habitation in precarious environments such as mountainous slopes, the vulnerability of people to natural hazards increases dramatically. Coupled with the concerns of changing climates, the subject of natural hazards remains on the forefront of issues that affect all people, nations and environments all the time. At the start of a new decade, in the first few months of 2010 alone a magnitude 7 earthquake near Port au Prince, Haiti killed an estimated 230,000 people, exposed the inadequacies of their infrastructure and emergency response capacity and virtually crippled an entire nation; whereas in contrast a month later a significantly larger magnitude 8.8 earthquake off the coast of Chile provided a sober lesson that those areas with a long history of exposure to natural hazards are indeed much more capable to cope with the consequences of unexpected events. Shortly thereafter the eruptive events from Eyjafjallajökull volcano in Iceland virtually paralyzed air traffic in the United Kingdom and Western Europe for days. Travellers from around the world were impacted and inconvenienced. The economic repercussions were significant and all nations quickly realized how unprepared they are to natural hazards occurring outside of their borders.

The *Encyclopedia of Natural Hazards* effectively captures and integrates contributions from an international portfolio of almost 300 specialists whose range of expertise addresses over 330 topics pertinent to the field of natural hazards. Disciplinary barriers are overcome in this comprehensive treatment of the subject matter. Clear illustrations and colour images enhance the primary aim to communicate and educate. The inclusion of a series of "classic case study" events interspersed throughout the volume provides tangible examples linking concepts, issues and solutions. This treatise will remain a standard reference of choice for many years.

The Editor

Peter Bobrowsky is an Adjunct Professor at the Centre for Natural Hazard Research, Department of Earth Sciences, Simon Fraser University, Canada. With over 30 years of professional experience as an engineering geologist he has worked in Africa, China, India, North America, South America and the Middle East. He served/serves on a number of bodies and organizations: Secretary General of the IUGS, President of the Geological Association of Canada, editorial board for Landslides and Quaternary International, President of the Canadian Quaternary Association and several others.

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