

# ***Earth's Fury: An Introduction to Natural Hazards and Disasters***

by **Robert L. Kovach**, published by Prentice Hall, Englewood Cliffs, New Jersey 07632, ISBN 0-13-042433-1, 214 pages, 1995.

## Review by **Christopher G. Kendall**

This book was written for introductory students to provide them with an overview of natural hazards and their risks. It bridges the gap between an understanding of the probabilistic theory and a technical review of natural hazards and disasters. This text is focused on the natural disasters which excite the human psyche, and includes earthquakes, landslides, hurricanes, droughts, tsunamis, fluvial flooding, and man driven disasters, such as the recent chemical spill at Bhopal. The book provides an exciting text which forms an important starting point from which to gain an understanding the risks of natural disasters. It describes the relationship of basic geological principles, natural hazards and disasters and their mitigation. For instance, it describes volcanoes as geological hazards and how these are assessed and avoided. This is followed by a chapter on earthquakes which discusses the relationship of earthquakes to plate boundaries; the products of earthquakes on the earth's surface; how the magnitude of the earthquake may be measured; how earthquakes may be predicted and possibly controlled or modified; and how some buildings can be engineered to survive earthquakes and some don't (this latter being illustrated with graphic photographs). There is then a chapter on the description of landslides and land movement. This lists case histories that discuss how man can work around these features. Another chapter considers desertification, land degradation, and drought, followed by a discussion of man's role in desertification and, independent of man, the effect of the normal climatic cycle on deserts. The book explains how, while humans cannot alter climatic change, they can modify their own behavior to respond to these changes. The book also considers how hurricanes, tornadoes, and dust devils form, and how man can respond to these features. There is a discussion on tsunamis, their origins and their rate of movement, detection and the steps mankind should take when faced with these events. There are even discussions on icebergs and their danger, a section on river flooding and flood frequency, flash flooding and the effect of man on natural flooding cycles. This latter cites the Nile as an example.

Throughout the book the constant theme is the consideration of how one should modify one's life style and behavior to avoid, or reduce, the effects of natural hazards. These behavioral modifications include recognition that it is commonly impossible to predict the exact timing of natural disasters but some evaluation of the risk can be made, be the event a hurricane, earthquake or river flood. This practical advice on mitigation enhances the value of this book, in conjunction with its straight forward presentation of probabilistic theory to the reader. There are a number of worked problems and reviews which should enable the reader to develop an understanding of hazards and how to perform their own risk analysis.

This book is a practical handbook which contains important information for both students, and government officials, enabling them to assess the potential for the earth to express its fury. On the downside, I think that the author could have referenced his materials more extensively, enabling the readers to move on more directly from the text to literature, so extending the pursuit of a better understanding of specific natural processes and their impact on mankind. This is, however, a clearly written book, which is well illustrated with numerous examples, and it does not insult the reader with too paternalistic view of the subject matter.

hazard. any natural process that threatens human life or property. disaster. events that cause serious injury loss of life and property damage over a limited time and over a specific geographic area. catastrophe. have consequences far beyond the area require huge expenditures time and money for recovery.Â -refers to the large-scale geologic processes that deform earth's crust and produce land forms such as ocean basins, continents, and mountains. -large blocks: plate tectonics -the cycle involves the creation, movement, and the destruction of tectonic plates. The rock cycle. -rocks are aggregates of one or more minerals -largest of geologic subcycles and is linked to all of the other ones -crystalization of molten rock produces produces igneous rocks beneath and on earth's surface.