

**A NEW EDITION OF A BOOK ABOUT  
THE NATURAL HAZARDS, THEIR PREVENTION  
AND PROTECTION**



Millions of victims, much more injured and homeless, great amount of losses and heavy destructions – these are only part of the negative consequences due to the different natural hazards all over the world. Even today – at the beginning of 21 century the humanity still pays the great price to the terrible effects of the natural hazards. There are no places on the Earth, where natural hazards do not disturb the almost everyday life of the humanity.

Almost everywhere in the world the victims and damages strongly depend of the quality of constructions and the ability of the population to combat the disasters. The effectiveness of the emergency planning and execution, the fast and well organized reaction to the negative effects of the disaster are among other important factors influencing the mitigation to the different hazards. The 21<sup>st</sup> century started with a lot of very heavy natural hazards – earthquakes (Japan, 2011, Sumatra, 2004 both with magnitudes larger then 9), tsunamis (2004, 2011 both with heights over going 20–30 meters – victims between 20–30 000 to 200 000–300 000, Palu and Krakatau events in 2018 – more then 10 000 deaths, coronavirus pandemic events, huge forest fires in Australia, California, Spain, etc.).

That's why the new edition of the book “Natural hazards and ecological catastrophes – study, prevention, protection” is extremely useful and knowledgeable. The author – Prof. Garo Mardirossian from the Space Research and Technology Institute of the Bulgarian Academy of Sciences (SRTI-BAS) is well known author with his publications on the natural hazards, risk perception and risk management as he is working hard on the problems of the natural hazards and their effects to the population. This is his 3<sup>rd</sup> edition of his famous book of these topics. All editions have been accepted gratefully by the audience.

In this there are some general topics on the natural hazards, their generation and propagation as well as the physical properties as a base of their abilities to produce negative effects. Many terms like risk, vulnerability, multi risk and preliminary assessment of the consequences and damages are among the initial

items developed at the book. Separately a lot of space is targeted to the ecological catastrophes, man-made wars and their consequences and the geophysical weapons. Step by step the study goes deeper discovering the nature and effects of such events as earthquakes, landslides, cyclones, volcanic eruptions, tsunamis, avalanches, floods, forest fires, thunderstorms, tornadoes, etc. A lot of data about the observed cases, statistics about the victims and the damages, the most extreme cases etc. are under the focus of the author. Special attention is paid to the natural hazards at the territory of Bulgaria. Under discussion are the main parameters generating the negative effects to the population and the infrastructure. Special attention is paid to the prevention and the protection as well to the individual and societal directions. Very useful is the presentation of the abilities of the aerospace technologies about such investigations and observations and their high effectiveness. Completely new chapter is targeted to the aerospace technologies used to the natural disasters identification, development and on Earth effects. Thus supporting the idea that such methodologies could be very effective and useful tool against the natural hazards the book provides a lot of improvements in that direction.

The book is presented well to the readers and illustrated with many schemes, figures and photos. It could be useful to many different specialists – scientists and researchers in the fields of geophysics and ecology, geography and meteorology, etc. as well as to the decision-makers and Civil defence authorities, engineers and land planners, etc. and about the students and pupils from the schools and universities.

The book contains 372 pages, 56 figures, 20 tables, etc. Useful annexes contain the measuring scales about the different natural hazards.

That's why due to its actual content and usefulness and because such books are rare not only for us but also in the world practice, the appearance of the book – by Prof. Mardirossian is a huge event among the scientific community.

Prof. Boyko Rangelov

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