

**A NEW BOOK DEDICATED TO NATURAL DISASTERS AND SPACE METHODS AS A POWERFUL TOOL TO COMBAT THEM\***



Millions of victims, much more left injured and homeless, great material losses and heavy destructions – these are just some of the negative effects of the various natural disasters worldwide. Even today, in the beginning of the 21<sup>st</sup> century, they are taking their heavy toll of human lives and material damages. It is agreed unanimously that such toll and damages strongly depend on the quality of the buildings' construction and the population's preparedness. The effectiveness of emergency planning measures and their enforcement, the quick and well organized response to natural disasters are among the most important factors for successful mitigation of the various natural hazards. This has always been a crucial topic and now, shortly after the end of the UN's Triennium of the Earth, 2007-

2009, the entire world is allocating a lot of resources, developing educational programs and taking active measures to mitigate the calamitous effects of earthquakes, tsunamis, global climate change and all other catastrophic events occurring on the Earth's surface. Five years after the devastating tsunami in the Indian Ocean (The Boxing day event, which took more than 300,000 victims and left more than 1,000,000 people homeless), and while still shocked by the recent calamitous earthquake in Haiti (with estimated human toll of over 70,000 people, not to mention material damages) people are still unable to put up with such big tragedies. Why the scientific community has been silent about these event, which hit so unexpectedly. And when will thy strike again?...

It has become clearer than ever now that humanity is going to experience an increasing number of disasters in the future due to the dynamic Earth. Global climate change, the development of the ozone hole, the El Nino phenomenon and the fast geodynamic events registered by the GPS in the solid earth, as well as the increased urbanization are the main factors which will augment Nature's negative effects on people's everyday life.

Therefore, the newly published book “Natural Hazards and Ecological Catastrophes – Study, Prevention, Protection” is very useful and actual. The author, Prof. Garo Mardirossian from the Space Research Institute of the Bulgarian Academy of Sciences, does not need some special presentation. Well known for his popular scientific books, he is working hard on the problems of natural hazards and their study by aerospace methods and techniques. This is his 5<sup>th</sup> book on the topic, all of them accepted gratefully by the audience.

In the beginning of his last book the author provides some general data about natural hazards, their generation and development and the many physical properties underlying their potential to cause negative effects. Many terms like risk, vulnerability, multi risk and preliminary assessment of consequences are highlighted. Significant attention is paid to ecological catastrophes, war consequences and geophysical weapons. Step by step, the study goes deeper to unveil the nature and effects of such calamitous events as earthquakes, landslides, cyclones, volcanic eruptions, tsunamis, avalanches, floods, wild fires, thunderstorms, tornadoes, etc. Each disaster type is dedicated a separate chapter. The author provides a lot of data for their occurrence, statistics of the victims and the damages, and describes the most extreme cases. Special attention is paid to natural hazards on Bulgarian territory. The main parameters generating the negative effects for the population and the infrastructure are discussed. Special attention is paid to the prevention and protection of the individuals and society. The presentation of the potentials of aerospace technologies for such studies and observations and their high effectiveness is very useful. While supporting the idea that these methodologies could be a very effective tool to combat natural disasters, the book provides a lot of improvements that have been made during the new millennium.

The text is well narrated and illustrated with many schemes, figures and photos. It could be useful to many different specialists – scientists and researchers in the field of geophysics and ecology, geography and meteorology, decision-makers and civil defence servants, engineers and land planners, as well as students from schools and universities. The book contains 372 pages, 56 figures, and 20 tables. It is supplied with annexes containing the measurement scales for the various natural hazards.

The actual content and usefulness of the book alongside with the fact that books on this topic are rarely published both in Bulgaria and abroad make the book of Prof. Mardirossian a major event in our scientific community.

**Assoc. Prof. Dr. Boyko Rangelov**

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