

## ANALYSIS OF SPATIAL AND TEMPORAL DISTRIBUTION OF VOLCANIC ERUPTIONS

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**Summary:** Natural disasters of all kinds (meteorological, hydrological, geophysical, climatological and biological) are increasingly becoming part of everyday life of modern human. The consequences are often devastating, to the life, health and property of people, as well to the security of states and the entire international regions. In this regard, we noted the need for a comprehensive investigation of the phenomenology of natural disasters. In addition, it is particularly important to pay attention to the different factors that might correlate with each other to indicate more dubious and more original facts about their characteristics. However, as the issue of natural disasters is very wide, the subject of this paper will be forms, consequences, temporal and spatial distribution of volcanic eruptions, while analysis of other disasters will be the subject of our future research. In relation to the total number of natural disasters in the period, which amounted to 25.552, geophysical disasters are in the third place according to its frequency – 11,89%. In the first place are hydrological disasters – 37,40%, and the last are biological ones – 11,04%. Volcanic eruptions as geophysical disasters, every day increasingly jeopardize the safety of people and their property. As such, they are beginning to attract more attention of researchers in the field of emergency situations who want to better understand it. Bearing in mind that this is a mass phenomenon, which consists of multiple units, most preferred scientific method for drawing conclusions about the volcanic eruptions is general scientific statistical method. Guided by this fact, the subject of this paper is a descriptive statistical analysis of spatial and temporal distribution of volcanic eruptions in the period from 1900 to 2013 at the global level. In addition, the statistical study was conducted in such a way that in the first step raw (unprocessed) data were taken in «Excel» file form from the international database on disasters (CRED) in Brussels, which were then analyzed in the statistical SPSS data processing. Within the temporal analysis, the distribution of the total number and effects of volcanic eruptions was examined on an annual, monthly and daily basis, with a special focus on the top 5 years by the number of various effects (killed, injured, affected, homeless). On the same principle, within the spatial distribution, total number and the consequences of volcanic eruptions were analyzed by continents and countries, with special emphasis on the top five states in terms of total number and variety of consequences.

**Keywords:** volcanic eruptions, statistical analysis, natural disasters, security, emergency situations.