



Impact of Geological Changes on Regional and Global Economies

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Periods of geological changes such as super continent cycle (300-500 million years), Wilson's cycles (300-900 million years), magmatic-tectonic cycle (150-200 million years), and cycles with smaller periods (22, 100, 1000 years) lead to a basic contradiction preventing forming methodology of the study of impact of geological changes on the global and regional economies. The reason of this contradiction is the differences of theoretical and methodological aspects of the Earth science and economics such as different time scales and accuracy of geological changes. At the present the geological models cannot provide accurate estimation of time and place where geological changes (strong earthquakes, volcanos) are expected. Places of feature (not next) catastrophic events are the only thing we have known. Thus, it is impossible to use the periodicity to estimate both geological changes and their consequences. Taking into accounts these factors we suggested a collection of concepts for estimating impact of possible geological changes on regional and global economies. We illustrated our approach by example of estimating impact of Tohoku earthquake and tsunami of March 2011 on regional and global economies. Based on this example we concluded that globalization processes increase an impact of geological changes on regional and global levels. The research is supported by Russian Foundation for Basic Research (Projects No. 16-06-00056, 16-32-00019, 16-05-00263).