

## GLOBAL GEOLOGICAL CHANGES AND THE FUTURE

"Oil Crisis" in 1973, which was caused by Israeli attack on Egypt, has a deep and indelible effects that are as "global" as terrorists attack on New York Twins in 2001 with subsequent attack Afghanistan and Iraq. In both cases there was a major influence - not only on the world economy, but also on "geoetic" and "geopsychology". If the first case, the consequences have been already mapped. In the second case we are still waiting for inventory of "profits and losses".

After 1973, significantly changed the approach to understanding the limitations of material resources. There is the start of promotion of new technologies aimed at reducing energy consumption. There are developed technologies that can be described as an alternative solution where, for example in the Czech Republic is implemented by a project Utilization of geothermal heat of dry rocks and Slowakei then project Using of geothermal water. Perceived as serious are the vision of the Club of Rome (1968, 1972) and ideas Meadows DH The Limits's Growth (1972). Gradually pushing an idealistic vision of the possibility of sustainable development (SD), ie well-being of people (Gro Harlem Brundtland, 1987) and at the same time, the view that it is necessary to initiate targeted action against global warming caused by anthropogenic influences (UN Intergovernmental Panel on Climate Change, IPCC), which are the main source of carbon dioxide. There is a madness in which the concept of sustainability applies not only to conservation but also for business development, manufacturing, tourism, waste management, etc. .. There are also formed strong and sharp lines of thought antagonistic to trivializing and rejecting existence of global warming, alarming or against the negative consequences of its future. At the same time about climate change without emphasizing their "danger" is dedicated to the publication of the last century, such as E. Huntington, SS Visher (1922, Climatic Changes, Their Nature and causes), Brooks Ch.EP (1926, Climate through the ages, 439 pages), Knoche K. (1930, Klima und Klimaschwankungen, Leipzig, Wissenschaft und Bildung, N.269, 151 s). Serious work is yet Milanković, published in Berlin in 1930 in the journal Astronomische und Mathematisch Klimalehre Theorie der Klimaschwankungen, B. IV, 176 pages. In 1933 he published V.J. Novak total work time in Fluctuations in climate and geological history (Circle Series, the Union of Czechoslovak collection of writings. Mathematics, 192 pages).

The benefit of these publications is that climate change is given in direct connection only and only to geological factors that affect the cyclicity of the climate and the alternation of ice ages and interglacial (glacial and pluvial), which do not occur only in the Quaternary or recent, but throughout geological history. Cyclicity of geological factors is logical and clearly a factor that is crucial contribution reflected in the geological history of the Earth, not only in the tectonic, lithological, geochemical, as well as paleontological, or metalogical or paleohydrogeological.

The popularity of catastrophic theory belongs to the cultural heritage of mankind and starting chilialistic ideas, such as japic extinction learning about the world ending in 2011, when there is still concern about the negative consequences of climate change in the situation where the media and the company remains interested in all sorts of irrational theories cataklismatic of

extinction, which are collectively called the skeptics (World Movement was founded in 1976) as alarmic. These ideas are supported by the entertainment industry, especially the disastrous movies in which man does not destroy nature, but nature (earthquakes, floods, forest fires, a new ice age) humans. Creating a sense of fear comments (Aaron Wildawsky, in Lomborg, *The Skeptical Environmentalist*, 1998, p. 374) as follows: "How strange! The richest, safest civilization with the longest living people, the largest source with the highest degree of understanding of their own technology becomes the most scared in history. "

The main argument for the idea that occurs due to anthropogenic activities have become long-term results of the evaluation of temperature measurement (see Figure 1).

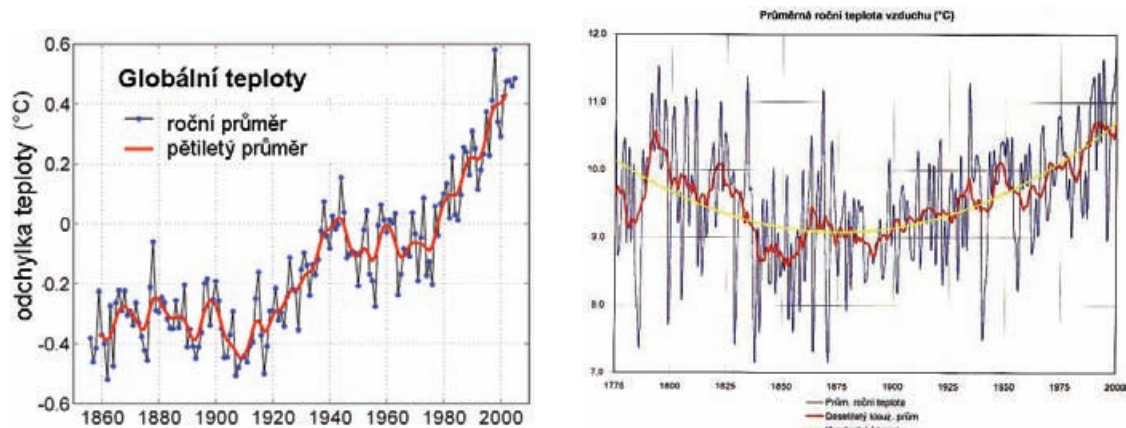


Fig.1 A curve of deviations from the average temperatures as measured by the NASA. Source: Wikipedia

Fig. 2 Average annual air temperature (Prague) Source: <http://www.weather-cz.eu/meteo/opss/klemgr.html>

From this figure, which can we find in a number of publications, comes the main conclusion and that is that since 1910, ie roughly before World War I, there is a gradual warming. Another conclusion is based on results of the evaluation of climatologic stations in Clementinum in Prague (see Figure 2). Figure 2 shows that the gradual cooling of the thermal maxima before 1775 and some lows in 1875, is again an increase in temperature to the maximum before the 1775<sup>th</sup>. It does not show the effect of the microclimate of urban agglomeration, which is significantly over the existence of this channel increased.

Only after 2010, there is a start of returning to the original concepts from the years 1922 to 1926, according to which the main factor influencing climate significantly, the geological and astrophysical processes in the interaction that is changing the rotation speed, synergy antagonistic geological processes, such as the influence of volcanic activity to increase rainfall and thus drift velocity and pulsation of geosinclinals have an impact on geotectonics. Cyclic changes related to the geotectonic movement connected with paradigm of lithospheric plates, where there is a movement of continents and thus the magnetic poles, migration of animals, changes in climatic zones, etc.. then be re-influence on cyclical sedimentation (flysch, varve) and sediment genesis (chemogenic limestone and classical Mn-Ni-Fe nodules, etc.). Considerable critical is also cyclical volcanic emissions of greenhouse gases of natural origin, mainly carbon dioxide, methane, but also water vapor.

These geological factors, which can be described in the spirit of our time as a "global", is attributed to increasingly crucial not only for emissions of carbon dioxide, but creating and shaping the climate. V.E.Chain published in Russia in 2009 a report that became the basis for

the establishment in 2010, an international organization GEOCHANGE (see E. Chalilov, <http://ru.geochange-report.org>), where were published works showing the critical geological changes occurred between 1990 and 1998 (see Figure 3). At that time, the speed of the magnetic pole has increased 5 times (the usual move was 10-15 km / year). Track of the movement of the magnetic pole is shown in Figure 3

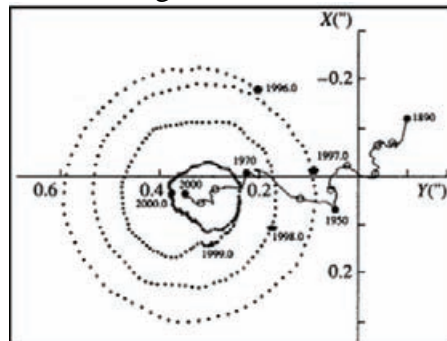


Fig. 3 Movement of North Magnetic Pole in 1890 – 2000 Source: International service of the Earth, 2000)

This is the result of a large release of energy in the Earth's core. This released energy is then gradually manifested intense earthquake activity and volcanic manifestations, including tsunamis, landslides and shelf mudflows. The main change is a manifestation of the shape of the earth, when in 1998 when the global sea level rose by 3 cm (measurements by NASA), increased air temperatures in the troposphere.

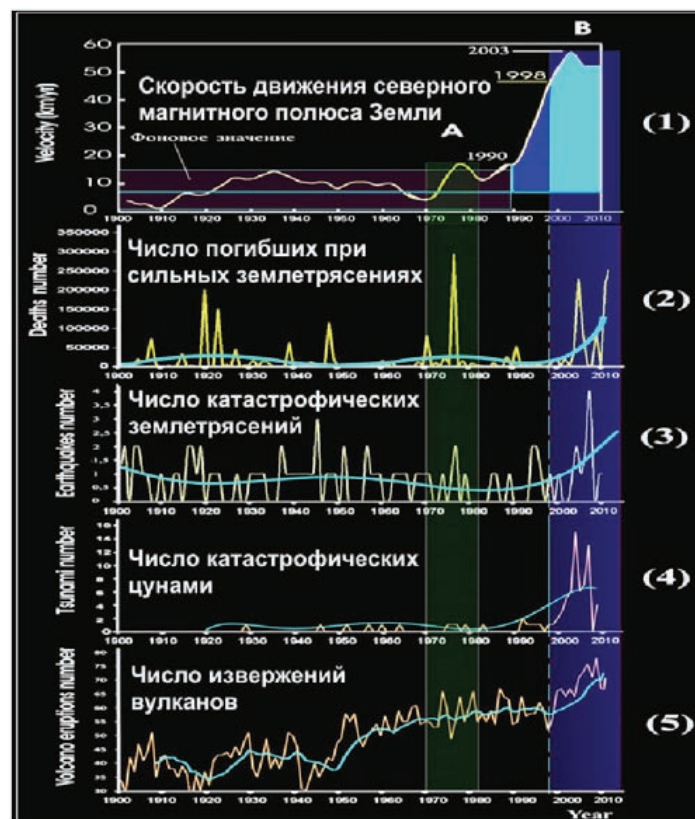


Fig. 3 Curves 1) increase of speed of the north magnetic pole, 2) increase of the number of victims of earthquakes, 3) increase of the number of catastrophic earthquakes, 4) increase of the number of tsunamis, 5) increase of the number of active volcanism

In 2009 have been the environmental damage estimated SWIIS Re to 63 billion USD in 2010 to the already 222 billion USD, which may not be accurate, because there is not only increases of the number of insured, but also the dollar declines. Interestingly, however, that in 2009 died due to natural disasters and 15 000 in 2010 already 320 000 people. The losses are not included in Pakistan (20 miles inhabitants were affected). In 2011, you can expect much higher losses. Some idea of the increase in damage caused by geologically contingent factors can be obtained from the Figure 4.

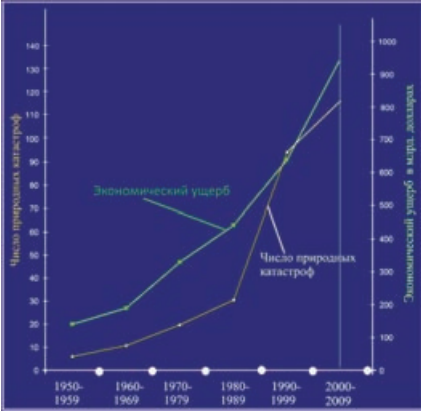


Fig. 4 Curves of economical losses and number of natural catastrophes in the period 1950 – 2009 (accordin Kondratev K.J. et al. 2005, edited by E.N. Chalilov 2010). Source: <http://www.viems.ru/asnti/ntb/ntb502/oboc5.html>

In some cases, eg in case of flooding, it is not clear whether their creation was only caused by geological factors and the organization is unprepared or even regionally. Damage from flooding in the U.S. for example are summarized in Figure 5 and Figure 6.

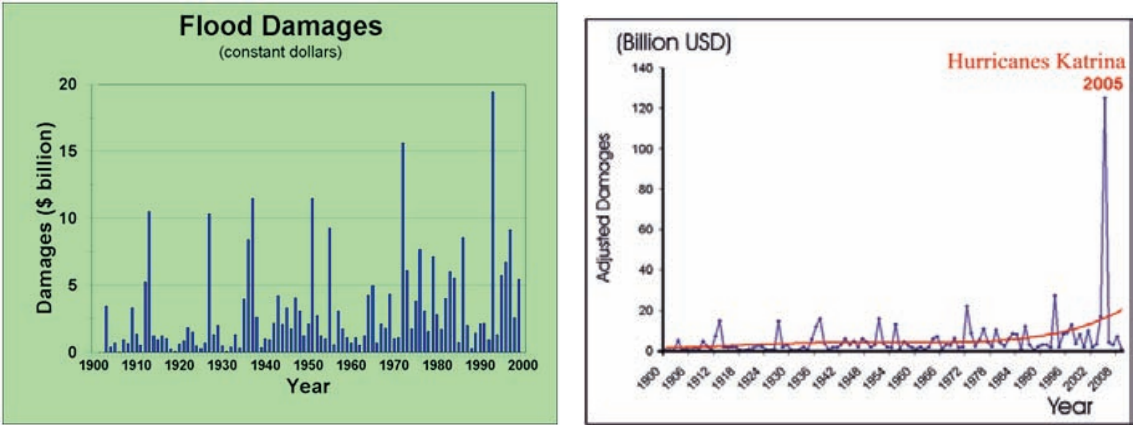


Fig. 5 Economic losses due to floods in the U.S. for 1900 - 2000. source: [http://www.weather.gov/oh/hic/flood\\_stats/flood\\_trends.JPG](http://www.weather.gov/oh/hic/flood_stats/flood_trends.JPG)

Fig. 6 Converted economic losses due to floods in the U.S. from 1903 to 2009 (billion USD in the course in 2007) (EN Chalilov, 2010) Source: [http://www.weather.gov/oh/hic/flood\\_stats/Flood\\_loss\\_time\\_series.shtml](http://www.weather.gov/oh/hic/flood_stats/Flood_loss_time_series.shtml)

**Conclusion:** Thinking about some natural disasters (tsunamis in Japan, Thailand, Indonesia, volcanic activities in Japan, Iceland, Italy, floods in China, Pakistan, the drought in the Horn of Africa countries, etc.), only in the last two to three years, created doubts as to whether we are facing major economic damage and loss of life of similar magnitude can effectively protect the programs and measures currently implemented in the context of concern over "global warming" type programs such as emissions trading, heating and home use alternative energy sources. In any case, we are left with humility before the geological processes.