Global Climate Changes – Antidogmatron

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Introduction
Global warming represents one of the phenomena which to a great extent, has an influence on the most of the human activities. It can be said that the followers of global warming dominate to a great extent with their statements and results of researches as in public life so in the science publications. The aim of this paper is to present the arguments of the scientists who have conditionally saying, opposing viewpoint. We are assured that the general support of such views is incomparably smaller so that more space will be given here to their results.

The biggest problem we have with the climate debate is that the big mathematical models can’t predict what’ll really happen since the models contain simplifications that are probably wrong in important ways. We end up having to guess what will happen. Nature continually makes the climate change even without humans getting involved. So even once a change has happened it is still impossible to figure out how much of the change was caused by humans” (http://www.futurepundit.com/). Many papers can be written on this theme, but for this occasion we will give a brief review of the results published in the last ten years.

Survey of Recent Researches
Taking over the role of an institution for arousing the human conscience the Intergovernmental Panel for Climate Change (IPCC), according to the estimation from 1995, claimed that the temperature on Earth increased between 0.3 and 0.6°C during the 20th century. The increase of 0.6 ± 0.2°C is according to the new estimation (2001). That increase is 0.7°C according to the World Meteorological Organization (WMO, 1999). On the basis of IPCC models (over 2250 scientists participated in their making) the increase of 1.4 - 5.8°C is expected up to 2100. Considering that CO₂ concentration reached the level of 0.037 % at the end of the last century, the terms as “global warming” and “greenhouse effect” have become a part of a standard science vocabulary (Ducic, Radovanovic, 2005). “The biggest catalyst for climate change today are greenhouse gases” (http://www.giss.nasa.gov/research/news/20011206/) Shindell D. T.

Significant stimulus to the followers of the global warming due to excessive air pollution was the paper Mann et al. (1998) published. They came to the results which pointed that the 20th century, that is period from 1990, and especially 1998 was the warmest one in the previous 600 years (it looks like a hockey stick in the graph, by which this term has been included into the science literature, figure 1). Citing Mann and Jones (2003), Mc Guire (2004) has concluded that period after 1980 was the warmest one in the last 2000 years. He also cites: “another nail in the coffin of the global warming skeptics was provided by a research team led by Qiangu Fu…” Schär and his co-authors (2004), similar like Beniston (2004) and Beniston and Diaz (2004) propose that the only explanation for the heat wave in Europe i.e. in Switzerland 2003 is that increasing greenhouse gases concentrations in the atmosphere are increasing climate variability as well as simply raising global temperatures. When it is an eventual solar impact on the weather and climate about, the viewpoints similar to what Barron (1995) stated, could often be seen: “Solar variability over the next 50 years will not induce a prolonged forcing significant in comparison with the effects of the increasing concentrations of CO₂ and other greenhouse gases”.

Contrary to the prevailing opinion, more and more papers have appeared in which the question of global warming is generally considered as over-dimensional. Dmitriev (1997), Michaels (1998), Arking et al. (2001), Agerup (2004), as well as many others gave very severe critiques on the account of used methodology and results that it was come to in the scenarios of IPCC. The mentioned authors have emphasized that the phenomenon of global climate changes certainly exist, but those changes are in the first place the consequence of the natural processes, and the human impact on them is considerably smaller. Changes on the regional level are also the focus of the researches, i.e. that there are regions on Earth which, conditionally said, show trend of stagnation, as well as those where the trend of air temperature decrease have been noticed. On the basis of the air temperature trend analysis for 20 stations in

Abstract
Many recent researches point to the opposing opinions about climate changes, i.e. what causes them, by what dynamics they are being developed as well as how climate will change in future. It can be said that the followers of global warming dominate to a great extent with their statements and results of researches as in public life so in the science publications. This paper has tried to point to the numerous argumentative results which are continually marginalized. What is really new is that the argumentative results which are continually measured that the general support of such views is incomparably smaller so that more space will be given here to their results.

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Key words: Global climate changes, solar activity, opposing opinions

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Serbia, for period 1951-2000, Radovanović and Durić (2004) came to a conclusion that “The maximum values of linear trend are calculated for Belgrade, Palić, Negotin, Zaječar and Loznica (0.13 - 0.14). …Nevertheless, it could be said judging from accessible data that south of Kraljevo a negative trend in southeast direction has been stated”. The authors have presented the results of the research for Hungary and Bulgaria in the same paper on the basis of which a more significant temperature growth in the 20th century in these two neighboring countries could not be noticed. For the same time period Przybylak (2002) calculated that the linear trend of air temperature (°C/10 years) in the area of the Arctic had the following values: Atlantic region 0.00, Siberian region 0.04, Pacific region 0.33, Canadian region 0.17, Baffin Bay region -0.19, Arctic 1 (data from 37 Arctic stations) 0.08, Artic 2 (for 60-90°N latitude band) 0.16 and NH (land + ocean - areally averaged temperature for Northern Hemisphere) 0.09. Objectively these results can serve as a frame index only due to different length of the series in air temperature observing in comparison with the values which IPCC presents.

McIntyre and McKitrick (2003, 2005) obtained part of the program that Mann (1998) used, and they found serious problems. Not only does the program not do conventional PCA, but it handles data normalization in a way that can only be described as mistaken. The results that Soon et al., (2001) have come to, can be summed up into the following conclusions:

1. The increased surface temperature of about 0.5°C to 0.6°C over the last one hundred years is a natural phenomenon - because 80% of the rise in levels of atmospheric CO2 during the twentieth century occurred after the initial major rise in temperature.
2. Surface temperatures (based on land and sea measurements) peaked by around 1940, then cooled until the 1970s; since then, there has been a surface temperature increase.
3. The primary impact of the greenhouse effect of added CO2 is in the lower atmosphere (rather than at the surface), but accurate measurements of that layer of air by U.S. National Oceanic and Atmospheric Administration (NOAA) satellites over the last 22 years have not shown any hint of global warming.

As the analysis of the recent results concerned Gray (2000) has stated the opposing view point: Three of the four methods of measuring global temperature show no signs of global warming:

- Proxy measurements (tree rings, sediments etc) for the past 1000 years,
- Weather balloons (radiosondes) for the past 44 years,
- Satellites (MSU Units) for the past 21 years. The fourth method, surface measurement at weather stations, gives an averaged mean global rise of a mere 0.6°C over 140 years, but is intermittent and irregular. Individual records are highly variable, regional, and sometimes, particularly in remote areas, show no change, or even a fall in temperature. It is concluded that temperature measurements carried away from human influence show no evidence of global warming. Contrary to catastrophic predictions of IPCC for the 21st century, Landscheidt (2000) expects a mild temperature decrease in period to 2010.

The beginning and end of the text written by Monibot et al., (2005) perhaps illustrates best the tense confrontation of the opinions "The science of climate change is under attack …Isn’t it time you started fighting for your science’? The complete problem has deeply been infiltrated on the level of political confrontations. Famously, Inhofe declared on the Senate floor: “With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is THE greatest hoax ever perpetrated on the American people? It sure sounds like it” (http://www.newwest.net/index.php?city/comment/936/C286/L396).

**Mysterious Sun**

In the last few years many papers have appeared studying the solar impact on the certain meteorological, i.e. climate elements from various aspects. “There has been more controversy about other parameters such as the open solar flux from the Sun, the geomagnetic *a* index and the galactic cosmic ray (GCR) flux, which varies inversely with solar activity” (Kristjansson et al., 2004).

Lockwood et al., (1999) researched the supposition that during the 20th century it came to a considerable GCR flux increase, concluding that between 1964 - 1996 the increase of the total magnetic flux ejected from the Sun was 41% (±13%) (figure 2).

Shaviv (2005) concluded that “…increased solar luminosity and reduced CRF over the previous century should have contributed a warming of 0.47±0.19K, while the rest should be mainly attributed to anthropogenic causes. Without any effect of cosmic rays, the increase in solar luminosity would correspond to an increased temp.
perature of 0.16±0.04°K. It was calculated that the rest which was attributed to the anthropogenic causes was 0.13±0.33°K.

Except already mentioned Kristjánsson et al. (2004), Svensmark and Friis-Christensen (1997), Marsh and Svensmark (2000), Udelhofen and Cess (2001), Kristjánsson et al. (2002), Usoskin et al. (2004), Palle (2005), Zherebtsov et al. (2005) and many others have written about the connection of the cosmic radiation (including the solar, too) and global, i.e. regional cloudiness. Perhaps these words illustrate best the knowledge they have come to: "Although a detailed physical model quantifying this connection is still missing, correlation studies support its validity" (Usoskin et al., 2004). However, Sun and Bradley (2004) have the opposite opinion: "This reply thus further confirms our earlier conclusion that there is a lack of evidence to support the GCR-cloud hypothesis".

It is certainly indisputable that there have been many papers from the earlier periods but we would like to remark that we also had experts who suggested similar attitudes. "We must say immediately that a considerable number of climatologists suspect in the immediate helio-climate connections mainly because the intensity of the solar radiation in different periods of the solar activity is insignificantly changed, for 1% only...Nevertheless, the weather conditions and climate on Earth do not have the cycles lasting eleven years, which are characterized for the solar activity...Thus we have bowed to the group of the climatologists who also search for the causes of the climate variability on Earth in the solar activity...Namely, the weather conditions and climate are explained almost exclusively by the phenomena and processes in the atmosphere and on the surface of our planet. Even the weather “caprices” of 1980 were explained more by the St. Helen’s volcano eruptions that happened on May 18, 1980 than by extremely strong and rough processes on the Sun during 1979/80...The satellite recordings show that after every flare on the Sun it comes to the increased cloudiness almost the next day”... (Rakicević, 1987).

If there are already strong indications (in most of the presented papers) related to the solar and/or cosmic radiation connection with the phenomenon of cloudiness, we can ask ourselves clearly does it mean that the precipitations are also predisposed by the influences from the outside? The justification of such “heretical” question lies in the fact, which could not be denied, that the precipitations can emerge only from clouds. In that sense the paper written by Bhattacharyya, Narasimha (2005) was shocking. "Using wavelet techniques it is also found that the power in the 8-16 y band during the period of higher solar activity is higher in 6 of the 7 rainfall time series, at confidence levels exceeding 99.99%. These results support existence of connections between Indian rainfall and solar activity".

Mukherhee (2006) also showed the existence of certain predispositions between the processes on the Sun and not just those climate elements it has been talked about. "It may be noted that the sudden snowfall on the northern hemisphere continents on the 25th of December, 2004 has sufficient bearing on Star-Sun-Earth’s atmosphere interaction". Contrary to the "conservative" ideas and beyond the fact that there are many unclarness there, we can get an impression that scientists are more and more turned towards the Sun. Habbal, Woo (2004) have considered that: "The combination of solar wind dynamic pressure and magnetic reconnection leads to the formation of the tear-drop shaped magnetosphere, and the entry of solar energetic particles into the Earth’s ionosphere". According to Stevančević’s (2004, 2006) hypothesis the electromagnetic waves that come to us from the Sun by the hydrodynamic pressure (after the penetration through the magnetosphere) are spreading over the air masses causing directly the development of the weather conditions. If there is a saturation of the air with moisture in the place of contact, depending also on the characteristics of the solar wind (SW), not only could not be made but also the precipitations. The mechanism of the precipitation formation has been explained by the electronic valence principle. Thus, not only the phenomenon of cloudiness and precipitations, but the phenomenon of hot waves and drought periods also,

Figure 2: Time series of observed annual means and corresponding best-fit predicted values for 1964–96. a, Observed (aa) and predicted. b, The annual means (f). c, The annual means of the amplitude of the radial IMF component (|B|) and the predicted value Br, (Lockwood et al., 1999).
are mainly caused by the electromagnetic characteristics of the SW, the location where from they are ejected from the Sun and their chemical structure as well. Depending on these parameters the atmospheric processes as well as the places of their origin, including the directions of developing, will also be depended on.

The SW which spreads like interplanetary front represents an output flux of the particles from the Sun and magnetic fields. The Sun’s magnetic field is generated by dynamo action, though the details are still not entirely understood. ...The Sun’s energy output varies on time scales ...and takes two principal forms: electromagnetic radiation and the emission of charged particles (http://umbra.nascom.nasa.gov/spd/sect/). At strong eruptions the SW also carries the highly energetic particles- nucleons, the energies of which are measured in millions of electron volts. The satellites which detect the particle flow measure the electric convectional current, which flows from the Sun towards the Earth. When cosmic rays hit Earth’s upper atmosphere, they produce a shower of secondary particles that can reach the ground (http://science.nasa.gov/headlines/y2005/07oct_afraid.htm).

While studying storms in Britain, Wheeler (2001) relied on the general aspects of the procedure which Corbyn used. Those aspects were based on the variations of the Sun’s behavior, its magnetic field, coronal eruptions and fluctuating character of the SW. Therefore it is the methodology about that has nothing in common with most of the contemporary prognostic models which WMO officially uses. The result was that in period from October 1995 to September 1997 four out of five strong storms were correctly forecasted. The fifth one had a mistake of 48 hours, but such mistake can be considered as marginal simply because the forecast had been made a few months before publishing the expected results. As far as we know, mentioned Corbyn did not publish his methods in the public because they have been used for the commercial purposes. It is useful to mention that independent-ly from Corbyn and Wheeler, Stevanovic developed his own methodology “daring” to make for the first time in our country three months long weather forecast in 2003 which was based on the similar elements that were mentioned by the two previous authors (Durić and Radovanović, 2005). What turned out in that forecast was that the best agreement between expected and measured maximum daily air temperatures for Belgrade were in the first and third month. It is necessary to point out that in many further attempts smaller or larger mistakes were emerging. However, Stevanovic and his collaborators have never realized the forecasts as a project task nor did any institution stand behind them. In other words, it is the enthusiasts about who on the basis of their personal interests exclusively try to get through certain knowledge. Is it necessary to emphasize that such attempts from the aspect of the “official science” are silently ignored or even rejected as unfounded in our country.

| Conclusion |

Generally, the conclusions can be summed up into the following:

- Global warming definitely exists as a phenomenon, but generally viewed such problem is at least over dimensioned. The regional aspects of the climate changes are the essence of the processes which are current, including the regions where the relative stagnation is being emerged as well as the negative trend of air temperature.

- Air pollution is a large problem of the modern humanity and we have to put great effort into stamping out the progressive toxin emission just because of the disturbances they are causing in the atmosphere (the negative effects are especially expressed when it is anticyclone conditions about over the industrialized valleys and cities). However, the greenhouse effect is, on the basis of many studies, the factor which influences on the global climate disturbances considerably less than it has been thought recently.

- The processes on the Sun (including the cosmic radiation), on the basis of presented papers, represent a dominate factor which dictates as global climate changes (observing in the context of longer periods of time) so the development of separate synoptic situations.

- Climate changes which had been happening in the past, when human beings did not even exist on the planet, had been characterized in some phases both spatially and temporally as far more radical changes than the humanity had ever the opportunity to experience (including the Little Ice Age). From the cognitive point of view, it is unclear why the natural processes are so much abstracted (especially in public) on the account of the green house effect, i.e. anthropogenic impact on the climate changes.

We can get an impression that the historical moment we live in is characterized by rapid change (but also the conflict) of the way of thinking and understanding the causes of the climate conditions development on Earth. Nevertheless, the only way for confirming the ideas of the global warming followers or their opponents is to follow the weather conditions that are approaching us.

| References |


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