



CONTRIBUTIONS

THE INCREASING OF THE ICE SURFACE IN THE ARCTIC - IS THIS ALSO THE CONSEQUENCE OF GLOBAL WARMING?

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In the last few decades we have witnessed the changes, i.e. adjusting of the attitudes of the IPCC on climate changes that await us in the future. In each of these statements, within certain scenarios, due to man's impact on the atmosphere, the expectations are expressed on a smaller or larger global temperature increase by the end of this century. However, in 2014 and previous year, measurement results have appeared, which indicate quite the opposite changes.

CryoSat was designed to measure sea-ice thickness across the entire Arctic Ocean, and has allowed scientists, for the first time, to monitor the overall change in volume accurately. Measurements from ESA's CryoSat satellite show that the volume of Arctic sea ice has significantly increased this autumn (2013). The volume of ice measured this autumn is about 50% higher compared to last year. In October 2013, CryoSat measured about 9 000 cubic km of sea ice – a notable increase compared to 6 000 cubic km in October 2012. This year's multiyear ice is now (2013) on average about 20%, or around 30 cm, thicker than last year (http://www.esa.int/Our_Activities/Observing_the_Earth/CryoSat/Arctic_sea_ice_up_from_record_low).

The speech by former US Vice-President Al Gore was apocalyptic: "the ice cap is falling off a cliff. It could be completely gone in summer in as little as 7 years from now". Those comments came in 2007 as Mr Gore accepted the Nobel Peace Prize for his campaigning on climate change. But seven years after his warning, far from vanishing, the Arctic ice cap has expanded for the second year in succession – with a surge, depending on how you measure it, of between 43 and 63 per cent since 2012 (Figure 1).

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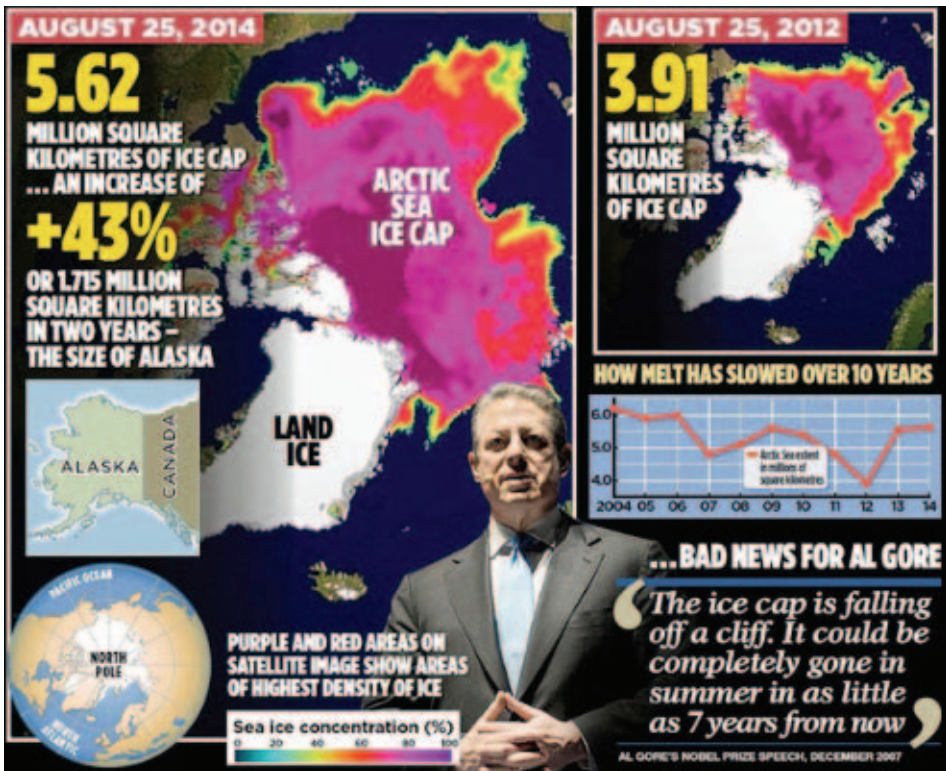


Figure 1 "In the worst case" ice surface in the Arctic has increased by 43% (comparing the surface of 25 August 2012 with the surface of 25 August 2014). The first data is obtained by using daily satellite readings issued by the US National Snow and Ice Data Center, which is co-funded by NASA. By using another method (Danish Meteorological Institute), it is pointed out that in the same period there was an increase in the ice surface by 63%.

Yet for years, many have been claiming that the Arctic is in an ‘irrevocable death spiral’, with imminent ice-free summers bound to trigger further disasters. These include gigantic releases of methane into the atmosphere from frozen Arctic deposits, and accelerated global warming caused by the fact that heat from the sun will no longer be reflected back by the ice into space (<http://www.dailymail.co.uk/sciencetech/article-2738653/Stunning-satellite-images-summer-ice-cap-thicker-covers-1-7million-square-kilometres-MORE-2-years-ago-despite-Al-Gore-s-prediction-ICE-FREE-now.html>).

Contrary to the apocalyptic claims, which obviously did not come true, Habibul Abdussamatov submitted a paper for the special edition of *Thermal Science* titled: *Current Long-Term Negative Average Annual Energy Balance of the Earth Leads to the New Little Ice Age*. The author points out that by the end of

2020 we can expect a gradual global decline in temperature, and then until 2050 intensive cooling that will remind of a Little Ice Age.

In recent years, there are more and more scientific papers in reference journals which give arguments that are contrary to the official positions of the IPCC. A brief review of such studies was published by Radovanovic, Ducić and Mukherjee (<http://thermalscience.vinca.rs/pdfs/papers-2014/TSCI140610076R.pdf>). This article presents data which show that satellite data Remote Sensing System (RSS) of temperature measurements in the first 8 km of the troposphere (S latitude range 70.0 to 82.5 N) showed a statistically insignificant cooling of $-0.05\text{ }^{\circ}\text{C}$ per decade. Similar results were also presented by Easterbrook (Don J. Easterbrook: Are Forecasts of a 20-Year Cooling Trend Credible, 7th International Conference on Climate Change May 21-23, 2012 Chicago, Illinois, Figure 2).

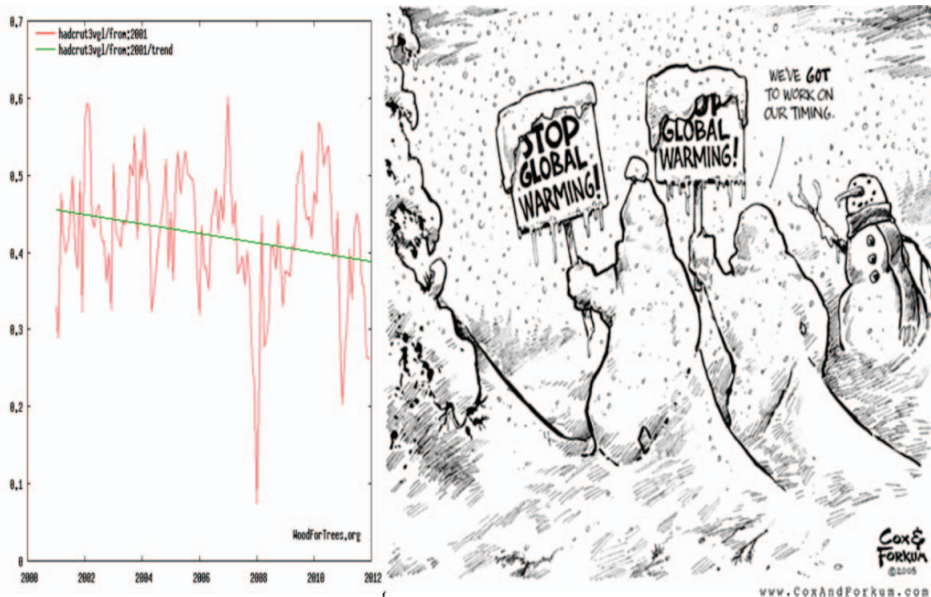


Figure 2 Slide which Don J. Easterbrook presented at a conference in Illinois in 2012

The mentioned author, similar to the results obtained by H. Abdussamatov, gave his prediction of global temperature changes (Figure 3).

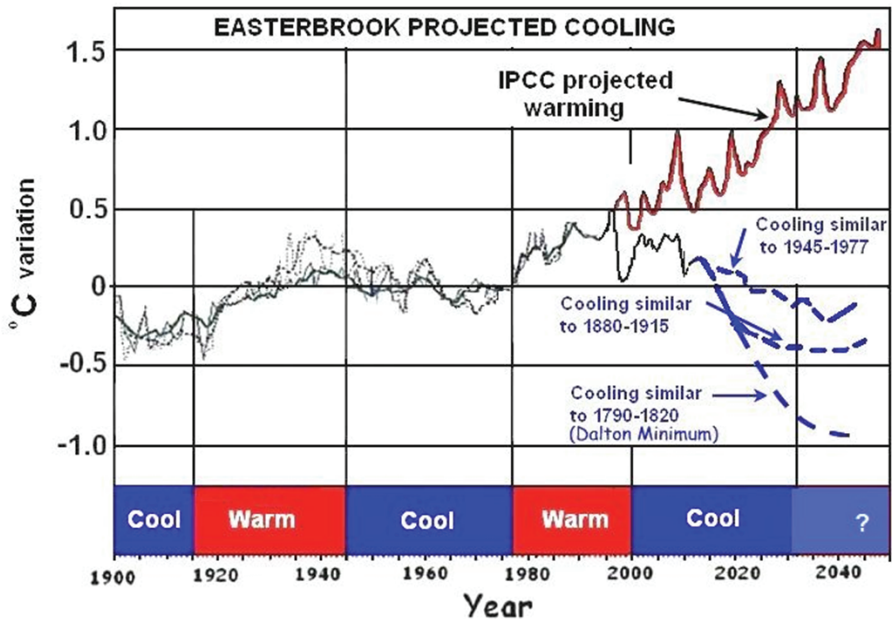


Figure 3 Projections of Don J. Easterbrook indicate that we can expect one of three scenarios, however all three are contrary to the predictions of the IPCC

In conclusion, it can be stated that the opinions about future temperature changes are extremely polarized. Contrary to interpretations of global warming, for which a man is largely responsible, i.e. emission of greenhouse gases, we are witnessing an increase in ice surfaces in the Arctic. Despite the fact that as textbook material an argumentation is used that the decomposition of these gases requires a minimum of 50 years, despite the fact that the emission of these gases increases every year (globally), contrary to all logical reasoning, we are witnessing the opposite tendencies. Instead of euphoric and apocalyptic predictions about the disappearance of the ice, it came to its increase and this in no small amount.