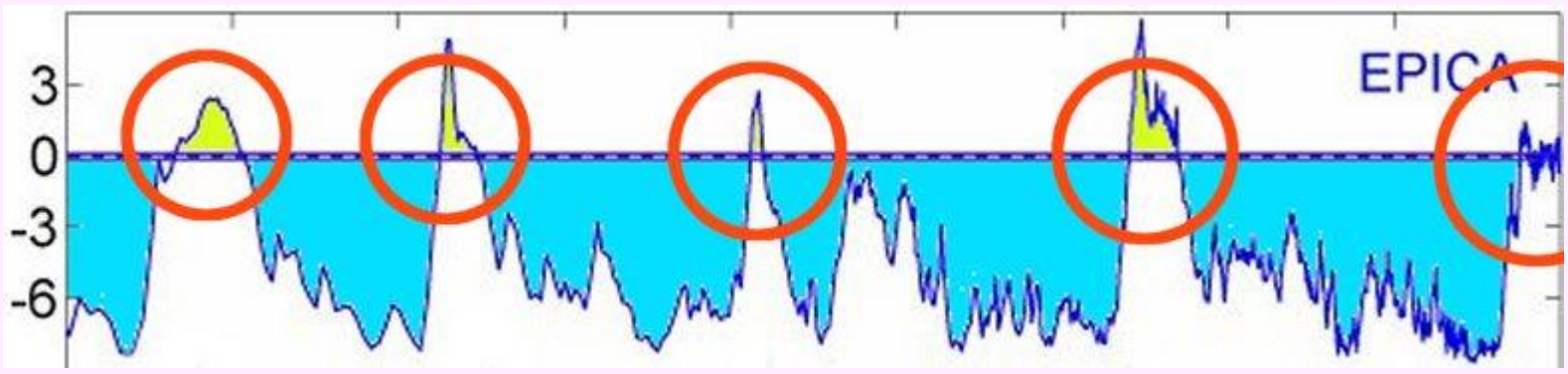
A question of certainty, by Rolf Witzsche - Sept/. 2011

On the subject:

Can One be Certain About the Timing of the Near Ice Age?

The most critical scientific question about the impending resumption of the normal climate of the Pleistocene Ice Age

The Earth has been in an Ice Age Epoch for 2 million years already, called the Pleistocene Epoch, and will likely remain so for a few more million years.

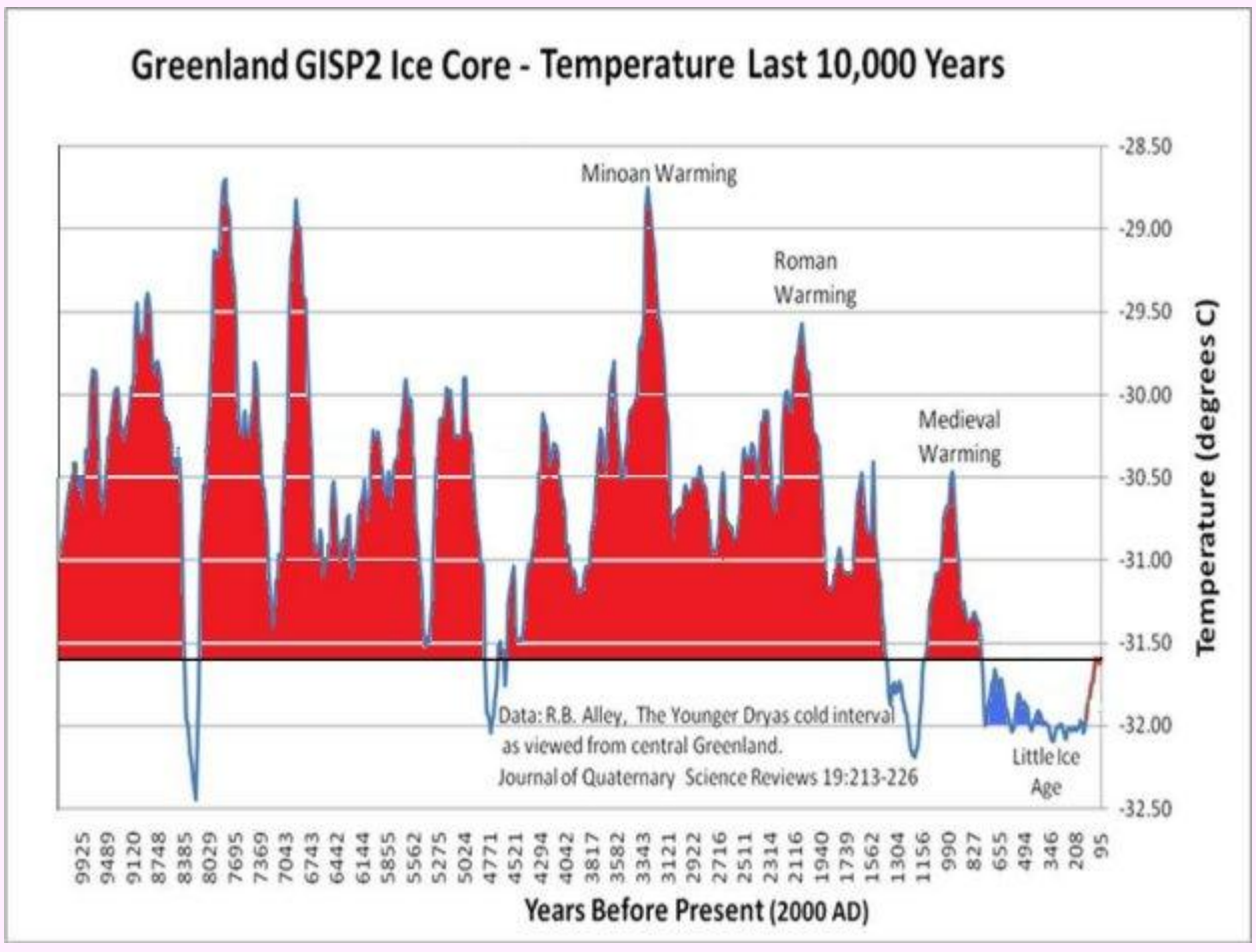


Since the Pleistocene Epoch is interspersed periodically with pulses of nicely warm climates, the interglacial, such as the one we enjoy right now that 'statistically' has run its course, can one be certain that the end is near?

This is a critical question, because the consequences are enormous

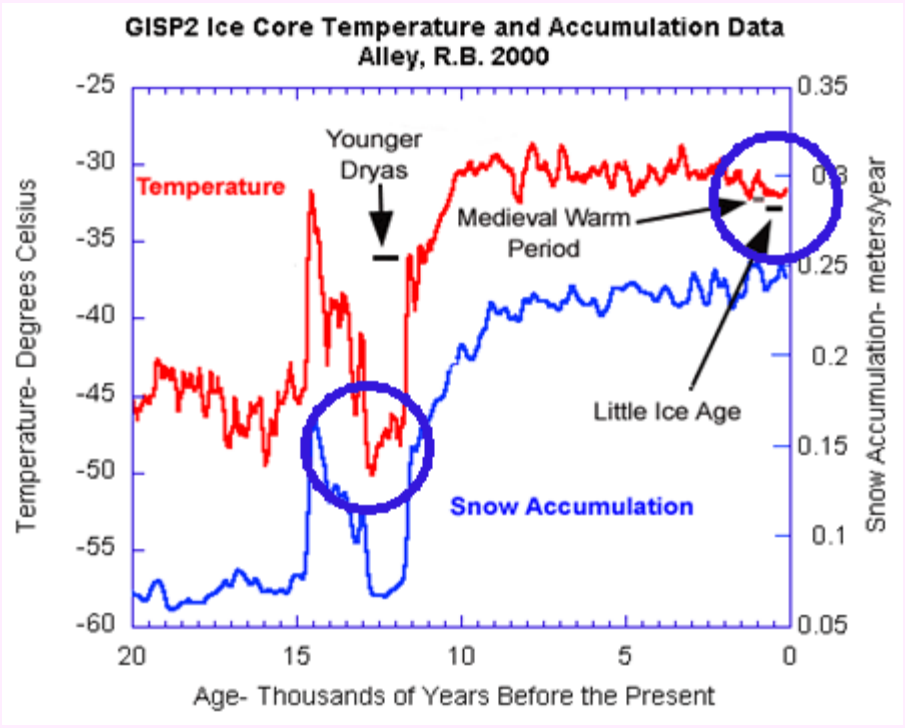
The difference between the current interglacial pulse and the normal Pleistocene climate is truly enormous according to what the ice core samples tell us that present us with the only direct temperature measurements that we have available to us.

What we find in the Greenland ice core records is startling. We find the climate difference is enormous, between the time prior to the current interglacial, the Younger Dryas Period, and the Little Ice Age, the only major cold spell that has been experienced since the dawn of civilization.



The Little Ice Age resulted from the climate cooling of roughly half a degree Celsius. It had large

consequences at the time, but the cooling that gave us those consequences was minuscule in the larger context. The cold that the Earth experienced during the Younger Dryas Period, just prior to the interglacial was 30 times colder (15 degrees colder) than the Little Ice Age, and the Younger Dryas itself was still above the bottom of the normal Pleistocene climate.



The Little Ice Age was a hard period for European civilization.

"Famines in France 1693-94, Norway 1695-96 and Sweden 1696-97 claimed roughly 10% of the population of each country. In Estonia and Finland in 1696-97, losses have been estimated at a fifth and a third of the national populations, respectively."[25] Viticulture disappeared from some northern regions. Violent storms caused massive flooding and loss of life. Some of these resulted in permanent loss of large areas of land from the Danish, German and Dutch coasts.[23] (Wikipedia)

The potential transition to a 30-times colder climate than the Little Ice Age, is nor something to be taken lightly. Unfortunately, this is what is in store for the future of humanity, for which preparation need to be made to assure the survival of civilization and humanity with it. In this context the question becomes paramount, how soon will the transition begin.

Answering the question of the potential timing involves the recognition of what processes can cause such an enormous cooling.

The earliest perception was that the known variance-cycles of the Earth's orbit around the Sun would cause the ice age cycles. However, the computed effects of these cycles didn't match the historic pattern. Thus the theory was discarded, and probably also for the simple fact that the year average total sunlight received on the Earth was not affected by these cycles, which affected only the regional and seasonal hemispheric distribution.

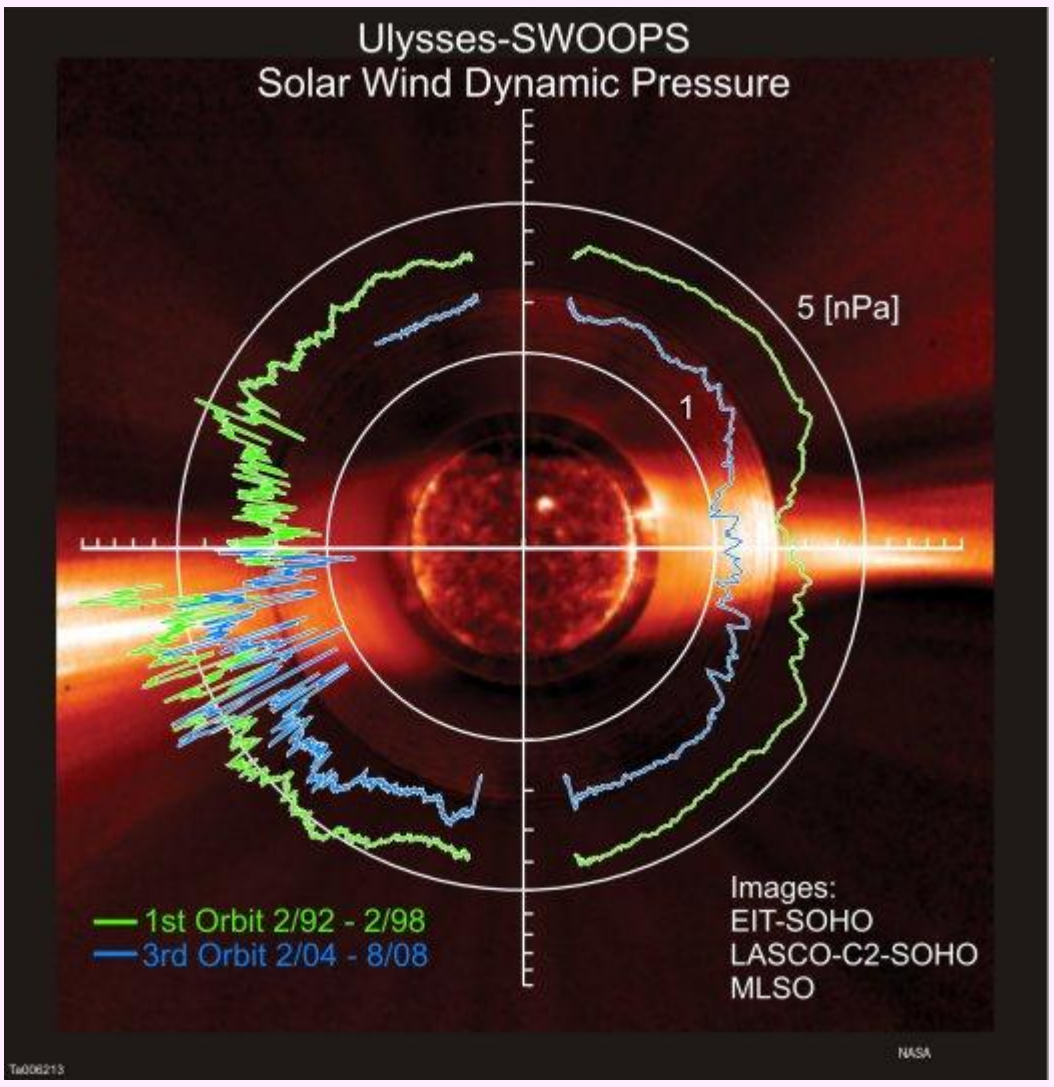
The next logical factor that was recognized, which actually does have a major effect on the climate, is the intensity of cloud formation, which has increased in recent years. Since increased cloud formation reduces the density of water vapor in the atmosphere, which is up the 97% the causative factor for the greenhouse effect, the greenhouse effect becomes reduced with increased cloud formation. The reduced moderating effect of the greenhouse gives us larger temperature differentials between hot and cold weather. This is what is being observed worldwide. The reduced density of water vapor also gives us generally drier climates with more droughts and wildfires. This too, is being observed.

It is further known through work by NASA's Ulysses Mission that cosmic-ray density has increased by 20% since measurements were recorded, which coincides with observed increased cloud formation. It is known and has been experimentally proved that cloud formation is dramatically affected by cosmic-ray density. Increased cloud formation, obviously also has the added effect that the white top of the clouds reflect a portion of the incoming solar energy back into space, which causes a substantial energy loss and the

consequent cooling of the Earth.

The beginning of a cooling trend in year average temperature has been measured, beginning in 1998, at the Solar Terrestrial Institute of Irkutsk.

Coincident with the cooling trend, NASA's Ulysses satellite recorded 20% reduction in solar wind pressure between its first polar orbit around the Sun prior to 1998, and its last orbit in 2008. The reduction in solar wind pressure coincides with the increase in cosmic radiation impacting the Earth, which is the resulting effect of a weakening (shrinking) heliosphere.

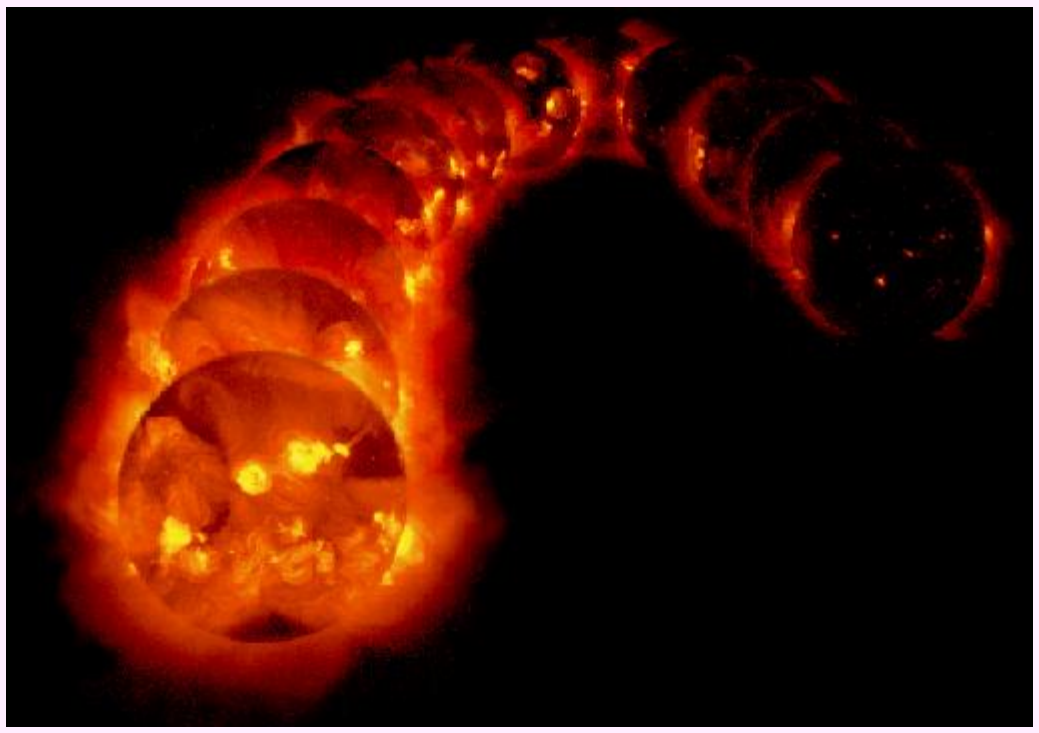


Solar wind looses power

However, the by now proved interaction between cosmic radiation, cloud formation, and colder climates on earth, is itself not sufficient to cause the enormous difference between the Pleistocene (glacial) climate and the interglacial climate that adds up to 30 times the cooling of the Little Ice Age. As NASA's Ulysses probe has shown, the Sun itself is also a factor in the changing dynamics.

The Sun has long been regarded as being internally powered by a nuclear fusion furnace, and has therefore been regarded as an unchanging constant, the so-called solar constant. However, it has also been known for probably even longer that the Sun is electrically powered by dense electric plasma currents flowing into it, which cause a double layer charge separation at the level of the chromosphere causing an electric discharge action onto the Sun at the level of the photosphere. A long string of evidence exists for this perception, which is too large to be presented here. However one item applies directly to the Ice Age Dynamics question, and this has been long known, namely that the Sun is not a constant, that it is a variable factor.

While the Sun's energy output varies little in the visible light band, it varies dramatically in the x-ray band with the solar activity cycles. It varies by a factor of 20 over a solar cycle. This dramatic cyclical variance has been well documented by the the Yohkoh ("Sunshine") spacecraft, a Solar observatory spacecraft of the Institute of Space and Astronautical Science in Japan, with its soft-X-ray imager.



The solar disk seen in the x-ray band over the time period 1991–1995 (left to right), spanning the descending phase of cycle 22

What we see here is not unexpected on the premise that the Sun is not a self-powered furnace, but an externally powered catalyst that reflects variances of the density of the electric plasma that powers it. Since the x-ray band is at the high-end of the energy spectrum, we would see input power fluctuation happening there first, then in the UV band, and eventually in the visible light band. In other words, the Sun is not a constant factor, but a variable factor that corresponds to changes in the external power density that is powering it.

Since this is the case the potential for a 'dimmer' Sun is well established, and would likely be the chief cause for the very large climate difference between the Pleistocene climate and the interglacial climate. Indications are being recorded that the Sun has begun a deep reaching variance. We don't know how far it will go, but a trend has begun that is significant as a potential precursor. Here are some of the highlights of the current trend as presented on Wikipedia.

The Sun is currently behaving unexpectedly in a number of ways.[119][120]

- It is in the midst of an unusual sunspot minimum, lasting far longer and with a higher percentage of spotless days than normal; since May 2008.
- It is measurably dimming; its output has dropped 0.02% at visible wavelengths and 6% at EUV wavelengths in comparison with the levels at the last solar minimum.[121]
- Over the last two decades, the solar wind's speed has dropped by 3%, its temperature by 13%, and its density by 20%.[122]
- Its magnetic field is at less than half strength compared to the minimum of 22 years ago. The entire heliosphere, which fills the Solar System, has shrunk as a result, resulting in an increase in the level of cosmic radiation striking the Earth and its atmosphere.

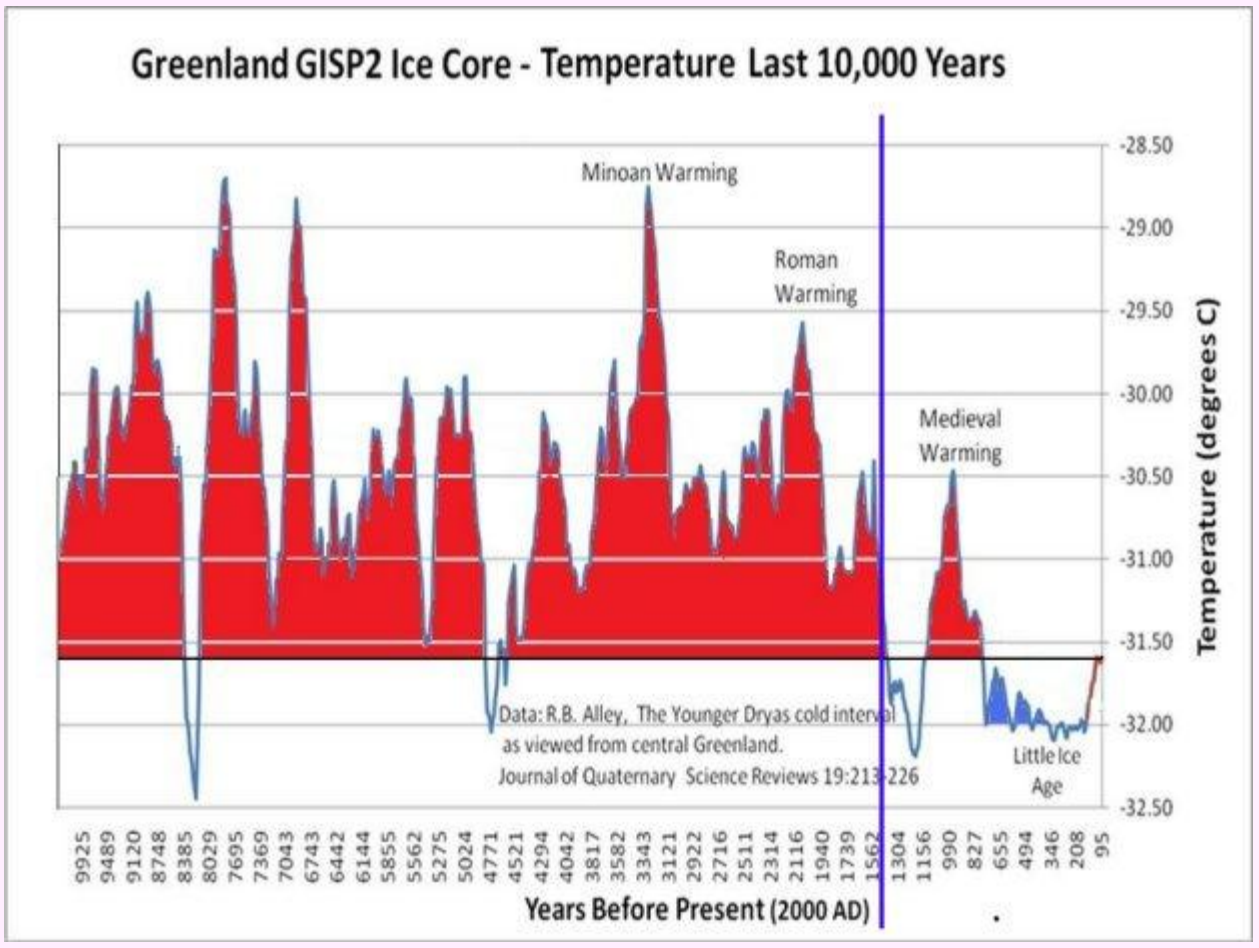
If the current trend of the 'dimming' of the Sun continues, it is totally possible that it will lead to the long expected transition back to the Pleistocene climate that has been for 85% of the last 2 million years the normal climate on earth. When precisely the transition will happen is anybody's guess. If one considers the pulse nature of the interglacial corresponding with the natural dynamics of an electric discharge system, we should expected to see a rapid transition and large fluctuation during the transition period. The dynamics of pulse-mode systems are well known, such as the dump bucket in water parks that is constantly being filled (charged) from a faucet, which eventually becomes top-heavy, flips, and dumps its charge onto the waiting kids below with a big splash, the discharge splash.

The dump bucket at Cedar Falls Aquatic Center

We may be at a point in the interglacial electric discharge pulse that is comparable with the last 'drops' coming out of the bucket down the ramp. After the current high-power splash is over in the solar system, the Sun evidently gets colder, dramatically enough so that the climate gets 30 times colder than the Little Ice Age had been. This means that we don't want to get to this point unprepared. All the countries that had their agriculture decimated during the Little Ice Age should expect far worth an impact, 30 times worse, not instantly of course, but potentially relatively quickly.

The Polish professor Zbigniew Jaworowski, M.D., Ph.D., D.Sc., chairman of the Scientific Council of the Central Laboratory for Radiological Protection in Warsaw, who has personally excavating ice out of 17 glaciers on 6 continents in his 50-year career, writes in a paper, The Ice Age is Coming, that the transition may be as short as a single year, or be as long as 50 years, and may start without warning. He quotes sources suggesting that the transition may occur between 50-150 years from now, but he leaves the door open to the possibility that it has already started. He also suggests that the onset of the next Ice Age is already 500 years overdue.

The Greenland ice core data suggests that the real end of the interglacial pulse may have already occurred as far back as 1,500 years ago. A qualitative change in the interglacial appears to have occurred at this time.



A steep drop occurred at this time, followed by a recovery (the Medieval warming) and by another drop and another small warming that became the Little Ice Age, which established a new low level, followed by the modern warming and the beginning of another new steep down-turn that NASA's Ulysses mission saw the beginning of. We see a 200-year oscillation pattern of cooling and recoveries to consecutively lower energy states. The St. Petersburg geophysicist Eugen Borisenkov recognized that the solar minimum cycles, like of the Maunder Minimum, follow an approximately 200-year cycle.
(see: New U.S. Studies Confirm Earlier Russian Reports of Weakening Sun, Possible New Ice Age)

The current down-turn comes at the end of a 200 year recovery cycle portending another steep drop in solar power intensity. The fast pace with which the solar activity is declining suggests that solar cycles without sunspots are on the near horizon, and a lower energy level beyond that. If the pattern holds, we may see a 50-year period of progressively larger energy drops, with temperatures way below the level of the Little Ice Age. How far the decline will take us depends on the residual energy in the electrodynamic system that is changing state, which is unpredictable. While we are still far from the Pleistocene level, we may experience climates several times colder than the Little Ice Age. Where we will go from there is anybody's guess.

In this context the current period is the most critical, because even while the currently ongoing climate transition towards colder conditions worldwide has barely begun, we already see devastating consequences. For example the 2011 wheat harvest in Canada is expected to be 20% less than the year before due to wet weather in the spring. The USA is similarly affected, with the addition of losses due to flooding, drought, tornadoes, and hurricanes, which are all lawful systemic consequences of the weakening power-environment in the solar system.

With the experienced consequences being just the beginning of the tren, the years ahead promise to be increasingly catastrophic. While some aspects of the catastrophes can be prevented in the USA with the building of large-scale water management infrastructures, Canada has fewer such options. Changing climate conditions are most immediately reflected in changing jet-stream patterns that control the rainfall distribution in the northern hemisphere. In this context the modern agriculture in the northern hemisphere remains nearly as vulnerable has agriculture had been in Europe during the Little Ice Age when the resulting famines wiped out 10% of the population, up to 30% is some areas. In this context, too, Canada and Russia are extremely vulnerable, and so is the whole of humanity when the major food exporting countries are in trouble. Thus, the rapid implementation of floating agriculture on the equatorial seas becomes increasing necessary to avert a food crisis in the near future that promises to be apocalyptic in scale if this option is prevented.

For details, see: **The New World Development Project**

The failure to respond in this manner portents not a pleasant prospect for the world, considering the effects of the curent trend that has barely begun. With the greenhouse effect reduced by reduced water vapor in the atmosphere, we already see the cold/warm differentials increasing, giving us increased occurrences of tornadoes and hurricanes. With increased cloudiness, the increasing moisture-lean atmosphere is giving us also expanding drought conditions and reduced rainfall. The end result of this trend going on and getting stronger for another 50 years is hard to imagine. Major water-management infrastructure developments will likely become necessary in the USA throughout the Mississippi basin to absorb the increased flooding, and to irrigate large areas to compensate for increasing droughts. The NAWAPA principle will be needed for that for the efficient utilization of the local water resources. These types of emergency response requirements will no doubt obsolete the original NAWAPA plan for the diversion of rivers from Alaska to the southern deserts. And while this protective work of the current agricultural resources goes on, a new platform for agriculture needs to be developed to take over when the local agriculture fails completely. For the northern nations, like Canada, Russia, and parts of Europe, the relocation of their agriculture may be needed sooner than anyone may realize.

Floating agriculture could be on line in a decade from the time the decision is made for it to be build. The required industrial infrastructures need to be built first. In the mean time the existing global agriculture around the world needs to be built up in a modernization crash program, together with immediate cancellation of the mass-burning of food in the biofuels processes, and the eradication of the predatory speculative marketing system that is already massively killing people by making food unaffordable for countless million in the quest for profits. These games need to stop.

All of the above measures are required now, long before we get anywhere near the normal Pleistocene climate. The world's development capacity needs to be focused in the critical direction here stated, while the capacity still exists to implement this development. Towards this end monetarism must end, predatory profiteering must end, or else none of what is necessary, becomes possible. If no actions are forthcoming on this front the currently ruling oligarchy in the world that controls the global policy structure will see its goal realized, which is the often stated goal to have nine tenth of the human population eradicated from the planet by all possible means, to protect is feudal power and looting practice.

If the Ice Age Challenge is taken up seriously we can win the fight for the survival of civilization. Otherwise we fight ourselves to death over a stream of inconsequential single-issue compromises while nothing gets done and time is running out.

The bottom line is that nobody really knows or can know when the final deep Ice Age transition occurs that takes us back to the deep freeze of the normal Pleistocene climate. But do we really need to know this? We know that we presently have a chance to meet the challenge that the return of the Ice Age poses that is already critical as the transition unfolds in its descending steps, by creating alternate platforms for agriculture across the equatorial seas. We know that this is possible. The technologies for it exist, and so do the materials and the needed energy resources, though none of them are presently used for political reasons. We also know that the utilization of these technologies, materials and energy resources would create a new basis for an industrial revolution right across the world, and with it a new renaissance. We know that we can meet the Ice Age Challenge that way, and at the same time create a new and vastly richer world for the whole of humanity.

With this in mind, do we really need to know at which day, year, decade, or century the ulimate Ice Age Transition begins. A New World lies before us if we respond to the challenge.

We also know that if we fail in making the required preparations before the transition begins, very few of humanity will survive, if any, for by then it will be too late to start, especially in the face of potential food wars.

Not responding to the Ice Age Challenge, considering how unpredictable its dynamics are, is suicidal. But this doesn't need to happen. Suicidal gambling is not an aspect of civilization, nor is it a native element of our

humanity. And so, the chance is great that a new renaissance, building a New World, will happen.

See: **World Development - Dynamic Systemic Change - The Ice Age Challenge**

Home Page

Please consider a donation - Thank You

Published by Cygni Communications Ltd. North Vancouver, BC, Canada - (C) in public domain - producer Rolf A. F. Witzsche