Global Weather Oscillations Inc.

Specializing in Hurricane and Climate Cycle Forecasts

Natural Climate Pulse

Global Warming - Global Cooling - Carbon Dioxide

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Forward:

Mr. Dilley is the author of the peer reviewed e-book “Global Warming - Global Cooling, Natural Cause Found”. It was published online in 2007 and can be read free of charge on the Global Weather Oscillations Inc (GWO) Website *www.GlobalWeatherCycles.com.*

This handbook, "Natural Climate Pulse, Global Warming - Global Cooling - Carbon Dioxide", dated January 2012, is an update and revision of the *original e-book. The revisions in this handbook are from power point presentations conducted by Mr. Dilley (available on DVD soon). The revisions present new scientific findings concerning natural global warming – global cooling cycles, natural carbon dioxide cycles and the natural mechanisms which control the earth's climate rhythm and natural cycles.

Mr. Dilley, is a Meteorologist with over 40 years of climate/weather research and forecasting experience. He is CEO of Global Weather Oscillations Inc. (GWO), which was founded with the specific understanding that climate and weather occurs in cycles, and if you know the mechanisms that drive and control the climate, you can forecast climate cycles well into the future. Mr. Dilley is a former co-host of the radio talk show “the Politically Incorrect Weather Guys", former Meteorologist with the National Weather Service, and appears in the documentary film “the Boy Who Cried Warming “ to be released during the winter of 2012.

The handbook investigates 2,200 natural cycles of temperature and carbon dioxide that have occurred during the past half million years. Mr. Dilley has created climate models based on past natural climate cycles, and the natural mechanisms that drive these cycles. Research conducted for the handbook and the original e-book is funded solely by Mr. Dilley and Global Weather Oscillations Inc. (GWO), with absolutely no outside funding of any type.

Introduction:

Since the mid 1990s, it has been constantly pounded into our heads by government agencies and the media that rising carbon dioxide levels and global warming are caused almost entirely by humans burning fossil fuels (Ref: 1). We have also been told by the IPCC current

levels of atmospheric carbon dioxide have never been this high during the past half million years, and that it will change earth forever, including extinction of some plants and animals.

But in all reality, carbon dioxide is a very good gas, and a beneficial by-product of interglacial global warming cycles which occur like clockwork approximately every 116,000 years (ref: 2). When the earth falls into deep glacial cycles, atmospheric carbon dioxide levels fall dramatically due to decreased photosynthesis and absorption of the gas by cooler waters of the oceans. This happened during all five glacial ice ages during the past half million years, with oceans absorbing and storing carbon dioxide for nearly 80,000 years as the earth became colder and colder. Then as earth emerged from each glacial period, with the last emergence just 18,000 years ago, global temperatures rose sharply, with new ice and snow covered ground and warming oceans releasing carbon dioxide stored for many thousands of years. In response to the warmer temperatures and following rising carbon dioxide levels, photosynthesis increased dramatically. Like clockwork, the warm peak of the interglacial periods and its associated carbon dioxide peak occurred 420,000 thousand years ago, 330,000 years ago, 240,000 years ago, 116,000 years ago, and finally just during the past few thousand years.

It is shown in presentations by Mr. Dilley, and in this handbook, that as earth comes out of glacial periods and temperatures rise, carbon dioxide also rises due to a natural positive feedback process from the warming oceans and newly uncovered ground areas. The carbon dioxide rise follows the temperature rise with a time lag of 200 years, to as much as 800 years. It is not carbon dioxide that is the cause for global temperatures to rise, but rather it is increased temperatures that cause carbon dioxide levels to rise through the natural feedback processes. This is accepted and proven science by Climatologists and Paleoclimatologists (ref: 3). Therefore it can be stated that it is not carbon dioxide that is the cause for global warming.

It is also shown in this booklet that the current levels of atmospheric carbon dioxide near 400 parts per million (ppm), also occurred naturally during another global warming event about 1000 years ago (ref: 4), and measured atmospheric carbon dioxide levels in the 1800s could have exceeded 300 ppm at the beginning of the industrial revolution (Ref: 1), which is much higher than what the IPCC would like to have us believe. Thus today's levels are perfectly natural, and are within expected limits for this natural cycle which is now peaking. Or in other words, <u>global warming is not caused or exacerbated by humans burning fossil fuels, and carbon dioxide levels under 500 ppm (parts per million) are not harmful to the earth, but are beneficial</u>.

And most importantly, it is common knowledge among most Meteorologists - Climatologists - Glaciologists -Astrophysicists and Paleoclimatologists, that earth's glacial and interglacial cycles occur like clockwork approximately every 116,000 years, and are directly produced by oscillations in earth's rotation around the sun. When the earth's elliptical orbit swings out away from the sun, earth receives less solar radiation and falls into a very long glacial period. During warm interglacial periods the earth's orbit is closer to the sun, thus receiving more solar radiation and warmth from the sun. These cycles are called the "Milankovitch Cycles" (ref: 5,6), and are proven science.

The United Nations Intergovernmental Panel on Climate Change IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations (Ref: 7) to investigative and prove that human activity and the burning of fossil fuels is the major source for increases in carbon dioxide since 1850, and that this increase is the cause for a warmer climate today. However, their reports and supportive research papers basically ignores earth's natural climate rhythm which has been occurring for millions of years, just like clockwork.

Through analysis of plant stomata photosynthesis found in fossils, and atmospheric air bubbles found in ice cores, Paleoclimatologists have been able to recreate earth's atmospheric climate history during the past million years. Their research indicate that today's climate and atmospheric carbon dioxide levels are normal and not out of bounds with past cycles, and earth is not warming due to the burning of fossil fuels. Research by Mr. Dilley and other research scientists also indicate that if you know the principle natural mechanisms that control these cycles, you can forecast earth's climate changes well into the future. It is proven science that changes in the orbit around the sun, and the orbit of the moon around the earth control climate cycles, including carbon dioxide.

Why Some Believe Human Activity is Causing Global Warming

After reading the section on plant stomata and photosynthesis, we may wonder if any of the Nations Intergovernmental Panel on Climate Change (IPCC) scientists have ever taken basic biology or environmental science in high school. In this handbook, you will learn that carbon dioxide is actually a very good gas, and a beneficial by-product of interglacial global warming cycles which occur like clockwork approximately every 116,000 years, and last for nearly 30 thousand years.

However, the United Nations IPCC is largely controlled by politics interested in creating a world governing order, and a ruse to fulfill their agendas. Due to the politics behind the IPCC's well meaning motives, the organization has become misguided, and often distorted because of a politically driven grant system by the European and North American governments.

Since the mid 1990s, it has been pounded into our heads by government agencies and the media that rising carbon dioxide levels are caused almost entirely by human activity, and more precisely, by the burning of fossil fuels. We have also been told that current levels of atmospheric carbon dioxide have never been this high during the past million years, and that high CO_2 levels today are destroying earth, and we are very close to runaway global warming. However, you will learn later in this handbook that it was indeed this high 1000 years ago.

For the last 15 years, some scientists and political organizations have equated rises in atmospheric carbon dioxide concentrations to rises in global temperatures, and unfortunately this is the generally accepted hypothesis by some groups. But, is the release of carbon dioxide through the process of burning fossil fuels actually the primary cause for earth's warming temperatures since 1850? Can carbon dioxide enhance a natural warming cycle? If not, why is this an accepted theory among some groups?

Politics, manipulated censorship and biased research are the key words that describe manipulation by the press, local and state governments, university systems and the general public around the world. For nearly 15 years, almost all United States Federal grants and European grants were awarded to universities and colleges for the specific purpose to study how human activities and the burning of fossil fuels have induced climate change.

How does the grant system work? Universities and colleges apply for available government grants each year. The governments announce subject matter to be researched, and the educational systems are directed toward finding research results within this specified offering. Almost all grants were worded in such a way to indicate that the research will be conducted to find the adversity of carbon dioxide on the environment. Because of this, just about all research published in science journals during the past 15-years were biased and

slanted toward adverse affects of fossil fuel burning and carbon dioxide. This was especially true within the United Nations Intergovernmental Panel on Climate Change IPCC.

Due to the grant system, the media and government officials were mainly exposed to slanted research focused on human activity as the cause for global warming. There was very little research concerning "Natural Cycles" being conducted at universities or in governmental agencies during this 15 year period. And if a university mentioned Natural Cycles, they were either denied future grants, or even lost grants. Even United States Federal Employees were cautioned not to talk about natural cycles. What a great way to manipulate researchers in Europe and the United States. In the meantime, the only natural cycle research during this time was basically coming from private companies, such as Global Weather Oscillations (GWO).

One huge question is; do the governments really believe humans caused, or enhanced the recent global warming? Or, are they either manipulated by political sources, and have the true facts been withheld? Being naive could be a reason. After all, very slanted reporting by the media actually caused unintentional censorship of the facts. And what are the facts?

We have been led to believe earth is heading into catastrophic global warming due primarily to runaway carbon dioxide caused by humans burning fossil fuels. But in all truth, earth has recorded over two thousand (2,000) global warming cycles during the past half million years, occurring like clockwork approximately every 230 years. And also like clockwork is an interglacial optimum warm cycle which occurs approximately every 116,000 years and lasts for nearly 3,000 years. These cycles have occurred 5 times during the past half million years, with each cycle experiencing similar temperature and carbon dioxide cycles. And you guessed it; earth is now at the peak of the 116,000 optimum warm temperature and carbon dioxide cycle.

Due to the flood of manipulated one-sided and sometimes slanted research thrown at most citizens of the world during the past 15 years, a great many people, including our elected officials, have literally been brainwashed into believing that societies of the world accept the concept that global warming is caused by humans and industry burning fossil fuels since the industrial age began 150 years ago.

But is human activity actually causing global warming? Or is it merely a United Nations political ruse to shift energy usage away from fossil fuels? The real answers are likely closely woven between the politically fragile oil producing countries and the members of the United Nations. Not very many nations want to be tied to the aprons and whims of countries which do not like you. And the United Nations and/or United States cannot control unstable radical countries if they have an oil noose around their necks. This is essentially why the idea of anthropogenic global warming was conceived back in the early 1990s. A ruse was crafted based on the idea that a minor atmospheric gas greenhouse, 100 times less prevalent in the atmosphere than the major greenhouse gas water vapor, is causing runaway global warming and harming the planet. Have there been similar global warming episodes throughout history? Did a similar rise in greenhouse gases occur without human influence in the past?

Rising Carbon Dioxide and the Global Warming Myth

As seen in Figure 1, atmospheric carbon dioxide has risen steadily since the inception of the industrial age in the mid 1800s, from approximately 270 to about 390 ppm today (Ref: 8). Many researchers indicate this rise is almost entirely due to industry spewing carbon dioxide into the atmosphere, and the IPCC says we are very close to having runaway global warming

due to high levels of carbon dioxide. However, other scientists such as Ernst Georg- Beck and Z. Jaworoski (ref: 9,10), indicate that direct air CO2 measurements performed by various researchers in the 1800s reported levels frequently exceeding 300 ppm. This is in stark contrast to reports from the IPCC and other government sources that insist carbon dioxide levels did not increase above 300 ppm until about 1940, well after the inception of the industrial fossil fuel burning around 1870, and just after the natural global warming cycle in the 1930s.

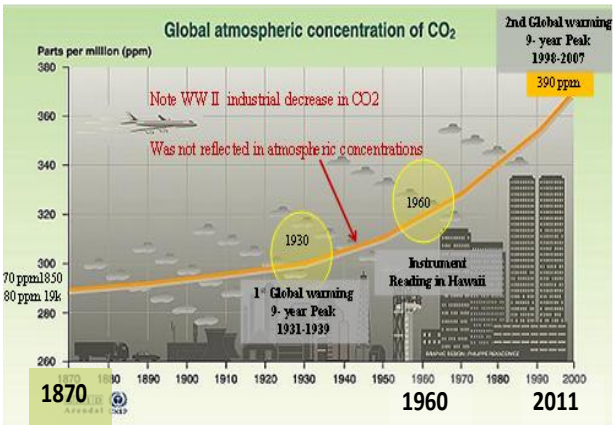

Figure 1. The orange line shows the rise in atmospheric carbon dioxide from 270 ppm in 1870 to 390 ppm in 2011. Data is from the top of Mauna Loa Mountain in Hawaii from 1958 to present, tree sources prior to 1960. Courtesy U.S. Dept. of Energy.

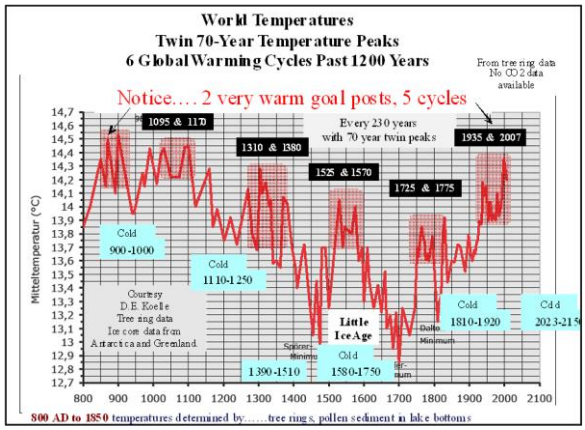

Figure 2. The world temperatures since 800 AD are shown from left to right (red line). Shaded portions of the line show global warming cycles centered on the years 900 AD, 1050, 1300, 1550, 1775 and 1930 to 2008. Created by Global Weather Oscillations Inc.

The reported higher carbon dioxide readings in the 1800s were taken by instruments, whereas the lower readings were mainly recorded from ice core readings which tend to flatten and subdue readings. However, government officials and the IPCC ignored the reports of the higher readings, and hence suggest that almost all of the carbon dioxide increases since 1870 are entirely due to emissions from the burning of fossil fuels.

However, natural global warming cycles have occurred 22,000 times during the past half million years, and most recently 6 times) during the past 1,100 years (see figure 2) (Ref: 11,12,13,14,15. Analysis of plant stomata which will be discussed in detail later in this handbook, indicate that during a global warming cycle one thousand years ago, atmospheric carbon dioxide levels climbed to near 400 ppm, which is the same as the levels today. Even at the end of the last global warming cycle (around the year 1800), plant stomata readings showed high levels around 340 ppm. So what is happening with global warming and carbon dioxide? The IPCC indicates carbon dioxide levels and global warming are on the brink of being a runaway catastrophe, but is this really true, or just a political ruse?

An excellent starting point for investigating the possibility that increased levels of atmospheric carbon dioxide are causing global warming, is to take a look at temperature readings for the United States during the past 130 years. Then compare them with atmospheric carbon dioxide levels during the same period. Figure 3 shows the United States temperatures from the year 1880 to 2008 (in red), and the orange diagonal line represents carbon dioxide (ref: 16). As seen in the graph, carbon dioxide rose steadily throughout the entire period, but temperatures did not rise from 1880 through 1930, and actually fell during a 50 year period from 1932 to 1982. Conclusions drawn from this graph indicate that temperature increases have

absolutely no relationship between carbon dioxide increases to temperature patterns, but are instead cyclical.

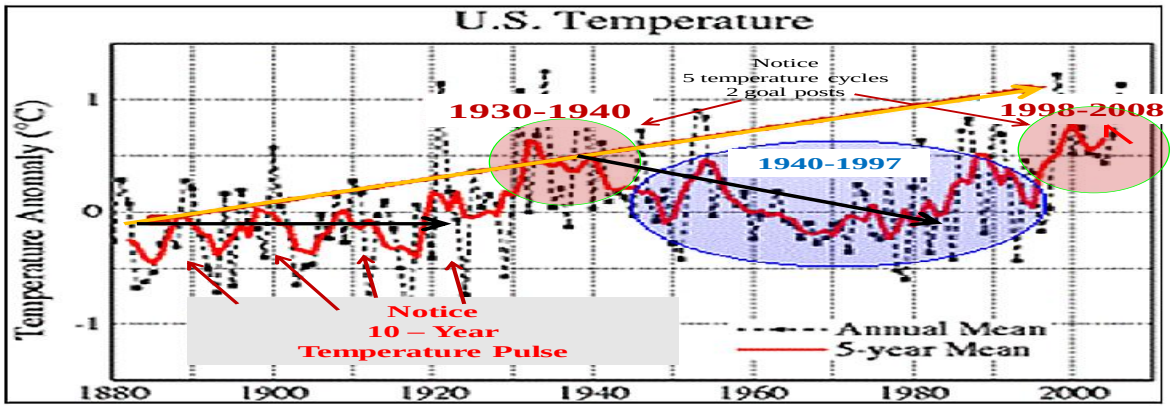

Figure 3 shows the United States temperatures in red 1880 to 2008, and the increase in carbon dioxide (orange line). Note that temperature rise and falls from 1880 to 1935 and 1940 to 1995 did not correspond to increases in carbon dioxide. Courtesy NASA and GWO.

The Earth's Atmospheric Gases

In agriculture, a greenhouse is used to provide an enclosed and often controlled environment to enhance the growth of plants. In many latitudes around the world, greenhouse temperatures are controlled to provide optimum growing conditions. Vital ingredients for growth are normally kept higher than the harsher surrounding climate outside the greenhouses.

The ingredients which are vital for healthy growth include; temperature of the air, water for the plants, water vapor which raises humidity, and carbon dioxide in the range of 400 to 1000 parts per million (ppm) to aide photosynthesis. Lettuce grows best with levels near 500 ppm, and certain flowering plants near 1000 ppm (ref: 17). The environment within the greenhouse also has elevated levels of oxygen due the photosynthesis process which expels the waste product oxygen through the plants stomatal cells during respiration. To safeguard these optimum growing conditions, the plants are confined within a glass greenhouse enclosure to keep all these elements in place, with this glass enclosure helping to trap or hinder long-wave thermal radiation heat from escaping this environment.

To some extent, the lower atmosphere of earth near ground level is much like the growing beds within greenhouses. Certain atmospheric gases provide these same essential ingredients. The term "Greenhouse Gas" is a term used to define a gas in the atmosphere that absorbs and/or emits radiation within the long wave thermal infrared spectrum. There are certain gases in the atmosphere that act much like the glass protecting a greenhouse, with these gases absorbing and/or trapping thermal radiation from the sun, or from sources near ground level. These gases are called "*atmospheric greenhouse gases*". The most important greenhouse gas is water vapor gas which provides humidity and cloud cover around the world. Without water vapor, earth would be a desert and have a much colder climate that would not be able to sustain life as we know it. Any geographic area around the world which experiences cloud cover at night, experiences much warmer temperatures than the arid cloud free deserts.

So what is all the hoopla concerning the earth's greenhouse gases, especially carbon dioxide? Is carbon dioxide the most important and most influential, or is it actually water vapor?

Figure 4 shows that 99% of the earth's atmosphere is comprised of the three primary gases - nitrogen, oxygen and argon (measured at the standardized height of 25km above earth). The remaining 1% of the atmospheric gases are considered "greenhouse gases". Water vapor represents almost the entire 1% (ref: 18,19,20). The gas carbon dioxide does not even show up on the graph in Figure 4, and is a trace element 100 times less prevalent than water vapor.

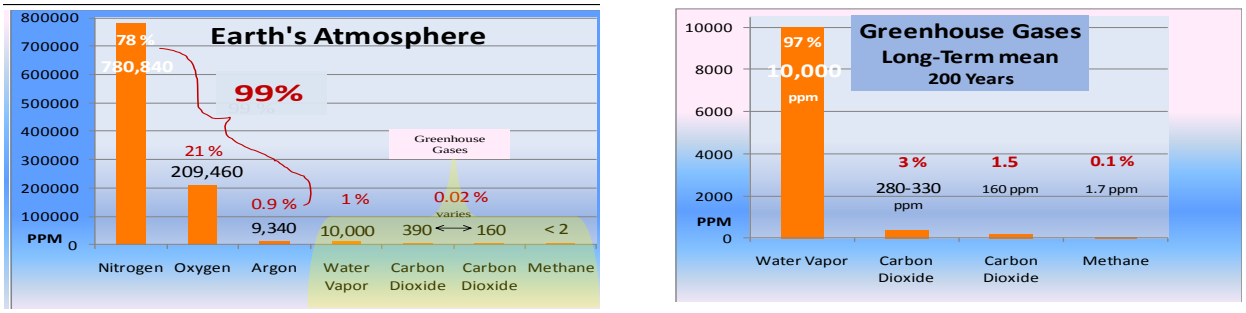

Figure 4 and Figure 5. Left graph shows 99% of the atmosphere is nitrogen, oxygen and argon. Only 1% of the atmosphere is greenhouse gases, water vapor makes up 97% of the atmospheric greenhouse gases (right graph). Carbon dioxide is a trace gas at only 0.03%, and only 1-4% of the greenhouse gases.

If we take a microscope and only look at the greenhouse gases in Figure 5, it is clearly seen that water vapor makes up 97% of the greenhouse gases, and is by far the most important greenhouse gas. Carbon dioxide oscillates from 1.5 % during glacial periods, to as much as 4% during warm interglacial periods every 116,000 years. And you guessed it, earth is now right at the peak of this warm 116,000 year natural cycle.

Where Carbon Dioxide Comes From

Atmospheric carbon dioxide comes from many sources, most of which are from natural environmental feedback processes. In figure 6, plus signs indicate sources which add carbon dioxide into the atmosphere. It can be seen that carbon dioxide comes from decaying plants, dead organisms, waste products, fossils and natural fossil fuels, oceans and bodies of water, root respiration, animal respiration, volcanoes and emissions from autos and factories (ref 21).

The combination of the warmer interglacial temperatures and this positive feedback of carbon dioxide which is a by-product of warming, is actually very good for the environment. The much higher values of carbon dioxide are a natural fertilizer and provides nourishment for photosynthesis. When temperatures and carbon dioxide rise, the earth suddenly awakens from a long rest period caused by the glacial period. Finally, plant life becomes robust again as carbon dioxide levels rise above 250 ppm. Plants take in more carbon dioxide which nourishes photosynthesis by helping the plants convert organic compounds and sunlight into sugars. And then comes the good part, the waste product of the photosynthesis process is "*oxygen*".

Besides water, oxygen is one of the most important elements for life. Today's oxygen levels have lowered to about 21% of the atmospheric gases. Earth is becoming oxygen starved. When the dinosaurs roamed earth, oxygen levels were much higher than today, a whopping 31% as compared to 21% today. Plant life was very robust, as was the animal life. And why is this? Carbon dioxide levels ranged from 1000 to as much as 1,500 ppm during this time, as compared to a mere 200-400 ppm today. According to the "Ontario Canada Ministry of Agriculture and Food", photosynthesis rises by 50% when carbon dioxide rises from 200 ppm to 400 ppm, and another 50% when raised to near 1000 ppm. In all reality, earth could use higher values nearer 500 ppm, this would provide more robust vegetation and more oxygen output from plants.

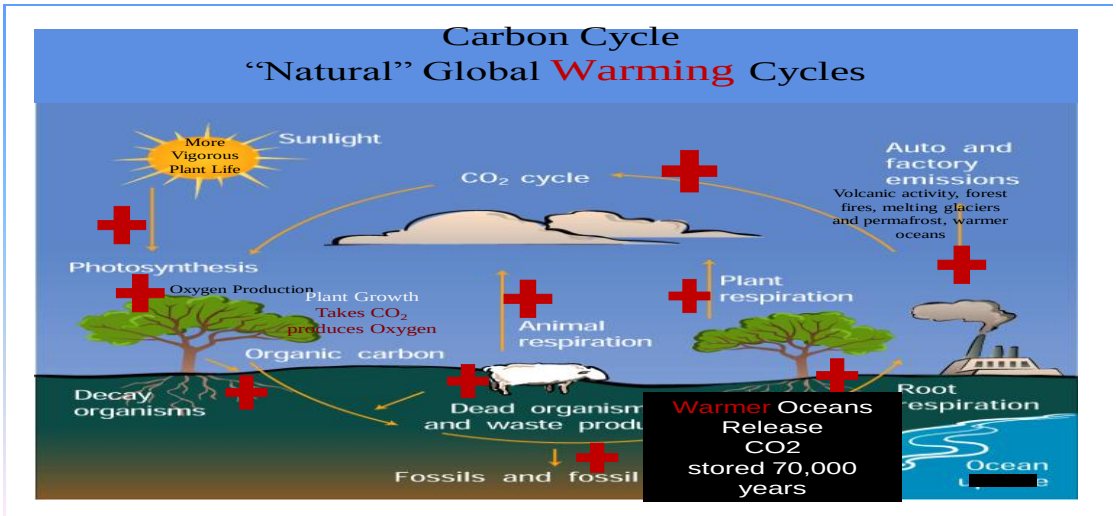

Figure 6 shows sources which add carbon dioxide to the atmosphere. During interglacial warm cycles all these sources add, with oceans adding large amounts to the atmosphere during the 10,000 year period leading up to the peak of each interglacial warm cycle. Created by Global Weather Oscillations Inc.

Seasonal and Glacial Variations in Photosynthesis - Carbon Dioxide

If everything remained constant on earth, the carbon dioxide cycle as shown in Figure 6 would continue with very little, or no interruptions, except possibly for the seasonal changes and environmental factors such as volcanoes and forest fires adding additional carbon dioxide.

But it is not that simple, only if it was. Earth has many natural cycles, one such cycle is caused by the seasonal tilt of the earth which causes our 4-seasons. When autumn begins turning to winter, northern latitudes are covered by snow and even temperate climates across the southern protions of the United States experience a halt in plant growth and photosynthesis. This completely shuts down photosyntheis and the intake of carbon dioxide by plant life as depicted in figure 7 (Ref: 22). Then as summer arrives, temperatures are once again warm and photosynthesis thrives. These short term cycles cause great variations to the carbon dioxide cycle.

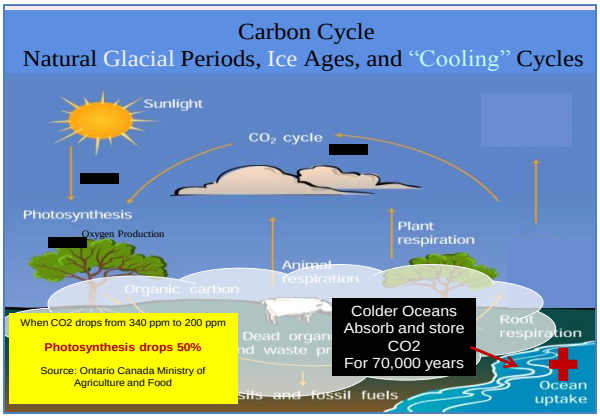

Figure 7. During winter and glacial periods ice and snow shutdowns the natural sources of carbon dioxide input into the atmosphere. When this happens, photosynthesis is likewise shutdown. **Created by Global Weather Oscillations Inc.**

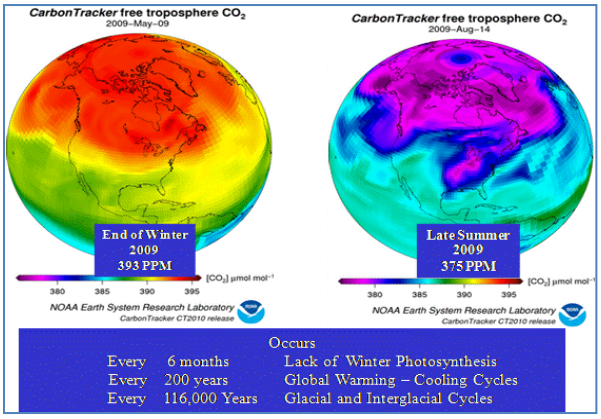

Figure 8. Left globe shows that concentrations of atmospheric carbon dioxide are much greater 6 months following the seasonal shutdown of photosynthesis. **Courtesy NOAA, Global Monitoring Division, Carbon Tracker.**

Figure 7 depicts a shutdown of natural carbon dioxide input into the atmsophere in northern latitudes during the winter months as trees and vegetation become dormant, and ground cover either frozen or covered by snow. The left globe in Figure 8 is satellite readings of atmospheric carbon dioxide near the troposphere (about 25,000 feet) in the spring just before photosynthesis resumes over northern latitudes. The globe to the right is satellite readings taken at the end of summer just before photosynthesis shuts down for the colder months. The satellite images indicate a large 15 point swing from 393 ppm to 378 ppm in carbon dioxide levels during this brief 6-month period (ref: 23). This is caused by carbon dioxide building up in the atmosphere due to the lack of photosynthesis during the winter months, and then a sharp decline after the summer photosynthesis process removed large quanties for carbon dioxide from the astmosphere.

If the atmospheric carbon dioxide concentrations can decrease or increase by 15 ppm due to photosynthesis over a short period of just 6 months, we must ask ourselves what can happen during global warming cycles that occur about every 230 years, or long-term interglacial cycles which occur approximately every 116,000 years? Is it reasonable to expect possible swings of 100 or more in carbon dioxide ppm during these natural cycles?

Glacial Variations and Interglacial Variations in Carbon Dioxide

It was just shown that the natural seasonal tilt of the earth casues dramatic seasonal changes in earth's climate, with photosynthesis causing variations of near 15 ppm in the atmospheric carbon dioxide concentrations. Now if this cycle is stretched from a half year out to 116,000 thousand years, we see exactly what we expected, an abrupt and very large cyclical variation in atmospheric carbon dioxide.

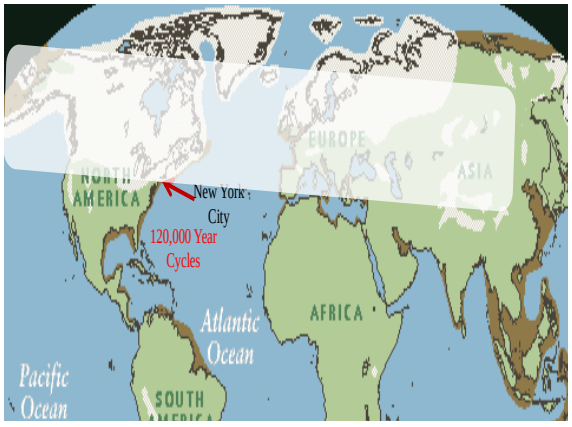

Figure 9. About every 116,000 years earth enters a glacial period due to the earth's orbit swinging out further from the sun. Snow and ice becomes a year around fixture over northern latitudes, thus shutting down photosynthesis.

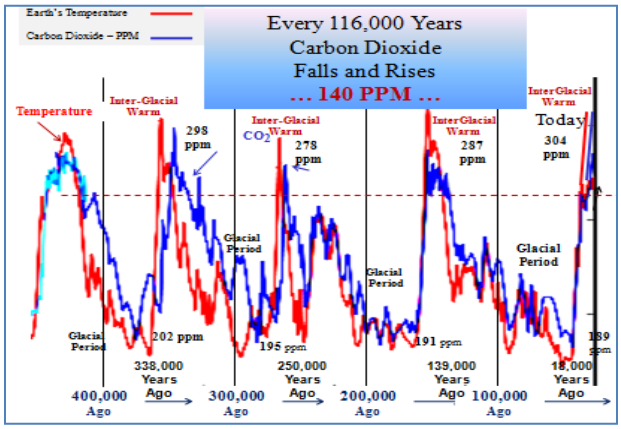

Figure 10. Five Interglacial warm cycles have occurred during the past 500,000 years. Red line shows temperatures and blue line carbon dioxide. Notice the carbon dioxide cycles following the temperature cycles, just like the 6-month seasonal cycles (Ref:24,25,26,27,28).

As seen in Figure 9, the snow and ice blocks the carbon dioxide feedback from plants and the ground areas. Colder oceans absorb much more of the carbon dioxide from the atmosophere, with this excess carbon dioxide sinking to the bottom of the oceans. It is here

where it is stored for thousands of years, waiting to be re-introduced into the atmosphere during the next interglacial period in about 80,000 years. In essence, the carbon dioxide feedback system is shutdown.

Five such cycles are shown in Figure 10, the first cycle on the left occured 425,000 years ago, one on the far right is the cycle today. The red line indicates the earth's temperature (from ice core samples), and the blue line is atmospheric carbon dioxide. Notice that temperatures and carbon dioxide peak about every 116,000 years. During glacial periods carbon dioxide levels fall to near 160 ppm due to the lack of photosynthesis, snow and ice covered land masses, colder oceans and the lack of decaying vegitation and animal life. Then as the earth warms again during the interglacial periods, mean carbon dioxide levels rise from 160 ppm to mean values of 300 ppm, and spikes to 400 ppm (as seen today and in other past cycles). This is a tremendously large natural swing of about 240 ppm in carbon dioxide.

Obtaining History of Global Temperatures and Carbon Dioxide from Plant Stomata

Researchers have known for a long time that the earth has experienced many temperature and carbon dioxide cycles during the past million or more years. These researchers are called Paleo-climatologists and Paleo-botanologists, and it is their job to research and reconstruct what the earth's climate has looked like over time.

There are several ways researchers can reconstruct past climates. The most accurate is by using recording instruments. However, we have only about 100-150 years of instrument data available. The analysis of tree rings is another tool. By analyzing tree rings we can reconstruct temperatures up to 7 thousand years ago. This is not as accurate as a thermometer, but it does provide a good picture. However, it does not provide information concerning atmospheric carbon dioxide levels, or provide data over the past half million years.

Because ice cores from Antarctic ice fields can be retrieved from old ice dating back nearly 1 million years, the IPCC and other Paleoclimatologists prefer this method for obtaining the history of atmospheric gases trapped in the ice. Although analysis of ice cores provide a very long history of the earth's atmosphere, the findings are not without some short comings and potential problems.

Because the sampled ice is very compacted and dense, individual years are not discernible, therefore the carbon dioxide data is usually normalized over a 200 year period. The averaged mean of this sample is then averaged in with 4 other 200 year samples to provide a mean over the entire 1000 year data point period. Due to this procedure, the carbon dioxide readings taken from trapped air bubbles within the ice, are very much dampened by averaging about 5 global warming and cooling cycles into one data point, thus lowering the overall recorded levels of carbon dioxide (Ref: 24,25,26,27,28). This averaging procedure eliminates spikes in readings which occur with every 230 year global warming cycle, and also eliminates the photosynthesis variations in the cycles. Therefore this is a major downside for this method. However, this method actually benefits global warming alarmists by eliminating any spikes caused by global warming every 230 years. If it was not for the averaging of data, carbon dioxide global warming spikes 400 ppm level during each of the 116 thousand year peaks of the 5 interglacial cycles during the past half million years. Ice core sampling will be investigated in more detail later on in this section.

Another method which is still in its infancy, but becoming more widely used, is the analysis of plant stomata cells found in fossils of plants. This will likely become the most widely used carbon dioxide climate reconstruction method, especially for determining carbon dioxide variations during the approximate 230-year global warming cycles.

Stomata are microscopic pores found in the leaf and stem epidermis of plants (Figure 11**)**. The stomata pores are used by the plant for gas exchange. Atmospheric air containing carbon dioxide and oxygen enters the plant through these openings where it is then used for photosynthesis and respiration. The size of the stomata cell opening determines the density of the entire stomata of the plant.

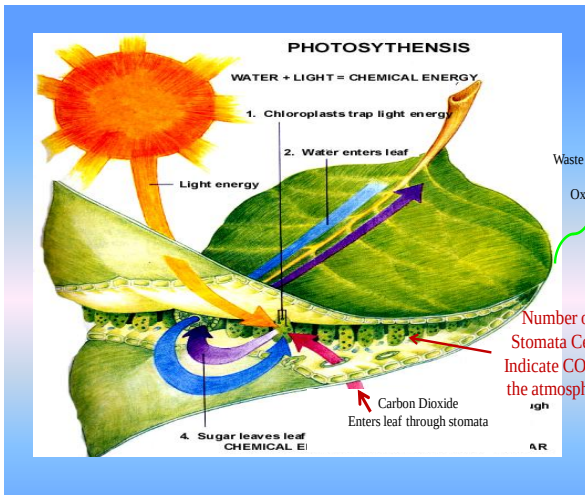

Figure 11. The plant leaf has stomata cells that take in atmospheric oxygen and carbon dioxide, then through the process of photosynthesis they release oxygen waste.

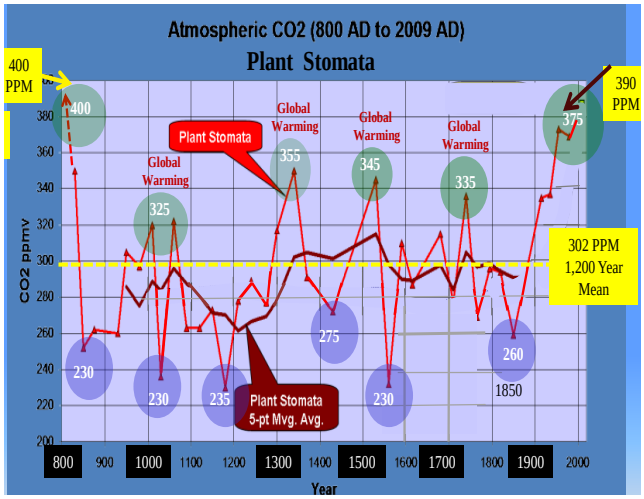

Figure 12. Red line is the atmospheric CO2 fluctuations 800 AD to 1997 as reconstructed using stomatal analysis (ref: 30,31,). CO2 levels reached 400 ppm around 800 AD and again in 1997).

Researchers have found that stomatal density in certain plants vary inversely with the concentration of atmospheric CO2. Or in other words, dense stomata cells mean less carbon dioxide in the air. Less dense stomata cells indicates there was more carbon dioxide in the air. By knowing this, a relationship is determined to provide an index showing levels of atmospheric carbon dioxide during the last 60 years of the life of the plant (ref: 28,29,30,31,32,33)

Unlike ice core data which are averaged over a 200 to 1000 year period, and block any chance of viewing 150 year fluctuations common with recurring 230-year global warming/cooling cycles, plant Stomata analysis can provide information regarding changes in carbon dioxide over a year or two, and can observe variability during short-term global warming cycles. Thus, stomata analysis can provide much more information than ice core readings, especially when analyzing the short-term global warming and cooling cycles which dramatically alter photosynthesis over relatively short periods of time. Figure 12 shows a plot of stomata carbon dioxide from 800 AD on the left side of the graph (red line), to 1997 on the right side.

The green circles indicate the maximum carbon dioxide readings, and the blue circles show the lowest values during the 1200 year period. In addition, every red circle was placed on the warmest peak of each of the 5 global warming cycles since 800 AD, and every blue circle is on the coldest portion of each global cooling cycle. As seen in the graph, the stomata analysis shows much more variability than the dampened ice core readings, and compare very closely with the 230-year warming cycles shown in Figure 2. This variability is due to variations of the

natural positive carbon dioxide feedback system during warming periods, and negative feedback during cooling cycles.

During 230-year global warming peaks, stomata analysis indicates carbon dioxide levels rose to near 400 ppm around 800 AD, then fell sharply as global cooling set in. In just a 100 year period, carbon dioxide concentrations fell to only 230 ppm, then rose sharply to 325 ppm at the height of the next global warming cycle around 1000 AD. Further analysis of the 230-year cycles show carbon dioxide levels following each warming and cooling cycle. During the coolest portion of the last global cooling cycle, readings fell to about 250 ppm around the year 1850, then rose sharply as warming occurred during the past 150 years, finally reaching near 400 ppm today. Ice core samples would have shown a flattened mean near 270 ppm during the period.

With GWO's forecast for dramatic sharp global cooling to begin around the year 2020, carbon dioxide levels should fall rapidly to levels somewhere between 250 to 280 by the year 2050.

Obtaining History of Global Temperatures and Carbon Dioxide from Antarctic Ice Cores

Southern Hemisphere's Antarctic region has massive reservoirs of glaciers and ice sheets that took literally hundreds of thousands of years to accumulate. Trapped atmospheric air bubbles within the ice can be retrieved from very old ice dating back nearly 1 million years. Analysis of the air bubbles can reveal a past history of the atmosphere, with focus mainly on carbon dioxide and temperature. Because of the potential for going back 1 million years in time, this remains the preferred method by many scientists for reconstructing the past history of our climate. However, analysis of air bubbles is not without some short comings and potential problems. But even with the problems which will be discussed in this section, this method remains the preferred procedure by the IPCC.

For ice sheets and glaciers to form, sea ice thickens and expands its coverage, and snow is deposited over these cold northern latitude areas. The glaciers and ice sheets are formed over the course of hundreds or thousands of years during the process in which snow is compacted to form ice. During this formation process, bubbles of air are slowly trapped within the ice. And what is within these air bubbles? Atmospheric gases such as oxygen, nitrogen and carbon dioxide. Or to put it simply, a recorded history of the earth's atmosphere as far back in time a 1 million years ago.

A fairly good, but not totally accurate history of earth's temperature and carbon dioxide cycles can be achieved by examining air bubbles locked in old Antarctic ice. However, it should be noted that Antarctic ice cores are only reliable if old ice greater than 4 to 5 thousand years old is used. It takes up to 5 thousand years for air bubbles to become permanently locked in place within the Antarctic ice at Lake Vostok. Thus any ice from Lake Vostok which is newer than 5,000 years before present time, is considered new ice, and is not reliable. Figure 13 shows an ice core drilled in thick glacial ice at Lake Vostok in the Antarctic (ref: 32). The cores were drilled 13,000 feet deep, with the age of the ice at the bottom recorded to be 425,000 years old. After the ice decompresses over the course of 7 months, it is then cut in slices and examined in a laboratory, then dated for age, and air bubbles analyzed to determine the percentage of atmospheric gases, and the temperature of the atmosphere for that time period.

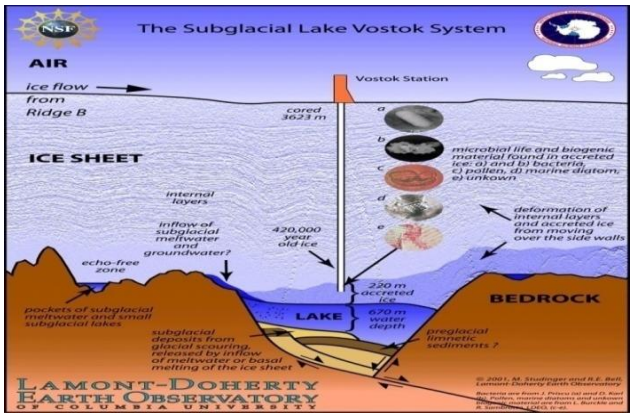

Figure 13 shows the Lake Vostok Antarctic ice core drilled 13,000 deep until reaching water. Age of the ice at the bottom of the core was dated to be 425,000 years old.

The graph in Figure 14 shows the results from the cores samples. The blue lines represent the derived atmospheric carbon dioxide, the red lines are atmospheric temperatures. The graph begins on the left at 400,000 years before present time, and shows 4 cold glacial and 4 warm interglacial periods. There are approximately 116,000 years between peaks of each interglacial warm period, the first peak was 328,000 years ago, second peak 245,000 years ago, third peak 116,000 years ago, and then the current cycle which is now at its warm peak.

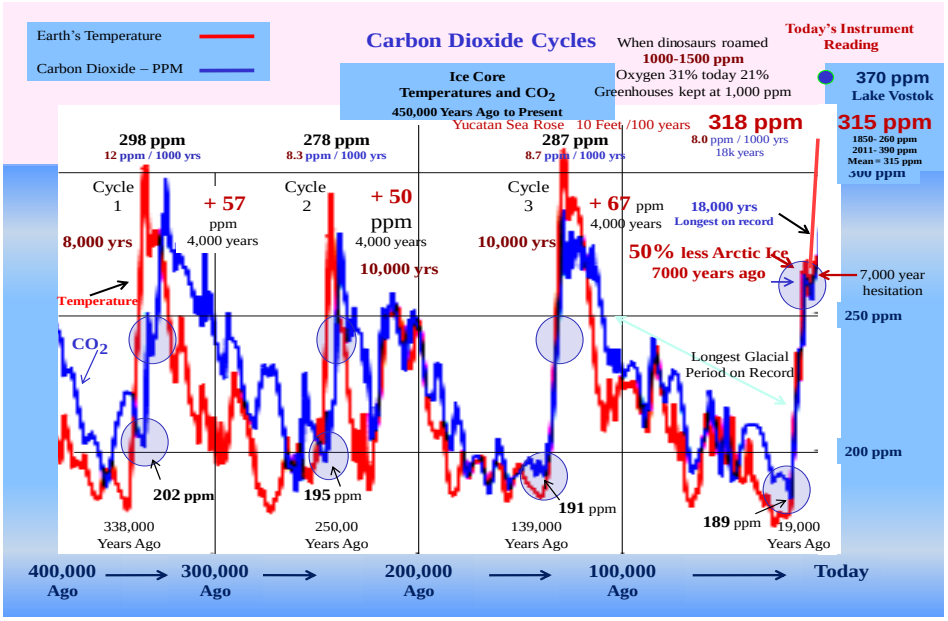

Figure 14 shows five interglacial warm periods occurring approximately every 116,000 years. The red lines are temperature, blue line is carbon dioxide. Notice that mean CO_2 levels rise by an average of 58 ppm during the last 4 thousand years of each warming.

It can also be seen in Figure 14 that at the end of each glacial period, carbon dioxide levels had fallen off considerably due to absorption and storage by the colder ocean waters. Also a contributor for less carbon dioxide being released into the atmosphere is the year around permanent snow and ice cover in northern latitudes. This essentially cuts off positive feedback contributions from land and water sources in this area, and reduces photosynthesis by 50% due to less vegetation, and/or slower growing vegetation in areas not covered by snow and ice. Thus mean carbon dioxide concentrations toward the end of the cold glacial cycles had lowered all the way down to a mean of about 180 ppm. Then as the interglacial periods begin, atmospheric temperatures warmed quickly, ice sheets rapidly melted and the mean carbon dioxide levels rise to just under 300 ppm at the height of each interglacial warm period.

Of special interest in Figure 14, is the comparisons of the rises and falls of temperature and carbon dioxide during each cycle. As seen in the cycle on the left side (about 330,000 years ago), temperatures climbed rapidly after the glacial period, and carbon dioxide also rose rapidly. It is extremely important to note the time of the carbon dioxide rise. Close examination of the graph (and in scientific literature) shows the carbon dioxide rise lagging behind the temperature rise by 200 to as much as 800 years. Also very important to note, is that after temperatures have reached the peak of the interglacial warm period, they begin cooling rapidly toward the next glacial period. However, as temperatures fall rapidly, carbon dioxide concentrations remain high for several thousand years. This completely destroys an extremely important hypothesis.

If the United Nations IPCC hypothesis is correct that carbon dioxide is the cause of global warming, then temperatures could never have fallen 320,000 years ago. The very high carbon dioxide levels would have kept the temperatures from falling, or would have caused "runaway global warming" hundreds of thousands of years ago. But it did not happen, and it did not happen with the cycle 220,000 years ago, or the cycle 116,000 years ago. Therefore it can be concluded that carbon dioxide is only a by-product of global warming, and not the cause or a contributor to global warming.

Today's Carbon Dioxide Levels are Naturally High

As you may recall, earlier on I mentioned "new ice" versus "old ice". New ice younger than 5,000 years old has not locked the trapped air bubbles in place within the ice core, and thus readings are not accurate, and cannot be used. But we can recreate what has actually happened during the past 5,000 years by using comparisons and mean values from the other 3 interglacial periods dating back 300,000 years before present.

First of all, tree ring data (not shown here) has proven that earth's atmospheric temperatures were much warmer during the past 5,000 years than what the "new ice" core data shows. And by studying past cycles we know that as temperatures rise, carbon dioxide levels also rise, but lag behind the temperature rise by 200 to as much as 800 years. Thus we can conclude there should have been a dramatic natural rise in carbon dioxide during the past 4,000 years, just as there was during the prior 3 cycles.

Additional examination of the 3 interglacial cycles prior to our current cycle, indicate that during the 4,000 year period leading up to each of the last 3 observed interglacial peaks during the past 330,000 years, mean carbon dioxide levels rose by 50 to 67 ppm in each of the cycles. However during the 4,000 years leading up to the peak of the current 116 thousand year cycle which is now peaking, the "new ice" core data indicated a rise of only about 5 ppm. So what is going on here; do we have bad data?

Yes we do have some bad data. It is the data from the "new ice" younger than 5,000 years old. It is likely that this new ice has not locked air bubbles permanently in place within the ice. Knowing this, we can now recreate what the rate of increase has been during the period in question. If we simply take the mean rise of carbon dioxide for during the 4,000 year period leading up to the peak of the prior warm interglacial cycles, we find the current cycle should have risen by about 58 ppm (ref: 33). Now adding this to the reading 4,000 years ago we find that the mean ice core readings today should be (260 + 58 = **318 ppm**).

Now we must remember, ice core values are mean values taken from a slice of ice representing a spatial time period of about 1 thousand years. It is not an instantaneous reading showing carbon dioxide levels at a given point in time, but instead, a mean value over a long period of time. Because it is a mean value dampening readings, short-term 100 year spikes of carbon dioxide associate with short-term global warming cycles are not recorded. This is why ice core research does not have the ability to show that **mean** carbon dioxide levels have ever risen above 300 ppm during the past half million years. However, the current interglacial cycle is an exceptionally long cycle that began about 16,000 years ago (most last only 8 to 10 thousand years). Carbon dioxide cycles were already relatively high 6,000 years ago (260 ppm), with the 4,000 year carbon dioxide surge leading up to the peak of the current interglacial cycle yet to occur. Thus etching in stone that the current cycle would rise above 300 ppm .

To put today's readings in perspective with past interglacial and global warming cycles, we should not compare what the IPCC does, and that is to compare apples to oranges, or ice to water. Since 1958, official global carbon dioxide readings have been observed and recorded on top of Mauna Loa Mountain in Hawaii, at an elevation of 13,680 feet. Meanwhile the ice core readings are taken from ice core drill sites in Antarctica where carbon dioxide levels typically run at least 20 ppm lower than in Hawaii. In addition, the Hawaii readings are instantaneous instrument recordings, whereas the ice core readings are an average value covering about a 150 to 250 year time period, then averaged in with 5 other readings to acquire a 1000 year mean. This is truly comparing apples to oranges, and borders on junk science. Because of this, we need to adjust today's readings to fit into a more comparable data base, and also compare the results with those found in stomata readings.

We do this by taking the two values (ice core and free air instrument readings at Lake Vostok) and dividing by 2 to acquire the mean or average value during the past 160 years (similar to ice core means). Taking the value of 370 ppm (2011 free air readings at Lake Vostok, Antarctica) and 260 ppm (readings 160 years ago), then averaging by dividing by 2, this gives us a mean value of **315 ppm** (260 + 370 divided by 2 = 315 ppm).

Now we have three values for today's readings. First there is the value of **318** ppm from our re-created mean ice core levels, the instrument mean level of **315** ppm, and the 1 thousand year mean stomata readings **300 to 315 ppm**. With all 3 readings in close proximity, we can now conclude that today's mean current levels of carbon dioxide are normal for this particular interglacial cycle, and are within only a few points of instrument readings, have not caused global warming, have increased photosynthesis and have not harmed the environment.

Climate Model Limitations

By observing seasonal and annual variations in the earth's oceans and atmosphere, scientists have made climate research advances over the past 100-years. But these advances have "only" given us a basic understanding of oceanic and atmospheric interactions, with many unsolved mysteries of the oceanic and atmospheric coupling system still remaining.

Even so, many researchers, and especially members of the United Nations IPCC group, insist very reliable climate forecasts are being produced. However, every few months the IPCC releases revised forecasts and cite reasons why there forecast was not correct. They say, "if you wait 10-years the forecast will then start performing the way we said it will". This is a major cover-up by the IPPC, just a way to buy an additional 10-years on the climate change hoax.

The greatest hindrances to IPPC climate forecast models largely rests on data

implemented into the computer forecast models. If the wrong data and/or hypothesis is used, you are on a fast track to anarchy. And what is the wrong data? It is data that does not incorporate the past history of the oceans, atmosphere, carbon dioxide levels, and does not incorporate interactions of the natural cycles of the sun and moon with earth's oceans and atmosphere. Without these elements, you have very imperfect climate models.

In the Old Testament of the Bible, Genesis I (Verses 9-19) says the cycles of earth's days, seasons, oceans and atmosphere where created by God the creator of earth and the universe. Does this mean humans have created global warming? Of course not, these are God's natural cycles.

Earth's Natural Rhythm and Global Warming -Cooling Cycles

Most scientists believe that earth's glacial and interglacial cycles that occur like clockwork about every 116,000 years, are directly produced by changes in the earth's orbit around the sun. When the earth's elliptical orbit swings out away from the sun every 116,000 years, earth receives less solar radiation and falls into a long glacial period. During warm interglacial periods, the earth's orbit is closer to the sun with earth receiving more solar radiation and warmth from the sun. These cycles are called the "Milankovitch Cycles", and are proven science.

After researching various elements of the Milankovitch Cycles, Mr. Dilley found that specific sub-cycles which are called the "Lunisolar Precession" are a major factor in determining and maintaining the earth's natural climate rhythm. It is the Lunisolar Precession that controls almost all of earth's climate cycles, and it is well known throughout the climatological science community, that specific "Milankovitch Cycles" are the primary mechanism that controls glacial and interglacial periods on earth. If it were not for the gravitational tidal field of the moon, and the electromagnetic and gravitational tidal field of the sun, earth would spin out of control (ref: 23). It is these two bodies that keep earth's orbit and tilt within certain limits, and provide earth's climate cycles.

Mr. Dilley researched the Lunisolar Precession cycles for over 20 years, and correlated specific cycles to recurring cycles of climate. GWO incorporated his findings into climate - weather forecast models which provide a unique approach and extremely accurate long range cycle predictions for historical major earthquakes, regional hurricane landfalls many years in advance, historical floods, droughts, natural carbon dioxide cycles, global warming and global cooling cycles.

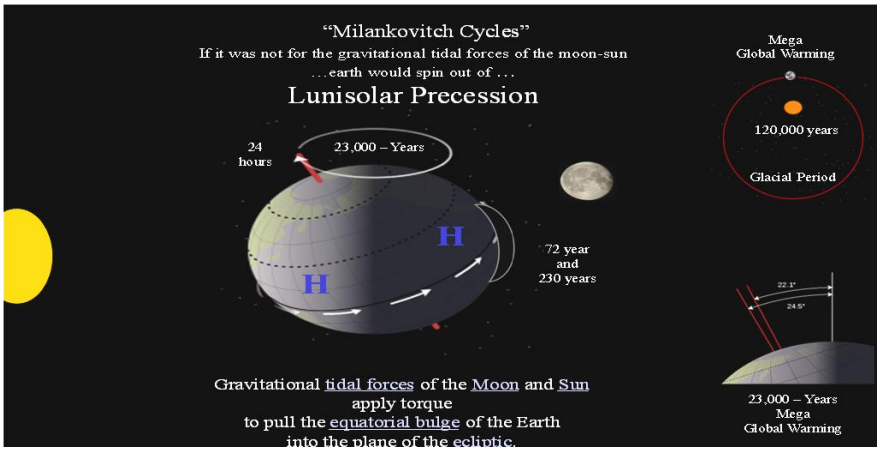

Figure 15 shows the Milankovitch Cycles and the Lunisolar Precession that maintain earth in its proper orbit, tilt and elliptical orbit around the sun (upper right side of the graphic).

Graphic created by Global Weather Oscillations Inc.

For instance; in the upper right hand corner of Figure 15, it is shown that earth moves around the sun in an elliptical path, swinging out further from earth annually (ref:40), but much more drastically approximately every 116 thousand years. It is these cycles which are the primary cause for glacial periods, and our warm interglacial periods as the earth swings in closer to the sun. Varying sunspots also determine the strength of the solar radiation received here on earth. In the center of the picture is the earth with the moon to the right and sun to the left. The moon also moves around the earth in an elliptical patch, varying in distance from earth and in its elevation in the sky. Strong gravitation cycles are realized when the moon swings in closer to earth and when it comes in conjunction with the linear plane of the sun.

These cycles are called the Lunisolar Precession (Ref: 2,34,35,36,37,48,39,40,41,42,43) and have very specific strong cycles of approximately 9-years as shown in Figure 16. The 3 peaks in the graph show the relative position of the moon in northern latitudes every 9-years, with the moon's apparent elevation in the sky between 20 to 28 degrees north latitude, which is right on top of the atmospheric high pressure belt that surrounds the earth. The base of the

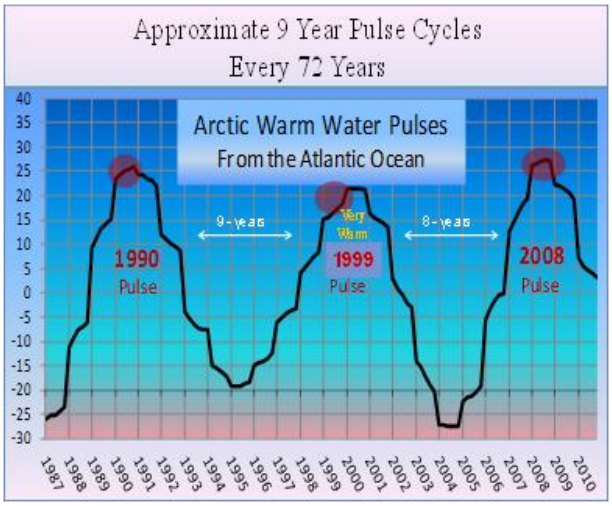

Figure 16 shows the approximate 9-year Lunisolar gravitational cycle. It is this cycle that is a major contributor to earth's climate cycles. (**Created by Global Weather Oscillations Inc.)**

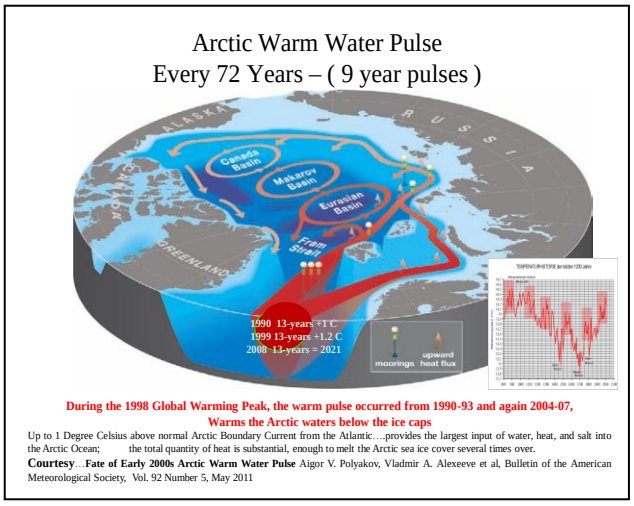

Figure 17 shows the North Atlantic warm water pulse (Ref:41) that enters the Arctic Ocean in coincidence with the 9-year Lunisolar Pulse shown as the red dots in Figure 16.

troughs indicate high declinations of the moon in the southern moon in the southern hemisphere. The red dots in Figure 16 represent the occurrences of the 9-year Lunisolar Precessions that coincide with a North Atlantic warm water pulses (Ref: 44) that enter the Arctic Ocean about every 9-years. Every 230-years there is a very strong Lunisolar Pulse that likely cause the warmest water pulses from the North Atlantic. This begins the global warming cycle and the 10-year global warming around the world (such as the 1930s). About 72-years later a second very warm water pulse enters the Arctic due to a very strong Lunisolar Pulse (Figure 17). This will cause the second 10-Year global warming around the world as seen in Figure 18 which shows 10-year temperature pulses, and the two 10-year warm global warming events.

Thus it can be seen that it is likely the approximate 9-year Lunisolar gravitational tidal pulse that sets up a rhythm or heartbeat for earth. During the recurring 230-year global warming cycles a very strong gravitation pulse acts like a plunger in the North Atlantic, causing a warm water pulse surge to enter the Arctic Ocean. It takes the warm water 13-years to circulate around the Arctic Ocean (Ref:43), gradually cooling during the period as it mixes with

cooler water. It is this pulse that melts the Arctic Ice from the bottom up and eventually causes open waters to appear as melting continues during the lifespan of the pulse.

The strongest pulses are separated by 72-years during the 230-year global warming episode. For instance, a very warm water pulse caused 10-years of warm global temperatures in the 1930s, and a second very warm pulse 72-years later caused 10-years of warm global temperatures from 1998 to 2008. This approximate 9-year pulse also corresponds closely with temperature pulses around the world. If we extend the Lunisolar Precession 9-year Pulse

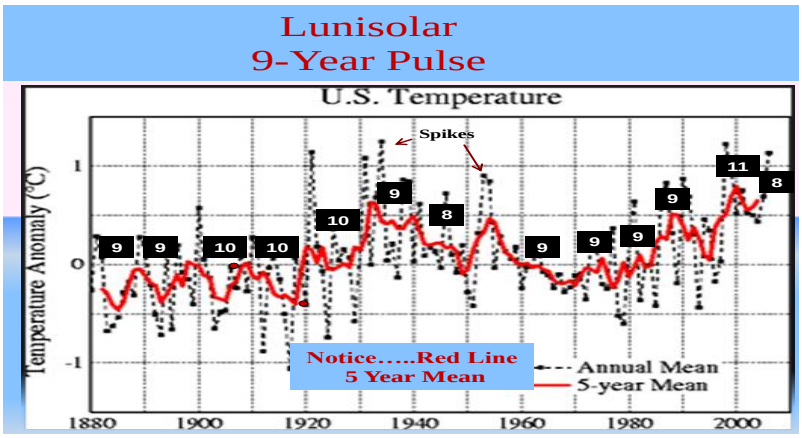

Figure 18 Shows the United States temperatures (red line) from 1880 on the left to the year 2008. Notice an approximate 9-year temperature rhythm for temperatures in the United States. Note the peaks in temperatures every 8 to 10 years, which are very similar to the 9-year Lunisolar. **(Created by Global Weather Oscillations Inc.)**

out to an approximate 230-year pulse (full moon cycle only shown here), we get a clear picture of the relationship of the Lunisolar pulse to global warming cycles which occur approximately every 230 years. Figure 19 shows global temperatures (Ref: 2) on the bottom portion of the plot (blue line), with the twin global warming peaks shaded in red. Notice that each global warming

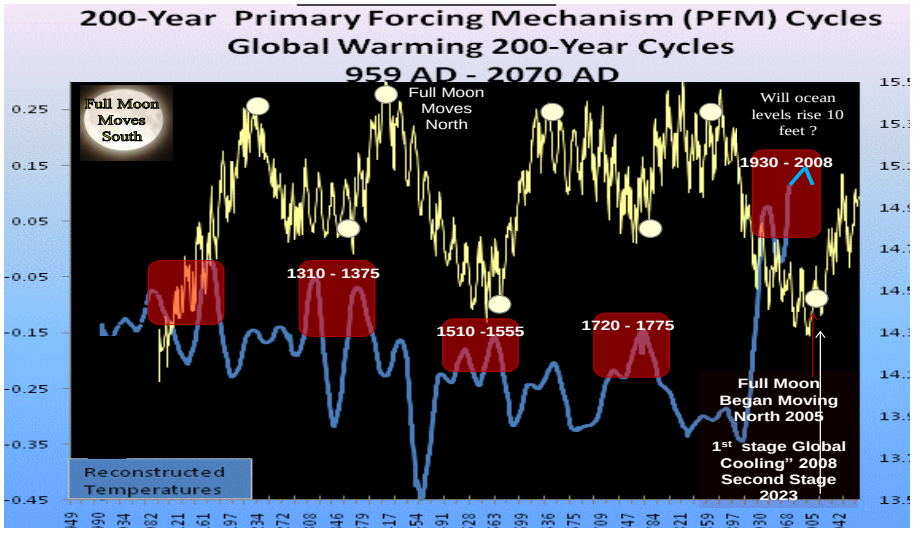

Figure 19 shows global temperatures in blue, and the approximate 230 year cycle of the full moon Lunisolar Pulse. Red boxes note the twin temperature peaks on each global warming cycle. **(Created by Global Weather Oscillations Inc. 2007.)**

has twin peaks separated by about 70-years. It can be clearly seen as the full moon drops to its lowest values, the first global warming peak begins (in the year 1310). Then the second global warming peak occurs about 70-years later as the Lunar cycles reaches the end of the lowered cycle and begins ascending once again (year 1375). This same scenario also occurred in the years 1610 and 1666, 1720 and 1776, and in 1930 and 2008. During the current cycle, it caused the two warm periods from 1930-40 and 1998-2008. In 2008, the Lunisolar Precession began its ascent (rising from the low point), with this ascent signaling the beginning of Phase I Global Cooling.

Conclusion

Since 1958, official global carbon dioxide readings have been observed and recorded instantaneously by instruments on top of Mauna Loa Mountain in Hawaii. Historical carbon dioxide and temperature levels are reconstructed by analyzing atmospheric air bubbles trapped in ice up to 1 million years ago. The downside to this method is that ice core readings are mean values taken from a slice of ice representing a spatial time period up to 1 thousand years. This averaged mean value severely flattens the measured levels of carbon dioxide, and thus dampens readings and eliminates short-term 100 year spikes of carbon dioxide associate with short-term global warming cycles. Because of this, ice core research does not have the ability to show short-term carbon dioxide variability's which occur during 230-year global warming cycles.

To put today's atmospheric carbon dioxide levels in perspective with earth's climate variations during the past half million years, or even the past 100-years, we should not use IPCC methods which are similar to comparing apples to oranges. For instance; we cannot compare 1000 year mean data to instantaneous instrument readings, and we cannot compare carbon dioxide levels in Hawaii to atmospheric carbon dioxide levels found in Antarctic ice. But we can compare past interglacial periods to the current interglacial peak that earth is now in, and we can compare plant stomata carbon dioxide readings to short-term 230-year global warming cycles. And we can compare mean values found in ice cores during the past 1,200 years to plant stomata carbon dioxide levels during the same period (800 AD to present time).

Research presented in this handbook showed that during the 160 year period from 1850 to 2010, the mean carbon dioxide levels retrieved from plant stomata and instrument readings were nearly identical, about 300 to 315 ppm. It was also shown that during the course of the past 12 hundred years since 800AD, the mean levels found in reconstructed ice cores and plant stomata were nearly identical, 318 to 304 ppm respectively. It was also found by reconstructing the past 4,000 year history of new ice core samples, present day mean ice core readings should be showing mean carbon dioxide values near 318 ppm, which are very similar to all the readings shown above. It has also been found that current carbon dioxide readings taken via instruments and plant stomata, both show near identical readings near 390 ppm.

It has also been shown through satellite measurements that atmospheric carbon dioxide varies greatly from the end of summer to the end of winter, mostly due to photosynthesis. Plant stomata readings indicate a close relationship between the global warming cycles which recur approximately every 230-years, and large variations in plant stomata carbon dioxide during these same cycles. It can be concluded that atmospheric carbon dioxide naturally varies by as much as 140 ppm from the peak of a 230-year global warming cycle to the peak of the global cooling cycle which occurs only about 100-years following the end of the warming peak. And finally, it is concluded that present day atmospheric carbon dioxide levels are perfectly normal for the cycle earth is presently experiencing.

By using the Lunisolar Precession, Mr. Dilley of GWO predicted in 2007 that Phase I global cooling would begin with the initial beginning period of the Lunisolar ascent in 2008. In 2008, global temperatures and especially winter temperatures began cooling. Phase II global cooling is predicted near the year 2020, ushering in rapid and quit severe global cooling for the next 50 years, with temperatures around the world rapidly falling to levels not seen since the 1800s. The coldest temperatures will likely be between the years 2024 to 2050, with many regions of the world possibly experiencing crop failures.

Figure 13 shows 6 global warming cycles since the year 800 AD. Notice 10 to 35 years

following the onset of global cooling, historical major volcanic eruptions occurred (noted by yellow circles). Each of these major eruptions were followed by a couple extreme cold, and massive crop failures.

The beginning of the current Lunisolar ascent has already ushered in an increase in earthquake activity around the world, with major earthquakes occurring around the Pacific Ring of Fire. The Lunisolar Pulse will likely cause a major historical volcanic eruption much like Tambora in 1815, Huaynaputina in 1600, Ringitoto in 1350 and Eldgja in 934 AD (ref: 50,51,52,53). In conjunction with rapid global cooling, It was Tambora in 1815 that caused the famous "Year of no Summer" in 1816. From Maine to Virginia there were killing frosts during the summer of 1816, and massive crop failures.

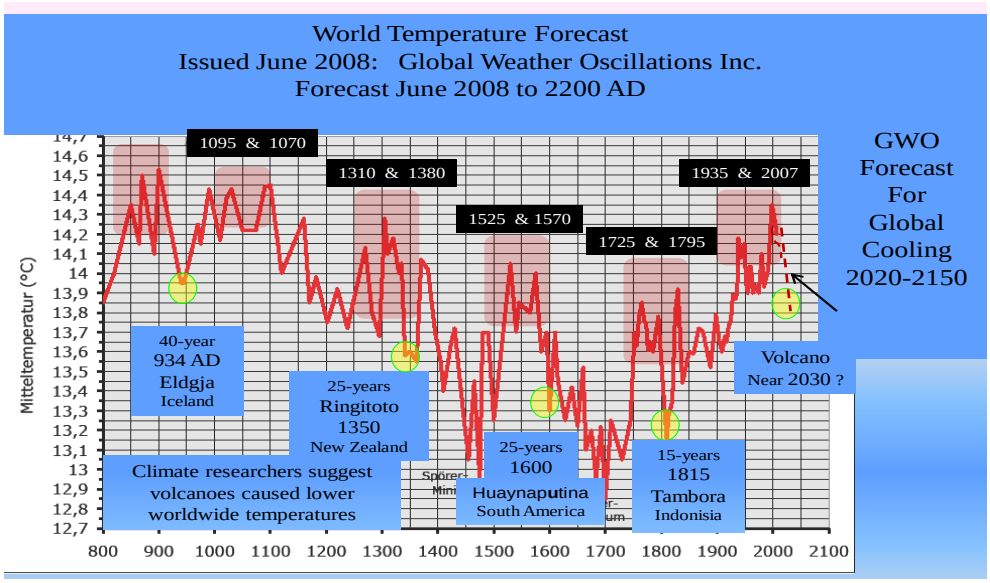

Figure 20 shows six global warming events since 800 AD. Global warming occurs approximately every 230 years in conjunction with the Lunisolar Precession, and each global warming event normally has two twin 10-year temperature peaks separated by about 70-years. **(Created by Global Weather Oscillations Inc. 2007.)**

Climate Prediction - Next 300 Years - CO_2 and Temperature

Natural cycles of global cooling are potentially more dangerous than global warming. These natural cycles are a natural regulatory rhythm which is required by nature. Humans need sleep after a period of activity, and earth likewise requires active and rest periods.

In 2008, earth entered phase I global cooling. Phase II cooling will begin around the year 2020, this will usher in very dramatic global cooling, hurling temperatures quickly back to where they were in the cold 1950s and 1960s, and then further back to the climate seen in the 1800s. Coldest temperatures will be from about the year 2024 to 2050. There will be rapid ice pack regeneration until the peak of the next global warming cycle in the year 2140. Due to the Lunisolar gravitation stress on the outer liquid core and floating plates beneath the earth's crust, there will be a historically strong climate changing volcano around 2020 to 2030. There will also be increased earthquake activity from 2008 through 2024.

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