`Open Review' (Part 2)

(Click here for Part 1)

of

Comments on "SOLAR ACTIVITY: A DOMINANT FACTOR IN CLIMATE DYNAMICS"

(Dr Theodor Landscheidt)

by

Charles. "Chick" F. Keller

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Los Alamos, New Mexico

As this is a comprehensive response to Dr Landscheidt's original paper, review comments on the above critique are invited and will be published in this review file.

Comments should be emailed to daly@microtech.com.au with `Keller Critique' in the subject line. All comments will be published, with only personal remarks and/or ad hominems omitted.

Dr Landscheidt's original paper can be seen here

Chick Keller's comments on Dr Landscheidt's paper can be seen here

Onar Åm (Norway)	4 Feb	Why the Antarctic has now warmed. Ozone?
John Daly (Australia)	4 Feb	Antarctic non-warming. Ozone not the answer
Onar Åm (Norway)	4 Feb	Failure of models to show Antarctic non-warming
Jarl Ahlbeck (Finland)	4 Feb	Antarctic non-warming - complex interactions?
Hugh Ellsaesser (USA)	4 Feb	More on the ozone-CO2 interactions in the Antarctic
Romney Clarke (USA)	5 Feb	Proposal to measure the 15 micron band as per Barrett hypothesis
Richard Courtney (Britain)	7 Feb	Using an eclipse to measure the broadband IR band
Richard Courtney (Britain)	9 Feb	How to measure the 15 micron band emissions close to the surface
Peter Dietze (Germany)	9 Feb	Shows CO2 transmission values
Richard Courtney (Britain)	10 Feb	Are the CO2 transmission band fringes saturated?
Hugh Ellsaesser (USA)	10 Feb	Discussion of negative feedback mechanisms in the tropics
Onar Åm (Norway)	11 Feb	Response to Hugh Ellsaesser re role of models
Jim Clarke (USA)	11 Feb	Acknowledgements and comments re saturation effect with CO2
Peter	11	Discusses the fringes of the CO2 absorption bands and their effect
		Discusses the numerous solar events as they affect earth's climate
		Solar coronal holes and their impact on current weather
		This debate is continued in consolidation with two others here

Dietze Jim Hughes Jim Hughes	**(Germany) (USA) (USA)**	**Feb 13 Feb 17 Feb**

Subject: **Comments on SOLAR ACTIVITY: A DOMINANT etc. etc.**
Date: Fri, 4 Feb 2000 12:04:08 +0100
From: "**Onar Åm**" <onar@netpower.no>
To: **John L. Daly** <daly@vision.net.au>

<John Daly said:>

> The South Pole *should* be warming whatever other factors are in play.

There may be a very simple explanation to the cooling in the Antarctic, namely the ozone depletion there. Since the 50s, when the ozone hole was first observed, there has been a significant depletion. In the same period the continent as a whole has been cooling.

Onar.

Subject: **Comments on SOLAR ACTIVITY: A DOMINANT etc. etc.**
Date: Sat, 05 Feb 2000 00:08:42 +1100
From: "**John L. Daly**" <daly@vision.net.au>
To: **Onar Åm** <onar@netpower.no>

Dear Onar

I wrote:

> The South Pole *should* be warming whatever other factors are in play.

You replied:

> There may be a very simple explanation to the cooling in the Antarctic, namely the ozone depletion there. Since the 50s, when the ozone hole was first observed, there has been a significant depletion. In the same period the continent as a whole has been cooling.

My response:

The Antarctic ozone depletion is specific to the early spring, lasting about 4 to 6 weeks. The chart I showed (data source: Univ. of Wisconsin-Madison) for December would not be subject to the `hole' event, and yet the December pattern is not much different to the annual one. Also, the absorption bands of ozone lie at around 10 microns, equivalent to a surface temperature of 16-17° C at the dominant wavelength. Ozone loss would have greatest impact in temperate zones, not polar ones.

Since most of Antarctica is sub-zero all year round, I don't think ozone loss for one month of the year will counteract the effect of enhanced CO2 acting all year round where the surface emission wavelength closely matches the absorption bands of CO2.

We still end up with the enigma of rising CO2 having no effect on interior Antarctic temperatures.

Methinks we need another explanation.

John Daly

John L. Daly
"Still Waiting For Greenhouse"

Subject: **Comments on SOLAR ACTIVITY: A DOMINANT etc. etc.**

Date: Fri, 4 Feb 2000 16:02:33 +0100
From: "**Onar Åm**" <onar@netpower.no>
To: **John L. Daly** <daly@vision.net.au> CC: "**Chick Keller**" <cfk@lanl.gov>

<John Daly said:>

> The Antarctic ozone depletion is specific to the early spring, lasting about 4 to 6 weeks. The chart I showed (data source: Univ. of Wisconsin-Madison) for December would not be subject to the `hole' event, and yet the December pattern is not much different to the annual one. Also, the absorption bands of ozone lie at around 10 microns, equivalent to a surface temperature of 16-17°C at the dominant wavelength. Ozone loss would have greatest impact in temperate zones, not polar ones.
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> Since most of Antarctica is sub-zero all year round, I don't think ozone loss for one month of the year will counteract the effect of enhanced CO2 acting all year round where the surface emission wavelength closely matches the absorption bands of CO2.
>
> We still end up with the enigma of rising CO2 having no effect on interior Antarctic temperatures.
>
> Methinks we need another explanation.

Point taken. Whatever climate singularity is going on in the Antarctic, the GCMs are not capturing it.

Onar.

Subject: **Comments on SOLAR ACTIVITY: A DOMINANT etc. etc**.
Date: Fri, 4 Feb 2000 13:33:23 +0200
From: "**Jarl Ahlbeck**" <jarl.ahlbeck@abo.fi>
To: **Onar Åm** <onar@netpower.no>, "**John L. Daly**" <daly@vision.net.au>, "**Chick Keller**" <cfk@lanl.gov>

Possible, Onar, but its is a complicated hen1-egg1-hen2-egg2 problem. If you increase CO2 you will cool the stratosphere. A cooler stratosphere will give less ozone anyway. Less ozone due to direct anthropogenic (CFC) or solar mechanisms will cool the stratosphere too. How these processes are seen on the surface is highly uncertain, it the stratosphere cools due to CO2, the surface should warm, not cool. But what happens at the surface if the stratosphere cools due to ozone depletion ? Then the cooling is a result of decreased absorption of incoming solar SW radiation, a complete different cooling mechanism that the cooling due to greenhouse gases. Now more SW radiation arrives to the surface from the space, and the surface will warm in that case too.

Maybe the changes in the South Pole we have/ have not seen so far are all natural/unnatural .....

Jarl

Subject: **Comments on SOLAR ACTIVITY: A DOMINANT etc. etc.**
Date: Fri, 04 Feb 2000 17:21:11 -0800
From: **Hugh Ellsaesser** <hughel@home.com>
To: Onar Åm <onar@netpower.no>
CC: daly@vision.net.au <etc.>

Dear Onar,

<John Daly wrote:>

> The South Pole **should** be warming whatever other factors are in play.

Onar Åm replied:

> There may be a very simple explanation to the cooling in the Antarctic, namely the ozone

> depletion there. Since the 50s, when the ozone hole was first observed, there has been a significant depletion. In the same period the continent as a whole has been cooling.

The ozone hole began from circa 1979. If we accept IPCC I believe the radiative effect of the increased CO2 should surpass that of the ozone hole. The big question is whether the subsidence and outflow are strong enough to overcome these changes in radiative balance.

Regards, **Hugh.**

Subject: **Keller Discussion**
Date: Sat, 5 Feb 2000 01:44:31 -0500
From: "**ROMNEY CLARKE**" <romney@cmalbums.com>
To: <daly@vision.net.au>

Dear Mr. Daly,

Thank you for your site. I am a meteorologist working on the forecasting end of weather, but I have been following the global warming science for over 15 years. 10 years ago a began to notice the science going bad. Your web-site has been a life-line of truth in this lopsided debate. Thanks again!

Earlier today I read the open debate on Mr. Keller's letter and was introduced to the fascinating idea of CO2 saturation in regards to IR absorption. Courtney's summation of Barrett's work was wonderful. The analogy of the sheets of paper in front of the light, produced the appearance of a light bulb over my head. Can it really be that simple? If so, why don't we measure it?

Can we not build a detector of EM radiation for the 15 micron wavelength, mount it on a platform and let it rise a few hundred meters into the air on a sunny day? If Barrett is correct, the 15 micron IR should disappear after a 100 meters and man-made global warming is not a problem.

The idea is so simple, I must believe I am missing something. Is it impossible to produce a 15 micron detector? Is there more to Barrett's work than was given in the analogy?

If it is simply a technical problem, the cost of overcoming it would be miniscule compared to the 2.4 billion dollars or our money Mr. Clinton wants to spend on studying global warming.

Barrett's theory makes sense and explains why the models have been so bad at predicting temperature change. It explains why the earth has been warmer in the past when CO2 was at a lower level (MWE). It explains practically everything when coupled with Dr. Landschiedt's solar theories and the newly discovered, natural atmospheric and oceanic cycles.

Again, why don't we build a device and measure this 15 micron IR and see if CO2 can warm us anymore than it already has?

Thank you! **Jim Clarke** Ft. Myers, FL

Subject: **The Barrett analysis**
Date: Mon, 7 Feb 2000 12:55:42 GMT
From: richard@courtney01.cix.co.uk (**Richard Courtney**)
To: "**ROMNEY CLARKE**" <romney@cmalbums.com>

Dear Dr Clarke:

I saw your comments on John Daly's web site concerning my 'paper analogy' to explain the 'Barrett analysis'. Thank you for confirming that I made the matter clear at least for you.

You say;

> "Can we not build a detector of EM radiation for the 15 micron wavelength, mount it on a platform and let it rise a few hundred meters into the air on a sunny day? If Barrett is correct, the 15 micron IR should disappear after a 100 meters and man-made global warming is not a problem."

I have also considered this experiment, but have failed to find an appropriate narrow-band detector.

An alternative experiment I am attempting is to monitor the broadband IR in the two vertical directions throughout a solar eclipse. I set up this experiment in Cornwall last year but - although the sun shone on the previous day - it rained throughout the eclipse. I have booked a trip to Victoria Falls for next year to make a repeat attempt using that eclipse. This work gives me some cost because I am conducting it entirely at my own expense. I certainly would appreciate a part of the $2.4 billion that Mike MCCracken wants for his next computer !

All the best **Richard**

Subject: **daly/solar/review2.htm**
Date: Wed, 9 Feb 2000 12:17:03 GMT
From: richard@courtney01.cix.co.uk (**COURTNEY**)
To: **Peter Dietze** <091335371@t-online.de>

Dear Peter:

In an email to Dr Clarke you say; "regarding your (and Richard Courtney's bit misleading) contributions in review2.htm I would like to mention that 15 µm spectral measurements have been done to all extents from satellites, on mountains and in labs." I am sorry that you think I was "misleading" and would be grateful if you were to say in what way you think I was so I may correct any error.

You assert that; "No gas has been so well measured as CO2." Please tell me the appropriate equipment for measuring the 15 micron band in the lowest 100m of the atmosphere as this will permit me to conduct the experiment described by Dr Clarke. As I said, failure to find an appropriate detector has prevented me from doing this.

And you say; "The problem is that this forcing - IPCC's core parameter - is quoted thousand-fold but nowhere scientifically documented ...". I agree, and it will be scientifically documented if I can get a detector for conduct of the experiment.

Thankyou for appending the spectrum obtained using satellites that shows complete absorbtion of the 15 micron band. Although on face value this spectrum supports the 'Barrett analysis', it is not relevant. The measurements to prove (or disprove) the 'Barrett analysis' need to be done at increments of at most 10m seperation throughout the lowest 150m height above the Earth's surface.

Additionally, you express distrust of IPCC and acknowledge that CO2 radiative forcing is calculated - not measured - when you say; "the inbreeding IPCC fellows keep dead quiet about their code and assumptions which they used to calculate it." If the "IPCC fellows" were to be so distrusted and the measurements to prove their calculations were so simple as you suggest, then they would have made the measurements and published the results.

All the best **Richard**

Subject: **100 m CO2 absorption, daly/solar/review2.htm**
Date: Wed, 09 Feb 2000 20:46:30 +0100
From: 091335371-0001@t-online.de (**P. Dietze**)
To: **Richard Courtney** richard@courtney01.cix.co.uk

Dear Richard,

you wrote

> I am sorry that you think I was "misleading" and would be grateful if you were to say in what way you think

Following Romney Clarke's text and your answer in solar/review2.htm:

> Can we not build a detector of EM radiation for the 15 micron wavelength, mount it on a platform and let it rise a few hundred meters into the air on a sunny day? If Barrett is correct, the 15 micron IR should disappear after a 100 meters and man-made global warming is not a problem."
>
> I have also considered this experiment, but have failed to find an appropriate narrow-band detector. An alternative experiment I am attempting is to ...

I had the strong impression, you agree that the CO2 absorption is more or less unmeasured - especially for layers around Jack Barrett's saturated 100 m - and while just computed on theory base, only an on-site experiment might be necessary to absurd IPCC's GW hype and save all the money and trouble.

Apart from the fact that Jack and Dr. Hug have access to spectrometers and have carried out various measurements, it is not at all necessary to mount the equipment on a platform and lift it up into the air - you can stay in the lab and just fill the necessary amount of CO2 and vapor into the tube. Moreover precision measurements and pressure adaption code etc are available in the HITRAN data base. Using this you can simulate what you need.

So I prepared an Excel (Office 97) diagram from 560 transmission values (CO2 only) from Jack Barrett for an equivalent of 13.9 m, 100, 1000 and 6500 m, the layer related to ground pressure. The radiatave forcing residuals for CO2 doubling within the whole atmosphere are represented by the area between the yellow and light blue absorption values (A=1-T). They begin far out of 15 µm. Jack Barrett's statement about saturation within 100 m (green lines) is valid between wavenumbers 627 and 700/cm (inverse it to get the µm). A narrow 15 µm band already disappears within 14 m, see the blue lines - all only depends on the bandwidth that you consider.

Best regards, **Peter**

Subject: **100 m CO2 absorption, daly/solar/review2.htm**
Date: Thu, 10 Feb 2000 18:40:46 GMT
From: richard@courtney01.cix.co.uk (**COURTNEY**)
To: **Peter Dietze** <091335371@t-online.de>

Dear Peter:

I have considered your point, but I do not agree it. I think my opinion is correct and not misleading, so I am sorry but we must accept that we disagree.

Your "strong impression" is correct. I believe an on-site measurement will resolve the issue. I can think of no other method to unequivocally demonstrate the matter one way or the other.

You rightly say - and I am grateful for the useful diagram - that some saturation occurs. This has never been disputed. Indeed, it is why the IPCC applies a logarithmic rule for radiative forcing from increased CO2. The dispute concerns whether or not the fringes are saturated. The HITRAN model may be correct or Barrett may be correct: in the absence of a published 'real-world' measurement nobody can say for sure which is correct. What can be said is that HITRAN was never intended for quantitative assessment of decay of a nearly completely saturated radiative band's fringes.

All the best **Richard**

Subject: **Jarl's good explanation--some additional thoughts**
Date: Thu, 10 Feb 2000 16:21:58 -0800
From: **Hugh Ellsaesser** <hughel@home.com>
To: **Onar Åm** <onar@netpower.no>

Dear Onar, Dear All,

The Environmentalists and Climate Modelers have one thing in common --they don;t want the problem they are concerned with to be solved. If it gets solved they are out of business. Their aim is to milk the problem for all, and as long as, they can. After they have exhausted all other arguments they will wrap themselves in the "Precautionary Principle." Don't expect them to advance any beneficial effects.

The British have already shown that model sensitivity is reduced by going to finer grids.

There are indeed a great many negative feedbacks, particularly from water vapor. The one I have been pushing since 1980 is that any tropical warming will strengthen the Hadley Circulation, i.e. both the updrafts of the ITCZs and the downdrafts over most of the remainder of the subtropics. Since the major terrestrial radiator to space is the top of the moist layer in the tropics, this radiator will be pushed to a lower and hotter level from which it will radiate even more IR to space, i.e. a negative feed back from water vapor over the most efficient radiation exporting half of the planet. This not only denies the positive water vapor feed back over this part of the planet but converts it into a negative feed back.

Clouds are another negative feed back since they reflect away more of the incoming solar energy. However, this only works when the sun is shining, the effects in the IR work all the time. In any case, it is very difficult to effect cloudiness very much. Condensation nucleii typically undergo 10 condensation cycles before they finally precipitate. That's why cloud seeding is effective only on the windward side of a mountain range. Their are few places where there is a shortage of condensation nucleii.

The strong warming of the NH 1917 to circa 1940 is largely a N. Atlantic phenomena, Schlessinger and Raaankutty (1995) isolated it as a 65-70 yr oscillation which they could find only in the data from the N. Atlantic, N. America, Europe and N. Africa. Most of it went away during the first 5 years of the MIT upper air library 1958-1963 when they found the whole NH troposphere cooled about 0.6°C in 5 years. This quite obviously due to a temporary speed up to Broecker's conveyor belt into the N. Atlantic. The winter temperature of Spitzbergen rose 16°C during the onset.

I'm afraid I can't see any way in which this could be a solar effect, in fact, I would use the agreement of any solar index with this warming as a basis for rejecting the index.

Regards, **Hugh.**

Subject: **Jarl's good explanation--some additional thoughts**
Date: Fri, 11 Feb 2000 03:36:04 +0100
From: "**Onar Åm**" <onar@netpower.no>
To: "**Hugh Ellsaesser**" <hughel@home.com>

> The Environmentalists and Climate Modelers have one thing in common --they don;t want the problem they are concerned with to be solved.

This is too harsh.

> If it gets solved they are out of business.

That's not true. As we all agree the climate models are one of the great achievements of modern science, and I therefore don't think that the people who have created them will be out of a job once they have finished this one. There are plenty of modelling jobs to do in the universe. Given what is at stake -- their own scientific integrity -- I don't think this plays an important role for the vast majority of modelers.

As to the environmentalists, do you honestly believe that this will be the last scare they skillfully manage to feed on? As far as I can see the environmentalists are even more creative in producing horror stories than Stephen King. They will surely manage.

> Their aim is to milk the problem for all, and as long as, they can. After they have exhausted all other arguments they will wrap themselves in the "Precautionary Principle." Don't expect them to advance any beneficial effects.

Although I think the models have a long way to go before they produce credible predictions I

consider them and the scientific understanding gained in the process highly valuable and beneficial effects.

> The strong warming of the NH 1917 to circa 1940 is largely a N. Atlantic phenomena, Schlessinger and Raaankutty (1995) isolated it as a 65-70 yr oscillation which they could find only in the data from the N. Atlantic, N. America, Europe and N. Africa. Most of it went away during the first 5 years of the MIT upper air library 1958-1963 when they found the whole NH troposphere cooled about 0.6 deg C in 5 years.This quite obviously due to a temporary speed up to Broecker's conveyor belt into the N. Atlantic. The winter temperature of Spitzberger rose 16 deg C during the onset.
>
> I'm afraid I can't see any way in which this could be a solar effect, in fact, I would use the agreement of any solar index with this warming as a basis for rejecting the index.

I distinctly remember Nigel posting a remarkable correlation between some solar index and som N. Atlantic wind pattern. Nigel, maybe you can shed some light on this? If solar effects can influence wind patterns then indeed it could have quite significant regional effects.

Onar.

Subject: **CO2 absorption, daly/solar/review2.htm**
Date: Fri, 11 Feb 2000 03:57:42 -0500
From: "**Jim Clarke**" <jerel@water.net>
To: "**Richard Courtney**" <richard@courtney01.cix.co.uk>, **Peter Dietze** <091335371@t-online.de>

Dear Peter and Richard,

I want to thank both of you for a truly educational discussion on what I believe is one of the key 'missing links' in the global warming debate. (I also want to thank you both for giving me the title of 'Doctor', which I have not earned, but may except as honorary for this discussion!)

Remembering that it was Richard's 'Sheets of Paper' analogy to describe the Barrett Effect that got this whole thing started, I developed my own analogy based on my knowledge of weather radar, that I think brings home the crux of the problem.

You can buy weather radars of all shapes and sizes that all radiate at a 5cm wavelength. In my analogy, the radar is the terrestrial IR and rain is carbon dioxide. On a day with no rain, the energy of the radar propagates out into space and is lost. Now if we have a rainy day and a weak radar, the radar beam may become totally scattered after 50 kilometers. All of the energy of the beam has been scattered into the atmosphere. Adding more rain (CO2) will not change the amount of energy that has been scattered.

Now let us use a more powerful radar with the same rainy day. This time we blast through the rain out to 250 kilometers, where we clear the cloud tops and some of the radar energy is lost into space. If we add more rain now, we will scatter more energy into the atmosphere and reduce the amount lost to space.

The Barrett analysis of this analogy is that we have a weak radar and adding more rain will not change the amount of radar energy that is scattered into the atmosphere. The IPCC take is that we have a powerfull radar and adding more rain will trap more of the radar's energy in the atmosphere.

Peter, your lab experiments seem to do a great job of modelling the atmosphere and showing us how CO2 absorbs infrared radiation, but that is only half of the problem. I don't believe your radiation source in the lab can effectively model the IR eminating from the complex and varied surfaces of the earth. Or, in the words of the analogy, your lab experiment gives a better understanding of the interaction of radar beams with raindrops, but still doesn't tell us how much of that radar energy will make it to space, because your experiment doesn't give us any knowledge of the strength of the radar.

That is why I agree with you, Richard, that actual measurements of IR at various altitudes, locations and durations need to be made to get a better understanding of the whole greenhouse

concept. This is a basic parameter in the whole argument. Right now, we seem to be content to plug in a value, based on assumptions and broad generaliztions, into computer models filled with more assumptions and generalizations and except what comes out as a reason to force 6 billion people to reduce their standard of living. Right now, much of the scientific community seems to be happier engaging in complex speculations, than making any actual measurements. It is like the King's astronomers arguing complex retrograde motions, while refusing to look through Galileo's telescope!

Thanks again for your knowledge on the subject and the spirited debate! Most enlightning! And a special thanks to John Daly for making this all possible.

Regards, **Jim Clarke**

Subject: **CO2 absorption, daly/solar/review2.htm**
Date: Fri, 11 Feb 2000 17:06:40 +0100
From: 091335371-0001@t-online.de (**Peter Dietze**)
To: **Jim Clarke** <jerel@water.net>

Dear Jim,

sorry, your radar & rain example does not fit for the 15 µm absorption! In the HITRAN diagram I showed the transmission T, i.e. I/Io - the ratio between received and emitted W/m² of an IR beam as a function of wavenumbers/cm.

T is not a function of the beamed energy (but the more you send, the more you receive). Your radar has only **one** frequency (say for example 15 µm), whereas we consider the dependency for a whole range of frequencies. The 15 µm beam will be cancelled even after 14 m, whereas if you use 13.3 µm you will still get 50% after 100 m. If you use 12.8 µm you will even receive 70% after 1000 m. "The dispute concerns whether or not the fringes are saturated" was Richard's argument to verify whether Jack Barrett or IPCC is right. The fringes are **never** saturated the more you go out of the center band - and so Jack is as right as IPCC.

The only question is how much radiative energy will be withheld (i.e. absorbed in the total atmosphere plus partly be re-radiated to ground) for CO2 doubling - without radiative system adaption. And there is no way for Richard to measure this under different on-site conditions. It has to be measured in the lab and be calculated for the whole atmosphere. We have the satellite spectra for clear sky conditions (see the one Dr. Volz sent for http://www.john-daly.com/hugdebat.htm or the one from Ramanathan) which shows the impact of 1*CO2 in combination with vapor overlap (mostly on the left fringe). The thermal CO2 and H2O emission effect in the tropopause can be seen at the bottom of the 15 µm "funnel" which otherwise should be very close to zero.

For his web paper Dr. Hug measured the transmission in a short 10 cm cylinder and neither coped with emission nor with the broad frequency range and high optical CO2 density that is necessary for proper identification of the greenhouse effect. So his result came out exceptionally small (1/80 of IPCC's) within 14-16 µm - see the near zero range between 624 and 704/cm for the yellow and light blue lines in my HITRAN transmission diagram.

The HITRAN data base consists of extremely narrow-banded precision measurements that need neither to be doubted nor re-measured. A discussion should only be done about the treatment of clouds, vapor overlap (that IPCC ignored), the distribution and (mostly thermal) re-radiation of the absorbed energy by the other GHGs and the considerable molecular impact of other IR inactive air components like O2 and N2 which Dr. Hug recently found. This impact has so far not been coped for, even HITRAN makes no difference whether you take CO2 alone or mix it with N2.

A quite careful computation including vapor has been done by Prof. H. Fischer (IMK Karlsruhe) whose right residual can be seen in the graph at http://mepc03.met.fu-berlin.de/~dmg/Treibhaus_Statement_lang.html. This fringe seems to be about a factor 2.5 less than IPCC's forcing. He omitted the left fringe because of vapor overlap, but I heard doubts whether this can be done. IPCC's residuals for the tropopause radiative balance look quite different **(see IPCC 1994, p. 175 Fig. 4.1c)**. So far I have not seen any document which shows the details how IPCC has derived the radiative forcing. Maybe they think the matter is too complicated for the folks and moreover it is better to avoid critique.

Best regards, **Peter**

Subject: **Keller Critique**
Date: Sun, 13 Feb 2000 15:34:34 -0500
From: **Jim Hughes** <jhba345@pop.mail.rcn.net>
To: daly@vision.net.au, "**Theodor Landscheidt**" <theodor.landscheidt@ns.sympatico.ca>

Dear Theodor,

I agree with your statements to Chick Keller on January 14th.

Large solar eruptions play a much larger role in the Svensmark Effect because of their density level (shock wave) but I would also stress the importance in the overall strength of the IMF. The cycle's overall magnetic field strength shows up in the cosmic radiation levels. This makes logical sense if you believe that the sun and planets oscillate back and forth by way of the IMF. A stronger contorted IMF will enhance solar flaring. This relationship is seen in Richard Thompson's theory involving the Earth's own geomagnetic storms during the descending phase of the solar cycle. The scientific panel of 12 (Hopefully their last supper together as solar authorities) used Richard Thompson's precursor method involving coronal hole related geomagnetic storms. I support this theory of his in principle but I think he should have also considered the amount of major flaring during the last couple of years of the preceding cycle's descending phase. This latter stage should affect the strength of the overall magnetic field contortion rate. Increased flaring will disconnect magnetic field lines below the surface. This process lets more magnetic field lines rise closer to the surface and away from the extremely wound field lines below. Hence more spots will appear during the next cycle. This is why the smaller cycles have considerably later post peak eruptive phases compared to the more intense cycles.

I know you have shown a relationship between the Golden Section's smaller fingers and solar eruptions but have you ever tried to find a relationship between the Stanford Mean magnetic field numbers and the small fingers. These numbers are on the Wilcox Observatory Home Page (http://quake.stanford.edu/~wso/wso.html). They unfortunately only go back until 1975 but there are some others out there that go back slightly further . (Crimea 1968). I'm sure the relationship is there because we basically use the same methods for our forecasts.

I based my Cycle 23 forecast on several things but one of my methods involves the actual latitudes of the planets. Conjunctions, oppositions, and alignments are also important but I have found the sharing of the same latitude to be very important. Three of the highest Stanford Daily Mean's during Cycle 22 occured on 1/26/1990, 4/21/1991 and 5/20/1991. The four largest planets were at their closest (latitude wise) on 11/6/1989. Jupiter shared the same latitude as Uranus on 11/5/1989 . Saturn shared the same latitude as Uranus on 5/11/1991 & Jupiter shared the same latitude as Neptune on 7/14/1991. The latter month had the highest monthly average since 1975 . There were also very high readings around the time of the so called laughable "Jupiter Effect". I think John Gribbin looked in the wrong area and I told him this in an e-mail a few years back. There are several things that you have to take into consideration but a planetary gathering in latitude (Or specific solar quadrant) usually implies increased solar activity. We should witness this effect in early May. I think we should definitely see some increased flaring between May 5th-10th. (6th & 9th key dates) . This activity should include 10-15 M-Class x-ray events and 2-3 X-Class events. Large magnetically sunspot regions also seem to show up around this time also.

Have you ever tried to give specific dates dates by using the Golden Section? I had given the dates of March 14th & 28th 1997 as key dates in a 1995 solar forecast. I thought we would start to see some significant solar cycle changes around this time frame. Jupiter & Uranus shared the same latitude on 3/14/1997 and they had a conjunction on 3/28/1997. This type of occurance is extremely rare (Close in time wise). We did see some increased flaring and we also saw a rise in the magnetically correct Cycle 23 sunspot groups. The IMF also seemed to strengthen (Cosmic radiation level diminished) . As you well know this was also the time of the developing El Nino (Negaitve SOI's). This planetary interaction was similar to their May 1914 encounter and we also saw a very strong El Nino around that time. I do not think that this was a coincidence . I believe these discussions will end up revealing many more things than you realize. I plan on joining them more frequently .

I look foward to hearing any remarks about my comments.

Jim Hughes

Subject: **Coronal Holes A Weather Factor "Keller Critique"**
Date: Thu, 17 Feb 2000 13:44:51 -0500
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Some recent discussions in some other topic areas have brought up the possibility of a coronal hole influence upon the lower trospheric temperatures. The coronal hole area on the surface of the sun seems to have an inverse realtionship with readings from the MSU radiometers. This finding by Soon does not suprise me. There does seem to be a backround radiation level change during these times.

<side remarks omitted>

I had noticed a regional increase in storminess and the passing of strong weather fronts while they were present on the solar disk. Alot depends on the location of these holes along with their size and magnetic polarity but I can assure you that the Earth's environment is being affected by these coronal holes. I used this forecasting method in January 6th , 2000 when I forecasted a cold wave to move into the eastern half of the United States on January 20th-21st. I said this artic air mass would reach into the Southeast and it did. My local airport in Washington D.C. recorded it's lowest temperature in two years on the evening of the 21st. <...>

Cold air seems to move into my region right around the time a negative coronal hole makes of a central meridian crossing on the solar disk. The exact oppososite occurs during the times when a positive coronal makes a central meridian crossing.(Warm air moves in) The effect seems to be amplified during the time of equatorial crossings, especially with large coronal holes. Summertime seasonal affects seemd to be influenced by coronal hole placements in the 25-40 degree latitude so this may be some type of magnetic field inclination affect.

We had been under the influence of a positive coronal hole during the previous few days and the southeastern United States experienced severe tornadic activity a couple of nights earlier. The warmer air mass moved our way (By way of a low pressure system) while a colder air mass was already in place. (Probably enhanced by a small negative equatorial coronal hole on Feb. 10th). This scenario is somewhat similar to the Super Bowl Saturday/Sunday weekend icing event. I forecasted this icing event also by using the coronal hole effect.

A negative coronal hole had made a central meridian crossing around Janaury 20th-21st. It was at this time that the Artic air mass made it's way well down into Southeast and into Florida. The arrival of the new bitter cold air reinforced the cold air that had already been in place and this set up the battleground. The cold air was locked in place but the warm air over ran it and we saw some severe icing in some areas.

The storm track of the larger system moved up the Ohio Valley. (I forecasted this track) The secondary low that formed off of the southeast coast tracked much closer to the east coast than the previous two storms on the 20th & 25th. The upper level jet stream seems to favor more of a south/eastern track (Using Washinton D.C. as a point of reference) during negative coronal holes (Cold air pushing south) and a more northerly/western track (towards Ohio Valley) during the times of positive coronal holes.(Warm air pushing north)

The current positive coronal hole on the solar disk made it's central meridian crossing on February 13th. We had been under the influence of a negative coronal hole for the prior two days and we had experienced cold weather. That negative coronal hole had recently formed around the central meridian so this type of situation is slightly different from the ones that actually cross the eastern limb. <..>

A current small negative coronal hole that has shrunk since last time around is about to make a central meridian crossing later today or early tomorrow and the Washington D.C. region is experiencing cooler temperatures again. This effect will me much smaller than the last time around (January 20th-21st) but the severity factor from before should help in it's timely arrival. (The atmospheric table has been already set)

A large positive coronal hole has preceded it this time around and this affect needs to be taken into consideration as well.

I have been monitoring this for quite some time now and I do not believe that these winter events are coincidences. <...>I would like to cross reference this would the east & west QBO phases. I would also like to look at the strength factor of the QBO. I have seen phases in the SOI that follow this also but this may be just a seasonal affect. Alot of this may end up being a seasonal afect but there seems to be a connection and I hope this possible connection put's to rest the notion that solar activity doesn't have an immediate effect upon our weather.

This could open up all sorts of avenues. We may be able to increase the accuracy of our long term forecasting skills in reference to severe tornadic outbreaks. The winter time triggering mechanism may be a positive coronal hole. (The northward movement of warm air into the Northeast is a warning. The warmer air has already been in place in the Southeast and the arriving low pressure system usually pulls down the colder drier air behind it.) The summertime tool would be negative coronal holes. (Cold air arrival).

Hurricane forecasting tracks might be affected as well. Confidence levels might rise or diminish depending upon their presence and strength. All of the major hurricanes during the past two years have formed under the presence of large coronal holes (high percentgae of areal disk coverage).

This solar parameter has got to be looked into better by the scientific community. <...> The scientific community has always looked at the amplitutde of the different sunspot cycles and their irradiance levels but we should have been looking into other areas as well. The most important things regarding the Earth's environment and it's solar/geomagnetic relationship are the solar winds, magnetic polarities and coronal holes.

I've listed below some of the recent dates of coronal hole crossings during the past few months. Remember size and latitude location matters as well as their previous effect. I even give two significant crossing dates for January 1999. These were centered around two of the warmest and coldest January days for Washingto D.C. last winter.

Positive - 11/18 -20/99 , 11/30-12/2/99 , 12/31/99, 1/27/2000 , 2/13/2000

Negative - 11/15/99, 11/26/99 , 12/24th-25th/99 , 1/21/2000 , 2/2/2000 , 2/5/2000, 2/7/2000 , 2/10/2000 , 2/17/2000

Here are two January 1999 crossings that were fairly large and their latitude influence was very favorable.

Negative - 1/5/99

Positive - 1/24/99

Jim Hughes

This debate is continued in consolidation with two others here

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