Translation:

Participants:
PIK: Dr. Georg Feulner, Eva Gaigg, Prof. Dr. Friedrich Gerstengarbe, Dr. Veronika Huber, Dr. Brigitte Knopf, Claudia Köhler, Prof. Dr. Jürgen Kropp, Prof. Dr. Anders Levermann, Dr. Jörg Pietsch, Prof. Dr. Stefan Rahmstorf, Prof. Dr. Hans Joachim Schellnhuber, Dr. Thomas Schneider von Deimling, Mareike Schodder, Jonas Viering. External participants for PIK: Tanja Fröhlich, Prof. Dr. Uwe Ulbrich

EIKE: Dr. Siegfried Dittrich Prof. Dr. Karl-Friedrich Ewert, Michael Limburg, Prof. Dr. Horst-Joachim Lüdecke, Klaus-Eckart Puls; EIKE guests Dr. Alexander Hempelmann, Dr.Rainer Link, Dr. Fritz Vahrenholt, Prof. Dr. Werner Weber

Date: April 2011
Location: Potsdam Telegrafenberg

The conference began with a presentation by Dr Feulner of the PIK, and then was followed by four presentations by EIKE scientists. All participants were aware that great differences existed beforehand between PIK and EIKE on the development of the global climate, reliability of models, interpretation of datasets, greenhouse effect, extreme weather frequency, sea level rise etc.

Before the conference, information exchanges mainly took place indirectly via media publications, the Internet and events like conferences and symposiums. These discussions were often extremely heated, and so this face-to-face meeting was to serve as a professional way of exchanging information to avoid misunderstandings and to discuss controversial topics directly.

Opening

Prof. Schellnhuber opened the conference with a short statement at 1:40 pm and spoke about the circumstances that leading up to the invitation **[1]**. He then explained why PIK, acting as the host of the event, wished no media attention although this had been suggested by EIKE, and expressed astonishment that EIKE planned to hold a press conference after the conclusion of the conference. He then opened the conference.

Michael Limburg (EIKE Vice President) expressed his thanks for the invitation and the opportunity to discuss scientific knowledge among each other.

***"*State Of Climate Science"**

Dr Feulner then started his presentation: "*State of Climate Science*" (see **Feulner**). He presented the development of trends, as to PIK. The discussion after the presentation was lively. Dr Vahrenholt doubted the presented influence of solar activity (Feulner pegged at 0.1°K and so called it slight) referring to the newest findings from (Shapiro et al 2011) where the TSI-increase from the Little Ice Age until today was possibly 6 times higher than assumed in AR4. Also a paper from January 2010 from Solomon was referred to, where the cooling over the last 10 years has something to do with the 10% reduction in water vapour in the stratosphere.

It was also pointed out that GISS, in generating a "global temperature", showed Arctic temperatures even though there exist nowhere near enough measurement stations there, as is also the case in Antarctica.

Dr Rainer Link also pointed out that the temperature oscillations of the oceans like the AMO, PDO, El Nino etc. are not accounted for in the models, and that the models cannot predicts them. But Dr Rahmstorf objected. Dr Feulner explained his claim that no decreasing trend in the recent global mean temperature can be discerned because a short-term look of less than 30 years doesn't allow it. The climate models would not have a fine enough resolution to allow it. EIKE disagreed with this view by pointing out public data like from Hadley Center and UEA, which show no temperature increase since 1998. Although it is correct, said EIKE, that a climate reference value of at least 30 years should be used, one has to recognise that the models used so far cannot appropriately show the last 10 - 15 years.

"Sun and Climate"

Dr Weber then started his presentation "*Sun and Climate*" at 2:20 pm " (see **short version here**). In the brief first part, he showed the expected saturation of CO2 by the atmosphere. Today about 50% of anthropogenically emitted CO2 remains in the atmosphere, while at the start of the industrial times all CO2 emitted by man remained in the atmosphere because of the equilibrium that existed between ocean and atmosphere. Then Dr Weber introduced the resulting differential equation that leads to an exponential saturation of atmospheric CO2 absorption in the most simple model with constant CO2 emission. At approx ca. 4 ppm annual CO2 emission, which is what we have today, saturation is at about 500 ppm CO2. Weber also pointed out that it is scientific practice to use the simplest models for public showing and then discuss subsequent tweaking and corrections. The necessary corrections and model limits would then be added.

In the main part of the presentation, Dr Weber looked at the indirect influence by the active sun on climate, caused by an up to 20% reduction in cosmic radiation by the solar magnetic field, which in turn eventually leads to an increase in solar radiation reaching the earth. These trends, which Weber had found in earlier solar data, had been doubted by Dr Feulner (PIK) in a paper. Then the presentation went on mainly about the quality of analyses on both sides. Unfortunately Dr Weber only had a preliminary and unclearly formulated version of Feulner's paper at his disposal, and as a result Mr Weber assumed a technical error by Mr Feulner. Misunderstanding resulted and eventually the accusation of a technical error was cleared up. It was agreed that the final version of Feulner paper would be discussed in detail by Dr. A. Hempelmann, who had started a cooperation in this field with Weber.

"Climate Sensitivity of CO2 "

Next Dr Rainer Link made his presentation on "*Climate Sensitivity of CO2"*, (see **short version**), beginning with the well-known saying about science*: "Every theory in science is accepted only when it is confirmed by observation. A single observation that contradicts the theory is sufficient to refute it. The postulated water vapour positive feedback in the models is the essential part of the alarmist forecast for temperature increase by the climate model cannot be confirmed by a single observation. To the contrary, it has been refuted on multiple times.*"A Hot Spot in the middle to upper troposphere in the tropical regions could not be found by hundreds of balloon measurements. That therefore eliminates the possibility that the climate system would go out of control because of CO2 and the subsequent water vapour positive feedback. That also impacted the so-called 2°C target. Link calculated the

temperature increase from a doubling of CO_2 at a max. of 1.6°K ; however, it is probably significantly less (quoted Lindzen, Paltridge, Harde and others). Thus there is no reason for climate alarmism. Taking part in the controversial discussion in addition to Dr Link, were Dr Schellnhuber, Dr Rahmstorf, Mr Puls, Dittrich and Dr Huber. Dr Rahmstorf pointed out that the ice ages could not be explained by Milankowitch cycles alone and had to have been caused by the CO_2 induced water vapour feedbacks, but could not deliver the evidence. The rise in temperature after each ice age is not the consequence of higher CO_2 concentrations, but rather the higher CO_2 concentrations result from the warming oceans. The arguments presented by Dr Link could not be convincingly refuted by the PIK participants.

"Extreme weather and sea level"

After the coffee break, meteorologist Klaus-Eckert Puls made his presentation: "*Extreme Weather and Sea Levels*" (see **Presentation - long version**). Mr Puls talked about how the public had been bombarded by countless, and at times absurd, warnings on weather and climate over the last 10 years. These warnings were aimed at producing the impression of an already started climate catastrophe. Moreover: In the public (media and politicians!) results from climate models from climate institutes are often presented as prognoses without the advisory that they are in fact only scenarios that entail large uncertainty. Puls suggested - analogous to the Hamburg Declaration on long-term weather prognoses made by meteorologists - that PIK and EIKE draw up and agree on a so-called "Potsdam Declaration" with the objective of mutually setting the record straight concerning false or exaggerated statements in the media. No reply from the PIK with respect to this suggestion, and no mention of it in the conclusion (Schellnhuber).

Using charts, graphics, statistics and quotes from a variety of institutes, Mr Puls showed that after 150 years of global warming, weather agencies worldwide have found no 100-year trends in middle latitude cyclones, tropical storms, tornadoes, flooding and other weather events. Moreover, using a series of sea level measurements and satellite data from their own institutes and from the IPCC, the expected acceleration in sea level rise is nowhere to be found. Dr Rahmstorf noted that there are other datasets out there. Puls and Rahmstorf agreed to exchange their data. Concerning the 100-year trends documented at the German North Sea coast by K.-E. Behre (B., NIHK Wilhelmshaven), Puls in a debate with Dr Kropp pointed out that Behre did not take temperature into account and that Behre detected a deceleration in sea level rise over the last 400 years, particularly during the 20th century.

Global long-term temperature series

Dr Horst-Joachim Lüdecke began his presentation "*Global Longterm Temperature Series*" (see **short version here**). At the start, the various versions of the Mannian temperature reconstructions over the last 1000 years were clear. Dr Lüdecke and others termed them as clear falsification, whereby Dr Rahmstorf demanded proof of that claim. He was then refered to the comprehensive works of McIntyre and McKitrick. And it is very well summarised in Andrew Montford's book: **The Hockeystick Illusion"**.

The core conclusion of the studies by Lüdecke and Ewert – backed by comprehensive statistical analysis intensive of auto correlation (persistence) on thousands of temperature series is: "There is nothing unusual about the warming of the 20th century." After a drop in temperature in the years before, there was a mostly naturally caused warming once the man-made influences of the UHI are removed. It is easily recognizable. Similar and often times even more pronounced fluctuations can be observed in the past over the last 2000 years. They

were all caused naturally. Dr Schellnhuber and Dr Kropp both engaged in the lively discussion that followed. Dr Schellnhuber noted that the paper quoted by Dr Lüdecke (which Schellnhuber himself co-authored and confirmed missing warming) was a paper where Dr Kropp was the project leader with the University of Giessen. Dr Schellnhuber remarked that the result was in any case no smoking gun (against CO2-induced warming?). Dr Rahmstorf added that the statistic was "blind“ to the physics. This was rejected by Dr Lüdecke and Dr Link. Dr Kropp then pointed out that the methods that were used are still in development.

Conclusion

It is obvious that the participants were for the most part in agreement with the perception of the facts - the absence of increased weather extremes being unchallenged by PIK speaks volumes. The methods for assessing these facts however appear to differ. While the participants from EIKE put unconditional priority on physical measurements, climate impact research has to rely on models calculations for future orientation. It would be desirable if this difference were better known among the generally uninformed public. For the truthful informing of laymen, it is not helpful when popular presentations are made by scientists in which catastrophic weather extreme increases are reported as being attributed to anthropogenic climate change, in contradiction to measured facts.

Conclusion: Thanks and return invitation:

On behalf of the guests Mr Limburg expressed thanks for the open discussion and that they would gladly like to continue as the debate, as in EIKE's view they were especially fruitful. Mr Limburg invited the PIK colleagues for an orderly meeting for late summer of this year - to which there was no objection.

The conference was ended with a short speech by Dr Schellnhuber somewhat behind schedule at 5:50 pm. He thanked the participants for their work and for the almost always factual discussion. He also remarked that he assumed there would be a fair treatment of PIK at the ensuing press conference. In response Mr Limburg invited him to join it. Mr Schellnhuber declined as he had another private matter to attend to, but named some of his colleagues to attend.

Michael Limburg EIKE