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UN says eat less meat to curb global warming

http://www.guardian.co.uk/environment/2008/sep/07/food.foodanddrink

Climate expert urges radical shift in diet
Industry unfairly targeted – farmers

Sunday September 7 2008

People should have one meat-free day a week if they want to make a personal and effective sacrifice that would help tackle climate change, the world's leading authority on global warming has told The Observer

Dr Rajendra Pachauri, chair of the United Nations Intergovernmental Panel on Climate Change, which last year earned a joint share of the Nobel Peace Prize, said that people should then go on to reduce their meat consumption even further.

His comments are the most controversial advice yet provided by the panel on how individuals can help tackle global warning.

Pachauri, who was re-elected the panel's chairman for a second six-year term last week, said diet change was important because of the huge greenhouse gas emissions and other environmental problems - including habitat destruction - associated with rearing cattle and other animals. It was relatively easy to change eating habits compared to changing means of transport, he said.

The UN's Food and Agriculture Organisation has estimated that meat production accounts for nearly a fifth of global greenhouse gas emissions. These are generated during the production of animal feeds, for example, while ruminants, particularly cows, emit methane, which is 23 times more effective as a global warming agent than carbon dioxide. The agency has also warned that meat consumption is set to double by the middle of the century.

'In terms of immediacy of action and the feasibility of bringing about reductions in a short period of time, it clearly is the most attractive opportunity,' said Pachauri. 'Give up meat for one day [a week] initially, and decrease it from there,' said the Indian economist, who is a vegetarian.

However, he also stressed other changes in lifestyle would help to combat climate change. ***'That's what I want to emphasise: we really have to bring about reductions in every sector of the economy.'***

Pachauri can expect some vociferous responses from the food industry to his advice, though last night he was given unexpected support by Masterchef presenter and restaurateur John Torode, who is about to publish a new book, John Torode's Beef. 'I have a little bit and enjoy it,' said Torode. 'Too much for any person becomes gluttony. But there's a bigger issue here: where [the meat] comes from. If we all bought British and stopped buying imported food we'd save a huge amount of carbon emissions.'

Tomorrow, Pachauri will speak at an event hosted by animal welfare group Compassion in World Farming, which has calculated that if the average UK household halved meat consumption that would cut emissions more than if car use was cut in half.

The group has called for governments to lead campaigns to reduce meat consumption by 60 per cent by 2020. Campaigners have also pointed out the health benefits of eating less meat. The average person in the UK eats 50g of protein from meat a day, equivalent to a chicken breast and a lamb chop - a relatively low level for rich nations but 25-50 per cent more than World Heath Organisation guidelines.

Professor Robert Watson, the chief scientific adviser for the Department for Environment Food and Rural Affairs, who will also speak at tomorrow's event in London, said government could help educate people about the benefits of eating less meat, but it should not 'regulate'. 'Eating less meat would help, there's no question about that, but there are other things,' Watson said.

However, Chris Lamb, head of marketing for pig industry group BPEX, said the meat industry had been unfairly targeted and was working hard to find out which activities had the biggest environmental impact and reduce those. Some ideas were contradictory, he said - for example, one solution to emissions from livestock was to keep them indoors, but this would damage animal welfare. 'Climate change is a very young science and our view is there are a lot of simplistic solutions being proposed,' he said.

Last year a major report into the environmental impact of meat eating by the Food Climate Research Network at Surrey University claimed livestock generated 8 per cent of UK emissions - but eating some meat was good for the planet because some habitats benefited from grazing. It also said vegetarian diets that included lots of milk, butter and cheese would probably not noticeably reduce emissions because dairy cows are a major source of methane, a potent greenhouse gas released through flatulence.

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http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aigE7QFc74DU

China Halts Coal-to-Fuel Projects to Conserve Coal Supplies

By Winnie Zhu

Aug. 29 (Bloomberg) -- China, the world's second-biggest energy consumer, has ordered a halt to projects that use coal to make oil as the nation seeks to conserve its supplies of the fuel for power generation.

All coal-to-fuel projects must suspend operations, the Ningxia Provincial Development and Reform Commission said in a statement on its Web site. Shenhua Group Corp.'s plants in Inner Mongolia and Ningxia are exceptions, the economic planning agency cited a document from the National Development and Reform Commission as saying.

Chinese coal companies are converting the fuel into gasoline and diesel to capitalize on record oil prices. China, which uses coal to generate 80 percent of its electricity, is battling with a sixth year of power shortages because of insufficient coal supplies.

Sasol Ltd., the world's biggest converter of coal into motor fuels, said yesterday it would have to suspend construction on a project in China after the government ban.

The project, one of two being considered as a joint venture with Shenhua, the nation's largest coal producer, was to have been located in Shaanxi province. The two companies will continue studying the viability of the plant in Ningxia, Sasol said then.

China's National Development and Reform Commission called on local governments to clamp down on projects that consume large amounts of energy and resources, according to a July 8

statement on its Web site. It also discouraged the proliferation of projects with foreign investment.

Shenhua will start a 300-day trial operation at its first 1 million-ton-a-year coal-to-fuel unit in northern China's Inner Mongolia in September, research director Shu Geping said in June last year.

Coal shortages in China prompted the government to mothball almost 3 percent of its coal-fired generating capacity last month, worsening the country's power shortages, the State Grid Corp. of China said.

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Hurricanes And Global Warming - A Scientific Disconnect

http://climatesci.org/2008/09/03/hurricanes-and-global-warming-_-a-disconnect-on-spatial-scales/

Roger Pielke Sr. @ 7:00 am

There was a news release by Seth Borenstein, AP Science Writer, entitled "Global warming's toasty water connection to Gustav." Among the statements in the text are

"Global warming has probably made Hurricane Gustav a bit stronger and wetter, some top scientists said Sunday, but the specific connection between climate change and stronger hurricanes remains an issue of debate."

"Measurements of the energy pumped into the air from the warm waters — essentially fuel for hurricanes — has increased dramatically since the mid 1990s, mostly in the strongest of hurricanes, according to a soon-to-be published paper in the journal Geochemistry, Geophysics, Geosystems by Kevin Trenberth, climate analysis chief at National Center for Atmospheric Research in Boulder, Colo."

"Warmer water makes the surface air warmer, which means it could contain more moisture. That means more hot moist air rises up the hurricane, serving as both fuel for the storm and extra rainfall coming back down, said Peter Webster, professor of atmospheric sciences at Georgia Tech."

Both the article and the statements by the scientists, however, mislead the public into thinking there is a clear relationship between global warming and Atlantic hurricane activity. This is a gross oversimplification of hurricane dynamics. Hurricanes respond to their immediate environment, not a global average increase in heat!

The primary requirements for hurricanes in the Atlantic Ocean Basin can be summarized as follows:

1. A preexisting source of circulation (more precisely a source of horizontal vorticity; examples of vorticity in the North American region, including part of the tropics and subtropical Atlantic can be viewed at http://www.rap.ucar.edu/weather/model/gfs000hr_500_vrt.gif). These preexisting circulations can occur, for example, from mesoscale convective systems that exit the west coast of

Africa (with origins in the Ethiopian Highlands) which can develop into the so-called Cape Verde hurricanes. Circulations can also occur associated with the southern end of cold fronts as they enter the Gulf of Mexico, Caribbean and Atlantic Ocean.

2. A moist tropospheric atmosphere in which the circulation is embedded, which provides a favorable environment for sustained deep cumulonimbus clouds (the moist environment for deep cumulus convection in the Gulf of Mexico, Caribbean and tropical Atlantic can be viewed at http://www.rap.ucar.edu/weather/model/gfs000hr_sfc_pwat.gif). A deep moist layer provides a favorable environment for prolonged deep cumulus convection to coexist with the circulation.

3. Weak changes of the large scale horizontal wind speed with altitude (i.e. low vertical wind shear). The upper tropospheric winds, which are an appropriate measure of vertical wind shear, can be viewed at http://www.rap.ucar.edu/weather/model/gfs000hr_250_wnd.gif. Low vertical wind shear permits the accumulation of heat from mesoscale clusters of deep cumulus so that pressures fall in the center of the circulation, thereby favoring further deep cumulus convection.

4. Warm ocean temperatures at or above about 26C (79F) in the upper tens of meters or more (the sea surface temperatures in the in the Gulf of Mexico, Caribbean and tropical Atlantic can be viewed at http://www.osdpd.noaa.gov/PSB/EPS/SST/data/usatlant.cf.gif). The warm ocean provides heat and moisture fluxes into the deep cumulus convection, which is the fuel for the hurricane. The warm ocean also provides the moisture to sustain a moist troposphere. The temperatures in the Atlantic Basin are above average at present (i.e. see http://www.osdpd.noaa.gov/PSB/EPS/SST/data/anoma.9.1.2008.gif), although elsewhere in a number of regions of the tropics, the sea surface temperatures are below average (e.g. see http://www.osdpd.noaa.gov/PSB/EPS/SST/data/anomg.9.1.2008.gif).

The temperature anomalies in the upper ocean along two crossesections in the tropics can be viewed at http://www.ecmwf.int/products/forecasts/d/charts/ocean/real_time/yzmaps!20080901!Anomaly!Temperature!30W!/ and http://www.ecmwf.int/products/forecasts/d/charts/ocean/real_time/xzmaps/. These clearly illustrate the regional spatial structure of the anomolies.

For the track of the hurricanes (e.g. see for an example of model predictions), they move in response to the larger scale winds which are associated tropospheric troughs and ridges, such as illustrated for 500 mb at http://www.rap.ucar.edu/weather/model/gfs000hr_500_wnd.gif.

These prerequisites for hurricane development and the explanation for their movement are discussed in

Pielke, R.A., 1990: The hurricane. Routledge Press, London, England, 228 pp.

Pielke, R.A., Jr. and R.A. Pielke, Sr., 1997: Hurricanes: Their nature and impacts on society. John Wiley and Sons, England, 279 pp.

What this short summary tells us is that hurricanes develop and move in response to regional weather features, not a global average warming!

Moreover, as has been discussed on Climate Science frequently, humans are altering circulation in many ways beyond that associated with global average heat changes (e.g. see). Indeed, in one study that focused on the tropics and subtropics (see), we found from observations of the spatial distribution of human-caused aerosols in the atmosphere in the lower latitudes, that the aerosol effect on atmospheric circulations, as a result of their alteration in the heating of regions of

the atmosphere, is 60 times greater than due to the heating effect of the human addition of well-mixed greenhouse gases!

The focusing on global warming as the reason for any hurricane (or making it more likely to occur or become more intense) ignores that natural variations are not only more important than indicated by the AP news story, but also that the human influence involves a diverse range of first-order climate forcings, including, but not limited global warming [which, of course, has not occurred since at least mid-2004!].

The bottom line conclusion is that the claim of a direct linkage between a global average metric (i.e. global warming) and hurricanes fails to accurately communicate that the hurricanes develop and respond to regional weather patterns. If there are to be skillful predictions of how natural and human caused climate variability and change affect hurricanes, it must have a regional focus.

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Another Example of Bias - This Time By The Weblog Desmogblog.com

Roger Pielke Sr. @ 8:11 pm

In response to the Climate Science weblog

Hurricanes And Global Warming - A Scientific Disconnect

the website Desmogblog.com published an attack titled "Roger Pielke Sr. Attacks Messenger, Injures Self". This ad hominem Desmog weblog is a clear example of the bias that has permeated the climate science issue. The article fails to comment on the science that is presented [which implicitly means the perspective presented by Climate Science on this issue is correct].

If the Desmogblog were interested in the science, it would present counter arguments to the statements they quote from Climate Science; i.e.

- Hurricanes respond to their immediate environment, not a global average increase in heat!
- The focusing on global warming as the reason for any hurricane (or making it more likely to occur or become more intense) ignores that natural variations are not only more important than indicated by the AP news story, but also that the human influence involves a diverse range of first-order climate forcings, including, but not limited global warming [which, of course, has not occurred since at least mid-2004!].

Except for erroneously claiming that the last 10 years included the warmest nine in recorded history [which is easy to refute with data; see Figure 7], the DeSmog weblog is nothing more than the continuation of personal attacks at those who seek to broaden the discussion of the role of humans within the climate system. Hopefully, DeSmog will take this opportunity to present coherent, scientifically defensible comments on the weblog presented at Climate Science.

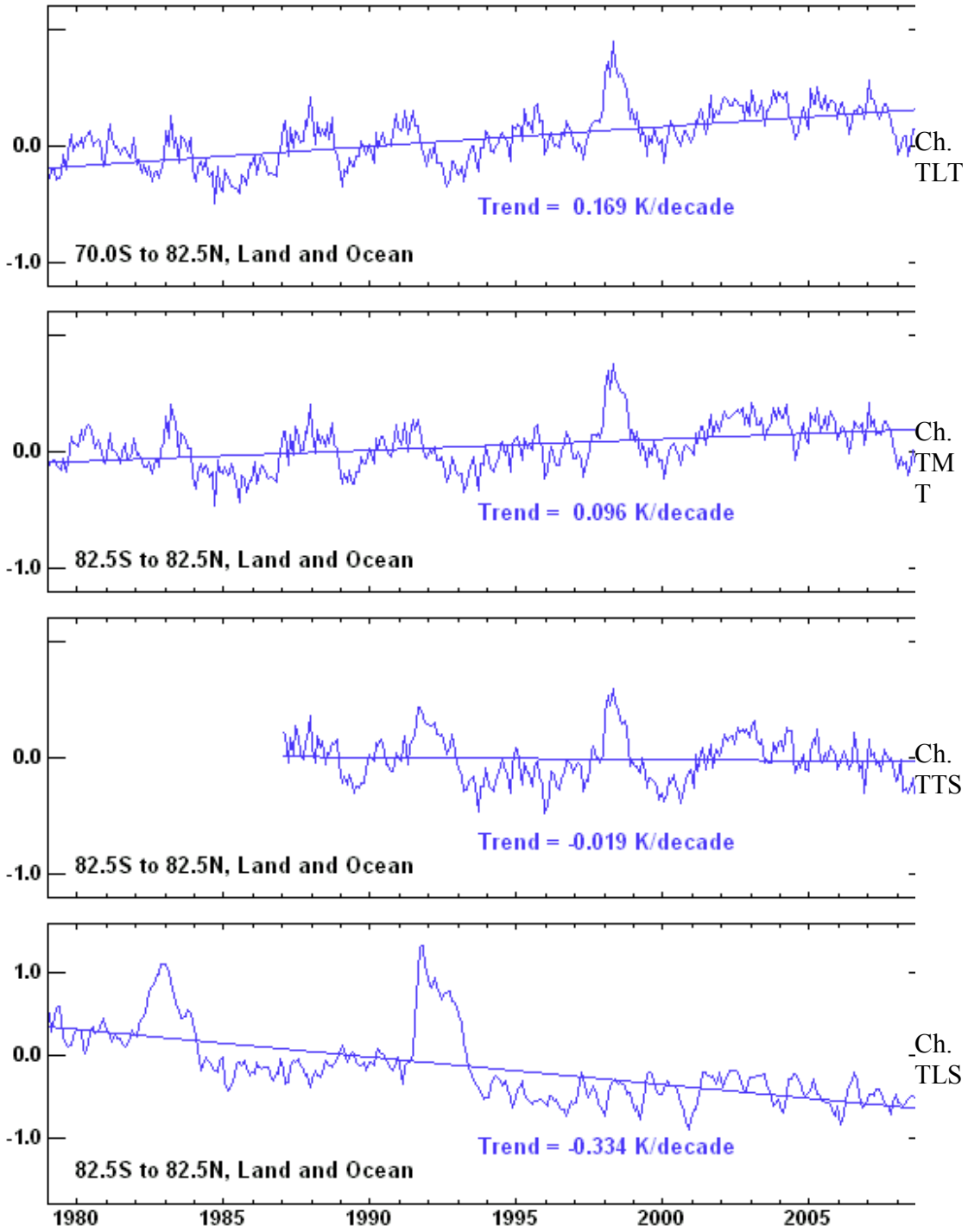

Figure 7. Global, monthly time series of brightness temperature anomaly for channels TLT, TMT, TTS, and TLS. For Channel TLT (Lower Troposphere) and Channel TMT (Middle Troposphere), the anomaly time series is dominated by ENSO events and slow tropospheric warming. The three primary El Niños during the past 20 years are clearly evident as peaks in the time series occurring during 1982-83, 1987-88, and 1997-98, with the most recent one being the largest. Channel TLS (Lower Stratosphere) is dominated by stratospheric cooling, punctuated by dramatic warming

events caused by the eruptions of El Chichon (1982) and Mt Pinatubo (1991). Channel TTS (Troposhere / Stratosphere) appears to be a mixture of both effects.

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