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[UAF professor emeritus continues to question sources of global warming](#)

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By Chris Freiberg

Published Friday, September 19, 2008

FAIRBANKS — A University of Alaska Fairbanks professor emeritus known for his belief that carbon dioxide is not the sole cause of climate change presented his latest research Thursday.

More than 40 researchers and students gathered into a room at the International Arctic Research Center, now named after Syun-Ichi Akasofu, for the hour-long presentation.

“Retirement is good because I can spend the time to correct information,” Akasofu said.

For several years now, Akasofu has put forward the idea that while the world was warming for most of the 20th century, it stopped warming sometime around 2000 or 2001. He clarified Thursday that according to his latest research, the oceans have stopped warming since that time, but it appears as if temperatures are still rising if one only looks at land temperatures.

Akasofu also was skeptical of reported changes in land temperature, however. For example, he noted that while many scientists claim global temperatures have risen slightly less than one degree on average across the past few decades, their studies don't take urbanization into account.

Tokyo, he said, appears to have warmed four degrees, but that does not take into account the fact that the number of dark manmade structures that absorb heat, raising temperatures in their vicinity.

The retired geophysics professor also questioned the accuracy of readings from weather stations where no one is there to regularly monitor the equipment.

“A friend of mine found one station where the temperature gauge was just outside the air conditioner,” he said.

Still, Akasofu doesn't completely deny the existence of climate change, so much as question what causes it. One culprit he suggested is the recent lack of sunspots.

“Something is happening on the sun,” he said. “There are no sunspots when there should be 50-100 right now, so people warn the sun has become warmer.”

A similar phenomenon was observed between 1650 and 1700, which coincides with what researchers call the Little Ice Age, a period of widespread cooling that came shortly after a warming trend may have peaked sometime around 1000 AD.

However, Akasofu didn't necessarily connect that warming period to what the planet is experiencing now.

“Some people say it was a degree higher or about the same, but there were no thermometers, so how accurate were they?” he said.

Radical environmentalists part of economic meltdown

By Dr. Tim Ball Tuesday, September 23, 2008

Collapse of financial institutions is just part of a disturbing failure of leadership in the [business](#) segment of society. It is part of a wider crisis of leadership at all levels of society, but is the most immediate and potentially dangerous right now. The business world pushed by government has capitulated to greed and deception and has put people in financial jeopardy. Sadly, all this plays to a conundrum identified by David Lillenthal, *Big business is basic to the very life of this country; and yet many--perhaps most--Americans have a deep-seated fear and an emotional repugnance to it. Here is monumental contradiction.*

The financial debacle is serious but ultimately small change compared to the cost of unnecessary programs to deal with non-existent global warming, natural climate change and many other so-called environmental problems.

As Louise Gray explained in The Daily Telegraph, 17 September 2008 about the problems facing Britain, *"We are looking at something that looks like a slow motion train crash," Fells said, accusing the government of vacillating over climate change and energy policy, starving the power industry of direction and reducing investment to a minimum.*

Business with collusion from government began the capitulation when it surrendered to the bullying of environmentalists. It was exacerbated when they exploited the [opportunities](#) to make money from peoples' fears and lack of knowledge, but none of which resolved any problems. In the long run, this will be more devastating and costly to political freedom and global economies. It is already costing the poor people of the world with higher costs or even complete unavailability of the very basics of life. It is more than mere financial greed, which people despise but expect. It includes greed but is also deliberate and cynical exploitation.

Enron has become synonymous with corporate corruption and a major part of that was with the shell game that are carbon credits. They and British Petroleum (BP) exploited the environmental issue of alternative energy and carbon credits before global warming was even a full-blown myth in the public domain. *Before the company collapsed under the weight of financial scandal, Enron under CEO Ken Lay was a key proponent of the cap-and-trade idea. So was BP's Lord John Browne, before he resigned last May under a cloud of personal scandal. In August 1997, Lay and Browne met with President Bill Clinton and Vice President Gore in the Oval Office to develop administration positions for the Kyoto negotiations that resulted in an international treaty to regulate greenhouse gas emissions. In his book, The Green Wave (Capital Research Center, 2006), author Bonner Cohen notes that the companies expected to profit handsomely from the Kyoto global warming treaty by creating the worldwide trading network in which industries would buy and sell carbon emissions credits. Source: Foundation Watch, Capital Research Center, "Al Gore's Carbon Crusade: The Money and Connections Behind It."* By Deborah Corey Barnes

Citizens of California paid dearly for Enron's machinations. The meeting between Clinton, Gore, Lay and Browne to discuss Kyoto and carbon credits established the framework. Since then many businesses have decided the swindle is so entrenched that they might as well exploit opportunities to make money regardless of the greater good. T Boone Pickens pushes wind power as if it can bridge a gap or provide a longer-term solution, but it can't work. Massive government subsidies help, but more importantly it provides a nice green shield for the natural gas, coal and oil from which profits will flow, so his second and third billion will be easier.

For a years now, I have watched a disturbing trend in business. When they are making money they tell government to leave them alone, but when they are losing money they plead for government help. In the environmental game, I've watched business capitulate and become duplicitous. You can argue they have been bullied into capitulation, but in doing so they have put self-interest and profit ahead of logic, the truth and what is best for people and their country. For example, why would Exxon apologize for and withdraw funding from research to determine what the climate is actually doing when it is essential to their business to know? Surely Exxon shareholders would expect the company to do the research necessary to protect and maximize their investments. Why would oil companies fund agencies that are openly advocating their demise?

As a climatologist concerned about the impact of climate change on the human condition, I used to joke about understanding serious weather problems, such as how frost in Brazil occurs on a shelf in my local supermarket in Canada to push up the price of [coffee](#) in the jar. Conversely, when there is good weather and a bumper crop there is no similar immediate decline in the price of the coffee. So the cause is not a matter of supply and demand in the short term whether there is frost or a bumper crop. If the price is rising in anticipation of a shortage, then that is pure unadulterated gouging.

There are many examples of my climate challenge. Frost striking oranges in Florida almost immediately drives up juice prices in the dairy section. However, it is not humorous or an academic interest anymore. A more troubling example of the syndrome that confounds climate and economics has recently occurred. This time it is heating not cooling. With the recent concern about global warming due to carbon in the atmosphere the price of gasoline kept rising. It was incorrectly said to be supply, but there is no shortage of supply and no change in demand. Yes, the concept of declining supplies has been thrown about, but it needs perspective. First, in a bizarre twist it is to the benefit of the energy companies and the environmentalists to push the idea. One so they can increase price and profit and the other so they can force the move away from fossil fuels. In fact, there is no medium or even long-term shortage. They tried to say we were running out of cheap oil, but even that isn't true in the short term, besides it defines how you define cheap.

The price of oil dropped by almost 40% from July to September, yet it only moved down by about 3% at my local pump. We hear it takes time because the gasoline at the pump was bought at the higher price. I am prepared to accept that however, the lie is exposed when a singular event causes an overnight jump in price for gasoline already at the pump. Proof of the deception was provided when claims that hurricane Ike was going to damage drilling platforms offshore and shut down refineries along the Texas Gulf coast. Prices jumped significantly at the pump overnight across North America. At my pump it jumped 8%. No, what is going on here is pure unadulterated gouging and it is being done without shame or apparently without conscience.

There is a tendency to focus on the wrong issue simply because of making general statements. For example, people say I don't like paying taxes. Actually, everyone realizes if we have government it requires funding so taxes are necessary. What we really don't like is how the government spends (wastes) our money. The same is true of business and profit. Nobody objects to profit, what we object to is excessive profit. Nobody objects to executive compensation, what we object to is excessive compensation. All these issues leave the individual powerless and frustrated. The only weapon they have is government intervention, yet they also know more government is expensive and not the answer. It is clearly not the answer for business because more regulations and taxes increase the cost of doing business. This is particularly true if the government has an anti-business ideology. It would be true if the environmentalists have their ideology totally dominate government. As Mason Cooley said, "Commerce is greedy. Ideology is blood-thirsty."

Really troubling outcomes of these actions are that they may destroy the very institutions they represent. People have a very low opinion of politicians for similar poor performances and self-aggrandizement, but unless they are megalomaniacs they do little long-term harm. As cynical

wisdom has it, "If we get rid of this bunch of scoundrels, we just get another bunch of scoundrels." However, misuse and abuse of the financial [system](#) undermines capitalism, the very institution that has created better quality of life and freedoms for all the people, and allows socialists and communists to take over. As Milton Friedman explained, *What kind of society isn't structured on greed? The problem of social organization is how to set up an arrangement under which greed will do the least harm; capitalism is that kind of a system.* Abuse of environmental issues by business combines with its exploitation for political and financial gain of environmentalists to place the entire concept in jeopardy. The environment is important and making sure it is not harmed is critical, but when the public find out what problems do not exist or have been manipulated and exploited they will say, we don't believe anything you tell us.

Perhaps the saddest comment of all is that business and industry have the capability to deal with environmental issues. Environmentalists consistently fail to offer meaningful solutions and lack the necessary management and organizational skills. They are armchair environmentalists who don't understand the science, want to tell other people how to live and think government can solve all problems. Too many in the business world have adopted the same positions. However, before rushing to judgment we need to keep perspective by putting people in place who understand what John Henry Boetcker identified; *You cannot strengthen the weak by weakening the strong. You cannot help the waver by pulling down the wage payer. You cannot help the poor by destroying the rich. You cannot help men permanently by doing for them what they could and should do for themselves..*

"Dr. Tim Ball is a renowned environmental consultant and former climatology professor at the University of Winnipeg. Dr. Ball employs his extensive background in climatology and other fields as an advisor to the [International Climate Science Coalition](#), [Friends of Science](#) and the [Frontier Centre for Public Policy](#)."

NUCLEAR POWER: Will more nuclear power actually reduce India's greenhouse gas emissions? (09/23/2008)

<http://www.eenews.net/climatewire/2008/09/23/3/>

Lisa Friedman, ClimateWire reporter

The proposed nuclear energy agreement between the United States and India will be good for climate change, according to a leading Indian Parliament minister.

Parliamentary Affairs Minister Vayalar Ravi, speaking to business leaders in Washington recently, said pending landmark legislation opening nuclear energy cooperation between the United States and India will create a stronger relationship between the two countries. India, he promised, would continue a moratorium on nuclear testing.

"Success in this effort will also have a positive impact on the problem of global warming," Ravi predicted.

But some doubt whether it would seriously slow India's fossil fuel consumption. Nuclear power generation does not produce carbon emissions. If Congress votes to approve the deal this week, the United States would reverse more than three decades of policy and permit the shipping of nuclear fuel to India in return for international inspections of the country's civilian reactors ([E&E Daily](#), Sept. 19).

India emits far less carbon dioxide per person than the United States or Europe, yet its rapid economic expansion and coal-dominated energy generation have made it one of the fastest-growing sources of emissions. According to the World Bank, India is the fourth-largest emitter of CO₂ after the United States, China and Russia. The country's emissions rose 46.8 percent between 1990 and 2003.

Currently, nuclear power accounts for less than 4 percent of India's energy makeup. But the country has an ambitious target of raising nuclear generation tenfold over the next 25 years. According to various reports, India hopes to raise nuclear generation capacity to 20 gigawatts by 2020 and 40 gigawatts by 2030.

Harold Feiveson, a senior research policy scientist at Princeton University's program on science and global security, said that plan has the potential to prevent more than 50 million tons of CO₂ annually from entering the atmosphere.

Doubts about India's nuclear expansion plans

"That's not peanuts," Feiveson said. But, he added, "Can they expand at a rate that will make a big impact? I'm skeptical."

Feiveson and Council on Foreign Relations fellow Michael Levi noted that India still has a poor transmission infrastructure, which would severely hamper its plans to expand its nuclear generation. Moreover, they questioned whether nuclear power would actually replace coal in India, or simply add to the country's energy capacity.

"Reliable access to energy is very important for India," Levi said. According to the International Energy Agency, more than 412 million people in India still have no access to electricity.

"India is fueling its growth primarily using coal and oil. To the extent it can shift to other sources, including nuclear, it will be able to reduce its emissions," Levi said, but he stressed that climate concerns should not "tip the balance" on one's opinion about the agreement.

"It's way too early to know what the implications might be," he said.

India in June unveiled a [national action plan](#) on climate change that essentially was its first attempt to formulate a formal, written policy for addressing its role in combating global warming. While stressing the country's need to continue on a path of strong economic growth and insisting that industrialized countries like the United States bear top responsibility for reducing emissions, leaders also acknowledged that India has a role to play helping to avert the most disastrous consequences of global warming.

Under the plan, the government proposed eight initiatives, with a heavy focus on pumping up solar and renewable energy.

Indian expert thinks electricity from fossil fuel will remain dominant

M.V. Ramana, a senior fellow at the Centre for Interdisciplinary Studies in Environment and Development in Bangalore, India, said in an e-mail that he thinks India's energy generation will continue to be dominated by fossil fuels "with or without the nuclear deal."

"The climate change benefits of nuclear power in India could be, at best, small. At worst, over-emphasis on a costly technology like nuclear power might lead to financial and political neglect of other, cheaper options for mitigating emissions," he said.

Supporters of the nuclear deal are pressing Congress to ratify the agreement before Sept. 26, when it is set to adjourn.

While there is broad support for the agreement in both parties, it faces strong opposition from anti-proliferation groups. India has been denied access to civilian nuclear technology ever since it tested a nuclear bomb in 1974. It is not a party to the Nonproliferation Treaty and has insisted upon the right to test nuclear weapons, though India's leaders say they have no plans to do so.

And while some working on the deal tout its benefits for climate change, few appear to be looking at the issue together with the agreement. Indeed, several climate change experts, when asked about the nuclear agreement, said they were not familiar with the details. Meanwhile, several experts on the India deal said they are not familiar enough with climate change to discuss the implications.

Levi called the disconnect between climate change and other international policies troubling, and said he encounters it in everything from trade to global capital flows.

"Climate change is being sequestered away from other foreign policy issues, and that's dangerous," he said. "Climate has the potential to enter into dimensions of foreign policy at a very high level."

Buying the rope to hang them – and us.

Industry execs pledge to raise public awareness about climate change (09/23/2008)

<http://www.eenews.net/climatewire/2008/09/23/5/>

Sara Goodman, *ClimateWire* reporter

The advertising industry is gearing up for what could be one of its biggest campaigns ever: helping to combat climate change by changing public behavior.

It's pooling together the creativity, skills and resources of the ad community to try to raise global public awareness about climate change. The aim is to change consumer behavior and spur action leading up to a December 2009 conference in Copenhagen, Denmark, where negotiators hope to forge a final climate package, according to Michael Lee, executive director of the International Advertising Association.

"Our objective is to galvanize support and share information so everyone can do their bit," Lee said.

To achieve this, executives from some of the world's largest advertising agencies, including Publicis Groupe, Interpublic Group, Omnicom, Ogilvy and Uniworld, met yesterday in New York with United Nations Secretary-General Ban Ki-moon and pledged to use their resources to tackle the issue, Lee said.

Government representatives are meeting in three months in Poznan, Poland, with the goal of developing a successor to the current Kyoto Protocol. By that time, governments should be prepared to reach agreement on the basic shape of the new treaty, Ban said. That, he said, is essential to ensuring that negotiators have enough time to work out all the complex details of the treaty throughout the next year ([ClimateWire](#), Sept. 12).

Shaping its campaign around the upcoming meetings gives the advertising community a clear deadline and markers along the way, Lee said. It is treating the initiative as it would a multinational company, and is taking a highly disciplined approach to getting the message out because of the complexity of the task.

For example, just establishing a target audience is challenging, because the audience will have to include public policymakers, politicians, ordinary people and corporations. It will also have to take into account demographics, geography and lifestyle, as well as the intricacies of the issue itself.

Changing climate-related behavior: 'a communications challenge'

As with all successful ad campaigns, the ultimate goal is to get people to respond to the message by changing how they act.

"It has become increasingly clear that the complexities of climate change issues present a communications challenge with both policymakers and the general public," Lee said. "The ad industry is up to the task of making a significant contribution to help change consumer behavior, influence public policy and help the U.N. make further progress on the issue."

The United Nations is counting on the advertising agencies' disciplined approach and experience, according to U.N. spokesman Daniel Shepard.

"We think the more voices there are, the more people involved, the more chance we have of success and getting the message out," Shepard said.

Getting concrete facts into the mainstream mindset is one area the advertisers will focus on, Lee said.

"Take solar energy: So many times I've heard people say, 'It's expensive,'" Lee said. "With wind power, I've heard so many times, 'It's not really effective.' All this information for most people is too anecdotal. We need to get the facts and the information out there."

"I'm convinced that people can make changes to their lifestyles that will have a meaningful effect on climate change without detrimental effects on their everyday lives," he said.

Radio interview with SPPI adviser, Christopher Monckton

<http://www.aim.org/mp3/podcast/podcast-2008-02-22-monckton.mp3>

Gore Calls for Civil Disobedience at Clinton Global Initiative

<http://itsgettinghotinhere.org/2008/09/24/gore-calls-for-young-person-civil-disobedience-at-clinton-global-initiative/>
Published by [jakebrewer](#), September 24th, 2008

At today's Clinton Global Initiative, Al Gore said for the first



time in public that we are at a point in our world's history, and in need of such immediate action, that if you are a young person it's time for civil disobedience.

In particular to bring coal plants to a halt.

On a panel with Queen Rania of Jordan, Ellen Johnson Sirleaf of Liberia, Neville Isdell (the CEO of Coca Cola), and Bono - moderated by President Clinton himself - Gore was fiery in his calls for action and investment in new clean energy technologies. He was even more fiery in his strong denouncements of nonexistent clean coal ("There is no such thing!"), and a congress that is today voting on an energy bill that lifts the moratorium on mining coal shale, calling it - with dramatic pause - "IN-SANITY."

In fact, Gore used the word "insane" or "insanity" at least 3 times (we'll check the records to see if there more) in his descriptions of various political and business decisions made (or not made) with regard to climate.

Here are my minute by minute notes from the Opening Plenary. The times reflected are from my laptop clock - initially synced with event organizers - but are not official record:

11:24 Clinton asks Gore to tell everyone what investors/politicians should do in regard to energy/climate, and how to overcome political and financial difficulties.

11:25 Gore acknowledges all in the room and offers what appears to be very sincere thanks to Clinton for hosting the Clinton Global Initiative.

11:26 Gore: "Current economic crisis was triggered by the sudden collapse of an assumption. The assumption was that if you lumped housing loans together (even bad ones), you could eliminate the risk. That assumption went splat this week."

NOW is the time to prevent a much worse catastrophe based on an even bigger assumption.

"Since we met here last year (at CGI) we are losing badly in the fight against global warming"

11:28 References all the natural disasters - from hurricanes to fires in the US and Caribbean this year.

For every 1 degree in temperature increase there will be a 10x increase in lightning strikes.

Warming means less or no more frost in certain areas, which means more bugs/pests running rampant that we can't control; throwing off our ecosystem. (haven't heard him use this point before.

"This is all the result of an insane approach to climate"

"We as a species have to make A decision."

"The economic crisis can truly provide an opportunity to make the right decisions."

"We should stop burning coal!"

Compares clean coal to what happened on Wall Street. Clean coal is an illusion. Do not invest in it.

“Coal industries spending millions to sell an illusion (like Wall St.) of clean coal.”

11:30 “CLEAN COAL DOES NOT EXIST.”

“The only demo was discontinued. How many plants are there? Zero. How many blueprints: ZERO.”

“We should make a one-off investment into a new global energy infrastructure that is based on energy which is free forever. The sun. Wind...”

“Wind is competitive today. Geothermal is competitive today.”

We need a new super grid to take energy from where wind blows and the sun shines to where people live.

Darfur has more reliable sunshine than just about anywhere else. We can invest in these places and bring that energy to where population centers are.

Create jobs in building this grid, wind turbines, solar panels. **Ref: Green Jobs Day of Action this Saturday 27Sep**

As MLK Jr said: “Injustice anywhere is a threat to justice everywhere”

“Well, increased CO2 anywhere is a threat to civilization everywhere.”

“TODAY the US Congress is voting on a bill without ANY debate an energy policy that lifts moratorium on coal shale. This is utter insanity.”

Re: Clinton Global “Every year we have a discussion here, and there is progress made. But it’s not enough. It’s not enough.”

11:37 Clinton: One very specific question. “Just completed an interesting tour of our country’.” Lots of places that the wind is blowing (ref small TX town where wind at 56 mph), but there’s no grid to take the energy anywhere.

Question: What’s the quickest way to maximize solar and wind energy (and geothermal) production for the US.

Gore: Currently there is \$120bn lost annually because of failures of current grid. Needs to be replaced anyway.

Crazy enough, “can also use that SAME GRID to develop a next generation broadband network.” Everyone wins.

New super grid “should be #1 infrastructure project of this decade - whoever is elected president.”

Clinton: 2 year wait to build new wind in New York for one investor (can’t hear name).

We need to change policy and incentives now to get these things going.

Gore: Stock traders that inform investors that global warming doesn’t prevent a threat are guilty of a form of stock fraud.

This is a crisis that is happening NOW. Scientists around the world are practically screaming from the rooftops to stop it.

“If you’re a young person, I believe we’ve reached a point of civil disobedience” ...to do things like take down coal plants.

Clinton to Queen Rania: Can we get Middle Eastern oil countries to become models of clean energy usage?

There are 53 Developing countries, and they import on average 70% of their energy. ALL of them could theoretically be 100% self-reliant.

Kilimanjaro's Summit Glaciers

<http://co2science.org/articles/V11/N39/C1.php>

Reference

Duane, W.J., Pepin, N.C., Losleben, M.L. and Hardy, D.R. 2008. General characteristics of temperature and humidity variability on Kilimanjaro, Tanzania. *Arctic, Antarctic, and Alpine Research* **40**: 323-334.

Background

Kilimanjaro, the highest free-standing mountain in the world, was long renowned for its summit glaciers, immortalized by Ernest Hemingway in his famous short story "The Snows of Kilimanjaro." Over the first few years of the current century, its *disappearing* summit ice fields were once again made famous, this time by political luminaries such as Al Gore, Hillary Clinton and John McCain, who cited them as unmistakable evidence of the deleterious consequences of human-induced global warming. With the appearance of the research reports of Molg *et al.* (2003), Kaser *et al.* (2004), Molg and Hardy (2004), Cullen *et al.* (2006) and Mote and Kaser (2007), however, it has become clear to all but the most blind, that rising temperatures have had little to do with Kilimanjaro's disappearing ice, as the findings of Duane *et al.* (2008) also suggest.

What was done

Between September 2004 and January 2006, Duane *et al.* (2008) collected temperature and relative humidity readings 1.5 meters above ground level at 11,600 hourly intervals at seven locations over an elevation range of 3,910 meters on the southwestern side of Kilimanjaro, after which they determined the implications of their data for the shrinking ice fields atop the mountain.

What was learned

The researchers say their data show that temperatures remained well below freezing at their uppermost measurement site, so that "patterns of cloud cover and humidity are central to understanding glacier-climate interactions" at the ice fields. In this regard, they further state that "nearly all of the moisture in the atmosphere at the higher levels of the mountain is brought up from lower elevations through the mechanism of the montane thermal circulation," and that their data point strongly "to the lower slopes of Kilimanjaro as a moisture source for both the snows that feed the summit glaciers and the clouds that impact their surface energy balance." They also say their data suggest there is a "net export of moisture out of the forest zone (upslope) during the daylight hours," noting that "it could be that land-use changes in the forest zone as a result of deforestation have reduced the efficiency of this moisture supply to the higher reaches of the mountain."

What it means

Stating that their work shows "the importance of moisture transport upslope to the summit of

Kilimanjaro," Duane *et al.* thus come down on the side of the many other researchers who have concluded, in their words, that "the reasons for the rapid decline in Kilimanjaro's glaciers are not primarily due to increased air temperatures, but a lack of precipitation."

References

Cullen, N.J., Molg, T., Kaser, G., Hussein, K., Steffen, K. and Hardy, D.R. 2006. Kilimanjaro glaciers: Recent areal extent from satellite data and new interpretation of observed 20th century retreat rates. *Geophysical Research Letters* **33**: 10.1029/2006GL027084.

Kaser, G., Hardy, D.R., Molg, T., Bradley, R.S. and Hyera, T.M. 2004. Modern glacier retreat on Kilimanjaro as evidence of climate change: Observations and facts. *International Journal of Climatology* **24**: 329-339.

Molg, T. and Hardy, D.R. 2004. Ablation and associated energy balance of a horizontal glacier surface on Kilimanjaro. *Journal of Geophysical Research* **109**: 10.1029/2003JD004338.

Molg, T., Hardy, D.R. and Kaser, G. 2003. Solar-radiation-maintained glacier recession on Kilimanjaro drawn from combined ice-radiation geometry modeling. *Journal of Geophysical Research* **108**: 10.1029/2003JD003546.

Mote, P.W. and Kaser, G. 2007. The shrinking glaciers of Kilimanjaro: Can global warming be blamed? *American Scientist* **95**: 318-325.

Reviewed 24 September 2008

Eurasian River Flows

<http://co2science.org/articles/V11/N39/C2.php>

Reference

MacDonald, G.M., Kremenetski, K.V., Smith, L.C. and Hidalgo, H.G. 2007. Recent Eurasian river discharge to the Arctic Ocean in the context of longer-term dendrohydrological records. *Journal of Geophysical Research* **112**: 10.1029/2006JG000333.

Background

In introducing their study, the authors write that "sustained increases of river discharge from northern Eurasia into the Arctic Ocean basin could be a key diagnostic of global climate warming," since climate models suggest that the planet's strongest response to greenhouse gas forcing should occur in high northern latitudes, where concomitant increases in precipitation could be expected to significantly increase river flows.

What was done

MacDonald *et al.* first demonstrate that "discharge variability of the largest northern Eurasian rivers is correlated with broad geographic-scale variations in aridity as captured by the Palmer Drought Severity Index," which "is a synthetic hydrometeorological index incorporating precipitation, evaporation and soil moisture storage that is often highly correlated with tree ring width variations and river discharge," after which they "use tree ring records from a network of sites extending across northern Eurasia to provide reconstructions [extending back to AD 1800] of annual discharge for the October to September water year for the major Eurasian rivers entering the Arctic Ocean (S. Dvina, Pechora, Ob', Yenisey, Lena, and Kolyma)."

What was learned

The four researchers report that the increased annual discharges of the mid to late 20th century

that have been previously reported "are not significantly greater than discharges experienced at other times of higher flow over the preceding 200 years, and are thus still within the range of long-term natural variability." In addition, they say their "longer-term discharge records do not indicate a consistent positive significant correlation between discharge [and] Siberian temperature." In fact, they report there are actually weak *negative* correlations between discharge and temperature on some of the rivers over the period of their study.

What it means

Even in the Arctic, it would appear we are still waiting for the hydrological response the authors describe as "a key diagnostic of global climate warming" to manifest itself.

Reviewed 24 September 2008

Northern Russian Treeline, Russia

http://co2science.org/data/mwp/studies/l2_nrussiantreeline.php

Reference

MacDonald, G.M., Kremenetski, K.V. and Beilman, D.W. 2008. Climate change and the northern Russian treeline zone. *Philosophical Transactions of the Royal Society B* **363**: 2285-2299.

Description

The authors conducted an analysis of past changes in the northern Russian treeline, as reconstructed from tree-ring data and radiocarbon-dated subfossil wood. This work revealed, in their words, that "temperature increases over the past century are already producing demonstrable changes in the population density of trees, but these changes have not yet generated an extension of conifer species' limits to or beyond the former positions occupied during the Medieval Warm Period (MWP: ca AD 800-1300)," indicative of the fact that "the impact of twentieth century warming has not yet compensated fully for the mortality and range constriction caused by the cold temperatures of the Little Ice Age," specifically mentioning, in this regard, the central Kola Peninsula and the northern Polar Urals.

High-Temperature Tolerance in Corals

<http://co2science.org/articles/V11/N39/EDIT.php>

Volume 11, Number 39: 24 September 2008

In an important paper recently published in *Marine Biology*, Maynard *et al.* (2008) describe how they analyzed the bleaching severity of three genera of corals (*Acropora*, *Pocillopora* and *Porites*) via underwater video surveys of five sites in the central section of Australia's Great Barrier Reef in late February and March of 1998 and 2002, while contemporary sea surface temperatures were acquired from satellite-based Advanced Very High Resolution Radiometer data that were calibrated to local ship- and drift buoy-obtained measurements, and surface irradiance data were obtained "using an approach modified from that of Pinker and Laszlo (1991)."

With respect to temperature, the four researchers report that "the amount of accumulated thermal stress (as degree heating days) in 2002 was more than double that in 1998 at four of the five sites," and that "average surface irradiance during the 2002 thermal anomaly was 15.6-18.9% higher than during the 1998 anomaly." Nevertheless, they found that "in 2002, bleaching severity was 30-100% lower than predicted from the relationship between severity and thermal stress in 1998, despite higher solar irradiances during the 2002 thermal event." In addition, they found that the "coral genera most susceptible to thermal stress (*Pocillopora* and *Acropora*) showed the greatest increase in tolerance."

In discussing their findings, Maynard *et al.* write that they are "consistent with previous studies documenting an increase in thermal tolerance between bleaching events (1982-1983 vs. 1997-1998) in the Galapagos Islands (Podesta and Glynn, 2001), the Gulf of Chiriqui, the Gulf of Panama (Glynn *et al.*, 2001), and on Costa Rican reefs (Jimenez *et al.*, 2001)," and they say that "Dunne and Brown (2001) found similar results to [theirs] in the Andaman Sea, in that bleaching severity was far reduced in 1998 compared to 1995 despite sea-temperature and light conditions being more conducive to widespread bleaching in 1998."

As for the significance of these and other observations, the Australian scientists say that "the range in bleaching tolerances among corals inhabiting different thermal realms suggests that at least some coral symbioses have the ability to adapt to much higher temperatures than they currently experience in the central Great Barrier Reef," citing the work of Coles and Brown (2003) and Riegl (1999, 2002). In addition, they note that "even within reefs there is a significant variability in bleaching susceptibility for many species (Edmunds, 1994; Marshall and Baird, 2000), suggesting some potential for a shift in thermal tolerance based on selective mortality (Glynn *et al.*, 2001; Jimenez *et al.*, 2001) and local population growth alone." Above and beyond that, however, they say that their results additionally suggest "a capacity for acclimatization or adaptation."

In concluding their paper, Maynard *et al.* say "there is emerging evidence of high genetic structure within coral species (Ayre and Hughes, 2004)," which suggests, in their words, that "the capacity for adaptation could be greater than is currently recognized." Indeed, as we note in our Editorial of [20 February 2008](#), quoting Skelly *et al.* (2007), "on the basis of the present knowledge of genetic variation in performance traits and species' capacity for evolutionary response, it can be concluded that evolutionary change will often occur concomitantly with changes in climate as well as other environmental changes."

Consequently, it can be appreciated that if global warming were to start up again (it has been in abeyance for about the last decade), it need not spell *the end* for earth's highly adaptable corals.

Sherwood, Keith and Craig Idso

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USHCN Temperature Record of the Week: Mackay, ID

To bolster our claim that "[There Has Been Little Net Global Warming Over the Past 70 Years](#)," each week we highlight the temperature record of one of the 1221 U.S. Historical Climatology Network (USHCN) stations from 1930-2005.

This issue's temperature record of the week is from Mackay, ID. During the period of most significant greenhouse gas buildup over the past century, i.e., 1930 and onward, Mackay's mean annual temperature has experienced *no net change*. Not much global warming here!

