

Global warming 'hiatus' puts climate change scientists on the spot

By Monte Morin

Los Angeles Times, Monday, Sept. 23, 2013

It's a climate puzzle that has vexed scientists for more than a decade and added fuel to the arguments of those who insist man-made global warming is a myth.

Since just before the start of the 21st century, the Earth's average global surface temperature has failed to rise despite soaring levels of heat-trapping greenhouse gases and years of dire warnings from environmental advocates.

Now, as scientists with the Intergovernmental Panel on Climate Change gather in Sweden this week to approve portions of the IPCC's fifth assessment report, they are finding themselves pressured to explain this glaring discrepancy.

The panel, a United Nations creation that shared the 2007 Nobel Peace Prize with Al Gore, hopes to brief world leaders on the current state of climate science in a clear, unified voice. However, experts inside and outside the process say members probably will engage in heated debate over the causes and significance of the so-called global warming hiatus.

"It's contentious," said IPCC panelist Shang-Ping Xie, a professor of climate science at the Scripps Institution of Oceanography at UC San Diego. "The stakes have been raised by various people, especially the skeptics."

Though scientists don't have any firm answers, they do have multiple theories. Xie has argued that the hiatus is the result of heat absorption by the Pacific Ocean — a little-understood, naturally occurring process that repeats itself every few decades. Xie and his colleagues presented the idea in a study published last month in the prestigious journal *Nature*.

The theory, which is gaining adherents, remains unproved by actual observation. Surface temperature records date to the late 1800s, but measurements of deep water temperature began only in the 1960s, so there just isn't enough data to chart the long-term patterns, Xie said.

Scientists have also offered other explanations for the hiatus: lack of sunspot activity, low concentrations of atmospheric water vapor and other marine-related effects. These too remain theories.

For the general public, the existence of the hiatus has been difficult to reconcile with reports of record-breaking summer heat and precedent-setting Arctic ice melts.

At the same time, those who deny the tenets of climate change science — that the burning of fossil fuels adds carbon dioxide and other greenhouse gases to the atmosphere and warms it — have seized on the hiatus, calling it proof that global warming isn't real.

Climate scientists, meanwhile, have had a different response. Although most view the pause as a temporary interruption in a long-term warming trend, some disagree and say it has revealed serious flaws in the deliberative processes of the IPCC.

One of the most prominent of these critics is Judith Curry, a climatologist who heads the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. She was involved in the third IPCC assessment, which was published in 2001. But now she accuses the organization of intellectual arrogance and bias.

"All other things being equal, adding more greenhouse gases to the atmosphere will have a warming effect on the planet," Curry said. "However, all things are never equal, and what we are seeing is natural climate variability dominating over human impact."

Curry isn't the only one to suggest flaws in established climate models. IPCC vice chair Francis Zwiers, director of the Pacific Climate Impacts Consortium at the University of Victoria in Canada, co-wrote a paper published in this month's *Nature Climate Change* that said climate models had "significantly" overestimated global warming over the last 20 years — and especially for the last 15 years, which coincides with the onset of the hiatus.

The models had predicted that the average global surface temperature would increase by 0.21 of a degree Celsius over this period, but they turned out to be off by a factor of four, Zwiers and his colleagues wrote. In reality, the average temperature has edged up only 0.05 of a degree Celsius over that time — which in a statistical sense is not significantly different from zero.

Of course, people don't actually spend their entire lives subjected to the global average temperature, which is currently about 15 degrees Celsius, or 59 degrees Fahrenheit. Those who fixate on that single measurement lose sight of significant regional trends, particularly in the Northern Hemisphere, climate scientists say.

Xie and Yu Kosaka, an assistant project scientist at Scripps, used computer models to simulate the Pacific decadal oscillation, a phenomenon related to the El Niño and La Niña ocean temperature cycles that lasts for 20 to 30 years. The model suggested that the northern mid-latitudes — an area that includes the United States and most of Europe and China — were "insulated" from the oscillation's cooling effect during the summer months, as was the Arctic region.

"In the summer you've basically removed the Pacific cooling, so we're still baked by greenhouse gases," Xie said.

As a consequence, 2012 marked two climate milestones, he said. The U.S. experienced its hottest year on record, while ice cover in the North Pole shrank to the lowest level ever observed by satellite.

Other climatologists, such as Bill Patzert of NASA's Jet Propulsion Laboratory in La Cañada Flintridge, say sea level rise is "unequivocal proof" that greenhouse gases are continuing to heat the planet, and that much of this added heat is being absorbed by the oceans.

As ocean water warms, it expands and drives sea levels higher, Patzert said. Currently, oceans are rising at an average of more than 3 millimeters, or 0.12 of an inch, per year. This pace is significantly faster than the average rate over the last several thousand years, scientists say.

"There's no doubt that in terms of global temperatures we've hit a little flat spot in the road here," Patzert said. "But there's been no slowdown whatsoever in sea level rise, so global warming is alive and well."

Whether that message is communicated successfully by the IPCC this week remains to be seen. In the days leading up to the meeting, the organization has found itself on the defensive.

A draft summary that was leaked to the media reported that scientists were "95% confident" that human activity was responsible for more than half of the increase in average global surface temperature between 1951 and 2010. But critics openly scoff, considering the IPCC's poor record for predicting short-term temperature increases.

"This unpredicted hiatus just reflects the fact that we don't understand things as well as we thought," said Roger Pielke Jr., a professor of environmental studies at the University of Colorado in Boulder and vocal critic of the climate change establishment. "Now the IPCC finds itself in a position that a science group never wants to be in. It's in spin management mode."

Gusty winds prompt air alert in Valley

By Diana Aguilera, The Fresno Bee

In the Merced Sun Star, Friday, Sept. 20, 2013

Gusty winds and blowing dust in the San Joaquin Valley have prompted local air officials to issue a health cautionary statement through Saturday.

The health caution is in effect for Merced, Madera, Fresno, Kings, Tulare, and Kern counties.

Blowing dust can result in unhealthy concentrations of particulate matter 10 microns and smaller, or PM10.

Exposure to particle pollution can cause serious health problems, aggravate lung disease, cause asthma attacks and acute bronchitis and increase risk of respiratory infections, officials said. People with heart or lung diseases should follow their doctors' advice for dealing with episodes of unhealthy air quality.

For more information, visit www.valleyair.org or call a District office in Fresno at (559) 230-6000, Modesto at (209) 557-6400 or Bakersfield at (661) 392-5500.

Heavy rain sweeps through Modesto

By Nan Austin, staff writer

In the Modesto Bee and Merced Sun-Star, Sunday, Sept. 22, 2013

MODESTO — A real gully-washer swept through town Saturday afternoon, clearing the dusty harvest air but dropping only a third of an inch of rain by Modesto Irrigation District's measure. With the storm came a flurry of fender benders and a few more serious accidents.

"We had a ton of vehicle accidents with the rain," said Battalion Chief Alan Ernst of the Modesto Regional Fire Authority. "With the first rain, the roads are really slick. People need to slow down."

Modesto Regional responded to about 70 calls by 8 p.m., as many as they normally field in a busy 24-hour period, Ernst said. Among them were five false alarms, triggered by the storm. And a number of homes that were reported to have burning roofs turned out to be fireplace smoke coming from chimneys.

Ernst said his department responded to several rollover wrecks with mild to moderate injuries and a handful of lesser wrecks. A vehicle that struck a tree and a power pole around 3 p.m. at Sylvan Avenue and Coffee Road dropped what was believed to be a power line, closing the road for about 45 minutes, he said. It was later found to be a telephone line.

The worst wreck of the day, however, happened before the rain, shortly after 10 a.m. on Highway 99 near the Hammett Road overpass in Ripon. No details were available Saturday on the accident that involved a number of vehicles, clogging the highway for much of the day.

Gusty winds sent an autumn chill through the day. Temperatures never pushed the MID thermometers past 74 degrees, just a few sunbeams over the record minimum of 71 degrees for Sept. 21, set back in 1945.

After a morning of ominous clouds, the mid-afternoon soaking cleared parks and cleansed sidewalks. But where Modesto got a third of an inch, Turlock Irrigation District's in-town station recorded a fraction of that, leaving Turlock's gullies to be washed another day.

"Modesto got the tail end of it. It went all the way to the border," said National Weather Service forecaster Johnnie Powell. Redding got an inch of rain and Paradise got 1.5 inches. Sacramento got half an inch and San Francisco a bit less, he said. As night fell, thunderstorms crackled over Davis.

Snow fell as low as the 6,000-foot elevation, Powell said. Highway 120 was closed due to snow at Crane Flat, according to the Caltrans road information website.

There were no crime incidents of note in Modesto during the flash squall, said Modesto police Lt. David Van Diemen. The Tuolumne River Trust's trash pickup day along banks just got a little extra help, he commented, "I imagine it just gave them a good clean sweep afterward."

Dusty harvest skies sparkled after the speed wash. Air quality moved to the best category (good) on the [San Joaquin Valley Air Pollution Control District](http://www.sanjoaquinvalleyair.org) website.

Today's forecast calls for sunny skies and balmy temperatures in the 80s.

Clearing the Air

Climate expert receives award for discoveries tied to soot as pollutant

By Deborah Sullivan Brennan

San Diego United-Tribune, Monday, Sept. 23, 2013

As carbon dioxide made news for its role in climate change, Veerabhadran Ramanathan made a striking discovery: Soot and other climate pollutants are 30 to 3,000 times more potent than carbon dioxide and cause millions of deaths per year.

The silver lining to that dark cloud is that the compounds last just weeks or months in the atmosphere, compared to the decades that carbon dioxide persists. And many of them can be swapped with simple, eco-friendly replacements.

Last week, Ramanathan's discoveries helped him earn the United Nations' highest environmental accolade: the 2013 Champions of the Earth award. He is a distinguished professor of climate and atmospheric sciences at the Scripps Institution of Oceanography in La Jolla.

Inspired by academic interest and his childhood in India, Ramanathan has led research that documented how soot from cookstoves and wood fires have produced a "brown cloud" over Asia. This layer of soot warms the atmosphere by absorbing sunlight, threatens the health of crops by altering weather patterns and hastens the melting of Himalayan glaciers.

Ramanathan has found that the same emissions contribute to respiratory illness and death. He remembers his grandmother coughing as she cooked meals over a wood-fired stove.

Inefficient cooking stoves — used by half a billion families in developing countries — emit about a quarter of all black-carbon (soot) emissions and cause an estimated 3.1 million premature deaths from smoke inhalation, especially among women and girls, according to Scripps.

Ramanathan's recent research shows that cutting emissions of soot, controlling methane and replacing hydrofluorocarbons with cleaner refrigerants could cut global warming by half in coming decades.

"The response of the climate system would be fast, and the relief to human health would be fast because people would be breathing cleaner air," Ramanathan said.

To spur the transition, Ramanathan launched and continues to champion Project Surya, a program to replace outdated cooking devices with clean-energy stoves.

His research also has inspired more than 30 nations and three dozen environmental organizations to form the Climate and Clean Air Coalition, with the joint goal of phasing out short-lived climate pollutants.

On Wednesday, Ramanathan received the Champions of the Earth honor at the American Museum of Natural History in New York.

"It gives me a forum to talk about this, to engage leaders from industry and entrepreneurs and major foundations, because I have the U.N. stamp behind me," Ramanathan said.