WHITE HOUSE DELETION OF LARGE SECTIONS OF TESTIMONY ON PUBLIC HEALTH IMPACTS OF GLOBAL WARMING BY THE DIRECTOR OF THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

On Tuesday October 23, 2007 Dr. Julie Gerberding, Director of the Centers for Disease Control and Prevention (CDC) testified before the Senate Committee on Environment and Public Works regarding the public health implications of global warming. Dr. Gerberding's written testimony was heavily edited during the review process coordinated by the White House's Office of Management and Budget, to remove most of the specific information about the health impacts of global warming.

At a White House press briefing the following day, White House Press Secretary Dana Perino asserted that the reason for the edits was that the CDC testimony was inconsistent with the Intergovernmental Panel on Climate Change (IPCC) report on the same topic. According to the White House briefing transcript, Ms. Perino answered a question on this issue as follows:

> Q: [An] AP story quotes an unnamed CDC official saying that [CDC Director Gerberding's] testimony was heavily edited by the White House, taking out references to specific diseases in this climate change report to Congress. And the suggestion seems to be that it was politically unpalatable in its original form. Can you just tell what happened?
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> MS. PERINO: I checked into this a little bit. Look, it's not unusual. All testimony goes through interagency review here through the OMB process. A number of the agencies had some concerns with the draft and I know that our scientists at the Office of Science and Technology Policy looked at the draft and wanted to make sure that it was taking advantage of the science that had been provided in the International Panel on Climate Change -- that was the IPCC report that came out last spring that we largely funded and that we embraced in its conclusions. It is also the one that Nobel Peace Prize winner Al Gore -- one of the reasons he is sharing the Nobel Peace Prize is because the IPCC work.
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> As I understand it, the draft information did not comport with what -- the science that was in the IPCC report -- that was the International Panel on Climate Change. And so it was reviewed, and the scientists took a look at it.

Attached is a side-by-side comparison of the provisions of the CDC testimony that were deleted during the White House review of the testimony with the applicable findings of the IPCC.

Deleted Text from CDC Testimony on Global Warming and Public Health Compared With Relevant Findings of Nobel Prize Winning Scientific Body on Global Warming's Impacts

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"Climate Change is Public Health Concern In the United States, climate change is likely to have a significant impact on health, through links with the following outcomes: • Direct effects of heat, • Health effects related to extreme weather events, • Air pollution-related health effects, • Allergic diseases, • Water- and food-borne infectious diseases, • Vector-borne and zoonotic diseases, • Food and water scarcity, at least for some populations, • Mental health problems, and • Long-term impacts of chronic diseases and other health effects"	"**Emerging evidence of climate change effects on human health shows that climate change has**: • [A]ltered the distribution of some infectious disease vectors…; • [A]ltered the seasonal distribution of some allergenic pollen…; • [I]ncreased heatwave-related deaths… **Projected trends in climate-change-related exposures of importance to human health will**: • [I]ncrease malnutrition and consequent disorders, including those relating to child growth and development…; • [I]ncrease the number of people suffering from death, disease, and injury from heatwaves, foods, storms, fires and droughts…; • [C]ontinue to change the range of some infectious disease vectors… • [I]ncrease the burden of diarrhoeal diseases…; • [I]ncrease cardio-respiratory morbidity and mortality associated with ground-level ozone…."[1] "Several studies have confirmed and quantified the effects of high temperatures on common forms of food poisoning, such as salmonellosis…."[2] "There is increasing evidence of the importance of mental disorders as an impact of disasters…Prolonged impairment resulting from common mental disorders (anxiety and depression) may be considerable."[3] "Water-borne diseases will rise with increases in extreme rainfall…In regions suffering from droughts, a greater incidence of diarrhoeal and other water-related diseases will mirror the deterioration in water quality…"[4]

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"*Heat Stress and Direct Thermal Injury…* The United States is expected to see an increase in the severity, duration, and frequency of extreme heat waves. This, coupled with an aging population, increases the likelihood of higher mortality as the elderly are more vulnerable to dying from exposure from excessive heat."	"Severe heatwaves…will intensify in magnitude and duration over the portions of the U.S…where they already occur…"[5] "Local factors, such as…the proportion of elderly people, are important in determining the underlying temperature-mortality relationship in a population…"[6]
"*Extreme Weather Events…* Climate Change is anticipated to alter the frequency, timing, intensity, and duration of extreme weather events, such as hurricanes and floods"	"[C]onfidence has increased that some weather events and extremes will become more frequent, more widespread and/or more intense during the 21st century; and more is known about potential effects of such changes."[7]
"*Air Pollution-Related Health Effects* Climate change can affect air quality by modifying local weather patterns and pollutant concentrations, affecting natural sources of air pollution, and promoting the formation of secondary pollutants. Of particular concern is the impact of increased temperature and UV radiation on ozone formation. Some studies have shown that higher surface temperatures, especially in urban areas, encourage the formation of ground-level ozone. As a primary ingredient of smog, ground-level ozone is a public health concern. Ozone can irritate the respiratory system, reduce lung function, aggravate asthma, and inflame and damage cells that line the lungs. In addition, it may cause permanent lung damage and aggravate chronic lung diseases."	"Surface ozone concentrations may increase with a warmer climate. Ozone damages lung tissue, causing particular problems for people with asthma and other lung diseases. Even modest exposure to ozone may encourage the development of asthma in children…For the 2050s, daily average ozone levels are projected to increase by 3.7 ppb across the eastern U.S….with the cities most polluted today experiencing the greatest increase in ozone pollution…One-hour maximum ozone follows a similar pattern, with the number of summer days exceeding the 8-hour regulatory U.S. standard projected to increase by 68%."[8]
"*Allergic Disease* Studies have shown that some plants, such as ragweed and poison ivy, grow faster and produce more allergens under conditions of high carbon dioxide and warm weather. As a result, allergic diseases and symptoms could worsen with climate change."	"Pollen, another air contaminant, is likely to increase with elevated temperature and atmospheric CO_2 concentrations. A doubling of the atmospheric CO_2 concentration stimulated ragweed-pollen production by over 50%..."[9]
"*Water- and Food-borne Infectious Diseases* Altered weather patterns resulting from climate change are likely to affect the distribution and incidence of food- and water-borne	"Water-borne disease and degraded water quality are very likely to increase with more heavy precipitation…."[10]

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diseases. Changes in precipitation, temperature, humidity, and water salinity have been shown to affect the quality of water used for drinking, recreation, and commercial use. For example, outbreaks of *Vibrio* bacteria infections following the consumption of seafood and shellfish have been associated with increases in temperatures. Heavy rainfall has also been implicated as a contributing factor in the overloading and contamination of drinking water treatment systems, leading to illness from organisms such as *Cryptosporidium* and *Giardia*. Storm water runoff from heavy precipitation events can also increase fecal bacterial counts in coastal waters as well as nutrient load, which, coupled with increased sea-surface temperature, can lead to increases in the frequency and range of harmful algal blooms (red tides) and potent marine biotoxins such as ciguatera fish poisoning."	"Several studies have confirmed and quantified the effects of high temperatures on common forms of food poisoning, such as salmonellosis… In temperate countries, warmer weather and milder winters are likely to increase the abundance of flies and other pest species during the summer months, with the pests appearing earlier in spring…Warmer seas may thus contribute to increased cases of human shellfish and reef fish poisoning (ciguatera) and poleward expansions of these disease distributions…Overall, climate change is projected to increase the number of people at risk of hunger."[11] "Extreme rainfall and runoff events may increase the total microbial load in watercourses and drinking-water reservoirs…, although the linkage to cases of human disease is less certain…A study in the USA found an association between extreme rainfall events and monthly reports of outbreaks of water-borne disease…"[12]
"*Vector-borne and Zoonotic Diseases* Vector-borne and zoonotic diseases, such as plague, Lyme disease, West Nile virus, malaria, hantavirus pulmonary syndrome, and dengue fever have been shown to have a distinct seasonal pattern, suggesting that they are weather sensitive. Climate change-driven ecological changes, such as variations in rainfall and temperature, could significantly alter the range, seasonality, and human incidence of many zoonotic and vector-borne diseases. More study is required to fully understand all the implications of ecological variables necessary to predict climate change effects on vector-borne and zoonotic diseases. Moderating factors such as housing quality, land-use patterns, and vector control programs make it unlikely that these climate changes will have a major impact on tropical diseases such as malaria and dengue fever spreading into the United States. However, climate change could aid in the establishment of exotic vector-borne diseases imported into the United States."	"Climate change is likely to increase risk and geographic spread of vector-borne infectious diseases, including Lyme disease and West Nile virus."[13] "Many zoonotic diseases are sensitive to climate fluctuations…The strain of West Nile virus (WNV) that emerged for the first time in North America during the record hot July 1999 requires warmer temperatures than other strains. The greatest WNV transmissions during the epidemic summers of 2002 to 2004 in the U.S. were linked to above-average temperatures…A 1993 hantavirus outbreak related indirectly to heavy rainfall led to a significant reduction in tourist visits to the American South-west…"[14] "Recent investigations of plague foci in North America and Asia with respect to the relationships between climatic variables, human disease cases…have suggested that temporal variations in plague risk can be estimated by monitoring key climatic variables.

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	There is good evidence that diseases transmitted by rodents sometimes increase during heavy rainfall and flooding because of altered patterns of human–pathogen–rodent contact…Cases of hantavirus pulmonary syndrome (HPS) were first reported in Central America (Panama) in 2000, and a suggested cause was the increase in peri-domestic rodents following increased rainfall and flooding in surrounding areas…, although this requires further investigation. The distribution and emergence of other infectious diseases have been affected by weather and climate variability."[15]
"*Food Scarcity* Climate change is predicted to alter agricultural production, both directly and indirectly. This may lead to scarcity of some foods, increase food prices, and threaten access to food for Americans who experience food insecurity."	"Both acute and chronic nutritional problems are associated with climate variability and change. The effects of drought on health include deaths, malnutrition (undernutrition, protein-energy malnutrition and/or micronutrient deficiencies), infectious diseases and respiratory diseases…"[16] "North American agriculture has been exposed to many severe weather events during the past decade. More variable weather, coupled with out-migration from rural areas and economic stresses, has increased the vulnerability of the agricultural sector overall, raising concerns about its future capacity to cope with a more variable climate…North American agriculture is, however, dynamic. Adaptation to multiple stresses and opportunities, including changes in markets and weather, is a normal process for the sector."[17] "Vulnerability of North American agriculture to climatic change is multi-dimensional and is determined by interactions among pre-existing conditions, indirect stresses stemming from climate change (e.g.,

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	changes in pest competition, water availability), and the sector's capacity to cope with multiple, interacting factors, including economic competition from other regions as well as advances in crop cultivars and farm management…Water access is the major factor limiting agriculture in south-east Arizona, but farmers in the region perceive that technologies and adaptations such as crop insurance have recently decreased vulnerability…Areas with marginal financial and resource endowments (e.g., the U.S. northern plains) are especially vulnerable to climate change…"[18]
Climate Change Vulnerability The effects of climate change will likely vary regionally and by population. The northern latitudes of the United States are expected to experience the largest increases in average temperatures.	"The United States (U.S.) and Canada will experience climate changes through direct effects of local changes (e.g., temperature, precipitation and extreme weather events), as well as through indirect effects, transmitted among regions by interconnected economies and migrations of humans and other species. Variations in wealth and geography, however, lead to an uneven distribution of likely impacts, vulnerabilities and capacities to adapt."[19] "Late in the century, projected annual warming is likely to be 2 to 3°C across the western, southern, and eastern continental edges, but more than 5ºC at high latitudes. The projected warming is greatest in winter at high latitudes and greatest in the summer in the southwest U.S. Warm extremes across North America are projected to become both more frequent and longer."[20]

NOTES

[1] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 393 (2007).
[2] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 400 (2007).
[3] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 399 (2007).
[4] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 3, Freshwater resources and their management, 189 (2007).
[5] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapter 14, North America, 632 (2007).
[6] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapter 8, Human Health, 398 (2007).

[7] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Summary for Policymakers, 17(2007).
[8] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 632 (2007).
[9] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 632 (2007).
[10] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 619 (2007).
[11] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 400, 414 (2007).
[12] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 401 (2007).
[13] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 619 (2007).
[14] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 625 (2007).
[15] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 404 (2007).
[16] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 8, Human Health, 399 (2007).
[17] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 624 (2007).
[18] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 631 (2007).
[19] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 619 (2007).
[20] Intergovernmental Panel on Climate Change, Climate Change 2007, Fourth Assessment Report, Working Group II, Chapt. 14, North America, 627 (2007).