



## AMERICAN METEOROLOGICAL SOCIETY

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7 December 2015

The Honorable Ted Cruz, chairman  
Subcommittee on Space, Science, and Competitiveness  
Committee on Commerce, Science & Transportation  
Russell Senate Office Building, Room 254  
Washington DC, 20510

Dear Senator Cruz:

The topics identified for discussion in the hearing titled “Data or Dogma? Promoting Open Inquiry in the Debate over the Magnitude of Human Impact on Earth’s Climate” are important ones. The American Meteorological Society (AMS) is strongly committed to open scientific debate, the free expression of scientific ideas, and the freedom for scientists to pursue research topics without political interference.<sup>1</sup> In response to two recent efforts to question the integrity of scientists that appear politically motivated, AMS wrote letters expressing concern, with one of those letters supporting two of the witnesses selected by you and the Majority staff to appear in this hearing.<sup>2</sup>

AMS has also been a strong champion of the scientific process. That process includes peer-review of scientific articles followed by further vetting, testing, and validating of concepts and ideas by independent experts — discarding findings that cannot successfully withstand such testing. Scientists face strong professional incentives to prove each other wrong and relish doing so. This constitutes an extremely robust and self-correcting nature for scientific research. This process is not without instances of failure, but indeed, we know of those failures precisely because of this self-correcting nature. The scientific process has an overall record of success that is outstanding and it has served this nation and the world well for many decades.

While Congressional hearings can be useful in highlighting areas of concern, exploring specific issues in more depth, or providing explanations of the peer-reviewed literature, science-based policy decisions should build on knowledge and understanding developed from the full corpus of peer-reviewed scientific literature. In terms of climate change, AMS has noted<sup>3</sup>:

The primary findings of climate change science have been well established in the peer-reviewed science literature and replicated by numerous independent investigators and methodologies. Blue-ribbon panels of scientists convened by organizations such as the National Academy of Sciences have carried out formal evaluations of scientific studies and provide a consensus opinion regarding climate change. Leading scientific organizations beyond the AMS (e.g., American Association for the Advancement of Science, American Geophysical Union, and European Geophysical Union) have considered the state of the science and are in consensus on the topic as well. There are small scientific differences as research continues to refine the details, but there is strong agreement on the primary findings and essentially no controversy with respect to them.

Those findings can be summarized as<sup>4</sup>:

There is unequivocal evidence that Earth’s lower atmosphere, ocean, and land surface are warming; sea level is rising; and snow cover, mountain glaciers, and Arctic sea ice are shrinking. The dominant cause of the warming since the 1950s is human activities. This scientific finding is

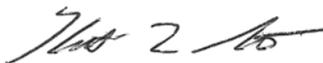
based on a large and persuasive body of research. The observed warming will be irreversible for many years into the future, and even larger temperature increases will occur as greenhouse gases continue to accumulate in the atmosphere.

To be sure, there are uncertainties in many aspects of the science on climate variability and climate change, but AMS has been clear in stating that those uncertainties do not alter the nature of the policy challenge facing the United States and the world: people are responsible for most of the recent climate change, climate change poses serious risks to our society, and we have numerous options for responding that can help reduce those risks. Quoting again from the same statement<sup>4</sup>:

Technological, economic, and policy choices in the near future will determine the extent of future impacts of climate change. Science-based decisions are seldom made in a context of absolute certainty. National and international policy discussions should include consideration of the best ways to both adapt to and mitigate climate change. Mitigation will reduce the amount of future climate change and the risk of impacts that are potentially large and dangerous. At the same time, some continued climate change is inevitable, and policy responses should include adaptation to climate change.

Science is the pursuit of knowledge and understanding. Therefore, science alone cannot determine the best policy option because policy choices include subjective value judgments (i.e., opinions and personal preferences). Nevertheless, we encourage the Subcommittee to rely on the full body of peer-reviewed literature on climate science as the most reliable source for knowledge and understanding that can be applied to the policy options. AMS stands ready to provide you and the Subcommittee clarification on its positions with respect to freedom of scientific inquiry, academic freedom, the peer-review process, or climate science.

Sincerely,



Dr. Keith L. Seitter  
Executive Director

CC: The Honorable Gary Peters, Ranking Member

<sup>1</sup> See AMS Statement: “Freedom of Scientific Expression” (2012):

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/freedom-of-scientific-expression/>

<sup>2</sup> See AMS letters:

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-formal-letters-of-support/letter-to-house-committee-on-natural-resources-on-challenges-to-academic-freedom/>

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-formal-letters-of-support/letter-to-house-committee-on-science-space-and-technology-on-noaa-science/>

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-formal-letters-of-support/joint-letter-to-house-committee-on-science-space-and-technology-on-noaa-science/>

<sup>3</sup> See AMS Statement: “Climate Science Is Core to Science Education” (2013):

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/climate-science-is-core-to-science-education/>

<sup>4</sup> See AMS Statement: “Climate Change” (2012):

<https://www2.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/climate-change/>