AMERICAN STATISTICAL ASSOCIATION
Promoting the Practice and Profession of Statistics®
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November 22, 2019

Select Committee on the Climate Crisis
United States House of Representatives
H2-359 Ford House Office Building
Washington, D.C. 20515

RE: Request for Information on Addressing the Climate Crisis

Dear Chair Castor, Ranking Member Graves, and Members of the Select Committee,

Thank you for this opportunity to respond to your request for comment from stakeholders in the climate science community. I write on behalf of the Advisory Committee on Climate Change Policy (ACCCP) of the American Statistical Association (ASA), the nation's largest professional association of statisticians with over 18,000 members in academia, government, and the private sector.

Statisticians are equipped to investigate and address many topics related to climate change[1] and climate variability and have been doing so for many years, but in this response I focus on a single topic, namely policies relating to "climate information support." Moving forward, I hope that your committee will consider the ACCCP to be a resource for objective information on climate science topics related to the practice of statistics.

As you are aware, "climate information support" seeks input on policies and priorities that the United States Congress should adopt to maintain and expand efforts to effectively investigate and address climate change. We recommend the following priorities:

1. **Ensure that data and analysis of climate observations meet the highest standards of statistical science**. For example, use of coordinated observing system, simulation experiments, and hypothesis-driven climate change observations must be methodologically sound, implement appropriate sampling procedures, and apply rigorous statistical analysis;

2. **Expand emphasis on the measurement and analysis of extreme climate related events** like hurricanes and droughts as identified in the World Climate Research Program Grand Challenges[2], including their contributing factors;

3. **Incorporate cutting edge observational systems** such as synthetic-aperture radar (SAR), global positioning system using radio occultation (GPS-RO), and unmanned aircraft systems or drones (UAS) to deliver high-quality and granular data while maintaining methodological rigor;

4. **Combine observations and models to reduce uncertainty** using rigorous statistical approaches and use statistical design approaches to aid, guide, and inform the development of a more coordinated climate observing system;

According to the Intergovernmental Panel on Climate Change, climate change is driven by the actions of humans and curbing its negative and already occurring effects requires extensive international cooperation. As such, we emphasize the necessity of international collaboration in addressing climate change and in designing a coordinated climate observation system.

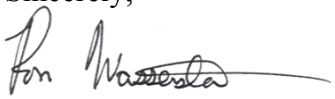
In addition, there are also promising and needed partnerships to be developed between governments and the private sector, where methodological advancements can be applied to maximize public benefit while also meeting industry needs. As mentioned previously, these efforts between governments and private companies could focus in part on improving the current observation system and sampling design approaches with a special focus on extreme climate events.

For your information, included with this response is a paper led by Dr. Elizabeth Weatherhead of the University of Colorado Boulder[3] that proposes steps to design a coordinated climate observing system and that elaborates on recommendations in this letter. As your committee continues with its duties the ACCCP of the ASA is available to elaborate on these recommendations and provide additional feedback as requested.

The ASA commends your important work to mitigate ongoing and future damage caused by climate change and climate variability and appreciates this opportunity to provide comment. I am available by email at ron@amstat.org. Please consider the ACCCP of the ASA to be a resource in the many intersections between climate science and statistical practice.

Sincerely,

Sincerely,



Ron Wasserstein
Executive Director

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[1] https://ww2.amstat.org/committees/ccpac/
[2] https://www.wcrp-climate.org/gc-extreme-events
[3] Weatherhead, E. C., Wielicki, B. A., Ramaswamy, V., Abbott, M., Ackerman, T. P., Atlas, R., ... & Clack, C. T. (2018). Designing the climate observing system of the future. *Earth's Future*, *6*(1), 80-102. https://doi.org/10.1002/2017EF000627