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Policy Statement on Climate Variability and Change

by the American Association of State Climatologists (AASC)*

This statement provides the perspective of the AASC on issues of climate variability and change. Since the AASC members work directly with users of climate information at the local, state and regional levels, it is uniquely able to put global climate issues into the local perspective needed by the users of climate information. Our conclusions are as follows:

1. Past climate is a useful guide to the future – Assessing past climate conditions provides a very effective analysis tool to assess societal and environmental vulnerability to future climate, regardless of the extent the future climate is altered by human activity. Our current and future vulnerability, however, will be different than in the past, even if climate were not to change, because society and the environment change as well. Decision makers need assessments of how climate vulnerability has changed.
2. Climate prediction is complex with many uncertainties – The AASC recognizes climate prediction is an extremely difficult undertaking. For time scales of a decade or more, understanding the empirical accuracy of such predictions – called “verification” – is simply impossible, since we have to wait a decade or longer to assess the accuracy of the forecasts.

Climate prediction is difficult because it involves complex, nonlinear interactions among all components of the earth's environmental system. These components include the oceans, land, lakes, and continental ice sheets, and involve physical, biological, and chemical processes. The complicated feedbacks and forcings within the climate system are the reasons for the difficulty in accurately predicting the future climate. The AASC recognizes that human activities have an influence on the climate system. Such activities, however, are not limited to greenhouse gas forcing and include changing land use and sulfate emissions, which further complicates the issue of climate prediction. Furthermore, climate predictions have not demonstrated skill in projecting future variability and changes in such important climate conditions as growing season, drought, flood-producing rainfall, heat waves, tropical cyclones and winter storms. These are the type of events that have a more significant impact on society than annual average global temperature trends.

3. Policy responses to climate variability and change should be flexible and sensible – The difficulty of prediction and the impossibility of verification of predictions decades into the future are important factors that allow for competing views of the long-term climate future. Therefore, the AASC recommends that policies related to long-term climate not be based on particular predictions, but instead should focus on policy alternatives that make sense for a wide

* The American Association of State Climatologists (AASC) is the professional organization of State Climatologists of the United States. Each State Climatologist is appointed in his/her respective state to provide expertise on issues associated with climate. The State Climatologists collaborate with the six Regional Climate Centers and the Department of Commerce's National Climatic Data Center (NCDC) located in Asheville, North Carolina.

range of plausible climatic conditions regardless of future climate. Climate is always changing on a variety of time scales and being prepared for the consequences of this variability is a wise policy.

4. In their interactions with users of climate information, AASC members recognize that the nation's climate policies must involve much more than discussions of alternative energy policies – Climate has a profound effect on sectors such as energy supply and demand, agriculture, insurance, water supply and quality, ecosystem management and the impacts of natural disasters. Whatever policies are promulgated with respect to energy, it is imperative that policy makers recognize that climate – its variability and change – has a broad impact on society. The policy responses too should also be broad.

Thus, to address the issues of climate variability and change, modernizing and maintaining high quality long-term climate data must be a high priority in order to permit careful monitoring. With the rapid dissemination of these data, State Climate Offices, as well as the Regional Climate Center Offices, and the National Climatic Data Center can better monitor emerging climate threats to critical national resources, such as our water supply, agriculture, and energy needs. The climate data must include all-important components of the climate system (e.g., temperature, precipitation, humidity, vegetation health and soil moisture). We also recommend that the nation strengthen its local, state, and regional climate services infrastructure in order to develop greater support capabilities for those decision makers who have to respond to climate variability and change.

Finally, ongoing political debate about global energy policy should not stand in the way of common sense action to reduce societal and environmental vulnerabilities to climate variability and change. Considerable potential exists to improve policies related to climate; the AASC is working to turn that potential into reality.

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