

AN OPEN LETTER TO MEMBERS OF THE 110th CONGRESS OF THE UNITED STATES

Ensuring the Future of the Nation's Climate Observing Network

A Position Paper Adopted By
The American Association of State Climatologists (AASC)



(<http://www.stateclimate.org>)

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The American Association of State Climatologists (AASC) – representing all State Climatologists and Puerto Rico along with Climatologists at the nation's six Regional Climate Centers – urge the 110th Congress to direct and appropriate funds to conduct a comprehensive modernization of the nation's premier surface-based, climate-monitoring network: the Cooperative Observer Network (COOP), operated by the National Weather Service (NWS). Our nation, the most technologically advanced on the planet, is in grave danger of losing significant societal benefits and will face billions of dollars in economic impacts each year if the network collapses.^{1, 2, 3 & 4}

Urgency arises from the fact that all federal modernization plans proposed during the last 14 years have floundered from lack of specific funding direction and insufficient funds, in spite of the fact the COOP remains as relevant today as it was when first established in 1890. We ask the Congress to provide direction and the necessary funds because collecting high quality, climate, weather, and water data spanning multiple *decades* is a distinctly federal role. *Even so, the Federal government may not need to own any equipment* — much like the USDOT does not own the Interstate Highway system.

Even as COOP moves toward collapse, it provides one of the few reliable means to confirm (i.e., reduce uncertainties) climate change and variability across North America. To accurately measure and assess climate, weather, and water patterns at the *local* level where impacts of climate change occur, modernized COOP sites spaced every 400 square miles *on average* nationwide are required^{1, 3 & 4} (~8000 stations from a coalition of partnerships) to meet standards of the World Meteorological Organization (WMO^{3 & 4}).

The slow collapse of this 116-year old network has been documented in numerous professional reports during the past two decades.¹ This network faces extinction because the data still are manually acquired, much like in 1890, by volunteer observers using equipment that is either obsolete or obsolescent. It has proven almost impossible to replace aging observers. Data quality continues to diminish, access to the data (recorded on paper) remains arduous, and the corps of maintenance professionals has been decimated because federal personnel have been shifted to other duties.

Modernizing the NWS COOP network will provide weather and water information that are automatically reported, stored, and made available (i.e., in real time) to improve the accuracy of all forecasts. Given that paper is used now, the instantaneous transfer of new data will create huge societal and economic benefits because countless public/private interests are impacted by the climate, weather, and water. For example:

- To reduce a dependence on foreign oil, we must generate electricity more efficiently. The efficiency of generation can be greatly increased if loads are predicted and generation scheduled in advance. Power usage, and hence demand for generation, is directly tied to temperature variations. The added value of improved fine-scale temperature information is immense – if decision-quality data from carefully selected sites are available in real-time to grid operator and power generating agencies.²

- Federal financial aid for drought, extreme floods, or record snowfalls is usually tied to Presidential disaster declarations. More than 65 ‘billion dollar’ climate, weather, and water disasters have impacted our economy during the past 25 years. The spatial extent of most disaster declarations has been based on COOP observations of temperature, precipitation and snowfall *at the sub-county level*. Thus, valid requirements exist to modernize a high density, high resolution observing network whose data will impact climate, weather, and water forecasts in a very positive manner. Further, some \$40 billion in annual contracts of the weather-risk management community are based solely on NOAA-certified airport temperature and precipitation data. No doubt more contracts would be possible if reliable COOP data were available in real-time. Unfortunately, the availability, reliability, and consistency of COOP data have fallen below acceptable standards.¹ This situation impedes the federal decision process during disasters and severely limits a growing area of economic activity.
- Water is a critical natural resource to our economy. Modernization of the COOP network at a spatial resolution of one site per 400 square miles will directly improve local and regional management of this vital resource. In addition, a modernized COOP has been identified as *the* key observational component of the National Integrated Drought Information System, as proposed by the Western Governors’ Association⁴ and approved by the 109th Congress in HR 5136.
- Having near instantaneous access to detailed wind, temperature, and humidity data in populated environments would, if available, help the Nation prepare for and manage chemical and biological threats by increasing the speed and effectiveness of responses to the release of hazardous substances and high-impact weather and water phenomena. But, the observations must be timely, reliable, and consistent through time for computer dispersion models to produce accurate forecasts that protect both first-responders and the public they serve.³ Such is not the case today.

We, as local and regional providers of climate services and climate change assessments, appreciate the budgetary constraints faced by Congress. Yet, the evidence is compelling that modernization of this network is a cost-effective investment for the nation and our heirs. While the NWS should set standards, many other Federal agencies have a significant stake in the modernization. Even so, the modernization cannot be achieved by one agency with limited resources nor can it be accomplished without partners. Regional, state, and private partners stand ready as important stakeholders at the sub-county level to assist with the modernization, deployment, upgrading, and maintenance.

The American Association of State Climatologists, a national organization of climate scientists, calls upon the 110th Congress to rescue the nation’s climate monitoring and observing network. We ask the Congress to provide direction and funding at a level that completes a comprehensive modernization in five years and assures longevity of the network through the 21st century. We are ready to lead a unified effort.

Respectfully Submitted,



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¹ *Future of the National Weather Service Cooperative Observer Network*, National Research Council, 1998.

² Edison Electric Institute, 2002.

³ *Program Development Plan for COOP Modernization*, Signed by General D. L. Johnson (Director of the National Weather Service) in March 2004 (full modernization remains unfunded).

⁴ *Cost and Operational Effectiveness Analysis for COOP Modernization*, prepared in June 2005 for the NWS, 96 pp.