

Testimony of
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“WEATHERING CHANGE: NEED FOR CONTINUED INNOVATION IN FORECASTING AND
PREDICTION”

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Introduction

Chairman Begich, Ranking Member Snowe, and Members of the Subcommittee - Good morning and thank you for the opportunity to address you today. My name is Dr. Peter P. Neilley and I am the Vice President of Global Forecasting Services for The Weather Channel Companies. I am also the Chair of the American Meteorological Society's Committee on Weather and Forecasting, as well as a member of the Environmental Information Services Working Group of NOAA's Science Advisory Board. In my remarks today, I am speaking as a representative of The Weather Channel Companies.

The Weather Channel Companies, which includes The Weather Channel and WSI Corporation, is a major developer and provider of weather services for both consumers and businesses across our Nation and around the world. The Weather Channel Companies' content is ubiquitous on nearly all forms of popular communication – The Weather Channel's television network is available in more than 100 million households, and our online and mobile products reach nearly 100 million users each month. In addition to our branded television, radio, print, web and mobile products for consumers, our content also serves the needs of businesses around the world with weather solutions for the media, aviation and energy industries. Through our business-solutions corporation WSI, our weather content is used by nearly half of the local television stations across the country, dozens of airlines around the world and numerous traditional and renewable energy companies worldwide. We are just one of many private companies that provide a wide range of valuable weather and forecasting services to meet the diverse weather needs of our Nation.

We have been serving the weather interests of the nation for thirty years and are proud and respectful of the trust the Nation has instilled in us to inform, advise and protect it from the weather.

Weather Has a Substantial Impact on Our Nation

Weather plays a role in the daily lives of nearly every American and its impacts are woven into the fabric of our economy. One 2002 published estimate suggested that nearly 40% of our economy or nearly \$4 trillion dollars annually is sensitive to the weather. In 2011, so far we have seen fourteen \$1 billion dollar weather disasters occur or over 50% more than any other year on record. This includes the numerous tornado outbreaks that ravished the Southeast this spring, Hurricane Irene that swept the U.S. eastern seaboard in August, the ongoing devastating Southern Plains drought, and the recent early season snowstorm that hit New England. Despite these losses, our Nation enjoys substantial protection from the weather. One 2009 study estimated that we avoid over \$30 billion in losses annually as a direct result of the roughly \$5 billion annual investment our Nation makes in producing risk-avoiding weather information. This and other similar studies clearly show that although our Nation has significant weather risk, our investments in becoming a weather-ready Nation are paying substantial net dividends to the economy and our society in general. It is imperative that we continue these investments in order to sustain and improve our resilience to the weather. Without such investments we potentially will lose far more value to our society than the cost of these investments.

The Weather Enterprise is Critical in Meeting the Needs of a Weather-Ready Nation

The United States enjoys the broadest and most effective meteorological services in the world. Our Nation is the global leader in the creation of state-of-the-science weather information and the provisioning of that information to serve both public and private interests in safety and economic prosperity. This leadership is the result of a strong and vibrant three-way partnership between (a) NOAA and other weather-related government agencies, (b) private weather services such as The Weather Channel® network, and (c) academic and research institutions. Collectively, the players in this partnership are generally referred to as the Weather Enterprise. Each sector of the Enterprise has a unique but critical role to play in serving the Nation. In general terms, research by the academic community leads to cutting-edge science and technology that drives the evolution of the field, NOAA implements and operates these technologies to create foundational weather and climate datasets, and the private sector builds upon these datasets to create forecasts and other products that inform the public and provide value-added services to industry. The private-sector is also where much of the meteorologically-related job creation has occurred over the past decade and is a principal reason why the weather-services sector of our economy enjoys one of the lowest unemployment rates in the Nation.

The stated mission of NOAA's National Weather Service is to protect life and property and to enhance the national economy. It has been able to meet this mission only through the mutual collaboration of all members of the Weather Enterprise. The Weather Channel Companies and the other private sector weather services play a crucial role in communicating timely weather information to the Nation. We are dependent on NOAA, and in particular its National Weather Service for creating and serving some basic components of our overall service. The Weather Channel Companies' ability to continue to inform and serve the Nation effectively is strongly dependent on continued reliable and accurate foundational information services from NOAA. Further, it is critical that as our Nation designs and funds next-generation weather and climate services, that it considers a holistic, Enterprise-optimized perspective to

these services, rather than focusing solely on optimizing or broadening the roles of the Enterprise's individual components.

NOAA's Focus on Creating and Serving State-of-the Science Foundational Weather Datasets

Key to the ability of The Weather Channel Companies to deliver critical and actionable weather information to serve the Nation are the foundational datasets from NOAA that provide relevant observations of the state of the atmosphere, timely watches, warnings and advisories of threatening weather, and numerical weather prediction datasets that are reliable and accurate. The creation of these data is a function that only the government-sector of the Weather Enterprise can adequately perform. From our perspective, this is the single most important function of NOAA and it must remain the central focus of the Agency moving forward. We believe that NOAA's priorities should be the maintenance and modernization of its weather observing platforms, sustaining and evolving its world-class numerical weather and climate prediction capabilities, and ensuring robust and effective accessibility to its complete set of weather information by the Weather Enterprise outside of NOAA. Maintaining this as NOAA's core competency will then enable the broader Weather Enterprise to create new, value-added weather services to meet the future needs of the Nation. History has shown that the private-sector is much better equipped, more responsive and more effective at providing new types of applications of NOAA's foundational weather information. Therefore, the private-sector should strategically be relied upon to develop and deliver next-generation weather services such as forecasts of weather's impacts, and new communication services for a rapidly-evolving digital society that leverage next-generation foundational datasets from NOAA.

Critical Information Needs of The Weather Channel Companies

In order to continue to meet the needs of a weather-ready nation, The Weather Channel Companies will require new and evolved information services, many of which we believe are best met by capabilities developed and provided by NOAA. In priority order, our overall needs for services from NOAA are:

1. Sustaining state-of-the-science weather observation platforms and capabilities including weather radars, satellite observing systems and traditional weather observing systems.
2. Improved numerical weather prediction capabilities that employ state-of-the-science initialization techniques and other improvements that optimize the accuracy and usable duration of their output.
3. Implementing new approaches that enable timely access and use of the complete set of weather and forecast data that NOAA currently creates but for which practical considerations limit the ability to share outside of NOAA. This includes full-resolution, ensemble numerical weather prediction datasets that are generally too large to practically and timely communicate, and therefore are not fully leveraged to serve society today.
4. The deployment of new sensors and technologies to better detect hazardous weather near the surface of the earth such as tornadoes and other forms of severe weather. This includes a denser weather radar network that can detect the many low-level tornadoes that are not well observed by the existing NOAA radars.
5. Aggressive liaison with its international counterparts to provide open and fair access to international weather and forecast information so that we may effectively and fairly compete on the world marketplace in the provisioning of weather information for a global economy.

6. Continued funding and other support of scientific research that will improve the Enterprise's ability to detect threatening weather, forecast its occurrence, and inform society of its impacts in effective ways.

Climate Services needs for The Weather Channel Companies

Our Nation faces uncertain but potentially substantial impacts from a changing climate. In order for our Nation to make informed and effective choices on responses and adaptation, it is important that our society be informed with factual, accurate and relevant climate information. Although The Weather Channel Companies' traditional focus has been in the provision of real-time and short-term weather information, we recognize and accept a responsibility to help inform the Nation regarding climate changes and its potential impacts. We believe that The Weather Channel Companies should play a leading role in educating our Nation about climate matters in a balanced and scientifically sound manner. In order to serve that role, The Weather Channel Companies will rely on NOAA to develop rich climate data services, including but not limited to accurate long-term weather archives, analyses of these data to elicit regional climate variations and trends, as well as state-of-the-science climate forecasts. We believe these are critical needs of the Nation and are services best provided by NOAA as part of its weather and climate foundational datasets mission.

Summary

The Weather Channel Companies, as a major member of the broader Weather Enterprise, plays an important role in serving the weather needs of our Nation. We have been able to perform this function only through a collaborative partnership with NOAA and its various weather-related divisions. NOAA's crucial role in the Weather Enterprise is the creation and provisioning of foundational datasets and we believe this must remain the core focus of the Agency. Continued modernization and evolution of these datasets is critical to The Weather Channel Companies success in its role in making our Nation weather ready.

Thank you for the opportunity to address the Committee. I look forward to any questions you may have.