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Before the  
Committee on Appropriations  
Subcommittee on Commerce, Justice, Science and Related Agencies  
United States House of Representatives  

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I am Thomas Bogdan, President of the University Corporation for Atmospheric Research. I am representing nearly 100 academic research institutions which collectively manage the National Center for Atmospheric Research on behalf of the NSF.  

I want to thank the Subcommittee for its long standing support of research and education at NSF, NOAA and NASA, and I hope the Subcommittee will continue to see investing in research and education as a high priority.  

As Superstorm Sandy takes its place in history, we should consider what the impact of Sandy would have been on the mid-Atlantic if the storm had hit, say 50 years earlier, in October 1963.  

It might have disrupted the 1963 World Series between the Yankees and the Dodgers, or it might have played havoc with a Giants-Cowboys football game at Yankee Stadium.  

Or it just might have killed tens of thousands of people.  

Fifty years ago, hurricane forecasts extended two days into the future, computer models and weather satellites were in their infancy, and forecasters could not have foreseen Sandy’s unprecedented left hook into New Jersey. We lacked the sophisticated weather information systems that made it possible to make the right call on Sandy. That forecast enabled our citizens to prepare and take shelter, which made a life or death difference for millions of people.  

What did we do to position ourselves to be able to make such a forecast?  

We chose to invest in science, technology, and education – from basic research in mathematics and computer science to the development of satellites and instrumentation that made vital
observations. We then ran those observing data through advanced computers which turned that intelligence into life-saving information.

These advances are important, because we are more vulnerable to severe storms today than we were in 1963. We have seen the deadliest hurricane and tornado outbreaks since the early 20th century. We have many more people living in coastal areas. We are dependent on a communication system easily disrupted by such a storm. And we are also dependent on the power grid for everything from transportation to commerce to sophisticated medical care—all of which are vulnerable to such storms.

But it was not just the investment in computing, or satellite technology, that delivered this life-saving information. It was also our investment in environmental sciences—including weather, climate, ocean and coastal research—as well as the social sciences that determine how people respond to warnings. And it was innovation that enabled us to distill all that information so it could be presented in a way that most people—with or without smart phones—could understand.

Our Nation is having a debate regarding its fiscal future that will affect nearly every citizen today—as well as future generations. As part of that debate we are preparing to cut spending in nearly every part of the budget—including research and development.

At a time when science is growing more capable of providing better and timelier forecasts, is reducing our investment in research really the best way to learn from a storm that cost the U.S. Treasury at least $60 billion?

We should use Sandy as a teachable moment to ask: Are we investing sufficiently in our research enterprise to enable us to accurately forecast the storms of tomorrow? And are we really ready to start walking away from the investments in our research enterprise we have made over the last 50 years, investments which have served as the foundation for the Nation’s future economic and national security?

I hope the Congress will continue to invest in the Nation’s research enterprise, so that 50 years from now, our children and their children will find themselves with more economic opportunity, environmental stability, improved health care, and a better future. I thank you for your attention, and I would be happy to answer any questions the Subcommittee may have.