

Remarks of Rep. Suzanne Bonamici

American Meteorological Society, April 21, 2015

Thank you for inviting me to address the American Meteorological Society, and thank you for that kind introduction. It's great to be here at the AAAS, which is under the capable leadership of my former colleague, Dr. Rush Holt.

As a Representative from Oregon, I know a lot about the weather. We have our own specialized understanding of weather - particularly sophisticated in our appreciation of precipitation forecasts.

For example, we understand what "rain, changing to showers" actually means. A "constant drizzle followed by intermittent drizzle." We also plan our days around forecasts for "rain with sun breaks." And Portlanders know that the simple phrase, "the mountain will be out" means sunshine is ahead with a clear view of Mt. Hood.

Seriously, in the district I represent- which is very diverse and contains areas that are urban, suburban, rural, and coastal - I see the direct interaction of oceans and atmosphere, and how it affects fisheries, viniculture, hazelnut and berry harvests, outdoor recreation, and more.

I bring this connection with nature, and the way Oregonians have responded to the possibilities inherent in the earth, sea and sky, to my work on the House Committee on Science, Space, and Technology.

As Ranking Member on the Environment Subcommittee, I have been working with Republican friends from Oklahoma--Mr. Bridenstine and Mr. Lucas--for about two years to produce a bill that would help restructure and improve the way NOAA does its weather research.

Last month, the Committee unanimously approved H.R. 1561, The National Weather Research and Forecast Innovation Act of 2015, and I expect that the bill will come to the floor for a vote any day now.

I am going to say a little more about the substance of that bill in a moment, but let me point out that the work the Committee does on weather is, unfortunately, one of the few, of what I hope will be more, bipartisan efforts to pass legislation.

Weather is not a partisan issue - it affects all our constituents in different ways.

My colleagues from Oklahoma share harrowing stories of destruction by tornadoes, people in Wyoming just saw a major mid-April snowstorm that closed down I-80, Californians struggle with serious drought, and the southeast has had a series of severe wind and hail.

And although we experience weather differently in our regions, we have found some agreement about how to move forward.

The topic of this year's forum is "Applied Decision Support: Meeting User Needs." I want to suggest three ways where we can make progress as we approach the environmental challenges of the 21st century:

Three challenges

First, we have to get both bigger and smaller.

Second, we have to enhance the NOAA enterprise.

Third, we have to solve the puzzle of forecasting data both being priced and free at the same time. Let me elaborate.

The first challenge that arose during our work on the weather bill is that forecasting skill has to get both bigger and smaller - meaning we have to expand the temporal and geographic reach of forecasting, while also providing more accurate and localized information. This is very much about meeting the needs of our constituents.

It's time to push beyond the 10 to 14 day weather forecast barrier to provide greater precision and insight into inter-seasonal processes and regional trends. From fishers to farmers to transportation - industries are making multi-billion dollar bets on seasonal trends.

Reducing the uncertainty around the inherent risks in their decisions would not only benefit those businesses directly, but have a ripple effect throughout the whole American economy, to tourism, technology, and countless others.

We also need to get smaller, giving individuals and businesses the most accurate, localized weather forecasting information possible. A truck driver traveling through mountains in the western part of my district should have access to targeted and specific forecast information so he or she can decide whether to push on or take a break.

The development of ever more precise and personalized forecasting products will enhance public safety both for our truckers and the cars and families they share the road with, as well as increase economic efficiency with fewer unexpected weather delays.

These changes are already underway, but I remain concerned that the continuing divisive debate about climate change often stands in our way when we try to make progress on these issues.

I know that AMS and your members have been drawn into this debate in different ways on many occasions.

Let me be clear; I accept the scientific consensus regarding anthropogenic climate change. There is ample room for debate about the way climate change will unfold and what we can do to improve our understanding of how global processes work, but the core consensus is real.

Skepticism is fine, it can inform knowledgeable debates, but when all the leading scholars agree on something as significant as the fact that our planet is on a warming path that will disrupt our society and ecosystems, we need to take steps to avoid, mitigate, and adapt to what is coming.

Even if we conclude that this may represent a low-probability, high-risk event, a failure to anticipate how to deal with it is unacceptable. I bring this up because efforts to discredit this consensus and cast doubt on climate change may lead to decisions by legislators that will inhibit the ability of agencies and researchers to work on ocean-atmosphere questions simply because they are arbitrarily defined as “climate.”

If we stop funding research in that area simply because of its classification as "climate," it can have significant unanticipated consequences on our understanding of weather, in addition to the longer temporal forecast products that the market would support.

The second challenge I mentioned is to enhance the NOAA enterprise. Our weather forecasting bill, HR 1561, can be interpreted as a part of this movement. The bill is full of opportunities to better connect the forecasting skill needs at the National Weather Service (NWS) with the research initiatives of the Office of Atmospheric Research (OAR.)

The bill has several small pieces that aim to tie NWS and OAR more closely together at the working forecasting/scientist level, as well as connect academic researchers with NWS.

We want to build on the model that has proven to be effective by our colleagues in the Armed Services, who work closely with their research entities to improve their ability to carry out missions.

In the Defense world, the war fighters spend time at the labs, or the scientists go into the field with the war fighters. This improves the ability of researchers to accurately identify mission-critical problems and focus their work on solutions that can be carried out in the real world.

Research initiatives that lack war fighter buy-in do not continue out of the research phase and into prototyping and applications. This model, tightly winding the mission side with the research side, brings cost-effective benefits, and NOAA could benefit from adopting a similar approach.

We spent a lot of time working on H.R. 1561 to make sure it is sound policy, and I will encourage NOAA to begin adopting some of its proposals even before they become law. Of course, NOAA is full of experts who are already working hard to keep our nation at the forefront, and some changes in the relationship between NWS and OAR are already emerging.

I also want to mention that the lack of resources dedicated to NOAA's Satellite and Information Service - or NESDIS - is also something that the Science Committee must commit to addressing.

There have been indications that NESDIS understands that the days of big satellites are gone. We have spent a decade fighting for resources sufficient to finish the Joint Polar Satellite System (JPSS) while searching for the causes of that financially disastrous acquisition.

The lesson for Members of Congress is easy: we do not want to repeat past mistakes.

The technology for building and launching satellites is almost unrecognizable from what it was when JPSS was conceived in the mid-1990s. NESDIS can go smaller, quicker, and cheaper in launching instruments and replacing ailing or inefficient satellites by rethinking what they do.

There may be other options of relying on private providers and non-traditional sources of data that NESDIS can also explore. HR 1561 does a lot to move NOAA toward private sector sourcing of weather data.

To go bigger and smaller, and to support public safety and emerging commercial opportunities, we need to support some transformation at NOAA.

I am confident that they see the potential in doing so and are responding. H.R. 1561 is designed to spur positive change along these lines.

So now the final challenge: pricing free data.

What I mean by this is that we have seen how public weather data can be taken by firms and turned into forecast products that have a market value. From taking the form of broad public forecasts in the media market like a Weather Channel, or boutique forecasts to meet very specific weather needs in the business world, the result has been the rise of a multi-billion dollar industry. Free data is the root of this industry.

We are at the cusp of a second revolution in commercial weather opportunities. The first revolution was in the “output” of forecast products. This next revolution will be in how we gather raw observational data in new ways.

There are several firms that are ready to respond to a government request for bids to provide satellite-based instrument data.

If the U.S. government begins acquiring forecast-significant data from private satellite providers, it would be a first.

There are several questions about how to do this, but in my mind the hardest problem is how to price the data so NOAA can purchase it, but still release it for free.

This second revolution demands that the government pay for data. For the companies in this space, that data would be their product--which they might want to sell to others in addition to the government.

Establishing a cost for the data that is now free, however, may well strangle the commercial forecasting side of the weather enterprise and that is a consequence I cannot support. We have to find a way to both places a fair value on the data that the government would buy while also ensuring that forecasting data remains free to all.

Not an easy question to answer – but a critical problem we all must address.

Again, H.R. 1561, once passed, will facilitate the enhancement at NOAA, but the other two challenges are largely untouched by the legislation. At present I am working to draft legislation that would begin to focus on meeting the first challenge of going big and small.

NWS has already begun an effort to identify key economic sectors that are particularly vulnerable to weather variability and to isolate key data that could be used to enhance forecasting products to meet the needs of those sectors. I would like to see NWS do more in collecting appropriate data and then making that available to the secondary forecast market to use in meeting customer needs.

We can envision a world where all the data sensors – road, aircraft, satellite, buoys – are collecting information about weather conditions are integrated.

My Subcommittee Chairman, Mr. Bridenstine, is interested in legislating along these lines as well, and I hope that we can make a constructive contribution to meeting this challenge. I look forward to hearing from your members on how we can meet these goals.

I would also ask members of the AMS to share your ideas on solving the third challenge of identifying a solution to how to both pay for data and give it away.

This is a serious invitation for your help. Legislation doesn't always blaze new trails; rather the best legislation builds on the ideas and advice of experts in the field. H.R. 1561 was constructed from a combination of insights from members and hearings, but also from the long string of National Academy of Sciences reports, and expert advice from several industry representatives and meteorologists.

The next bill will build from NWS's existing program and, again, the advice from experts. Solving the data puzzle is likely to be tackled in the same way, and it's important that we engage stakeholders early in the process so we can develop good policy that is widely supported and that enacts the changes we need to advance our shared goals.

Thank you, again, for the invitation to speak with you tonight. I hope you have a successful conference and look forward to our continued collaboration.