

Remarks
Warren Washington Symposium: Reflections on Climate Change Science
Thursday, January 21, Noon - 12:15 p.m.
Room B208

**The Honorable Dr. Jane Lubchenco, Under Secretary of
Commerce for Oceans and Atmosphere and NOAA Administrator**

As Delivered

Introduction:

I am delighted to be here. I thank Jerry and Dave for inviting me to speak today. It is an honor to share the stage with these distinguished scientists and to honor one of the true pioneers in the science of global climate change - Warren Washington.

Climate Models:

Since Dr. Washington's first efforts to model the atmosphere in the 1960's - and -later, when "climate change" burst onto the world stage during the record hot summer of 1988, we have made enormous progress in the sophistication of climate models and the understanding of the climate system.

As Dr. Hansen showed earlier this morning, climate modeling is vastly more sophisticated today than it was 20 years ago when he grabbed the world's attention on a particularly hot summer day with his testimony to Congress that global warming was underway. And yet his conclusions in 1988, that Earth has entered a long-term warming trend and that human emissions of heat trapping gases are almost surely responsible, have been confirmed by the accumulated weight of two decades of scientific evidence. Monitoring has provided this confirmation, but models have enabled us to understand key processes and dynamics.

Climate models have a unique role in the science of climate change. They are tools that allow us to test our understanding of mechanisms and processes. As a biologist, I recall vividly the early attempts to add biology into physical models. To give you a sense of how far we've come - one such attempt was labeled "the green scum model," reflecting the lack of any spatial differentiation, much less any differentiation of trees vs. grasses or land vs. ocean. Clearly, the incorporation of biology has evolved substantially in the last few decades. But climate models also allow us to project how policy decisions today may affect the future.

As the science behind our understanding is challenged and as public confusion about climate change and variability grows - e.g., as the Eastern U.S. emerges from an exceptionally cold start to this winter season - it is timely to focus on the importance of translating and communicating climate change science to the public and to decision makers.

Communicating Climate Change Science:

I believe that the scientific community has grossly under-appreciated the importance of communicating climate information and of understanding the bases of decision-making, at both the individual and the institutional level. People at all levels of decision-making, from

individuals to communities, states, nations and businesses, as well as civil society and government – all need knowledge, data, and information they can trust, understand and use. The information must be understandable, to the relevant choices, and available in time to be useful. This is clearly a very tall order.

As scientists, we have a greater than ever responsibility to provide decision makers with information on the likely consequences of policy options and to communicate this knowledge to the public.

In my 1997 AAAS Presidential Address, I called on scientists to define a new social contract, in which scientists "devote their energies and talents to the most pressing problems of the day, in proportion to their importance, in exchange for public funding."

Translating and communicating knowledge to decision makers and the public quickly and effectively is an essential component of this social contract for science. Both government agencies and academic scientists have key roles to play in this communication.

The assessment reports produced by the Intergovernmental Panel on Climate Change and the U.S. Global Change Research Program offer examples of how the scientific community has come together to synthesize vast amounts of information into reliable references that are relevant to policymaking. However, most of these reports are not written for policymakers or the public. They are far too technical, laden with jargon, and full of impenetrable figures and tables. Don't misunderstand me, the IPCC documents and USGCRP syntheses are vitally important, but the step of translating the documents into lay language and user-friendly graphics needs to be added.

The most recent U.S. synthesis "Global Climate Change Impacts in the U.S." is a great example of a more user-friendly, accessible synthesis. It is true to the science and yet also speaks to non-technical audiences.

But products like this are just one of many efforts needed to help the public understand what is at risk and what actions will be effective. Our work is cut out for us! NOAA is working aggressively to do its part in educating the public and providing information about climate in relevant and useful ways. More about that in my next talk!

Warren Washington has continually championed the need for both advances in the science of climate and other environmental changes and the need to make the science understandable to broad audiences. He has also been an effective mentor and an eloquent spokesperson for attracting bright young minds and talent into science, especially environmental sciences.

For many years, Warren and I served as the only 2 environmental scientists on the National Science Board – the Board of Directors of NSF. His leadership as chair of the NSB came at a pivotal time for NSF and I can attest to his key role behind the scenes as well as on stage in promoting science, promoting the effective communication of science and promoting programs to attract new talent into science. This symposium is a fitting tribute to his diverse accomplishments.

Conclusions:

This is an exciting time to be involved in climate science.

The science and scientific assessments have served an important purpose of bringing together and synthesizing vast amounts of information to provide a credible basis of our understanding of climate.

Our next, and perhaps most important step, is to significantly enhance public understanding and to provide understandable, adaptable, actionable climate information to those who need it – and ultimately to contribute to our national and international well-being.

I would like to express my great gratitude to Dr. Washington for continuing to be a pioneer in the field of global climate science. Your pursuit of knowledge and truth has paved a path for us to follow. Thank you!