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RANKING DEMOCRATIC MEMBER

U.S. House of Representatives
Committee on Natural Resources
Washington, DC 20515

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Dr. Jane Lubchenco
Under Secretary of Commerce for Oceans and Atmosphere
National Oceanic and Atmospheric Administration
1401 Constitution Avenue, NW
Room 5128
Washington, DC 20230

Dear Dr. Lubchenco:

This year the United States has experienced a historic tornado season. Massive storms have caused the tragic loss of life and property in numerous states. The southeast and tornado alley states that regularly experience tornadoes in the spring have seen storms of unprecedented size and duration in the last few decades. Even areas that rarely see severe tornadoes have experienced them this spring, like those that touched down in Springfield, Massachusetts and surrounding areas yesterday. Even as we hope the worst of the tornado outbreaks are behind us, the Atlantic hurricane season has begun and with it the risk of more extreme weather for the Atlantic and Gulf Coast states.

Extreme weather events and the destruction they cause are always a threat to the public and the economy. One of NOAA's critical roles is to predict these events ahead of time, observe them in real-time, help people prepare for them in advance and protect themselves when they are happening. Sadly, even with adequate warning, some storms are so strong that injuries and deaths cannot be avoided. I am concerned that we are increasing the risk of extreme weather events as we continue to add carbon pollution to the atmosphere from the burning of fossil fuels and that we are not adequately preparing for these increased risks.

To better understand the risks of extreme weather to the United States, how these might change due to global warming and what resources are necessary to help minimize these risks, I would like the answers to the following questions:

1) One of the prerequisites for tornado formation is a severe thunderstorm. Have the frequency and intensity of severe thunderstorms and heavy rainfall storms increased in the United States in recent decades? Is this attributable to rising temperatures from the increasing amount of carbon pollution in the atmosphere?
2) The sea surface temperature of the Gulf of Mexico is also warmer than average this spring. How does the surface temperature of the Gulf influence the potential for tornadoes? How have sea surface temperatures corresponded to increasing global temperatures? How are they anticipated to correspond in the future?
3) What are the trends in tornado frequency and intensity in the United States in recent decades? How do they relate to the global temperature trend? How are they predicted to respond to increasing temperatures in the future?

4) Yesterday was the start of the hurricane season, one that NOAA scientists have predicted will see an above average number of storms in the Atlantic. Sea surface temperatures are also critical to hurricane formation and intensity. What have been the trends in Atlantic hurricane intensity in the recent decades? How do they correspond to increased sea surface temperatures from global warming and how are they anticipated to respond in the future?
5) NOAA scientists have been at the forefront of weather and climate science for decades. Their work has helped save lives, protect property and minimize the disruption to our economy of extreme weather events. There is clearly still more to learn about the impacts of climate change so that our nation can reduce the risks of those impacts and prepare for those that are unavoidable. What is NOAA doing to further our understanding of the relationship between extreme weather and climate change? What additional resources are necessary to help NOAA with this work?
6) NOAA also provides important weather and climate products that help businesses and all levels of government prepare for the next day and the next decade. As the climate changes, the past is no longer prologue and additional information is needed as policymakers and business leaders make long-term decisions. As part of its FY 2012 budget submission, NOAA proposed a budget-neutral re-organization to create a NOAA Climate Service. How would a climate service help NOAA meet the needs of decision makers for climate information?
7) Finally, it takes a large infrastructure on the land and sea and in space to make the observations and forecasts that allow NOAA to issue life-saving weather warnings. Over the last decades, our investment in this infrastructure has lead to improved forecasts and increased warning times for tornadoes, floods and hurricanes and thus saved lives. I am concerned that budget cuts are jeopardizing this critical national infrastructure. For example, you testified before the Senate in April that the final FY2011 budget agreement would mean that the launch of the Joint Polar Satellite System (JPSS) would be delayed and could lead to an 18 month gap in crucial weather satellite data. What are some of the potential impacts of the delay in launching the JPSS? Is other weather infrastructure in jeopardy due to budget cuts? Are there ways to increase warning times further if we were to increase funding for observation infrastructure? What resources are needed to further improve warnings?

This spring has made clear the need to understand and prepare for extreme weather events. NOAA's work is critical to preparing the United States for these risks now and in the future. I will appreciate your answers to these questions in a timely manner.

Sincerely,

Edward J. Markey

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