

Thank you, Chair Castor, for the invitation to speak before your committee.

As we know, our world is at a tipping point. The American people are demanding action, and there is little patience. It is my hope, that by working together, across committees of jurisdiction, we can quickly advance a climate package.

### Localizing Climate Impacts

Every time I am home, I see the impacts of climate change.

My district includes a broad swath of Lake Erie. The Great Lakes contain 84% of North America's surface freshwater and 21% of the world's surface freshwater. The health of our lakes determines the social opportunities for 30 million people living on the lakes. And as a region, we have begun speaking with a more unified voice to protect the Great Lakes. However, climate change poses an existential threat to my region.

In 2014, a massive harmful algal bloom forced Toledo to shut off its water. For days, citizens could not drink, bathe, or cook from the tap. In a modern economy with sophisticated infrastructure, we take ready access to freshwater for granted. But for three days, my region rationed water during this ecological emergency.



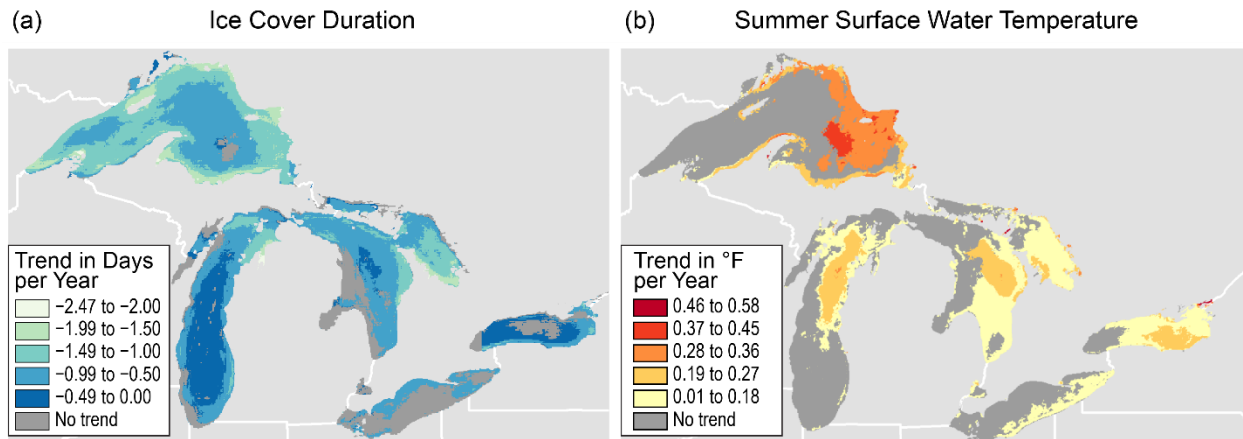
Source, NASA 2011 Photo of Lake Erie during Harmful Algal Bloom

This algal bloom was only the start. Since then, Lake Erie has faced an annual algal bloom that threatens our region's economic future. Year after year, a massive green bloom engulfs my region.

And this algal bloom is not an anomaly. In the last year, we have seen massive rainfall events that continue to feed the ever-increasing annual algal bloom. Ironically, the enormous early spring rains flooding Lake Erie in 2019 delayed the spring plantings and meant that there was less nutrient run off than expected. The spring rains that threatened farm production meant the Lake Erie Algal Bloom was only 700 square miles this year!

The Fourth National Climate Assessment documents a clear impact of climate change for my region. Between 1973 and 2010, ice cover on the Great Lakes declined an average of 71%. And the lakes are becoming warmer with summer water temperatures increasing. The islands in my

district used to be regularly connected to the mainland by ice cover in the winter. But today, the ice is thinner, and the journey to the islands becomes more treacherous.



Source, Fourth Annual Climate Assessment, Chapter 21, Midwest

This is the problem, but as you know, there is a solution.

It involves a broader solution and a commitment to engaging the world through the Paris Climate Agreement. A larger package must wean our economy off our over reliance on carbon-based fuels.

As Congress writes this larger package, we need a research and development bridge to the future.

### DOE's Role in Energy Changes

In the bill I have written, the FY 2020 Energy and Water Development Act, I have proposed critical funding for energy innovation at the Department of Energy. The United States has been at the forefront of energy innovation to address climate challenges by providing research grants, loan programs, tax incentives, laboratory facilities, pilot programs, and public-private partnerships. DOE is the federal government's leading agency on the research and development of new clean energy technologies.

Decades of investment by DOE has driven down costs for clean energy technologies, enabling increased deployment as they become cost-competitive with conventional energy sources. These advances in clean energy technology have led to job creation in every region and every state in America.

Although the U.S. has been a leader in energy innovation and DOE has made significant gains in real solutions to climate change, there are still opportunities to advance new and improved clean energy technologies. Additional investment in energy innovation is critical to meeting goals for addressing climate change.

Thank you for the invitation to speak today and for your commitment to holding these public hearings. Members of Congress are tremendous advocates and spokespersons for the local and very real impacts of climate change.