



# Advanced Weather Model Computing Development Act

**Senator Ben Ray Luján and Senator Marsha Blackburn**

The *Advanced Weather Model Computing Development Act* authorizes a **collaborative research partnership between NOAA and DOE to improve advanced weather models** by utilizing new developments in high-performance computers and artificial intelligence. This partnership will:

- strengthen timely, accurate weather forecasting during extreme weather events, saving lives and property,
- maximize our return on investment of limited federal research dollars and improve our ability to address key computational research needs, and
- build on successful DOE-NOAA initiatives like the National Climate-Computing Research Center.

**Background:** DOE and NOAA have an established history of partnering to address multidisciplinary research challenges, including hosting advanced weather modeling computers at National Laboratories. The increased processing power of high-performance computers and predictive capabilities of artificial intelligence are enabling weather and climate models to achieve unprecedented levels of accuracy and granularity.

**Summary of the legislation:** DOE and NOAA are required to collaborate on activities including advancing methods to utilize large climate and weather data sets, maintaining computing infrastructure, and porting model codes between operational and high-performance computers. This legislation leverages DOE's high-performance computing capabilities to compare existing models to updated advanced weather models. The bill also authorizes centers of excellence at National Laboratories to use cutting-edge computing techniques to build and deploy better models. While a number of DOE and NOAA research collaboration initiatives have been formalized through various laws and agreements **this legislation would codify this essential research partnership** in its entirety.

Similar legislative language was included in the House's Weather Act Reauthorization Act of 2023, which passed out of the House Science committee with overwhelming bipartisan support.

**Why it Matters:** As severe weather events damage communities across the nation, improving federal weather prediction is a key way to anticipate and mitigate the effects of natural disasters.

Please contact Todd Ringler ([todd.ringler@lujan.senate.gov](mailto:todd.ringler@lujan.senate.gov), 4-4815) or Kyle Disselkoen ([kyle.disselkoen@lujan.senate.gov](mailto:kyle.disselkoen@lujan.senate.gov), 4-6556)