



# ARGONNE'S CLIMATE MODELING HELPS FORTIFY LARGEST STATE POWER UTILITY IN U.S.

## THE CHALLENGE

In a time when patterns of severe weather events such as floods, heat waves, and hurricanes are shifting, the largest state public power entity in the U.S needed critical information to assess how climate change could impact its ability to generate, transmit, and deliver electricity.

The New York Power Authority (NYPA) operates 16 power-generating facilities that produce a quarter of the state's power. Because 80 percent of the electricity the utility produces comes from hydropower, NYPA wanted insight into likely shifts in the amount and frequency of rain, and how those changes might impact water flowing through its hydroelectric dams.

The utility also wanted info on how storms and heavy winds could impact its 1,400 miles of power lines across New York. Additionally, it needed to know how climate change could affect demand, as customers use more electricity on heating and air conditioning.

## THE INNOVATION

Scientists and engineers at the U.S. Department of Energy's Argonne National Laboratory have applied cutting-edge climate and infrastructure system modeling techniques and the Argonne Leadership Computing Facility's Theta supercomputer to help NYPA determine the impacts of a changing climate on its infrastructure and investment strategy.

Argonne offers the most detailed climate models available in the U.S., which predict climate in an area the size of a neighborhood up to 50 years into the future. That has given NYPA an understanding of how specific buildings and equipment could be damaged by flooding or high winds.

The laboratory also fused its high-resolution climate models, its expertise on the interdependencies of the electric grid, and data on NYPA's infrastructure to develop a climate resiliency plan to help mitigate future risks.

## THE IMPACT

Argonne's collaboration with NYPA has allowed the utility to:

- Gain a better understanding of the strengths and weaknesses of its system
- Quantify the potential climate impacts and then assess how they could impact its infrastructure and investments
- Make sound capital spending on resiliency efforts to proactively mitigate climate risks
- Protect and position its future so it can continue to reliably produce power and deliver it across various regions of New York state

## CONTACT

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