Argonne NATIONAL LABORATORY

ARGONNE'S HIGH-RES CLIMATE MODEL **HELPS PACIFIC GAS AND ELECTRIC SAFEGUARD INFRASTRUCTURE**

THE CHALLENGE

Patterns of floods, fires, heat waves and hurricanes are shifting, and forward-thinking companies are taking steps to analyze current and future climate-related risks so they can adapt, improve the resiliency of their infrastructure, and keep critical services up and running.

One of those companies is Pacific Gas and Electric Company (PG&E), California's largest investor-owned utility, which provides service to approximately 16 million people across the state. PG&E's service area has experienced substantial climate challenges, particularly from wind and wind-driven wildfires. To support the reliability of its electric grid, PG&E was looking for additional tools to assess, forecast and further mitigate risks related to climate change.

The problem is that most climate models provide information on how climate will change over a large area, typically 100 square kilometers or more. Although this can help prepare for changes in climate at the global scale, it is not very useful for planning on a regional scale.

THE INNOVATION

In order to address this challenge, PG&E sponsored research at the U.S. Department of Energy's (DOE) Argonne National Laboratory designed to make climate-change models that provide detail on a hyperlocal level.

Harnessing the power of Argonne's supercomputers, scientists developed a "dynamically downscaled" climate model that projects future climate in a 12-kilometer grid across the entire United States.

THE IMPACT

The PG&E and Argonne partnership:

- Enables PG&E to plan for the future of climate change in California, particularly the conditions that produce wildfires.
- Allows the utility's meteorologists and operations experts to make more informed decisions to safeguard its operations, customers, and the bottom line.
- Focuses the company's system-hardening efforts, including installation of stronger and more resilient utility poles and covered power lines, especially in areas susceptible to high wind speeds.

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