



EXAMINING RESILIENCE OF CRITICAL INFRASTRUCTURE SYSTEMS TO HELP REGIONS MITIGATE DISRUPTIONS

The Regional Resiliency Assessment Program (RRAP) is a partnership to understand security and resilience gaps in regionally significant infrastructure systems and identify strategies to manage risk.

Infrastructure systems span many different industries—including energy, water, wastewater, communications, and transportation—and underpin every aspect of daily life for government, business, and the public at large. Ensuring that these systems can adapt to changing conditions and withstand and recover rapidly from disruptions is important for national security, economic security, and public health and safety.

The RRAP aims to help government and private sector partners better understand critical infrastructure systems at work in a given region, their vulnerabilities to different threats and hazards, and potential consequences of disrupted operations.

Since the RRAP's creation by the U.S. Department of Homeland Security (DHS) in 2009, Argonne has led analysis for dozens of projects involving infrastructure throughout the United States. Our research has included electric power and natural gas outage modeling; transportation network analysis; hydrological analysis of dam breaks; consequences of disruptions at major data centers; cybersecurity of water systems and ports; downscaled modeling of the effects of climate change on infrastructure systems; and supply chain resilience.

The defensible and actionable results from these projects helps stakeholders close knowledge gaps about the security and resilience of regionally critical infrastructure systems, manage risk more effectively, and build partnerships between public and private sectors on issues of shared concern.

Each RRAP project results in useful resources for stakeholders. Narrative reports, compiled datasets, static and interactive maps, infographics, hazard impact analyses, process diagrams, system analysis diagrams, technical reports, economic analyses, decision support tools, and scenario planning guides highlight security and resilience gaps in critical infrastructure and specify actions that can minimize potential impacts from disruptions.

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WORKING WITH ARGONNE

Argonne, a multidisciplinary science and engineering research center, is managed by UChicago Argonne, LLC, for the U.S. Department of Energy's Office of Science. Argonne pushes the boundaries of science and engineering, solving complex problems and developing technologies — in clean energy, the environment, technology, national security and more — that can transform the marketplace and change the world.

What Do We Offer?

Our diverse and dynamic research agenda spans 16 research divisions, 12 centers, and five national user facilities. This rich scientific environment provides our researchers and visitors with an extraordinary range of cutting-edge facilities and scientific tools that support in-depth research, drive technological breakthroughs, and improve our nation's competitiveness and quality of life.

What Makes Us Better?

Argonne and the other DOE national laboratories fill a critical gap between basic research and real-world products and solutions. Argonne can provide “one-stop” solutions for the organizations we work with.

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WORKING AT ARGONNE

At Argonne, our scientists and engineers are finding creative ways to prepare the world for a better future. The work is both challenging and fulfilling, and we strive to create an environment where our employees feel secure, valued, and respected. With outstanding benefits, competitive pay, wellness programs, and a stimulating and attractive work environment, Argonne is a tremendous place to work.

Achieving Balance

Balancing work and life means prioritizing what is important to you. Argonne supports employees who want to coordinate work, home, and community activities — offering on-site childcare, flexible work schedules, generous vacation programs, and much more.

Growing Your Career

As an employee at Argonne, you can grow your career through education, mentoring, and leadership development. We encourage life-long learning and goal setting to ensure that you can go as far as your hard work and creativity take you.

Living Our Values

At Argonne, our core values — impact, safety, respect, integrity, and teamwork — guide us in maintaining a safe and inclusive environment in which our employees and partners can thrive. Whatever your role — scientist, engineer, or support staff — there is a path for you here at Argonne.

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