



NWRTC

Northwest Regional
Technology Center
@ PNNL



Pacific Northwest
NATIONAL LABORATORY

OPPORTUNITIES

Events current at time of publication. Have a virtual resource or event to share? Email us!

- September 24-25 – [Border Technology Summit](#)
- October 1-4 – [National Emergency Management Association Annual Forum](#)
- October 19-22 – [International Association of Chiefs of Police Annual Conference and Exposition](#)
- October 28-30 – [GovAI Summit](#)
- October 29-30 – [Cyber Supply Chain for Risk Management Conference 2024](#)
- March 18-20 – [2025 Arctic Emergency Management Conference](#)

CONTACT

Want to know more? Visit us at pnnl.gov/projects/nwrtc. Contact the NWRTC with questions and comments at nwrtc@pnnl.gov.

AROUND THE REGION IN HOMELAND SECURITY

The Northwest Regional Technology Center (NWRTC) is a virtual resource center, operated by Pacific Northwest National Laboratory (PNNL), to support regional preparedness, resilience, response, and recovery. The center enables homeland security solutions for emergency responder communities and federal, state, and local stakeholders in the Northwest.

PANELISTS DISCUSS PARTNERSHIPS FOR EMERGENCY MANAGEMENT

In the wake of cascading impacts resulting from nationwide outages, there was a lot to talk about at the 2024 National Homeland Security Conference held in Miami, FL, July 23-25, 2024. Fortunately, PNNL researchers came prepared. The team participated in a series of panels sharing how partnerships and technologies like artificial intelligence (AI) can play a key role in emergency management preparedness and response. These panels included:



- “The Future is Now: How Artificial Intelligence Can Support Emergency Management Today” presented to a packed house on the future of AI and emergency response, including a focus on the [Emergency Management of Tomorrow Research Program](#).
- “Partnering for Preparedness with National Laboratories” focused on how efforts like NWRTC are bridging gaps between science and technology and public safety needs.
- “Standards Development and Technology Assessments to Enhance Public Safety Against Fentanyl and Related Compounds” highlighted ongoing [research, standards development, and technology assessments](#) focused on combating the rapidly evolving threat of fentanyl and the hazards it presents to first responders in the field.

See the [PNNL article](#) to learn more.



PROTECTING THE GRID FOR SUMMER

Summer weather can bring grid disruptions as heat waves throttle the efficiency of power generation and transmission, hurricanes destroy infrastructure, and in some rare cases, sagging power lines can ignite wildfires. Simultaneously, demand on the grid rises as people depend more on air-conditioning. Researchers at PNNL are stepping up to the challenge.

For example, PNNL is helping decision-makers assess wildfire risk with a model called [RADR-Fire](#), which uses satellite images to map active fires. RADR-Fire can help emergency responders and other decision-makers in the midst of a crisis. Other researchers are [working on models](#) that consider factors like vegetation dryness or atmospheric moisture levels that can help predict where a fire might start and spread.

To help protect against hurricanes, a team is working on models that will help utilities predict where outages might occur during a given storm, depending on factors like how fast it is moving and where it might make landfall. The [Risk Analysis Framework for Tropical Cyclones](#) contains 40,000 simulated tropical cyclones created by incorporating historical records. The [Electrical Grid Resilience and Assessment System](#) also allows users to simulate different categories of hurricanes and different probability paths and see what infrastructure—down to individual transmission towers—may be damaged or lost.

Read the [PNNL news release](#) to learn more.



SUMMIT SHOWCASES SCIENCE FOR HOMELAND SECURITY

National laboratory expertise was on display at the [2024 Department of Homeland Security \(DHS\) Research, Development, Test, and Evaluation Summit](#). The summit put the spotlight on how DHS and Department of Energy national laboratories are delivering tools and capabilities for security challenges.



PNNL presentations spanned the science and technology realm, including advanced threat pattern analysis, machine learning for remote sensing, threat-agnostic sensing, and more. PNNL's [Ryan Eddy](#) and [Kristin Omberg](#) also attended and hosted a [poster](#) highlighting PNNL's overall homeland security sector capabilities, partnerships, and impacts.

"National laboratories, including PNNL, represent a comprehensive research system filled with great talent, capabilities, and facilities. This workshop was a welcome opportunity to showcase the great strides we're making in bringing innovation and partnerships to address homeland security challenges," said Ryan Eddy, director of PNNL homeland security programs. Read the [PNNL article](#) to learn more.

EXTENDING SNIFF TEST FOR EXPLOSIVES

Scientists have developed a way to detect tiny amounts of hard-to-detect explosives more than eight feet away, reducing the need to swipe clothing, luggage or other materials. The method, [published in the chemistry journal Talanta](#), detects trace amounts of explosives like nitroglycerin and RDX—the explosive in C-4—through the air at extremely low levels within seconds. Read the [PNNL news release](#) to learn more.

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PNNL-SA-202758