

Emergency Management of Tomorrow Research Program



Science and Technology

STRUCTURING EVOLVING TECHNOLOGY

No single entity carries the responsibility to conduct Emergency Management (EM) research to accommodate the evolving requirements of public safety organizations. Addressing this gap requires a well-articulated vision, coordinated research program, and strategic investments. As technology innovation accelerates daily, it is vital to explore how technology can benefit the EM discipline, emergency managers, and Emergency Operations Centers (EOCs). New technology solutions can improve planning, training, response, and mitigation to enable better, faster decision-making that saves lives. The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is seeking to develop an effective research agenda that supports emergency managers with effective information sharing technologies and to identify, develop, and transition the use of these advanced technologies in support of EOC activities. These technologies include emerging artificial intelligence, machine learning, data analytics, and decision aids. S&T is coordinating efforts to discover ongoing research, current practices, and landscape assessments, including ample recommendations for research requirements to support information sharing and research efforts, to develop new technologies, approaches, and methods for EOCs.

COORDINATING A SOLUTION

In Spring 2023, stakeholders from DHS S&T and the Pacific Northwest National Laboratory (PNNL) met to discuss the future of EOCs and Emergency Management Research. It was determined that an effective EM Research structure should include:

- Coordination - Collaborate with the EM community, academia, industry, and other research institutions to identify capability gaps and research needs, as well as establish an effective and efficient research pipeline to develop solutions and transition developed science and technology to operational use
- Future Threats Research - Identify future threats (increasing number and intensity of natural disasters and human-made hazards) and research cascading effects of multiple concurrent events

- Applied Research for Solutions Development - Apply advanced operational research and other tools to identify opportunities to increase EM operational efficiencies
- EOC of the Future - Work with EM practitioners, technologists, futurists, and others to develop concepts, requirements, and vision for a next-generation EOC



IMPACT

- This program will focus on discovering current research related to EM, to reduce duplication and improve transition opportunities for new science and technology solutions
- An improved research agenda for emergency managers will empower EOC stakeholders with improved information sharing opportunities and technology solutions to reduce impacts from emergencies (injuries, deaths, and property, economic, and other losses) and enable more efficient use of public funds via next generation planning and operational models

UPCOMING MILESTONES

- Conduct Emergency Management Landscape Assessment (Q2 FY24)
- Coordinate three workshops and deliver summary reports (Q3 FY24)
- Deliver Emergency Operations Center of the Future Recommendations Report (Q4 FY24)



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PARTNERS

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- Oak Ridge National Laboratory, Oak Ridge, TN
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