

TECHNOLOGY CAFÉ: SESSION B

9 U.S. EPA's Waste Staging and Logistics Tool

Tim Boe | *U.S. Environmental Protection Agency*

Large-scale disasters have the potential to generate significant amounts of waste. For example, Hurricane Katrina and the Joplin, Missouri tornado resulted in 100 million and 1.5 million cubic yards of waste, respectively. Man-made chemical, biological, radiological, or nuclear (CBRN) incidents, either by way of terrorism, war, or accident, have the potential to generate as much or potentially even more waste. Both natural and man-made incidents are also prone to generate some form of hazardous waste that is more complicated to remediate or dispose. Recovery is largely impacted by waste management issues. The quantification, segregation, transportation, and storage of waste can be an arduous and costly undertaking. Furthermore, these processes are intricately linked with other decisions made throughout the recovery timeline. Therefore, the remediation, including waste management, must be holistically considered. Understanding these complex interactions can be facilitated by using models and tools that adhere to the “system-of-systems” approach.

To better understand and predict waste management issues, the Environmental Protection Agency’s (EPA’s) Homeland Security Research Program (HSRP) is developing a suite of tools and resources for planning, response, and recovery purposes, including two newly developed GIS-based tools. EPA’s Waste Staging and Storage Site Selection Tool uses spatial information and analysis techniques to help identify and prioritize potential locations for staging and storing waste. The tool analyzes siting criteria for a specified geographic area to identify candidate sites and their total available land surface areas. The tool was developed to help decision makers better understand the potential options for staging and storing waste, and to illuminate potential capacity constraints when conducting planning efforts. Aside from identifying where waste may be staged or stored, the need to evaluate resource demands associated with the transportation and disposal of waste is also crucial. EPA’s All Hazards Logistics Tool calculates the cost and time to manage a user-specified quantity of waste and allows users to run routing scenarios with user-defined destinations. Factors specific to waste type, hauling rates, and acceptance rates allow users to explore options and evaluate constraints to improve preparedness for managing large volumes of waste. This presentation will provide an overview of both tools that integrate GIS-based visual analyses to inform planning and response efforts.
