

Disaster Waste Management (WM) Tools – Improving Their Effectiveness While Minimizing Resource Needs

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Natural disasters occur frequently, generating volumes of waste and debris that are difficult for states, locals, tribes, and territories (SLTT) to manage. Disaster waste and debris management tends to be the most complicated and resource-intensive process in response and recovery, especially during large-scale incidents like the Hurricanes of 2017. Disaster incidents involving extremely hazardous contaminants (e.g., resulting from a wide-area chemical, biological, radiological, nuclear [CBRN] incident), would create even larger challenges for waste management (WM). Further compounding these challenges are the lack of a federal regulatory framework for biologically-contaminated waste (e.g., anthrax-contaminated waste), the limited disposal capacity for radiologically-contaminated waste, and the SLTT WM decision maker's lack of experience with these types of waste. Additionally, the WM industry does not typically deal with this type of waste and are resistant to accept and handle it. Regardless of disaster type, there are numerous interrelated activities just within debris and waste management. For this reason, there is a need for tools to assist SLTT and federal WM decision makers in disaster pre-planning, mitigation, response, and recovery WM decisions.

In response to these needs, several EPA programs and regions have developed WM and sustainable materials management (SMM) related decision support and planning tools. These tools support decisions like where to dispose or recycle the waste and debris, where to stage the waste, and for a single building impacted by a CBRN incident, what remediation strategy is best both in terms of effectiveness of decontamination and in the types and volumes of waste generated. These capabilities have been demonstrated in responses and exercises, making these tools an integral part of EPA's disaster planning resources.

During recent EPA planning activities, tool developers continued to examine how they could improve the usability, functionality, and accessibility of their tools as well as reduce their maintenance costs. To meet these goals, they realized the need to work together on a developing a vision for a single tool set supporting disaster debris and waste management activities. This prompted the WM and SMM tool developers, in partnership with their EPA stakeholders, to construct a roadmap outlining the path forward for this tool set, including how to address emerging stakeholder requirements.

This presentation will outline the current state of the tool set, recommendations to improve usability, functionality and accessibility of the tools, progress made so far on these recommendations, and lessons learned during the development of the roadmap.