# EPA's Incident Waste Management Planning & Response Tool (I-WASTE)

*Version 6.4 adds outdoor area and enhanced natural disaster waste estimation capability to the tool.*

## Background

Managing large volumes of waste generated by natural disasters; chemical spills; biological, chemical or radiological terrorism; or animal disease outbreaks present unique challenges. Efficient management of these potentially contaminated materials is critical for protecting and restoring communities and the environment. Characterization of contamination in waste and access to reliable information on treatment and disposal can reduce cleanup costs and shorten restoration timelines.

The U.S. Environmental Protection Agency (EPA), with the Department of Homeland Security, supports the National Response Framework, which guides response to domestic incidents. The EPA's Incident Waste Management Planning & Response Tool (I-WASTE), a decision support tool, has been developed based on EPA-funded research with input from a variety of stakeholders across federal agencies, state/local authorities, and the private sector.  I-WASTE provides information on types and quantities of waste materials and contaminants generated during an incident; contact information and locations for potential treatment/disposal facilities; and health and safety information to ensure public and worker safety during the removal, transport, treatment, and disposal of contaminated waste and debris.

## Managing Disaster-Generated Waste and Debris

I-WASTE provides information for waste management planning using a web-based platform. Large amounts of information are condensed and presented in a user-friendly format that is easily updated as new information becomes available. The tool is not intended to override regulatory or legal requirements, but to provide information that can facilitate disposal decisions, and includes links to contacts helpful in facilitating management decisions and planning**.**

## I-WASTE includes:

- Information on waste characteristics and contaminants, as well as characteristics of decontamination agents that could be used;

- Databases of treatment and disposal facilities (e.g., incinerators, landfills), including locations, contact information, and capacities for the different categories of waste that might be generated;

- A waste materials estimator (WME) that provides order-of-magnitude estimates of waste and debris from incidents involving single buildings, multiple structures, and outdoor areas.

- A water systems module to support unique considerations involved in the disposal of waste (e.g., piping) generated as a result of decontaminating water treatment and distribution systems;

- Agricultural biomass disposal guidelines including links to training modules developed by the U.S. Department of Agriculture;

- Natural disaster waste and debris disposal guidelines including case studies organized by disaster type;

- Waste and debris transportation, packaging, and storage information;

- Radiological dispersal device waste and debris information and guidelines;

- Worker protection information.


## Recently Added Features

Version 6.4 added a wide area waste estimator, which includes multiple buildings and open spaces between the buildings. Open space is any area that is not occupied by one or more buildings or vehicles. Examples of open spaces include parking lots, roads, parks, etc. Because of the wide variety of items and materials that can be found in large open space, the open space estimation feature of the WME is currently limited to mass and volume estimates of soil, vegetation, asphalt, and concrete.

Version 6.4 also includes a geocoded version of the waste treatment/disposal facility databases in the form of a KMZ file, which is compatible with mapping applications like Google Earth or ArcGIS. This enables users to include the I-WASTE facility databases into whatever mapping activities they are performing as part of their planning or response activities. These geocoded facility databases are compatible with HAZUS, the Federal Emergency Management Agency's (FEMA) nationally applicable software program that estimates potential building and infrastructure losses from earthquakes, riverine and coastal floods, and hurricane winds

HAZUS uses the geographic information system software (ArcGIS) to map and display hazard data, the results of damage and economic loss analyses, and potential effects on area populations. HAZUS analyses also can be run in real time to support response-and-recovery actions following a disaster incident. HAZUS is routinely used in many state Emergency Operations Centers for planning and response purposes.


For more information, visit the NHSRC Web site at www.epa.gov/homeland-security-research

I-WASTE is available at www2.ergweb.com/bdrtool/login.asp.

You will need to request a user identification name and password in order to log on.

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