

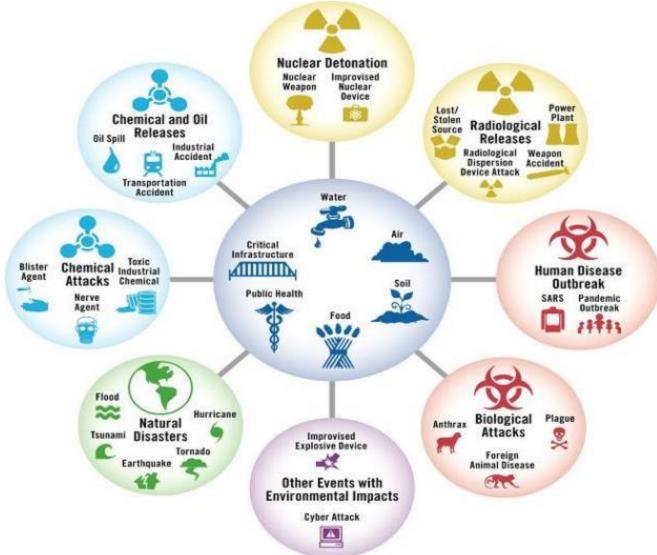
I-WASTE Incident Waste Decision Support Tool

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US EPA Office of Research and Development EPA Tools and Resources Webinar September 28, 2016



All-Hazards Planning





Decision Making Information Needs for Waste Management

- Waste quantity and characteristics
 - Sampling and analysis of waste
- Relevant regulatory requirements (local, state, federal levels)
- Key decision makers
- Potential treatment/disposal facilities
 - Waste acceptance criteria
- Potential transportation issues/routes
- Impact of remediation/decontamination decisions on waste management and vice-versa



What Problem/Gap Does This Tool Address?

- Management of waste from all-hazards incidents is tightly coupled with other aspects of the response (i.e., system of systems)
- Decisions on waste management issues are made at the local/state/federal level, and include private sector
- Chemical/Biological/Radiological/Nuclear (CBRN) waste is not explicitly addressed in many regulations
- Waste management decisions for CBRN-generated waste are closely tied to decontamination decisions
- Need for easy access to information to make informed decisions



Potential Applications

- Training, Planning and Exercise Tool
 - Supports State & Local Homeland Security (HS) Planning IAW
 National Planning Scenarios (NRF, 2008)
 - Allows multiple scenarios to be examined
 - Encourages discussions with facilities prior to event
 - For use in design or evaluation of HS Exercises involving disposal and recovery
- During an Environmental Response
 - Starting point for clean-up
 - Quick reference
 - Reach back resource for planners & responders



I-WASTE Overview – Current Features

- Web-based tool with restricted access
- Series of inputs defining scenario
- Calculators available to estimate mass & volume of disastergenerated waste and debris (offices, schools, theaters, shopping malls, residences, hotels, hospitals)
- Database of treatment/disposal facilities (location, technical information, permits, geolocation)
- Access to contaminant and decontaminant information
- Guidance for worker safety, packaging and storage, and transportation



States Invental Protection I-WASTE Caveats

- I-WASTE is not an expert system (i.e., I-WASTE does not tell the user what to do), but rather presents information to consider during the decision-making or planning process
- I-WASTE assumes the decision to treat/dispose has been made
- I-WASTE does not present massive quantities of information to the user, but rather tries to distill information while maintaining links to more detailed information



Target Audience

- EPA Responders
 - On-scene Coordinators/Removal Managers
 - EPA Special Teams
 - Technical Working Group (TWG)
- State and Local Agencies
 - Emergency Planners
 - Public Health
 - Environmental Protection
 - Transportation
- Treatment/Disposal Facility Operators
 - Combustors/incinerators
 - Landfills
 - Building owners/managers
 - Water infrastructure
 - Radiological waste disposal facilities
 - Agricultural facilities



Collaborators and Partners

- ERG is Primary Contractor
- EPA
 - OLEM (OEM, ORCR)
 - -ORD
 - -ORIA
 - -OW
- Other Federal Agencies
 - DHS
 - -DOE
 - DOT
 - FEMA
 - -USACE
 - USDA

- State Agencies (DE, MD, NY, PA, VA)
- Waste Industry Groups (IWSA, NSWMA, SWANA)
- Water Industry Groups (AWWA)
- Facility item databases
 populated via discussions with
 respective industry
 representatives (e.g., hotel
 chains, school systems,
 theater chains, etc.)



I-WASTE Login Page

Incident Waste Decision Support Tool (I-WASTE DST) Provide feedback Welcome to EPA's Incident Waste Decision Support Tool, a decision support tool that organizes large amounts of information related to managing waste resulting from incidents of national significance (e.g., contaminated buildings and natural disasters). The tool can be used by individuals (i.e., emergency response authorities and property owners; tribal, state, and local permitting agencies; treatment and disposal managers; and/or planners) responsible for making disposal decisions. The tool provides access to technical information, regulations, and guidance to work through important waste management issues to assure safe and efficient removal, transport and management of waste materials. Specifically, the tool allows users to: · Create an incident planning and/or response record; · Access a waste material estimator: · Access treatment and disposal facility databases; and/or · Access guidance and documents. It is important to understand that the information provided here does not override existing regulatory or legal requirements that apply to the disposal of waste. This information should be used as a starting point for understanding some of the options available for disposal of these materials. A UserID and password are required to access the tool. Request a UserID and Password or enter your UserID and Password to get started. View the Overview Tutorial to learn more about I-WASTE. UserID: plemieux Password: Login

Although information in I-WASTE is not sensitive, having user-based access allows sharing of user-defined scenarios with collaborators



Key Functions

Incident Waste Decision Support Tool (I-WASTE DST)

Provide feedback

Planners, emergency responders, and other individuals responsible for making disposal decisions can access technical information, regulations, and guidance to work through important disposal issues to assure safe and efficient removal, transport, treatment and/or disposal of debris and waste materials. Guidance and information contained in EPA's Incident Waste Decision Support Tool is accessible from this home page. You can navigate through applicable guidance and information presented in a logical framework, quickly produce an order of magnitude waste estimate, and access the treatment and disposal facility database and/or other guidance and information.

Access the Quick Start Guide or the Overview Tutorial for a brief overview of key functionality. Access the Waste Materials Estimator Tutorial for detailed demonstration of key features of the WME. More detailed instructions for using the tool are contained in the Help System. If you are a first-time user, or would like information on the Background, Status and Future Plans of the tool, and a discussion of the Design Philosophy and Technical Approach we have applied to the development of the tool, you may want to read Before You Begin.

Incident Planning & Response

Create a record of incident planning exercises or incident response decisions. Navigate through applicable guidance and information presented at each step in the decision process. Records may be saved and retrieved for future reference.

Waste Materials Estimator

Use the **Waste Materials Estimator** to produce an order of magnitude estimate for the weight and volume of materials that may require disposal. Base estimates on default values contained in the tool, or refine estimates based on more specific user-defined values.

Treatment & Disposal Facilities

Locate treatment and disposal facilities. Choose one or more filter criteria to generate a list of treatment and disposal facilities. Note: The facilities presented in the tool are not endorsed by EPA, nor have any facility owners agreed to accept any material. A facility's ability to accept incident waste is case specific and determined by the facility and its regulators. Facility contact information is provided to facilitate the initiation of treatment and disposal discussions.

Guidance & Information

Access guidance and information compiled to assist with disposal decisions. View guidance, reports, and websites organized by events or topics, view contact information, and access other useful tools.

The 4 main functions of the tool are accessed from the main page.

It is important to understand that the information provided here does not override existing regulatory or legal requirements that apply to the disposal of waste materials. This information should be used as a starting point for understanding some of the options available for disposal of these materials.

*Note that you will be required to re-login after 30 minutes of inactivity.

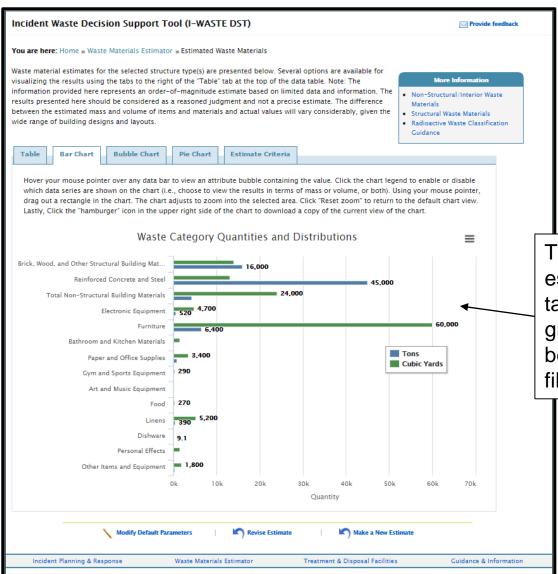


United States Environmental Protection Waste Quantity Estimator

Incident Waste Decision Support Tool (I–WASTE DST)		✓ Provide feedback	
You are here: Home » Waste Materials Estimator			
The Waste Materials Estimator will generate order of magnitude estimates for the types and quantities of materials that may require decontamination and/or disposal. Estimates can be generated for one or more structure types and combination of structure types. Estimates can be based on default parameter values, or on user-specified values. Additionally, several structure types can be used to generate estimates for other types of structures that are not currently included in the tool, but that have similar characteristics. Click the hyperlinked structure name to view the potential applicability of the existing structure types.			
Additional details on the data and methodology used to genera box below. Click Generate Estimates to generate estimates usir default parameter values before generating an estimate.	ng the default parameter values, or click Modify Do		
For a detailed demonstration of key functionality and features,	view the Waste Materials Estimator Tutorial.		
Specify Area and Structures:		More Information	
Open Space	Movie Theaters	Waste Materials Estimator	
Total affected area (square miles)	Qty:	Tutorial Default Parameter Values for Structures	
Offices	Schools	Modeling Other Structure Types Non-Structural/Interior Waste Materials	
Qty: Small Office	Qty: Elementary School	Structural Waste Materials	
Qty: Medium Office	Qty: Middle School	Waste Materials Estimator and HAZUS-MH	
Qty: Large Office	Qty: High School		
Hospitals	Shopping Malls		
Qty: Medium Hospital	Qty: Small Shopping Mall		
Qty: Large Hospital	Qty: Medium Shopping Mall		
Hotels	Qty: Large Shopping Mall		
Qty: Small Hotel	Single–Family Residences	A "avviolational alimba"	
Oty: Medium Hotel	Oty:	A "quick and dirty" was	
Qty: Large Hotel		estimate can be gener	rated
Large roter		for a variety of building	gs
✓ Modify Default Parameters ✓ Clear Quantities → Generate Estimates With minimal user input			

SEPA United States Environmental

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The results of the waste estimate can be viewed in table form or in a variety of graphical forms. They can be exported as an Excel file.



I-WASTE Facility Databases

Landfills

- MSW
- Construction & Demolition Debris
- Hazardous Waste

Combustion Facilities

- Municipal Waste Combustors (Waste-to-Energy)
- Hazardous Waste
- Medical/biohazardous Waste
- Industrial combustion facilities (e.g., boilers, smelters, etc)

Decontamination Wastewater Disposal Facilities

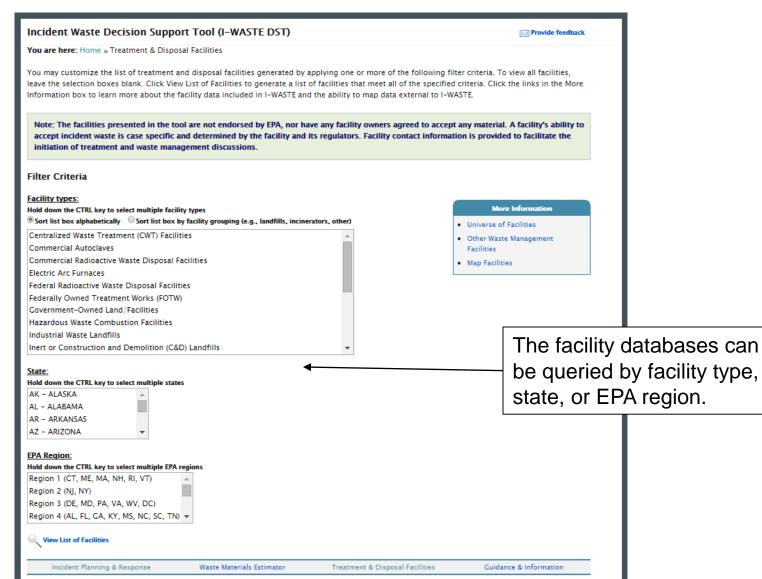
- Publicly-Owned Treatment Works (POTWs)
- Federally-Owned Treatment Works (FOTWs)
- Liquid Hazardous Waste Combustion Facilities

Other Disposal Facilities

- Centralized Waste Treatment (CWT) Facilities
- Commercial Medical Waste Autoclaves
- Commercial and Federal Radioactive Waste Disposal Facilities

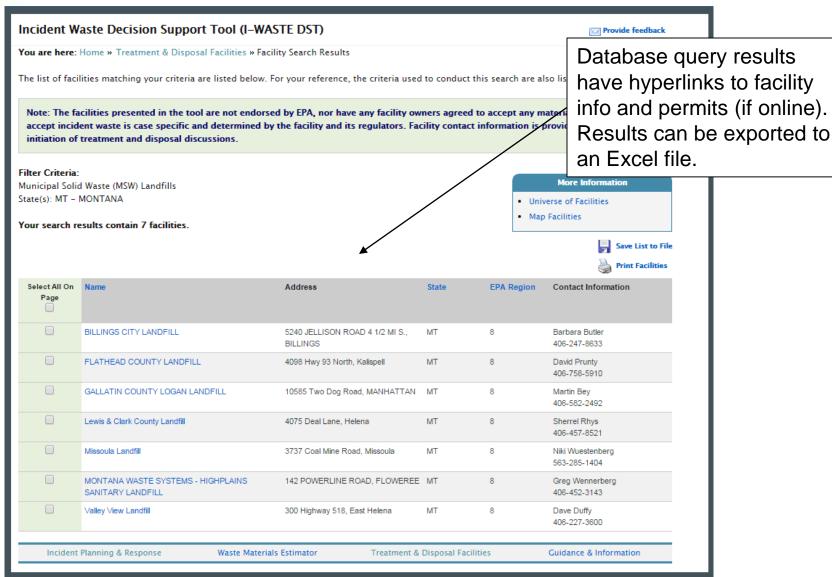


Facility Database Query



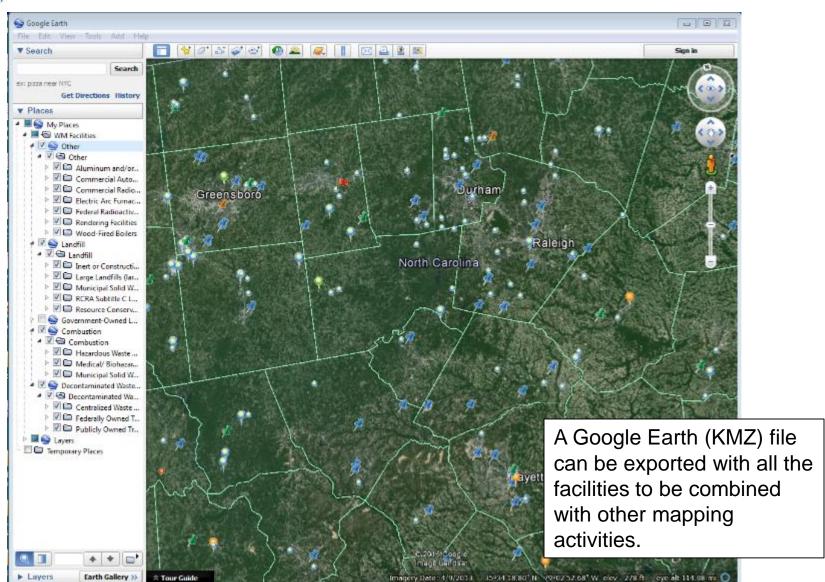


Facility Database Results



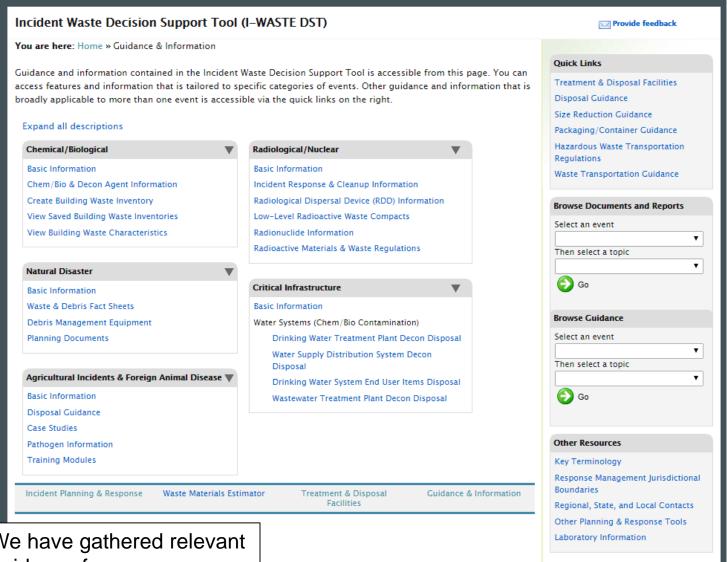


Geocoded Facility Databases





Relevant Guidance



We have gathered relevant guidance for easy access.



Radiological/Nuclear Basic United States Environmental Protection Information Page Agency

Incident Waste Decision Support Tool (I-WASTE DST) Provide feedback You are here: Home » Guidance & Information » Radiological/Nuclear » Basic Information Basic Information Incident Response & Cleanup Radiological/Nuclear Information **Radiological Dispersal** Additional guidance and functionality specific to radiological/nuclear events can be accessed using the following left navigation Device (RDD) Information menu items or accessing the quick links below: **Low-Level Radioactive Waste** . Incident Response & Cleanup Information - Access information related to Radiological Dispersal Device (RDD) incident response and cleanup. Radionuclide Information · Radiological Dispersal Device (RDD) Information - Access information describing an RDD and descriptions and common uses of the radioisotopes/radionuclides of greatest concern for potential use in an RDD. Radioactive Materials & Low-Level Radioactive Waste Compacts - Access a brief discussion of the Radioactive Waste Policy Act and view member **Waste Regulations** states, host states, and associated disposal facilities for low-level radioactive waste compacts. Radionuclide Information - Access available radionuclide data, including: half-life, specific activity, decay mode, and radiation energies. · Radioactive Materials & Waste Regulations - Access information describing radioactive materials and waste regulations by topic and/or governing agency. Radiological Incidents Radioactive Waste Radiological Dispersal Device (RDD) Orphan Sources · High-Level Radioactive Waste (HLW) and Spent Nuclear Fuel · Transuranic Waste (TRU) Nuclear Power Plant Accidents · Transportation Accidents · Low-Level Radioactive Waste (LLRW) · Satellites and Rockets · 11.e.(2) Byproduct Material · Mixed Wastes (MHLW, MTRU, MLLW) · Other Waste Types · Orphan Sources **Nuclear Materials** · Naturally-Occurring Radioactive Materials (NORM) Source Material · Low Activity Radioactive Waste Special Nuclear Material Transportation · Byproduct Material Treatment · Brokers and Processors EXIT Disclaimer Government-Owned Land/Facilities · Waste Classification Disposal Federal Facilities Commercial Facilities Access Incident Planning & Response to create an incident record for a radiological/nuclear event, or return to the guidance home uidance and documents and reports. We have gathered relevant Guidance & Information Waste Materials Estimator Treatment & Disposal Facilities guidance for easy access.

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Chemical/Biological Basic Information Page

Incident Waste Decision Support Tool (I-WASTE DST)

Provide feedback

Basic Information

Chem/Bio & Decon Agent Information

Create Building Waste Inventory

View Saved Building Waste Inventories

View Building Waste Characteristics

Chemical/Biological

Additional guidance and functionality specific to chemical/biological events can be accessed using the following left navigation menu items or accessing the quick links below:

- Chem/Bio & Decon Agent Information View detailed information available for chemical agents, biotoxins, biological
 agents, or decontamination agents. Hyperlinks to Material Safety Data Sheets (MSDS), Centers for Disease Control and
 Prevention (CDC) Fact Sheets, and Personal Protective Equipment (PPE) guidance provide users access to additional
 information.
- Create Building Waste Inventory Create an inventory (i.e., shopping cart) of items that may require treatment or disposal. Inventories can be saved and retrieved for later use by you or other users of the tool.
- View Saved Building Waste Inventories Access saved building waste inventories.

You are here: Home » Guidance & Information » Chemical/Biological » Basic Information

 View Building Waste Characteristics - Access characteristics of building waste for over 900 items. Default values for weight, volume and dimensions can be viewed.

Access Incident Planning & Response to create an incident record for a chemical/biological event, or return to the guidance home page to access other relevant guidance and documents and reports.

Incident Planning & Response

Waste Materials Estimator

Treatment & Disposal Facilities

Guidance & Information

We have gathered relevant guidance for easy access.



Natural Disaster Basic Information Page

Incident Waste Decision Support Tool (I-WASTE DST) Provide feedback You are here: Home » Guidance & Information » Natural Disaster » Waste & Debris Fact Sheets » Basic Information Waste & Debris Fact Sheets Natural Disaster Debris Management Equipment Additional guidance and functionality specific to natural disaster events can be accessed using the following left navigation menu items or accessing the quick links below Planning Documents . Waste & Debris Fact Sheets - Access over twenty fact sheets that address disposal issues related to special considerations . Debris Management Equipment - Access an inventory of Federal Emergency Management Agency (FEMA) debris removal Planning Documents - Access a library of natural disaster case studies, preparedness guidance documents, and planning Case Studies by Natural Disaster Event Type Types of Waste · Earthquake Mass Waste Special Considerations Waste Flooding Ammunition and Explosives Construction and Hurricane Demolition Animal Carcasses Tornado Green Waste · Asbestos-containing Materials Wildfire Soils and Auto Batteries Sediments · Biohazard Waste CCA-treated Wood Regulations, Guidance, and Facilities · Computer, TVs, and Electronics Hazardous Non-Hazardous · Construction and Demolition · Cylinders and Tanks Transportation · Disposal Guidance · Fluorescent Lamps Regulations · Disposal Facilities · Food Wastes (putrescibles) Recycling · Other Disposal Green Waste Guidance Guidance Household Hazardous Waste Hazardous Waste Recycling · Mercury-containing Products Disposal Facilities Facilities · Methamphetamine Labs · Orphan Containers · Petroleum Products Pharmaceuticals · Polychlorinated Byphenyls · Pool Chemicals Radiological Orphan Sources School Biological Labs · School Chemistry Labs Small Engines Soils and Sediments · Underground Storage Tanks · Vehicles and Boats · White Goods Access Incident Planning & Response to create an incident record for a natural disaster event, or return to the guidance home quidance and documents and reports

We have gathered relevant guidance for easy access.

Waste Materials Estimator

Treatment & Disposal Facilities

Guidance & Information



Agricultural/Foreign Animal Disease Basic Information Page

Incident Waste Decision Support Tool (I-WASTE DST)

Provide feedback

Basic Information

Disposal Guidance

Case Studies

Pathogen Information

Training Modules

Agricultural Incidents & Foreign Animal Disease

Additional guidance and functionality specific to agricultural incidents & foreign animal disease events can be accessed using the following left navigation menu items or accessing the quick links below:

- Disposal Guidance View disposal preference hierarchies for large animal and poultry mortality.
- Case Studies Access a compilation of historical incidents that includes a clearinghouse of summarized background information, disposal methods, and "lessons learned" information obtained from publicly available articles and other documents.

You are here: Home » Guidance & Information » Agricultural Incidents & Foreign Animal Disease » Basic Information

- · Pathogen Information Access several fact sheets prepared for 17 high priority pathogens.
- . Training Modules Access several training modules developed by the U.S. Department of Agriculture.

Access to several other key resources for additional guidance is provided via the hyperlinks below:

- · National Center for Animal Health Emergency Management
- National Animal Health Emergency Management System (NAHEMS) Guidelines

Access Incident Planning & Response to create an incident record for an agricultural incidents & foreign animal disease event, or return to the guidance home page to access other relevant guidance and documents and reports.

We have gathered relevant guidance for easy access. We also have linked directly to USDA/APHIS training modules.

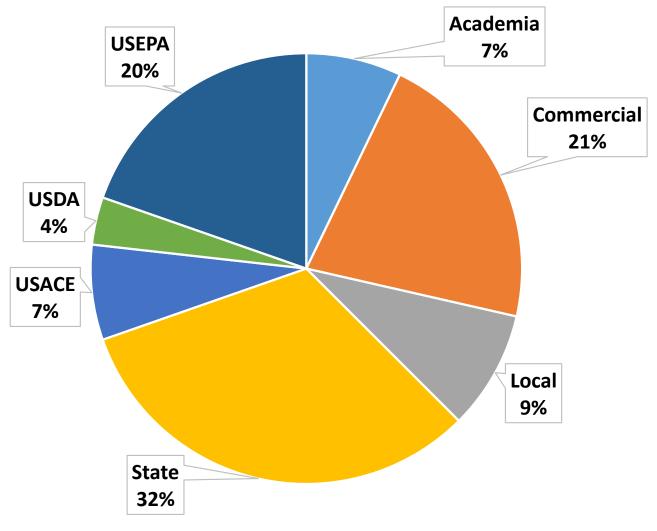
Waste Materials Estimator

Treatment & Disposal Facilities

Guidance & Information



Distribution of Users





Past Applications

- HPAI Carcass Disposal
- ID Disposal Options for Floods and Fires
- Ebola Response
- National Level Exercises
- New York City Bioremediation Planning
- Incorporated into other tools



Future Enhancements

Incorporation of geospatial data and facility information into EPA GeoPlatform

Access: http://www2.ergweb.com/bdrtool/login.asp

- First-time users will need to request a user ID and password – the link above has directions for making the on-line request
- When your request is approved, your login ID and initial password will be emailed to you



Bottom Line

- Waste management is a critical component of responding to wide-area disasters, whether they are man-made or naturally occurring
- Decisions are made at the local, state, tribal, and federal level, and include the waste management facilities themselves
- Pre-incident planning for waste management is a key element of enhancing resiliency of communities to these types of incidents
- I-WASTE is intended to support pre-incident planning as well as decision making during an incident



Contact

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919-541-0962

http://www2.ergweb.com/bdrtool/login.asp