

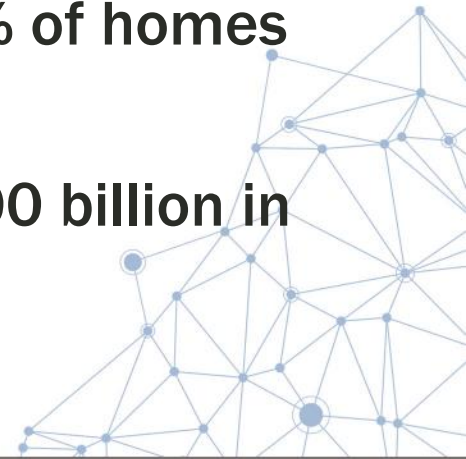
# The Hurricane is Over! Now What?



# Hurricane Irma (2017)



- Longest Category 5 hurricane since storm-tracking began
- Wind speed 295 km/h
- 6.3 million people evacuated in Florida
- Destroyed 25% of homes in Florida Keys
- Estimated \$200 billion in damage

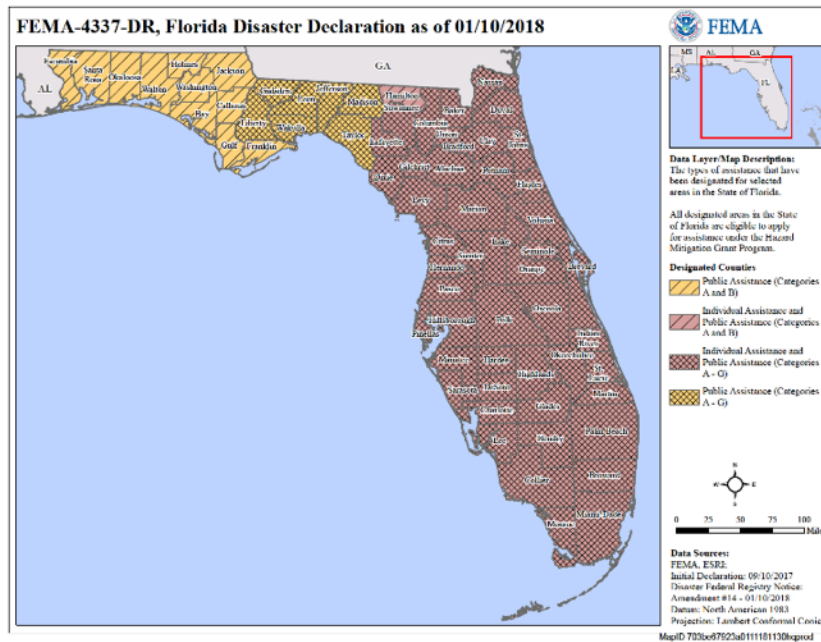


# The Damage

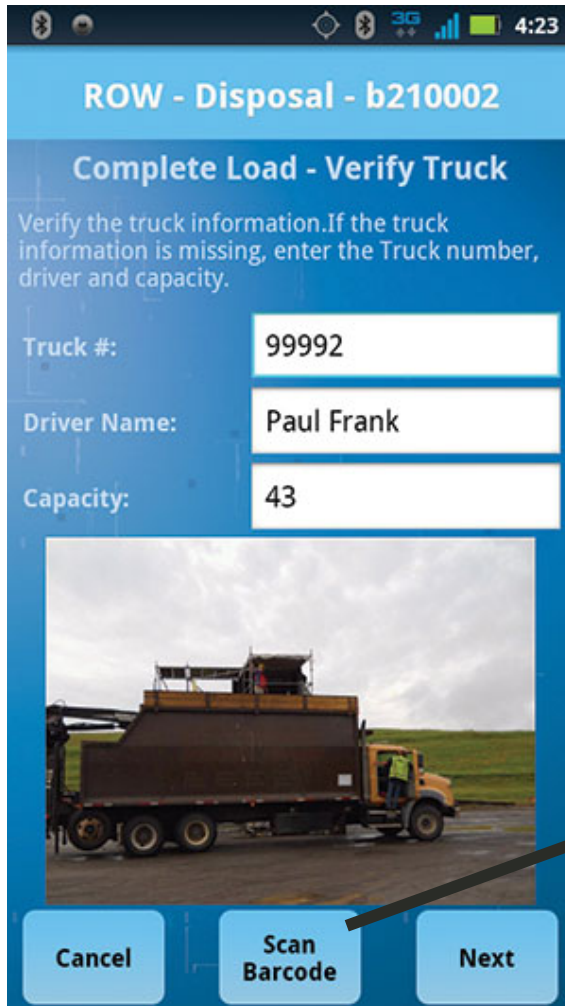


# FEMA Explained

- Federal Emergency Management Agency
- Public Assistance Grant Program to respond to and recover from major disasters or emergencies
- Local governments pay for debris removal and are reimbursed
- Detailed documentation required to receive grant



# Monitoring Disaster Debris



ROW - Disposal - b210002

Complete Load - Verify Truck

Verify the truck information. If the truck information is missing, enter the Truck number, driver and capacity.

Truck #: 99992

Driver Name: Paul Frank

Capacity: 43

Cancel Scan Barcode Next



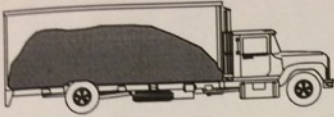

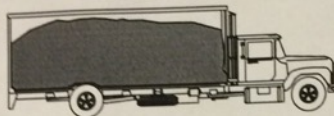

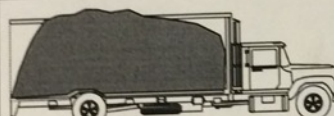
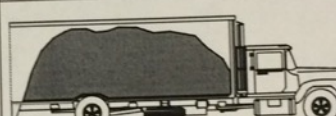
- Haulers are paid by how much debris they collect
- No weigh scales at most transfer sites
- Someone needs to keep tabs on these haulers (that's us!)
- Track debris collection from source to destination



# At the Transfer Site

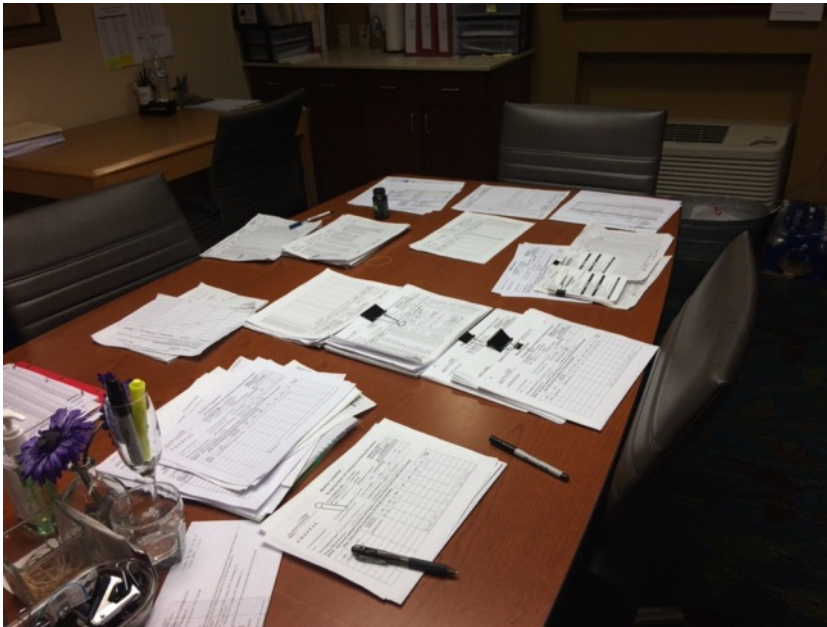


# How Much Debris is in the Truck?

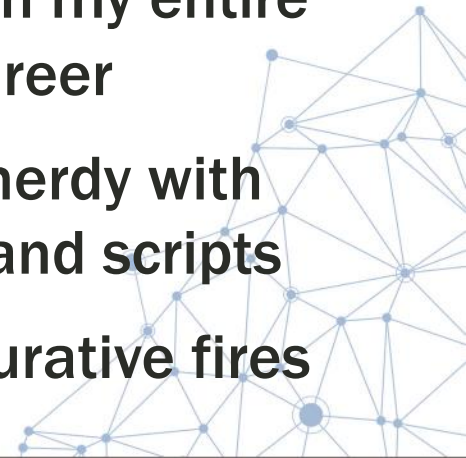
DEBRIS MONITOR GUIDELINES FOR ESTIMATING QUANTITIES	
 <p><b>60 Percent Debris Load in Truck</b> If truck bed measured 20 cubic yards (CY), this 60 percent load would be 12 CY.</p>	 <p><b>75 Percent Debris Load in Truck</b> If truck bed measured 20 CY, this 75 percent load would be 15 CY.</p>
 <p><b>85 Percent Debris Load in Truck</b> If truck bed measured 20 CY, this 85 percent load would be 17 CY.</p>	 <p><b>95 Percent Debris Load in Truck</b> If truck bed measured 20 CY, this 95 percent load would be 19 CY.</p>
 <p><b>85 Percent Debris Load in Truck w/ No Tailgate</b> This truck has no structural tailgate—the capacity would automatically be reduced from 20 CY to 17 CY (85 percent reduction). Then the debris load itself is 85 percent of fully loaded—14.5 CY.</p>	 <p><b>75 Percent Debris Load in Truck w/ No Tailgate</b> This truck has no structural tailgate—the capacity would automatically be reduced from 20 CY to 17 CY (85 percent reduction). Then the debris load itself is 75 percent of fully loaded—12.8 CY.</p>



# My Job: Keeping Track of the Monitors



- > 2,000 field monitors working each day
- > 50 municipalities and counties throughout Florida
- Handling more paperwork in 3 weeks than my entire engineering career
- Getting really nerdy with spreadsheets and scripts
- Putting out figurative fires



# What I Learned



- Get your systems in place before a disaster strikes
- Everything is going to be MacGyvered
- Make plans, but know that your plans are going to change
- Take some time off

