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A.J. CLARK SCHOOL OF ENGINEERING Civil & Environmental Engineering Department

HERDING THE CATS: MANAGING INFORMATION DURING DISASTER RESPONSE

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Learning Objectives

- Understand basic management information systems (MIS).
- Understand how MIS are used during disaster recovery.
- Understand how the electronic workflows and forms are used during disaster recovery.
- See practical applications of these concepts.



What We Know

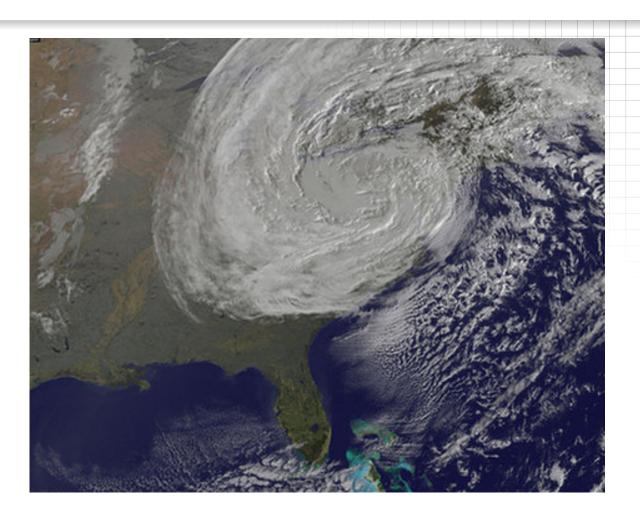
- Disaster response is information intensive.
- Document management is critical.
- Every state seems to start from scratch on their MIS systems.
- There still remains considerable use of manual information movement.
- Considerable inefficiency.

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MIS Desired Attributes

- Process automation
- Single point of data entry
- Accountability
- Document management
- Web access on any platform
- Management visibility
- Integrated systems



HURRICANE/SUPERSTORM SANDY



Hurricane Sandy

- Deadliest and most destructive in 2012 hurricane season
- \$68B in damages
- 233 fatalities
- 2nd costliest hurricane on record
- Came ashore in Brigantine, NJ

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Hurricane Sandy MIS

	Rapid	NYS	NJ	NYS
Program	Repairs	Housing	RREM	GOSR
Year	2012	2013	2013-2018	2014-2018
Automation			X	
Data Entry			X	Manual
Accountability			X	
Document Mgmt	X		X	
Web Access	Some		X	X
Visibility		Reporting	Х	Х
Integration			Cold Link	Manual

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NYC RAPID REPAIRS

NYC Rapid Repairs

- 15,000 houses
- Execution: NOV 2012 MAR 2013
- Paperwork: MAR 2013 SEP 2013
- Electricity, heat, water only
- \$25,000 cap per property



NYC Rapid Repairs

- FEMA's 1st stay in place program
- Program Manager
- 9 Construction contractors
- 1000 homes per week back on line
- Pre-position major pieces of equipment
 - Hot water heaters
 - Electrical panel boxes

NYC Rapid Repairs MIS

- Access Database
 - Project information
 - Funding
- One contractor with mobile data collection
- Permanent records all paper



NYS HOUSING PROGRAM

NYS Housing Program

- 4,500 houses
- Execution: AUG 2013 OCT 2013
- Reimbursement inspections
- \$300,000 cap per property
- Attempt to distribute monies prior to one year anniversary

NYS Housing Program

- 1 lead program manager
- 2 other program managers
- Staffing peak at 650
- \$1M/day burn rate
- Inspections completed in 3 weeks
- Less than \$1M distributed by oneyear anniversary

NYS Housing Program MIS

- Access Database
 - Inspection documents
 - Construction estimates
- Thumb drive "sneaker net" document movement
- Static forms and estimates



rebuilding a lasting foundation

NJ RREM



NJ RREM

- Reconstruction, Rehabilitation, Elevation and Mitigation
- Over 9,000 homeowner applications
 - o 7,429 grant agreements signed
 - o 5,929 homes rebuilt
- Execution: MAY 2013 Ongoing
- \$150,000 cap per property

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NJ Program Distributions to data

- RREM
- FRM
- LRRP
- Resettlement

As of April 23, 2018

\$2,653,123,226

\$1,202,094,415

\$298,676,340

\$49,899,783

\$203,098,717

NJ RREM

- Permanent housing solution
- 1 lead program manager
- 2 other program managers
- 25 Construction contractors
- Full phase program
 - o Preliminary design and estimate
 - o Design
 - Construction
 - Closeout



NJ RREM

- SharePoint site
 - Workflow and forms
 - Homeowner interaction
 - Document processing, tracking and repository
- System of record access database
- Considerable interface design to move information in and out
- Permanent records all electronic
 - Submitted by home



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Governor's Office of Storm Recovery

NYS GOSR



NYS GOSR

- Governor's Office of Storm Recovery
- Execution: DEC 2013 Ongoing
- Programs
 - Housing
 - Economic Development
 - Community Reconstruction
 - Infrastructure

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NYS GOSR Funding

- Housing \$4,919,603,949
- Economic Development \$242,391,500
- Community Reconstruction \$698,432,500
- Infrastructure
 \$24,799,115,535

NYS GOSR

- 1 lead program manager
- Numerous consultants
- Homeowner program 16,000 applicants
- Small Business 1,350 applicants



NYS GOSR MIS

- System of record: Intelligrants
 - Application and supporting documents
- Invoices and certified payrolls: Elation Systems
 - Manual upload into Intelligrants
- Excel "smartsheet" for process tracking
 - Manual upload into Intelligrants
 - No workflow—check location on spreadsheet



Lessons Learned

- Manage the information and documents
- Eliminate inefficiency
- Workflow is essential
 - Routing and document review/approval
 - Nothing falls through the cracks
- Effective passing information between systems
- Consideration of single system with web access
- Use of off the shelf software—why

Achieving MIS Desired Attributes

- Process automation
- Single point of data entry
- Accountability
- Document management
- Web access on any platform
- Management visibility
- Integrated systems

Changing the Way we Think

- FEMA needs to establish best practices
- Workflow utilization
- System integration
- Single system/single responsibility
- Constant improvement
- Application on other programs



Thank You!

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