Michigan Critical Incident Management System (MI CIMS) & Disaster Management GIS

Michigan State Police Emergency Management and Homeland Security Division

Jaclyn Barcroft
Trevor Havelka
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Emergency Management & Homeland Security

• Involves preparing for, mitigating, responding to and recovering from emergencies, disasters or acts of terrorism.
State Emergency Operations Center

- What is an Emergency Operations Center? (EOC)
  - Facility & Concept
  - People
  - Equipment
  - Plans & Procedures
  - Training & Exercises
EOC Operations

• What does an Emergency Operations Center do?
  ○ Direction & Control
  ○ Communications
  ○ Public Information - Media Relations
  ○ Damage Assessment
  ○ Resource Management
  ○ Recovery
EOC Operations

• Operational Phases
  o Monitoring
  o Activation & Notification
  o Response Operations (Partial or Full)
  o Recovery
  o Demobilization (Debriefing/Close Out)
SEOC In Action
The Challenge

The challenges of Emergency Management & Homeland Security reinforce the need for effective cooperation and communication between many levels of government and a wide variety of agencies.
Michigan Critical Incident Management System (MI CIMS)

- The goal of the Michigan Critical Incident Management System (MI CIMS) is to provide the state of Michigan with a state-of-the-art, web-based, secure, electronic information management system that supports:
  - Planning/Preparedness
  - Response
  - Recovery
  - Mitigation
Michigan Critical Incident Management System (MI CIMS)

- One common statewide CIMS software platform to share and document information during emergencies, disasters, planned events, and exercises
- Local, State, Federal, Tribal, Non-Governmental, Hospital, Private Sector Users
- No User Cost
Why Change?

- Previous CIMS software, E Team, was no longer supported by vendor
- Regional servers getting old – issues with Security & Notification
- Looking for new and improved technologies
- Wanting to customize the system to Michigan’s specific needs
Goal: to Create the Best CIMS for Michigan

- September 2010 - Lean Process Improvement (LPI) Initiative
  - Team of local and state agencies
  - Define business requirements for an ideal CIMS
  - Improve process of entering/extracting data
Road to the New MI CIMS

• January 2012 - Request for Proposal (RFP) posted
  ○ Coordinated with DTMB to craft RFP
  ○ Response from 5 bidders
  ○ LPI Team reviewed proposals
  ○ Invited 3 bidders for oral presentations
  ○ April 2012 - New contract awarded to Intermedix for WebEOC®
Why WebEOC®?

- Many local, state, and federal agencies using WebEOC®
  - Share board ideas
  - Share data between systems
- Customizable
- New/Improved Technologies
- Cost
MI CIMS Implementation

- April 2012 – Onsite discovery
- May 2012 – Gap Analysis
- June 2012 – Design Document
- June/July 2012 – System Construction
- July 2012 – Process Validation
- July/Aug. 2012 – Testing
- Sept. 2012 – PARE
- Aug./Sept. 2012 – Initial Training
- Sept. 28, 2012 – System “Go Live”
- Dec. 27, 2012 – Cutover from E Team
MI CIMS Training Plan

• Intermedix (Aug. – Nov. 2012)
  ○ EMHSD Administrators
  ○ Trainer Overview
  ○ Train the Trainer (TTT) – Approximately 60
  ○ End User

• MI CIMS Trainers (Dec. 2012 – present)
  ○ Conducting weekly training sessions
  ○ Approximately 1,700 users trained

• Mi-TRAIN – Coordinate and track all MI CIMS training
Key Functions in MI CIMS

- Event reporting process – Significant Events
- EM Program Status
- Damage Assessment
- Incident Timeline
- Message Control
- Resource Request / Task Assignments
- Road Closures
- Shelters
- Resource Inventory
- After Action Reports
MI CIMS Mapper

- Plugin to MI CIMS
- Flex Application
- Content
  - Board
  - Base Maps
  - Import Shapefiles (saved locally)
  - Live Feeds
  - Widgets
MI CIMS Demo
MI CIMS Current Status

• System maintenance and administration
  ○ Enhancements to existing boards / functions
  ○ Creating new boards
• Continue training program
• Event and exercise support
• Enhance GIS capabilities
Future - WebFUSION

- Allows a WebEOC® server to communicate with other WebEOC® servers by acting as a communications hub to route messages to intended recipients
- Additional server, license, and hosting costs
Future Enhancements to Mapper

• Public Facing Web Server
  ○ ArcGIS Server
    • Upload Data
      – Raster/Vector
  ○ Javascript API (The Future)
    • Imbedded maps into boards
    • Damage Assessment
      – GeoTagging
    • Social Media
Activity Log

Incident: MI CIMS Training

Details

Date/Time: 6/3/2013 16:23:03
EM Program:
Region:
Activity Type:
Priority:
Point of Contact Name:
Contact Number:
Map Label:
Address/Location: 4000 Collins Rd, Lansing, MI
Lat/Long: 42.651719387088544 / -84.4968008350897

Map showing the location of 4000 Collins Rd, Lansing, MI.
GIS and Emergency Management

• MSP GIS Role
• Emergency Preparedness
• Disaster Management
• Post Incident
MSP EMHSD GIS Role

• SEOC
  ○ Situational Awareness
    • Create GIS based common operating picture (COP)
    • Assist communication and collaboration among departments and agencies
    • Management of resources
    • Provide access to live data feeds and other geo processing tools
Emergency Response

• Supporting SEOC with GIS
  ○ Track resources
  ○ Show general information on map
  ○ Visualize affected populations and shelter locations
  ○ Maintain incident status and damage assessment info
  ○ Provide maps for community leaders and decision makers
Radiological Emergency Preparedness Program

- Nuclear Power Plants
  - 6 FEMA required maps for each nuclear power plant
- Standardize maps & develop symbology
- Access Control Points, Evacuation Routes, Population, 10 & 50 Mile Emergency Planning Zones & Protective Action Areas, Reception, Decontamination, & Congregate Care Centers
Emergency Preparedness

• Data management - Gather & store information, GIS data, resource plans, databases, etc.
  ○ What are your data needs?
  ○ Rest Endpoints
    • FEMA
    • NOAA
    • ESRI
  ○ inurl:rest/services
Emergency Preparedness

• Situational awareness – GIS links people, processes & information
  ○ Create GIS based common operating picture (COP)
  ○ Assist communication and collaboration among departments and agencies
  ○ Management of resources
  ○ Provide access to live data feeds and other geo processing tools
During Incident

- Imagery Requests (USGS)
  - Hazard Data Distribution System (HDDS)
    - Create an account
  - Serious Incident
    - Local Declaration with possibility of Statewide
      - Ex. Flooding in April
    - Only used for Incident
During Incident

• Imagery Requests (USGS)
  ○ Process
    • Area of Interest
    • Contact USGS
    • 15km swath width
    • Download through HDDS
  • Support
    ○ Support Locals
Post Incident

• Damage Assessment
  ○ Geotagging
    • EXIFReader (Javascript Library)
  ○ MI CIMS
• Support
• What can we do to improve?
MSP/EMHSD Contacts

Ms. Jaclyn Barcroft, MI CIMS Administrator
Phone: (517) 324-2385
BarcroftJ@michigan.gov

Mr. Trevor Havelka, GIS Developer
Phone: (517) 333-2743
HavelkaT1@michigan.gov

MIWebEOC@michigan.gov