Data Driven Decision Making Workshop

Improving Resiliency w/Better Data

Date: January 11, 2018
Hosted By: ESIP (Earth Science Information Partners)
<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am</td>
<td>Registration &amp; Continental Breakfast</td>
</tr>
<tr>
<td>8:45am</td>
<td>Opening Remarks &amp; Welcome to EEI</td>
</tr>
<tr>
<td>9:00am</td>
<td>Session #1 – Operational Readiness Levels: Measuring the Benefit of Trusted Data for End Users</td>
</tr>
<tr>
<td>10:30am</td>
<td>Break in Upper Foyer</td>
</tr>
<tr>
<td>11:00am</td>
<td>Session #2 – Lessons Were Learned from Hurricanes Harvey, Irma &amp; Maria in 2017</td>
</tr>
<tr>
<td>12:30pm</td>
<td>Lunch &amp; Networking</td>
</tr>
<tr>
<td>1:30pm</td>
<td>Session #3 – Current Data Sets and Data Set Providers &amp; Partners</td>
</tr>
<tr>
<td>3:00pm</td>
<td>Break in Upper Foyer</td>
</tr>
<tr>
<td>3:30pm</td>
<td>Session #4 – A Long-Term Sustainment Model for SISE Public/Private Information Sharing Framework</td>
</tr>
<tr>
<td>4:45pm</td>
<td>Wrap Up / Next Steps</td>
</tr>
<tr>
<td>5:00pm</td>
<td>Conclusion</td>
</tr>
</tbody>
</table>
Safety Message
Opening Remarks

verizon

Kent Kildow
Verizon

Steve White
Co-Chair
FEMA Logistics
Session #1

Operational Readiness Levels: Measuring the Benefit of Trusted Data for End Users

**Description:** The session will discuss the current SISE working group’s Operational Ready Level (ORL) standard & related processes being developed by the industry and government stakeholders as a tool to help quickly identify and prioritize data sets/sources that can be quickly utilized operationally; help data providers with a guide to make their data more usable; and take recommendations for ways to enhance the process.
BREAK
Until 11:00am ET
SISE WG Background

• Establish Work Group of Industry & Government
• Leverage SISE Trust Framework & Philosophy
  • Simple, Operational Benefit, Results
• Develop Operational Use Cases
• Identify & Integrate Data Sets
  • Short, Mid and Long-Term Data Sets
• Leverage Technology Partners
• Test, Validate and Operationalize
Movement on Work Products

- Gain common agreement on the following drafts:
  - Overall SISE Use Case Approach
  - Approve Use Case Methodology & Template
  - Strategy Doc
  - ORL Model
  - Initial Data Sets
  - Plan Virtual Exercise

- Products
  - Strategy Document
  - ORL Model
  - Use Case Template & Methodology
  - Working Group Directory & Communication Website
  - Initial Data Sets and Focus Areas
  - Initial Data Set URLs Library
  - Exercise (Catex 2017)
  - Other Ideas?

- Next Meetings
  - Monthly Conference Call / Webinar
  - 3DM Workshop, January 11, 2018 Location – Bethesda, MD
  - Other Meetings?
SISE/ 3DM At-A-Glance

What is 3DM?

Vision
“New environment for Data Driven Decision Making”

Mission
“Provide safe environment to distribute synchronized situational awareness”

Strategy
“Leverage trusted relationships & joint investments”

Where and how can 3DM effectively achieve mission?

Address Sector Operational Issues
- Sync Situational Awareness for Response & Recovery
- Solve Real World Sector Operational Issues
- Enable Data Driven Decision making
- Focus on Whole of Community Benefits

What are the objectives of 3DM?

3DM Objectives
- Identify Real World Operational Issues
- Develop Sector Focused “Use Cases”
- Identify Government & Private Solutions
- Aggregate & Link to 3rd Party Solutions

What will we do to meet 3DM objectives?

3DM Activities
- Planning & Exercise
- Joint Workshops & Webinars
- Develop SISE Apps & 3rd Party Solutions
- Leverage Federal Research and Investments

Operational Results: Enhance public and private communications, coordination, and operational information sharing for security and disaster response through process and technology improvement

Results

- Education / Training / Exercises
- SISE Access Processes (ID Vetting)
- Enhanced Situational Awareness
- Improved Regional Common Operating Picture
- Create Decision Support Apps
### Use Case / Data Set Alignment MATRIX

#### STISE (Sensitive Information Sharing Environment) Working Group

<table>
<thead>
<tr>
<th>Data Set Information</th>
<th>Real Time Forecast</th>
<th>Public Sector Layer</th>
<th>Electric Sector Layer</th>
<th>Telecom Sector Layer</th>
<th>Food Sector Layer</th>
<th>Fuel Sector Layer</th>
<th>Additional Layers</th>
<th>Info Available to Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast Confidence</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather Map</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radar</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hurricane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Winds - sustained</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winds - gusts</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightning - rain</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ice</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Snow</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Ground Saturation (Moisture)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flooding - River</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood Elevations (feet)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation (Folage, Canopy)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tide Surge</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storm Surge, Coastal Wave Heights</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Outages by state</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Emerg Declarations</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Emerg Declarations</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storms</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood Move</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open/Close Status</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate System</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadway conditions (I11)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1/11/2018

Data Driven Decision Making Workshop – 3DM
Session #2

Lessons Were Learned from Hurricanes Harvey, Irma & Maria in 2017

**Description:** This session will be a discussion on the lessons learned in the private sector from the past Hurricanes Harvey, Irma and Maria in 2017. Topics will focus on the lessons learned in public/private coordination and decision making; business and public reentry; information sharing; and innovative use of technology; and gather recommendations to go forward.
3DM Initiative Purpose

• Establish Work Group of Industry & Government
• Leverage SISE Trust Framework & Philosophy
  • Simple, Operational Benefit, Results
• Develop Operational Use Cases
• Identify & Integrate Data Sets
  • Short, Mid and Long-Term Data Sets
• Leverage Technology Partners
• Test, Validate and Operationalize
Vision

A new environment for sharing sensitive information that enables data-driven decision making amongst public and private stakeholders to effectively manage disruptions.

Mission

To provide an environment that leverages vetted, trusted professional relationships and invested organizations to distribute synchronized situational awareness for response, recovery, for the whole of community stakeholders.
3DM Objectives

• **Identify key “sector and cross sector operational issues”**
  • in disaster** preparedness, response & recovery in the critical infrastructure sectors (energy, telecom, transportation, food, water, health, retail, finance, IT, manufacturing, etc.)
    • Focus on both single sector and cross sector issues
    • Quick wins...builds momentum...attracts interest/participation
    • Leverage short-, mid-, long term model
    • Leverage the BEMOC frameworks to validate these issues

• **Develop new sector Use Cases**
  • that align people and data for 30 second decision making to any type of disaster or disruption
  • Focus on both single

• **Identify existing government and private sector data sets, information, solutions**
  • that can be utilized within Use Cases
  • Create process to vette/validate data sets from data providers (e.g. ORL model)

• **Develop or link to 3rd party solutions**
  • Short, mid, long term solutions to each issues
  • (apps, guides, websites, services, products, etc....) that support the identifies and approved Use Cases

• **Leverage the SISE (Sensitive Information Sharing Environment)**
  • to provide the information sharing security needed by the private sector
Use Case Methodology

Operational Readiness Level (ORL)
(Federated standards for data’s “operational” use in the field)

Decision Support Technology Viewers

Government Decisions
Private Sector Decisions

SECTORS

Electric
Fuel
Telecom
Food
Medical
Finance
Water
Transportation

Operational Problems and Related People, Data, Security

People = Cultures, Perspectives, Intents, Terms/Language
Data = Timing, Formats, Reliable Sources, Formats, Labeling, Handling
Security – Legal, Governance, ID Vetting, Permissions, Credentials, Agreements

Sector Use Cases

Data Sets

Staging Areas

Re-entry Processes

State/Local Gov’t Declarations

Electric Power
Weather
Transportation
Fuel
Lodging

Food/Water
Lessons Learned Session – Jan 11

• **Objective:** *Discuss Lessons Learned in 2017 Hurricanes*

• Discuss...
  
  • Issues that occurred before, during and after each event
  
  • Specific use cases and possible data sets (weather, roads, power, telco, re-entry, medical, declarations, evacuations, fuel prioritization, port operations, etc.)
  
  • Identify possible new data sets/partners
  
  • Updates to any processes that can expedite information sharing
Session #2 Topics

• Public/private coordination and decision making
• Business and public reentry
• Information sharing
• Innovative use of technology
• Sector Issues:
  • Power, Fuel, Transportation, Telecommunications, Housing, Food, Medical, etc...
• Others (from audience)
• Gather recommendations to go forward.
# Observations

## HARVEY
- Public/private Situational awareness
- Electric sector fleet movement
- Reentry business
- Disaster documentation
- Waivers
- Housing
- Flooding
- Transportation S/A (Road closures)
- Other?

## IRMA
- Public/private Situational awareness
- Private sector fleet movement
- Disaster documentation
- Waivers
- Reentry business
- Reentry population
- Flooding
- Transportation S/A (Road closures)
- Fuel availability
- Housing
- Other?

## Puerto Rico / Virgin Island
- Public/private Situational awareness
- Private sector fleet movement
- Fuel availability
- Food
- Other?
Discussion Phases

- Before Incident
  - What worked well?
  - What needs improvements?

- During Incident
  - What worked well?
  - What needs improvements?

- After Incident
  - What worked well?
  - What needs improvements?
BREAK

Until 1:30 pm ET
Session #3

**Current Data Sets and Data Set Providers & Partners**

*Description:* This session will discuss the current data sets/partners that have been identified by the SISE to date; the uses of each; a process to identify/attract new data partners; gain agreement on a draft strategy; and gather recommendations to go forward.
Use Case Methodology

Operational Problems and Related People, Data, Security

People = Cultures, Perspectives, Intents, Terms/Language
Data = Timing, Formats, Reliable Sources, Formats, Labeling, Handling
Security – Legal, Governance, ID Vetting, Permissions, Credentials, Agreements

Sector Use Cases

Operational Readiness Level (ORL)
(Federated standards for data’s “operational” use in the field)

Data Sets

Electric Power   Weather   Transportation   Fuel   Lodging
Food/Water   Staging Areas   Re-entry Processes   State/Local Gov’t Declarations
Data Sources/Partners Session – Jan 11

- **Objective**: Create process, strategy and approach to attract data partners to SISE WG
- Discuss current data sources and partners for several data sets via 3DM Data Set Matrix
- Discuss process to identify/attract new partners
- Draft a plan
- Gain agreement/approve
## Data Driven Decision Making Workshop – 3DM

### Use Case / Data Set Alignment MATRIX

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Use Case</th>
<th>Use Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Layer to All Sectors</th>
<th>Primary Sector Layer</th>
<th>Alternate Sector Layer</th>
<th>AMC FROG PRODUCT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Data Set Information</th>
<th>Real Time Forecast</th>
<th>Public Sector Layer</th>
<th>Electric Sector Layer</th>
<th>Telecom Sector Layer</th>
<th>Food Sector Layer</th>
<th>Fuel Sector Layer</th>
<th>Additional Layers</th>
<th>Info Available to Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast Confidence</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Weather Map</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Radar</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Hurricane</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Winds - sustained</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Winds - gusts</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Lightning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Rain</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ice</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Snow</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ground Saturation (Moisture)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.noaa.com/index.html">https://www.noaa.com/index.html</a></td>
</tr>
<tr>
<td>Flooding - River</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Flood Elevations (feet)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Vegetation (Foliage, Canopy)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.nws.noaa.gov/index.html">https://www.nws.noaa.gov/index.html</a></td>
</tr>
<tr>
<td>Tide Surge</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Storm Surge, Coastal Wave Heights</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.noaa.com/index.html">https://www.noaa.com/index.html</a></td>
</tr>
<tr>
<td>Electric Outages by state</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.noaa.com/index.html">https://www.nws.noaa.gov/index.html</a></td>
</tr>
<tr>
<td>State Emerg Declarations</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.noaa.com/index.html">https://www.nws.noaa.gov/index.html</a></td>
</tr>
<tr>
<td>Weavers</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Fleet Move</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Open/Close Status</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Interstate System</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Roadway conditions ($)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td><a href="https://www.intellicast.com/local/WxMap.aspx">https://www.intellicast.com/local/WxMap.aspx</a></td>
</tr>
</tbody>
</table>
## Emergency Resource Library
### Data Sets To Support Decision Makers

<table>
<thead>
<tr>
<th>Currently Available</th>
<th>In Development</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Weather Radar/Storms</td>
<td>• Banks Branches</td>
<td>• Heating Oil</td>
</tr>
<tr>
<td>• State Declarations &amp; Waivers</td>
<td>• ATM Machines for Cash</td>
<td>• Storage Facilities- Refrigerated</td>
</tr>
<tr>
<td>• Flooding Rivers</td>
<td>• Commercial Fueling Stations (For Large Trucks and Commercial Vehicles)</td>
<td>• Storage Facilities- Controlled Environment</td>
</tr>
<tr>
<td>• Low Height Bridges &amp; Tunnels</td>
<td>• Convenience Stores</td>
<td>• Storage Facilities- Warehouse</td>
</tr>
<tr>
<td>• Open/Closed Retail Facilities (Hughes)- Fuel, Pharmacies, Hotels</td>
<td>• Grocery Stores</td>
<td>• Lighting- Portable</td>
</tr>
<tr>
<td>• State Post Disaster Re-Entry Procedures</td>
<td>• Home Improvement Centers (Hardware &amp; Supply Stores)</td>
<td>• Trucks- Rental</td>
</tr>
<tr>
<td></td>
<td>• Commercial Generators- Mobile</td>
<td>• Trucks- Refrigerated</td>
</tr>
<tr>
<td></td>
<td>• Commercial Generators- Fixed Units</td>
<td>• Trucks- Storage Trailers</td>
</tr>
<tr>
<td></td>
<td>• Ice- Dry Ice</td>
<td>• Rental Equipment Facilities- Forklifts, Bucket Trucks, etc.</td>
</tr>
<tr>
<td></td>
<td>• Ice- Bagged Ice</td>
<td>• Cleanup- Bulk Sorbents &amp; Products</td>
</tr>
<tr>
<td></td>
<td>• Laundry Services</td>
<td>• Waste Disposal Services</td>
</tr>
<tr>
<td></td>
<td>• Mold Removal</td>
<td>• Waste Disposal Services- Hazardous Wastes</td>
</tr>
<tr>
<td></td>
<td>• Fire Restoration</td>
<td>• Mitigation Services- Business</td>
</tr>
<tr>
<td></td>
<td>• Oxygen- Bottled</td>
<td>• Continuity/Disaster Recovery</td>
</tr>
<tr>
<td></td>
<td>• Propane</td>
<td>• Portable Satellite Equipment &amp; Services</td>
</tr>
<tr>
<td></td>
<td>• Pumps- Industrial (Flood Alleviation)</td>
<td>• Satellite Phones/Radios</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trunk Repair Facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Medical Supplies &amp; Equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Available Housing Units/Apts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Drone Resources (Training, Operations, Equipment, Countermeasures)</td>
</tr>
</tbody>
</table>

Legend:
- Completed
- In Progress
- Not Completed

These data sets include Lat/Long Coordinates

As of 10/26/2017
Data Sources/Partners Session

• Using the 3DM MATRIX:
  • How do we identify a data provider?
  • What is process for getting data screened and tested?
  • What agreements are needed?
  • What are timelines to test and get into dashboard?
  • What are data formats needed:
  • What is data handling processes?
    • Who will see my data?
    • Who stores it? Maintains it?
BREAK

Until 3:30pm ET
Session #4

A Long-Term Sustainment Model for SISE Public/Private Information Sharing Framework

Description: This session will discuss the long-term sustainment models for the SISE framework including possible business models; technology; resource and staffing configurations; research & development; integrations with states/companies/federal agencies; identify partnership opportunities; and gather recommendations to go forward.
SISE Program Discussion

• History
  • 2013
    • FRWG Formed
    • CATEX 2013 – Fleet movement
  • 2014
    • Activations, information compromised
  • 2015
    • DHS S&T grant to TSCP/AHC to develop PIV-I info sharing framework – resulted in SISE WG formation, legal agreement, processes
  • 2016
    • DHS IP NIPP Challenge, 3DM Initiative and WG formed, sustainment model developed, and development of common operating picture
  • 2017
    • DHS IP NIPP Challenge II – continued development of SISE and common operating picture
      • Private sector supported
  • 2018
    • Business model testing for sustainment
SISE Components

SISE Trust Framework

People, Process, Policy, Legal, Program, Admin.

Technology

Apps, Links, Data, Docs, etc...

3rd Party & Partner Portals, Dashboards, Data Feeds, etc...

Other items to consider???
**SI SE Technical Capability Strategy**

**SISE Stakeholders/Work Groups and Public/Private Partners**

**Private Sector**

**State/Local EOCs**

**State/Local Fusion Centers & DOTs**

**Federal Dashboards**
(FEMA, DHS NICC, DOE, etc.)

---

**Operational Coordination**
(Multi-State and Multi-Sector Operational Coordination on Operational Delays & Work Aroun ds)

**Data Analytics & Modeling**
(Creating What If’s, Monitoring Rolling Costs of Response, Determining Cascading Impacts & Supply Chain Disruptions)
SISE Program Discussion

• Business Model
  • Core Development
    • Government
    • Private Sector
  • Core Sustainment
    • Government
    • Private Sector
• Sustainment Revenues
  • User Subscriptions
  • Affiliate Relationships (w/revenue sharing)
    • ESIP & AHC
  • Grants
  • Research transition (moving from the lab to the marketplace)
  • Other items TBD
SISE Program Discussion
Sustainment Questions

• What do we consider now to sustain later?
  • App/Data storage & retention? Policy & processes?
    • Reference the SISE Confidentiality Agreement
  • Manpower?
  • Funding streams? For 2018, 2019, 2020, etc...
  • Funding models? Cost share?
  • Program Management? What’s the process to bring on new apps/data sets? (vetting, testing, validating, etc...)

• How do we capture the operating costs to sustain and expand this effort?

• How do we sustain the framework?

• What does the business model look like?

• What should gov’t budget to support this?
  • IT, staff, research, etc...
Business Model

Resource Streams

Private Sector
- Subscriptions
- Projects
- Affiliates
- Other TBD

Sensitive Information Sharing Environment

Government
- Grants
- Research / Transition Projects
- NIPP Challenge Agreement (that passes IP to private sector)
- Projects & Partners
- Other

Products of SISE
- Federated Standards
- Partnerships
- 3rd Party Solutions
- Mobile Apps
- Data Sets
- Docs
- Web Apps
- Websites
- PDFs
- R&D

10/9/2018

SISE Working Group PROPRIETARY
info@ahcusa.org
Sustainment Sub-Committee Update (12/15/0217)

- Drafted model and slide deck
- Vetting with AHC leadership
- Includes
  - Purpose
  - Products
  - Benefits
  - Costs
  - Components
  - Staffing
  - Partnerships
- Next Steps
SISE Program Discussion

• **Sustainability Components**
  • People
    • Work Group Facilitation & Analysis
    • Program Management
    • Outreach & Education
    • Integrated Public/Private Exercises & Training
  • Process
    • Policy & Process
    • Research & Analysis
    • Packaging / Marketing
  • Technology
    • Services
    • Staff
    • Software
    • Equipment
    • Data / App storage
Discussion of Public & Private Sector Operational Issues

Tony Hurley
Witt/O’Brien’s
(Former First Energy VP Operations)

Private Sector Executive Perspective on SISE/3DM Products
Executive vs. Operational Drivers

- **Operations**
  - Drivers: Safety, save time, costs, infrastructure

- **Executive**
  - Drivers: ROI, earnings per share, branding, public image, regulatory compliance

- **Business Drivers:**
  - Recovery of costs (efficiencies and documentation)
  - Shareholder value
  - Perception of recovery effort
    - (Public and regulatory)
Multi-State Fleet Response Working Group Update

Mike Zappone
Eversource

Tony Hurley
Witt/O’Briens
Discussion of Public & Private Sector Operational Issues

Mike Zappone
Eversource

Reducing Delays with US/Canadian Border Crossing Process
Options for Working Group Expansion & Sustainment

General Discussion
Growth Considerations

• Strategy
  • Leverage others efforts/groups via subcommittees or initiatives, connects SISE WG with those groups and provider feedback
  • Stay focused on products that solve operational issues in the private sector

• Stakeholders
  • Primary – private sector
  • Secondary – public sector, research, other

• Governance Structure
  • For people – exec committee, sub-committees
  • For information – SISE framework, private sector operated, ID vetting & validation, government data/solutions

• Processes & Procedures
  • Information
    • Data providers
    • Data Users

• Sustainment

• Culture

• Other
Sub-Committees

• Weather / Earth Science
• Transportation
• Disaster Docs
• Cyber
  • ID management & data privacy
• Logistics
• Resources
• Technology
Session #2

Discussion of Public & Private Sector Operational Issues

**SESSION OBJECTIVE:** To review, discuss, update and approve the content of this session
Discussion of Public & Private Sector Operational Issues

Steve White
FEMA Logistics

FEMA / Federal Perspective Update
WORKING LUNCH

Until 12:45pm
Session #3

Discussions on Operational Issues (cont.)

**SESSION OBJECTIVE:** To review, discuss, update and approve the content of this session
Discussion of Public & Private Sector Operational Issues

Chris Eisenbrey
Gail Royster
Randy Graham
EEI

Drones / UAVs
Update on “RampUp” Tool Process w/Fleet Movement
Cyber Mutual Assistance
Discussion of Public & Private Sector Operational Issues

Tom Moran
Maria Vachino

DHS Science & Technology
Cyber Security Division

NEW DHS Cyber Initiatives
Discussion of Public & Private Sector Operational Issues

Karen Mo
Kari Hicks
Dave Jones
Duke, NASA, ESIP

Application of ORL Models
Wrap Up / Next Steps

• Actions
  • Governance
    • Formalize sub-committees
  • Operational Guides
    • Get EULO Guide to Mike Z & Glen A.
    • Get Glen A. EULO info on their efforts and merge
    • Create a SISE ID vetting guide
  • Process
    • Need to create processes to vette and align products, people and processes
    • To have private sector prioritize data sets for gov

• Products
  • 1StopOps test
  • CATEX automated micro-exercise process
  • EEI Drone Webinar to SISE WG by EEI
  • DHS S&T Webinar w/SISE wg

• Partners Update
  • Federal
    • DHS S&T, DHS IP, FEMA, FEMA Logistics, DOE, DOT, NOAA, NASA
  • State
    • State emergency management, transportation, fusion centers
  • Private Sector
    • Electric, fuel, telecom, finance, food, water, retail, IT, transportation, supply chain
3DM Initiative Timeline

- **Oct 2016**<br>  Washington, DC<br>  Define Stakeholders, Approach, Timelines, Products, Use Cases, Data Sets

- **Jan 2017**<br>  Philadelphia, PA<br>  Discuss Data Sets & Use Cases, Applications, Future Data Sets

- **April 2017**<br>  New York City, NY<br>  Approve Use Case Methodology; Template; Strategy Doc, ORL Model, Initial Data Sets, Overall Approach

- **July 2017**<br>  Washington, DC<br>  Approve Vision, Mission, Objectives & Discuss Growth Strategy

- **Jan 2018**<br>  Bethesda, MD ESIP Winter Mtg<br>  TDB
Wrap Up / Next Steps

• **Actions**
  • **Governance**
    • *Formalize sub-committees*
  • **Operational Guides**
    • *Get EULO Guide to Mike Z & Glen A.*
    • *Get Glen A. EULO info on their efforts and merge*
    • *Create a SISE ID vetting guide*
  • **Process**
    • *Need to create processes to vette and align products, people and processes*
  • **Products**
    • *1StopOps test*
    • *CATEX automated micro-exercise process*

• **Partners Update**
  • **Federal**
    • *DHS S&T, DHS IP, FEMA, FEMA Logistics, DOE, DOT, NOAA, NASA*
  • **State**
    • *State emergency management, transportation, fusion centers*
  • **Private Sector**
    • *Electric, fuel, telecom, finance, food, water, retail, IT, transportation, supply chain*
Conclusion
Thank You

In Coordination With:

- Edison Electric Institute (EEI)
- Federation of Earth Science Information Partners (ESIP)
- DHS NPPD, Office of Infrastructure Protection (DHS-IP)
- NOAA/ National Weather Service
- Multi-State Fleet Response Working Group (FRWG)
- East Coast Corridor Coalition (EC3)
Wrap Up / Next Steps

• Gain common agreement on the following:
  • Overall SISE Use Case Approach
  • Approve Use Case Methodology & Template
  • Strategy Doc
  • ORL Model
  • Initial Data Sets

• Products
  • Strategy Document
  • ORL Model
  • Use Case Template & Methodology
  • Working Group Directory & Communication Website
  • Initial Data Sets and Focus Areas
  • Data Set URLs Library
  • Other Ideas?

• Next Meetings
  • Monthly Conference Call / Webinar
  • 3DM Workshop, Jan 2018 Location TBD
  • Other Meetings?
1StopOps Business Model

• Option 1
  • Service Model
    • WG membership required (free or fees TBD)
    • Annual subscription fee for individuals
      • Includes access to 1StopOps Portal
    • Tiered fees/benefits (basic, intermediate, & advanced)
    • Workshop registrations included w/Intermediate & Advanced levels

• Option 2
  • Workshop Model
    • WG membership required (free or fees TBD)
    • Annual subscription fee for individuals
      • Includes access to 2 workshops/year
      • 1StopOps provided to workshop attendees
# 1StopOps Options

<table>
<thead>
<tr>
<th></th>
<th><strong>Option 1</strong></th>
<th><strong>Option 2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
<td>The technology</td>
<td>The people</td>
</tr>
<tr>
<td><strong>Products</strong></td>
<td>Access to the apps &amp; solutions</td>
<td>Networking w/people &amp; Access to the apps &amp; solutions</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>$1,200 to $6,000/yr</td>
<td>$2,500/yr</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td>Tiered Benefits Access to apps/solutions Some workshops</td>
<td>Single tier benefits Access to apps/solutions All workshops</td>
</tr>
<tr>
<td><strong>Hurdles</strong></td>
<td>Ltd Trust</td>
<td>Max trust w/in person contact</td>
</tr>
<tr>
<td><strong>Audience size</strong></td>
<td>Larger</td>
<td>Smaller</td>
</tr>
<tr>
<td><strong>Other costs</strong></td>
<td>Limited travel &amp; time OoO (Out of Office)</td>
<td>Travel &amp; time OoO</td>
</tr>
<tr>
<td><strong>Approval Complexity</strong></td>
<td>Easier ????</td>
<td>Harder ????</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SUMMARY
(no enterprise plans yet)

Professional
- Dashboard Access
- All FREE Apps
- Member Services
- FREE Updates & New FREE Apps

Premium
- Dashboard Access
- All FREE Apps
- Member Services
- FREE Updates & New FREE Apps
- Operational Guides
- Tier 1 Help Desk
- Data Set Library
- 2 Premium Apps
  - FLEET Open/Closed
  - FLEET Move
- CATEX Virtual Exercise

Advanced
- Dashboard Access
- All FREE Apps
- Member Services
- FREE Updates & New FREE Apps
- Operational Guides
- Tier 1 Help Desk
- Data Set Library
- 2 Premium Apps
  - FLEET Move
  - FLEET Open/Closed
- CATEX Virtual Exercise
- Working Group Access
- 1SO Users Summit (FREE for 2 people)
- Tier 2 Help Desk
- Leadership Roundtable

$100/mo. (Billed Monthly)
$300/mo. (Billed Annually)
$500/mo. (Billed Annually)
3DM Use Case “Strategy” Paper

• Have a Strategy document
  • For educational and marketing purposes
  • Develop hand outs and website content

• Components:
  • Vision
  • Mission
  • Purpose
  • Objectives
  • Definitions
  • Use Cases & Processes
  • Participants and Partners
  • Reference Resources (List of Docs)
  • Products (Current & Future)
Data Driven Decision Making Workshop – 3DM

Review of Current DRAFT (in your packets)

SISE Use Case Advisory Committee Strategy
Version 04/13/17

STRATEGY
SISE Use Case Advisory Committee

Contents
Vision (pick 1) ................................................................. 1
Creating a new way for industry and government to coordinate and communicate during regional disaster response efforts ......................................................... 1
Mission (pick 1) ................................................................... 1
Purpose ................................................................................. 1
Strategy .................................................................................. 2
Documented List of Reference Applications ............................ 3
SISE Use Case Definitions ..................................................... 3
Documents used with Strategy ............................................... 4
Documented List of Reference Guidance and Products ............ 4

Vision (pick 1)
Creating a new way for industry and government to coordinate and communicate during regional disaster response efforts
Creating the next generation of disaster response and information sharing.
Moving information faster to restore communities and business following regional incidents.
Enhancing disaster response decision making with better data
Reliable, organized and focused data to support 30 second decision making during regional emergencies

Mission (pick 1)
Session #2

Use Case Template Discussion / Approval

**SESSION OBJECTIVE:** To review, discuss, update and approve the content of this session
Use Case Template Objectives

- Simple the process to create and share data and information
- Standardize a process to vet and capture data
- Manage expectations of private data users
- Help potential data set providers organize and focus their efforts based on real world resilience problems
- Achieve scalability across multiple sectors
- ???
Use Case Methodology

SECTORS

- Electric
- Fuel
- Telecom
- Food
- Medical
- Water
- Finance
- Transportation

Operational Problems and Related People, Data, Security

- People = Cultures, Perspectives, Intents, Terms/Language
- Data = Timing, Formats, Reliable Sources, Formats, Labeling, Handling
- Security – Legal, Governance, ID Vetting, Permissions, Credentials, Agreements

Sector Use Cases

Operational Readiness Level (ORL)
(Federated standards for data’s “operational” use in the field)

Data Sets

- Electric Power
- Weather
- Transportation
- Fuel
- Lodging
- Food/Water
- Staging Areas
- Re-entry Processes
- State/Local Gov’t Declarations
Data Set Vetting Process

Use Cases

#1 Daily Situational Awareness

#2 Resource Movement

#3 Damage Assessment

Sectors

Electric

Telecom

Food

Fuel (Gas/Diesel)

Finance

Transportation

Data Sets

Wind

Flooding

Emergency Resources

Electrical Outages

Open/Closed Status

Road Closures

Step #1

How does this dataset apply to this sector for Use Case #1? #2? #3?

Step #2

How would it be used? Daily? Special Events? Other?

Step #3

Does data set meet the 3DM reliability rating process from ESIP? Ready for use now/later? Reliable source? Formatting? Etc....

Step #4

Is it ready for adoptions or needs some additional tweaking? Recommendations?
User Profile Description (Personna)

• Sector
  • Electric, Telecom, Food, Fuel Finance, Transportation, Retail

• Roles
  • Field personnel
  • Central Dispatch, Logistics, HR
  • Management
  • Executive leadership

• Examples
  • Ops Centers
  • Ops Management
  • Associations & Regional Groups
  • Logistics

• Location

• Other?
Define: Use Case Operational Modes

• **Blue Sky (no pending threat)**
  • Monitoring of threats that could impact normal operations
    • e.g. weather forecasts, activities in my company, my region, my sector, my dependent sectors
  • No pending threat
  • Conducting normal trouble calls and day-to-day activities

• **Grey Sky (pending or possible threat)**
  • Continued Monitoring of threats that could impact you or customers
  • Making sure your organization has situational awareness on emerging threats
  • Staging resources to respond
Define: Use Case Operational Modes

• **Dark Sky (threat is actively impacting you / customers)**
  - Continued Monitoring events
  - Activating / deploying resources
  - Possibly looking for mutual assistance support from others
  - Coordinating with government & trade associations
    - E.g. state transportation, emergency management and law enforcement
    - Federal agencies and advisory bodies (if applicable)
    - Trade associations

• **Catastrophic (threat is actively impacting you/customers & causes cascading systems failure)**
  - Continued Monitoring events
  - Coordinating mutual assistance
  - Monitoring federal/state government activities to support power restoration, transportations networks, public safety & health, supply chains, shelters, water/waste water, etc...
Decision Types To Be Made

1. What’s happening now?
   1. What do I need to do immediately?

2. What’s might happen soon?
   1. What might I need to do later?

3. What’s happening elsewhere that could impact #1 and #2?

4. Who do I contact for help?

5. How do I let others know what I know?
## Use Case Template Model

### Author Information
- Contact Info
- Other

### Problem Description
- Brief Overview of Problem
- Impacts, Frequency, etc.

### Decision To Be Made
- What’s happening now? *What do I need to do immediately?*
- What’s might happen soon? *What might I need to do later?*
- What’s happening elsewhere that could impact #1 and #2?
- Who do I contact for help?
- How do I let others know what I know?

### Stakeholders Involved
- Decision Makers (People)
- Data Providers (Sources)
- Security Level (Security)

### Essential Elements of Information
- Data Sets & Sources
- Time/Date
- Operational Readiness Level (ORL)
  - Data Information Profile
    - Type, Update Cycle, etc...

### Limitations

### Disclaimers

### Security (User Level Permissions)

### Terms of Use
- Requires SISE Agreement
- Government only
- Private Sector Only
- General Use
- Other ??
BREAK
Session #3

Data Operational Readiness Level (ORL) Model

**SESSION OBJECTIVE:** To review, discuss, update and approve the content of this session
SISE Data Product Types

- PDFs
- JPEGs
- Emails
- Data Sets/Feeds
- 3rd party Apps
- 3rd Party Website
- Text Messages
- Other
# Emergency Resource Library

## Data Sets To Support Decision Makers

### Currently Available
- Weather Radar/Storms
- State Declarations & Waivers
- Flooding Rivers
- Low Height Bridges & Tunnels
- Open/Closed Retail Facilities (Hughes)-Fuel, Pharmacies, Hotels
- State Post Disaster Re-Entry Procedures

### In Development
- Banks Branches
- ATM Machines for Cash
- Commercial Fueling Stations (*For Large Trucks and Commercial Vehicles*)
- Convenience Stores
- Home Improvement Centers (*Hardware & Supply Stores*)
- Commercial Generators-Mobile
- Commercial Generators-Fixed Units
- Ice- Dry Ice
- Ice- Bagged Ice

### Future
- Mold Removal
- Fire Restoration
- Propane
- Heating Oil
- Oxygen- Bottled
- Storage Facilities- Refrigerated
- Storage Facilities- Controlled Environment
- Storage Facilities- Warehouse
- Lighting- Portable
- Laundry Services
- Pumps- Industrial (Flood Alleviation)
- Trucks- Rental
- Trucks- Refrigerated
- Trucks- Storage Trailers
- Rental Equipment Facilities- Forklifts, Bucket Trucks, etc.
- Cleanup- Bulk Sorbents & Products
- Waste Disposal Services
- Waste Disposal Services- Hazardous Wastes
- Mitigation Services- Business Continuity/Disaster Recovery
- Portable Satellite Equipment & Services
- Satellite Phones/Radios
- Trunk Repair Facilities
- Medical Supplies & Equipment
- Available Housing Units/Apts
- Drone Resources (Training, Operations, Equipment, Countermeasures)
Establishing Operational Readiness Levels for Data

All Hazards Consortium
[SISE Use Case Template Advisory Committee]
ESIP Federation [Disaster Lifecycle Cluster]

Effort Under
Data Driven Decision Making Initiative (3DM)
TRL to ORL Mapping
Technology Readiness Levels to Operational Readiness Levels

NASA Earth Science Technology Office TRL Levels

- What follows are the basic TRL definitions for NASA technology development. The full document, including additional descriptions and definitions of terminology, is available here.
- TRL 9 Actual system "mission proven" through successful mission operations (ground or space)
- TRL 8 Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or space)
- TRL 7 System prototyping demonstration in an operational environment (ground or space)
- TRL 6 System/subsystem model or prototyping demonstration in a relevant end-to-end environment (ground or space)
- TRL 5 System/subsystem/component validation in relevant environment
- TRL 4 Component/subsystem validation in laboratory environment
- TRL 3 Analytical and experimental critical function and/or characteristic proof of concept
- TRL 2 Technology concept and/or application formulated
- TRL 1 Basic principles observed and reported
- ESTO has also built a worksheet (Microsoft Excel) that aids in performing, and justifying, a TRL assessment. 
  + Download the ESTO TRL Worksheet

Revised March 10, 2017
TRL to ORL Mapping
Technology Readiness Levels to Operational Readiness Levels

**Purpose of Creating ORLs**

- Indicate a quick way of indicating the Operational Readiness of Specific Datasets
- Simple scale for rapid adoption by Ops analysts & decision makers
- Must communicate clear status of dataset/service
- Period of Testing and Verification via SISE/FRWG GeoCollaborate® Dashboard and RT collaboration sessions
- Contact with data curator/provider essential (need to know who collects, curates and publishes this data)
- Make sure we get the data from the TRUSTED source
- Identify Issues with the data
  - Provide those issues with ORL Level (i.e. if server is down on weekends it doesn’t get fixed until Monday or 24/7 support available)

- Discovery & Feasibility
  - Exposure through Data-Driven Decision Making Workshops
  - Sub-groups tasked with testing and evaluating

Revised March 10, 2017
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

**ORL 1**
- Data available NOW
- Immediate Situational Awareness (SA) & Decision Making (DM)
- Person available to contact

**ORL 2**
- Data available sporadically
- Event-driven, may be delayed due to acquisition and processing time required
- Could be very useful for SA & DM
- Person available to contact

**ORL 3**
- Data nearly operational, testing phase
- Not guaranteed
- Could improve SA and DM
- Target operations in 6-12 months

**ORL 4**
- Data Discovery, collection, processing, testing phase
- Being evaluated for accuracy, validated
- Target for operations 12+ months
- Not likely to be immediately useful for operations

Comments & input from group (ID yourself)

Dave Jones: Place your comments here, thanks.
Example Data Sets - ORL Mapping

Operational Readiness Levels (Focusing on Quality & Availability)

EXAMPLES

Product – Data Layer

NWS Watches, Warnings & Advisories

Updated: Every minute
Source: NWS Integrated Dissemination Program (operational)

Servers: College Park, MD
Backup: Boulder, CO

Data Availability 24/7/265
TRL to ORL Mapping

Operational Readiness Levels (Focusing on Quality & Availability)

- Data in collection, processing and/or testing phase
- Being evaluated for accuracy, validated
- Target for operations 12+ months
- Not likely to be immediately useful for operations

Product – Data Layer
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data in collection, processing and/or testing phase
- Being evaluated for accuracy, validated
- Target for operations 12+ months
- Not likely to be immediately useful for operations

Product – Data Layer

- NASA Satellite Image Analytics of Tornado /Severe Storm Tracks showing damage paths.
- Type of Layer: Damage Assessment
- Q/A Frequency: Annually/Every 3 years? TBD
- Updated: When imagery is available, possibly hours to days after event-TBD
- 3DM Applications: Damage Assessment, Initial look at regions impacted
- Source: NASA, NASA SPoRT (Huntsville, AL)
- Servers: NASA Huntsville, GSFC
- Backup: TBD
- Data Availability: Sporadic depending on event and satellite data availability. Data analytics performed by NASA SPoRT, a non-operational entity to accelerate research data into operations.
- Description: Major tornado tracks can help with damage assessment
- % Coverage of Data Provider: Global
- Data Sensitivity/Permission Levels on use of data: Data Sensitive/Confidential Need credentials?
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data in collection, processing and/or testing phase
- Being evaluated for accuracy, validated
- Target for operations 12+ months
- Not likely to be immediately useful for operations

Product – Data Layer

NOAA GOES-16 Lightning Imagery – Detecting Cloud to Cloud lightning from Geosynchronous Orbit

Type of Layer: Severe Weather SA

Q/A Frequency: Annually/Every 3 years? TBD This will be an operational product from NOAA and they will Q/A frequently

Updated: When operational, streaming data stream updated every 20 seconds

3DM Applications: Detecting rapidly intensifying thunderstorms, potential indicator of developing severe weather/tornados

Source: NOAA NESDIS [Operational satellite division of NOAA]

Servers: NOAA
Backup: TBD

Data Availability: The lightning mapper will be observing the western hemisphere continuously. The value of the data will evolve as further research progresses

Description: GOES-16 advanced environmental satellite launched November 19, 2016. Expected to become operational over the summer.

% Coverage of Data Provider: Western Hemisphere
Date sensitivity: Public domain, open
TRL to ORL Mapping

Operational Readiness Levels (Focusing on Quality & Availability)

- Data nearly operational, testing phase
- Not guaranteed
- Could improve SA and DM
- Target operations in 6-12 months

Data Description

Univ. Alabama Huntsville-Event Catalog [ED3-Event Driven Subscription Application] — Not just a data layer

Type of Layer: Event-Driven Data produced on the fly through subscription service

Q/A Frequency: Annually/Every 3 years? TBD

Updated: When operational, event driven

3DM Applications: Identifying information that is relevant to a particular event/disaster, social media mining, reports

Source: Univ of Alabama, Data producers

Servers: Univ of Alabama Huntsville

Data Availability: Event-driven automated data delivery and processing of disaster events

Description: Event-driven data delivery (ED3) is being used to automate the access and processing of data for decision support as the result of disaster events. For example: Using the output of a flood modeling system to define a flood potential as an event that would trigger data access and additional processing to make more rapid decisions about possible flood conditions, which could help mitigate the effects of the eventual flood itself.

%Coverage: National
Data sensitivity: Potentially sensitive, TBD
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data available sporadically
- Event-driven, may be delayed due to acquisition and processing time required
- Could be very useful for SA & DM
- Person available to contact
TRL to ORL Mapping

Operational Readiness Levels (Focusing on Quality & Availability)

- Data available sporadically
- Event-driven, may be delayed due to acquisition and processing time required
- Could be very useful for SA & DM
- Person available to contact

Data Description

Digital Globe High Resolution Satellite Imagery

Type of Layer: High resolution imagery

Q/A Frequency: Frequently/ Digital Globe is a private company

Updated: Daily, Gallery or Tasked Satellite

3DM Applications: Responding to disasters, surveillance, damage assessment, vegetation assessments along roadways, policy monitoring, easement monitoring/right of way violations, etc.

Source: Digital Globe satellite constellation

Servers: Digital Globe

Data Availability: Subscription Service or Imagery available via treaty during disasters to agencies/partners

Description: Private sector satellite operators can acquire imagery anywhere in the world, for a price. Federal Government gets imagery when a disaster hits across the globe under a treaty to help with response and assessment.

%coverage: Global
Data sensitivity: public/open/subscription based/purchase
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data available sporadically
- Event-driven, may be delayed due to acquisition and processing time required
- Could be very useful for SA & DM
- Person available to contact
TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data available NOW
- Immediate Situational Awareness (SA) & Decision Making (DM)
- Person available to contact

Data Description

Department of Energy Processed Petroleum Pipelines

Type of Layer: Critical infrastructure/Fuel Sector
Q/A Frequency: TBD
Updated: Annually / TBD

3DM Applications: Overlaying critical infrastructure data such as this can immediately help to locate pipelines for potential damage, assessment related to flooding, critical right of ways, resilience planning, merging with other datasets

Source: DOE
Servers: DOE
Backup: TBD

Data Availability 24/7/265

Description: This dataset is a static dataset offered via DOE GIS services. If DOE updates this database then the layer will update.

%coverage: National (US)
Data sensitivity: sensitive/TBD
Data Driven Decision Making Workshop

Data Driven Decision Making

Operational Readiness Levels (Focusing on Quality & Availability)

- Data available NOW
- Immediate Situational Awareness (SA) & Decision Making (DM)
- Person available to contact

Data Description

NWS Watches, Warnings & Advisories-Operational

Type of Layer: Real-Time Watches, Warnings, Advisories
Q/A Frequency: TBD
Updated: Every minute

3DM Applications: Real-time situational awareness (SA) on status of hazardous or extreme weather events forecasted by NWS

Source: NWS Integrated Dissemination Program (operational)

Servers: College Park, MD
Backup: Boulder, CO

Data Availability 24/7/265

Description: Latest NWS issued watches and warnings, including flood warnings, river flood warnings, hurricane warnings, watches and many others.

%coverage: National (US)
Data sensitivity: public/open

Draft
TRL to ORL Mapping

Operational Readiness Levels (Focusing on Quality & Availability)

- Data available NOW
- Immediate Situational Awareness (SA) & Decision Making (DM)
- Person available to contact

Data Description

NWS National Weather Radar Mosaic/Composite

Type of Layer: Real-Time Precipitation/Weather

Q/A Frequency: TBD

Updated: Every 6-11 minutes

3DM Applications: Real-time situational awareness (SA) on status of rain/snow/thunderstorms.

Source: NWS Integrated Dissemination Program (operational)

Servers: College Park, MD
Backup: Boulder, CO

Data Availability 24/7/245

Description: Latest status of rain, snow and severe weather direct from 122+ NWS forecast offices. This product combines the radars together for a single national and regional view of current precipitation

%coverage: National (US)
Data sensitivity: public/open
Data Driven Decision Making Workshop – 3DM

TRL to ORL Mapping
Operational Readiness Levels (Focusing on Quality & Availability)

- Data available NOW
- Immediate Situational Awareness (SA) & Decision Making (DM)
- Person available to contact

Data Description

NOAA NDBC – National Data Buoy Center

Type of Layer: Real-Time Precipitation/Weather

Q/A Frequency: TBD

Updated: Every 30-60 minutes

3DM Applications: Real-time situational awareness (SA) on status of ocean observations.

Source: NOAA Marine Observations/IOOS (Integrated Ocean Observing System)

Servers: NOAA
Backup: TBD

Data Availability 24/7/265

Description: LIVE data from NOAA and other IOOS Association buoys that report wave heights, wind speeds, pressure, temperature and weather observations.

%coverage: Global, non-contiguous
Data sensitivity: public/open
SISE Data Description Updates

- **Data Source:** e.g. DOE, Private Sector, etc...
- **Integrity Checked:** Cycle: Annually
- **Source:** Hughes Network Systems
- **Servers:** Hughes
- **Back-Up:** TBD
- **Data Availability:**
- **Limitations:**
- **Terms of Use:**

- **Coverage:** % of US? % of the market?
- **Markets Covered:**
- **3DM Use Cases Served:** Damage Assessment, Daily Situational Awareness
- **Data Updated:** Hourly, Weekly, monthly, etc...
- **Data User Security Level:**
- **Data Format:**
- **# Data records:**
- **Lat/Long:**
LUNCH
Session #4

Data Set Demo & Discussion

**SESSION OBJECTIVE:** To review, discuss, update and approve the content of this session
Project Briefs
Session #5

Summarize, Timelines, Next Steps
Wrap Up / Next Steps

• Gain common agreement on the following:
  • Overall SISE Use Case Approach
  • Approve Use Case Methodology & Template
  • Strategy Doc
  • ORL Model
  • Initial Data Sets

• Products
  • Strategy Document
  • ORL Model
  • Use Case Template & Methodology
  • Working Group Directory & Communication Website
  • Initial Data Sets and Focus Areas
  • Data Set URLs Library
  • Other Ideas?

• Next Meetings
  • Monthly Conference Call / Webinar
  • 3DM Workshop, Jan 2018
  • Other Meetings?
3DM Initiative Timeline

- **3DM WG Workshops**
  - Jan 2017
    - Philadelphia, PA
    - Discuss Data Sets & Use Cases, Applications, Future Data Sets
  - April 2017
    - New York City, NY
    - Approve Use Case Methodology; Template; Strategy Doc, ORL Model, Initial Data Sets, Overall Approach
  - July 2017
    - TBD
    - TDB
- **Monthly Call / Webinars**
  - Jan 8 2018
    - Bethesda, MD
    - ESIP Winter Mtg
    - TDB
Conclusion
Thank You

In Coordination With:

- Edison Electric Institute (EEI)
- Federation of Earth Science Information Partners (ESIP)
- DHS NPPD, Office of Infrastructure Protection (DHS-IP)
- NOAA/ National Weather Service
- Multi-State Fleet Response Working Group (FRWG)
- East Coast Corridor Coalition (EC3)
Extra Slides
FRWG Requirements for Regional Disaster Coordination

• Merge information and data from multiple state, feds and companies for situational awareness
• Needs to be Simple & Visual
• Overlay information into Common Operating Picture
• Does not require replacement of other systems
• Cloud based, works on any device
• Support data collaboration
• Sustainable platform
FAQs

- What is 3DM?
- Who is SISE Use Case Advisory Group?
- Who Is Involved?
- Why Is this Important?
- What Is Being Produced?
- What is Timeline for Results?
- Who will have access to this information?
- How will this coordinate with other groups/agencies?
- How are people and information vetted?
- Is there a legal agreement?
- What is platform going to look like?
- What hardware/software do I need to access this?
- Is this a new tool?
- Is this a Blue Sky or Dark Sky day tools/service
- How do we pick a data set and source provider
- Is this a nation wide effort
ORL Session – Jan 11

- **Objective:** *Complete draft ORL models for Operators & Researchers*
- This is ESIP Session
  - What is SISE WG, vision, mission, story of ORL tool
  - Discuss current state
- Why ORL’s?
  - This is tool to Help decision makers look at data and know if data is trusted and to what degree?
  - Help data providers enhance their data and make more usable and effective
  - Creates a new standard for everyone
- How we use them?
- Is a low ORL bad for my data?
- Can I use ORL 2,3 & 4 without risk?
- Demo of Kari’s online questions
ORL Session

• Background (Tom Moran)
  • Current State of SISE WG
  • Why?
    • This is tool to help decision makers look at data and know if data is trusted and to what degree?
    • Help data providers enhance their data and make it more usable and effective
    • Creates a new standard for everyone to use

• Examples of ORLs (Dave Jones)

• Operation Use (Kari Hicks)
  • Demo of online question tool
Use Case Methodology

Government Decisions  Private Sector Decisions

Decision Support Technology Viewers, Apps. Websites, Dashboards, etc..

SECTORS

Electric  Fuel  Telecom  Food  Finance  Transport

Operational Problems and Related People, Data, Security

People = Cultures, Perspectives, Intents, Terms/Language

Data = Timing, Formats, Reliable Sources, Formats, Labeling, Handling

Security – Legal, Governance, ID Vetting, Permissions, Credentials, Agreements

Sector Use Cases

Data Providers & Data Sets