Data Driven Decision Making Workshop

Date: April 13, 2017
Hosted By: ConEdison of New York

Improving Resiliency w/Better Data
Safety Message
Opening Remarks

Carlos Torres
Consolidated Edison Co. of NY, Inc

John Shaner
Chair
Multi-State Fleet Response Working Group

Steve White
Co-Chair
FEMA Logistics
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
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<tbody>
<tr>
<td>7:45am</td>
<td>Registration</td>
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<tr>
<td>8:00am</td>
<td>Opening Remarks &amp; Welcome</td>
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<tr>
<td>8:15am</td>
<td>Session #1 – Strategy Document Discussion / Approval</td>
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<td>8:45am</td>
<td>Session #2 – Use Case Template Discussion / Approval</td>
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<td>10:00am</td>
<td>Networking Break</td>
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<td>10:30am</td>
<td>Session #3 – Data Operational Readiness Level (ORL) Model</td>
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<td>11:45am</td>
<td>Lunch</td>
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<td>12:30pm</td>
<td>Session #4 – Data Set Demo &amp; Discussion</td>
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<td>1:45pm</td>
<td>Project Briefs</td>
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<td>2:00pm</td>
<td>Session #5 – Summarize, Timelines, Next Steps</td>
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<tr>
<td>2:30pm</td>
<td>Conclusion</td>
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3DM Initiative Objectives

• Establish Work Group
• 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
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 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?
Session #1

Strategy Document Discussion / Approval

SESSION OBJECTIVE: To review, discuss, update and approve the content of this session
3DM Use Case “Strategy” Paper

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

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

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

Government Decisions

Private Sector Decisions

Decision Support Technology Viewers

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
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

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

Step #1

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

Step #2

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

Step #3

Is it ready for adoptions or needs some additional tweaking? Recommendations?

Step #4
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

## 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 ???

## Author Information
- Contact Info
- Other

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4/13/2017

Data Driven Decision Making Workshop - 3DM 4-13-2017
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

<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>• Mold Removal</td>
</tr>
<tr>
<td>• State Declarations &amp; Waivers</td>
<td>• ATM Machines for Cash</td>
<td>• Fire Restoration</td>
</tr>
<tr>
<td>• Flooding Rivers</td>
<td>• Commercial Fueling Stations <em>(For Large Trucks and Commercial Vehicles)</em></td>
<td>• Propane</td>
</tr>
<tr>
<td>• Low Height Bridges &amp; Tunnels</td>
<td>• Convenience Stores</td>
<td>• Heating Oil</td>
</tr>
<tr>
<td>• Open/Closed Retail Facilities (Hughes)-Fuel, Pharmacies, Hotels</td>
<td>• Home Improvement Centers <em>(Hardware &amp; Supply Stores)</em></td>
<td>• Oxygen- Bottled</td>
</tr>
<tr>
<td>• State Post Disaster Re-Entry Procedures</td>
<td>• Commercial Generators-Mobile</td>
<td>• Storage Facilities- Refrigerated</td>
</tr>
<tr>
<td></td>
<td>• Commercial Generators-Fixed Units</td>
<td>• Storage Facilities- Controlled Environment</td>
</tr>
<tr>
<td></td>
<td>• Ice- Dry Ice</td>
<td>• Storage Facilities- Warehouse</td>
</tr>
<tr>
<td></td>
<td>• Ice- Bagged Ice</td>
<td>• Lighting- Portable</td>
</tr>
</tbody>
</table>

### Emergency Resource Library

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</tr>
</thead>
<tbody>
<tr>
<td><strong>4/13/2017 Data Driven Decision Making Workshop - 3DM 1-13-2017</strong></td>
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</tbody>
</table>

### 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

Draft

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
**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/tornadoes

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
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 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
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 24/7/265

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
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**: 

4/13/2017
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, July 2017 Location TBD
  • Other Meetings?
3DM Initiative Timeline

- **3DM WG Workshops**
  - Jan 2017: Philadelphia, PA
  - April 2017: New York City, NY
  - July 2017: TBD

- **Monthly Call / Webinars**
  - July 2018: Bethesda, MD ESIP Winter Mtg

**Discuss Data Sets & Use Cases, Applications, Future Data Sets**

**Approve Use Case Methodology; Template; Strategy Doc, ORL Model, Initial Data Sets, Overall Approach**

**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