SAND2015-0004C

SHERPA User Conference

January 12-15, 2015

DHS S&T Program Manager

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http://dhs-summit.us

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Day 2: Applying Results

Time	Agenda Item: January 13, 2015
9:00 – 9:15 AM	Training Schedule
9:15 – 10:15 AM	SHERPA Planning & Exercises: Example Results
10:15 – 10:30 AM	Break
10:30 – 12:00 PM	SHERPA Planning & Exercises: Applying Results
12:00 – 1:30 PM	Lunch
1:30 – 3:30 PM	Core Capabilities Crosswalk
3:30 – 3:45 PM	Break
3:45 – 4:45 PM	R6 & R9 SHERPA Integration
4:45 – 5:00 PM	Wrap Up & Adjourn
5:30 – 6:30 PM	Happy Hour (Optional)

GOAL: For stakeholders to be able to apply results, map outputs to FEMA core capabilities, and integrate SUMMIT into future exercise and planning activities.

SHERPA Planning & Exercises: Example Results

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Exercises


SUMMIT Supported
EXERCISES
Utah ShakeOut
Earthquake
2012 04
WAARP
Anthrax, Chemical, RDD S&T
2011 07
L.A. County Mass Fatality
Earthquake
2012 03
NLE10
IND
2010 05
Long Beach
RDD
2011 08
Golden Guardian
Earthquake
2012 02, 04, 05
NLE11 iPad Pilot
Earthquake
2011 05
CBP Business Resumption
Earthquake
2012 08
Blue Surge
Tsunami
2013 03
Ardent Sentry
Hurricane
2013 05
U.S. - Sweden
Chlorine S&T
2012 01
Wildcat / Superbowl
Chem-Bio
2014 01
Wash. DC HEPRA
Anthrax
2012 TBD
NLE11
Earthquake
2011 05
NLE12
Cyber
2012 06
NESC Pilot
Chlorine
201102

Objectives, Capabilities, Application

Key Objectives	Enhanced User Capabilities	Sample Application
Enable analysis of decisions and "what if" trade-offs in real time	Use M&S resources to create science-based objective-driven scenarios	Use scientific data to develop exercise scenarios and injects
Increase realism and fidelity of current exercises	Facilitate consistency by providing controllers in different agencies/ locations a common view of the scenario data	Visualize impacts of response decisions (e.g., consequence management)
Enable testing of players' ability to respond to changing scenario variables	Adjudicate/modify damage estimates in real time	
Provide ability to scale to improve efficiencies for large exercises	Visualize ground truth	
	Create quantitative injects on demand	

FL Statewide Hurricane Exercise

Scenario

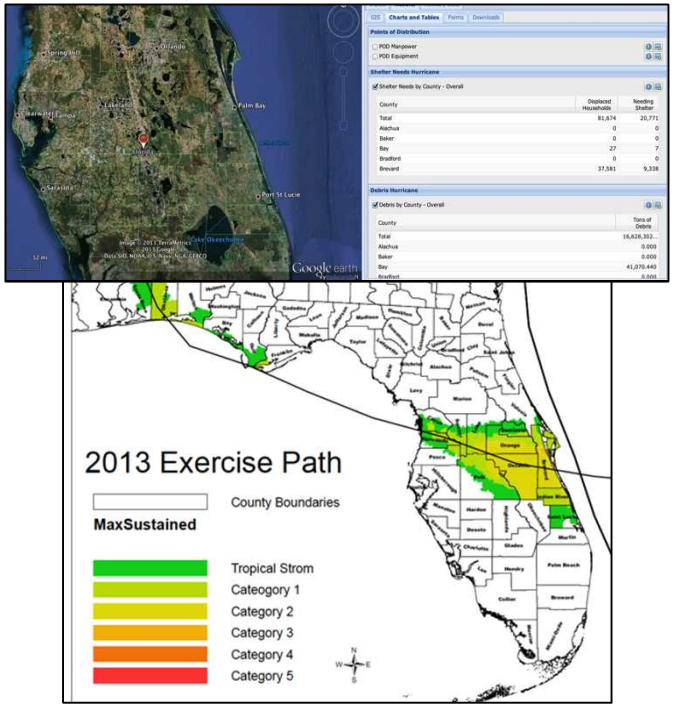
- 4 day full-scale exercise being conducted as a part of Ardent Sentry 13

SUMMIT was used for exercise planning:

- Provided ground truth data and exercise injects

Models/data integrated in SUMMIT:

- HAZUS earthquake and flood
- DoD commodities (Trucks, Ice, PODs and staff)
- Ranges of casualties
- Casualty distribution
- Infrastructure effects
- Building damage editor
- Sheltering needs
- Utility impacts



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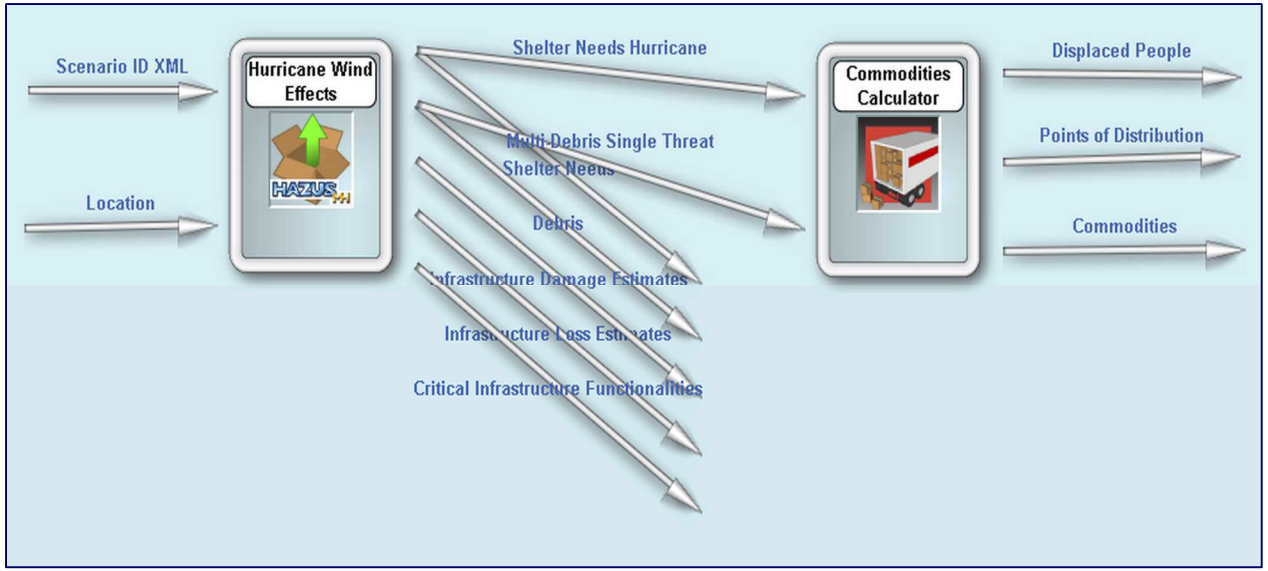
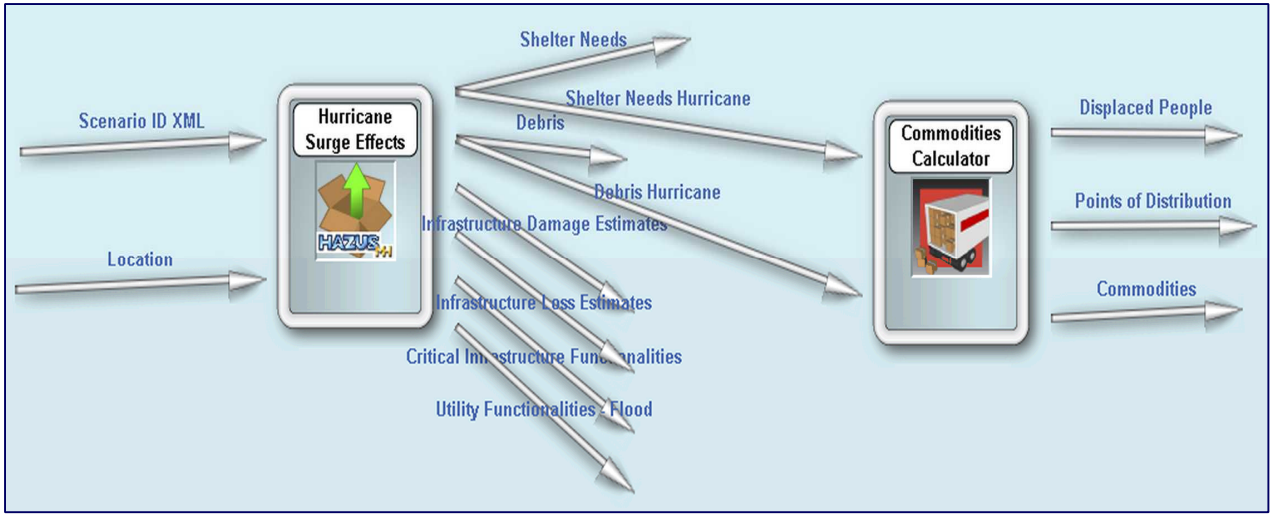
SUMMIT Scenario Support: Wind Analysis

- Modeling data based on AS-13 IAA and the 2013 FL Statewide Hurrex
- Models used:
  - FEMA HAZUS – Hurricane Wind Effects
  - DoD Commodities Calculator Model
- SUMMIT Template

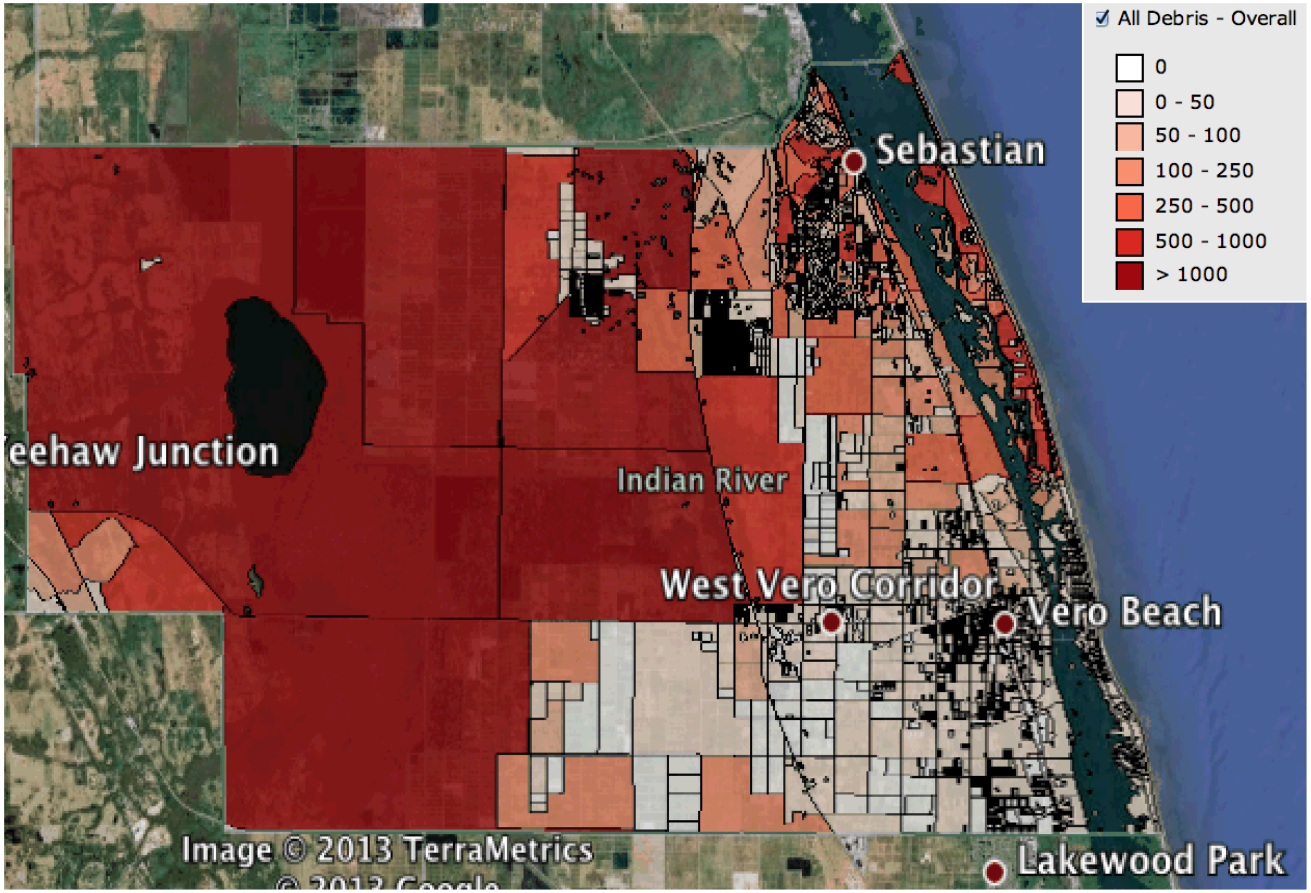


SUMMIT Scenario Support: Surge Analysis

- Modeling data based on AS-13 IAA and the 2013 FL Statewide Hurrex
- Models used:
  - FEMA HAZUS – Hurricane Surge Effects
  - DoD Commodities Calculator Model
- SUMMIT Template

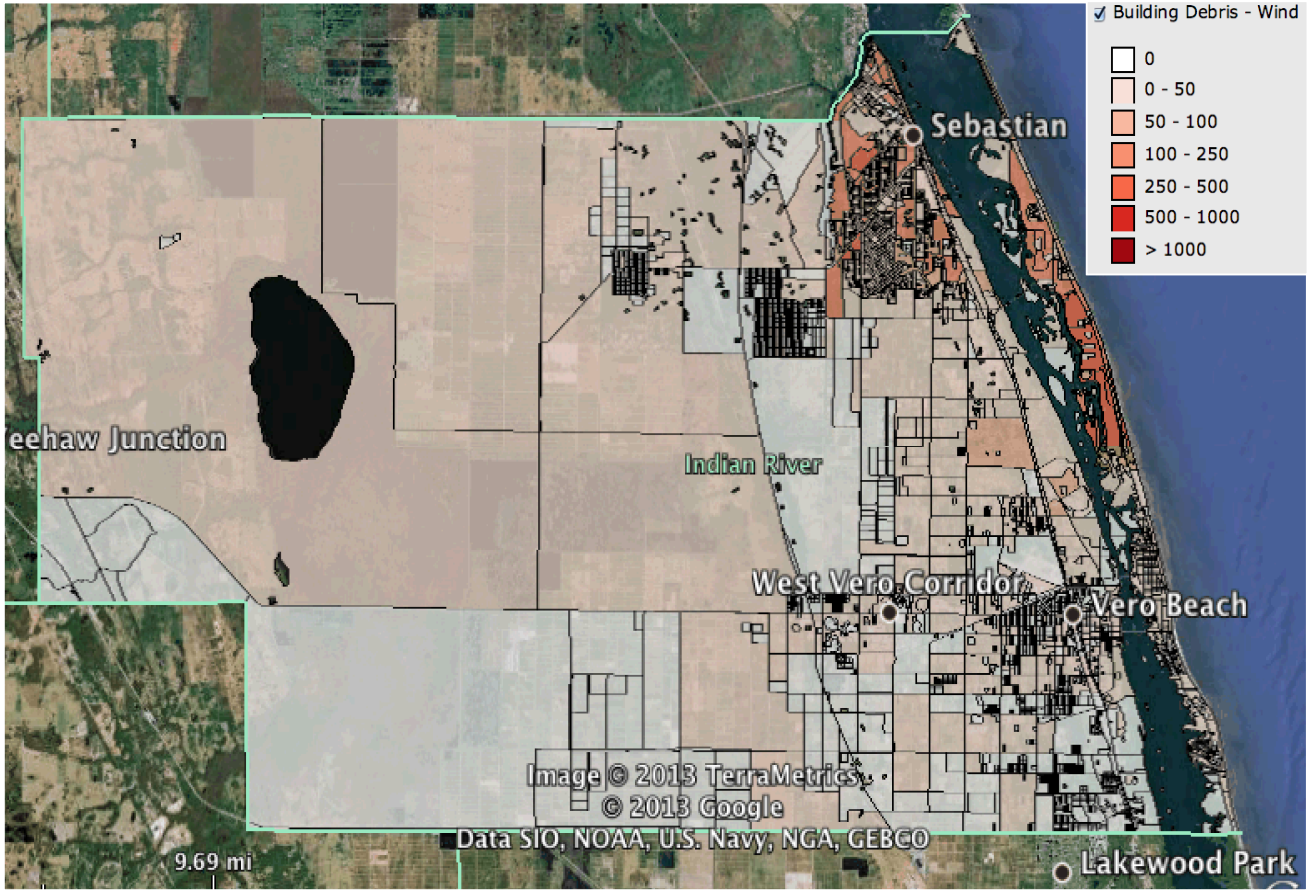


Indian River: All Debris



- Tonnage of overall debris
  - Wind: Building Debris
  - Wind: Tree Debris
  - Flood – Building Debris
- Analysis

Indian River: Wind – Building Debris



- **Tonnage of building debris caused by wind**
- **Analysis**

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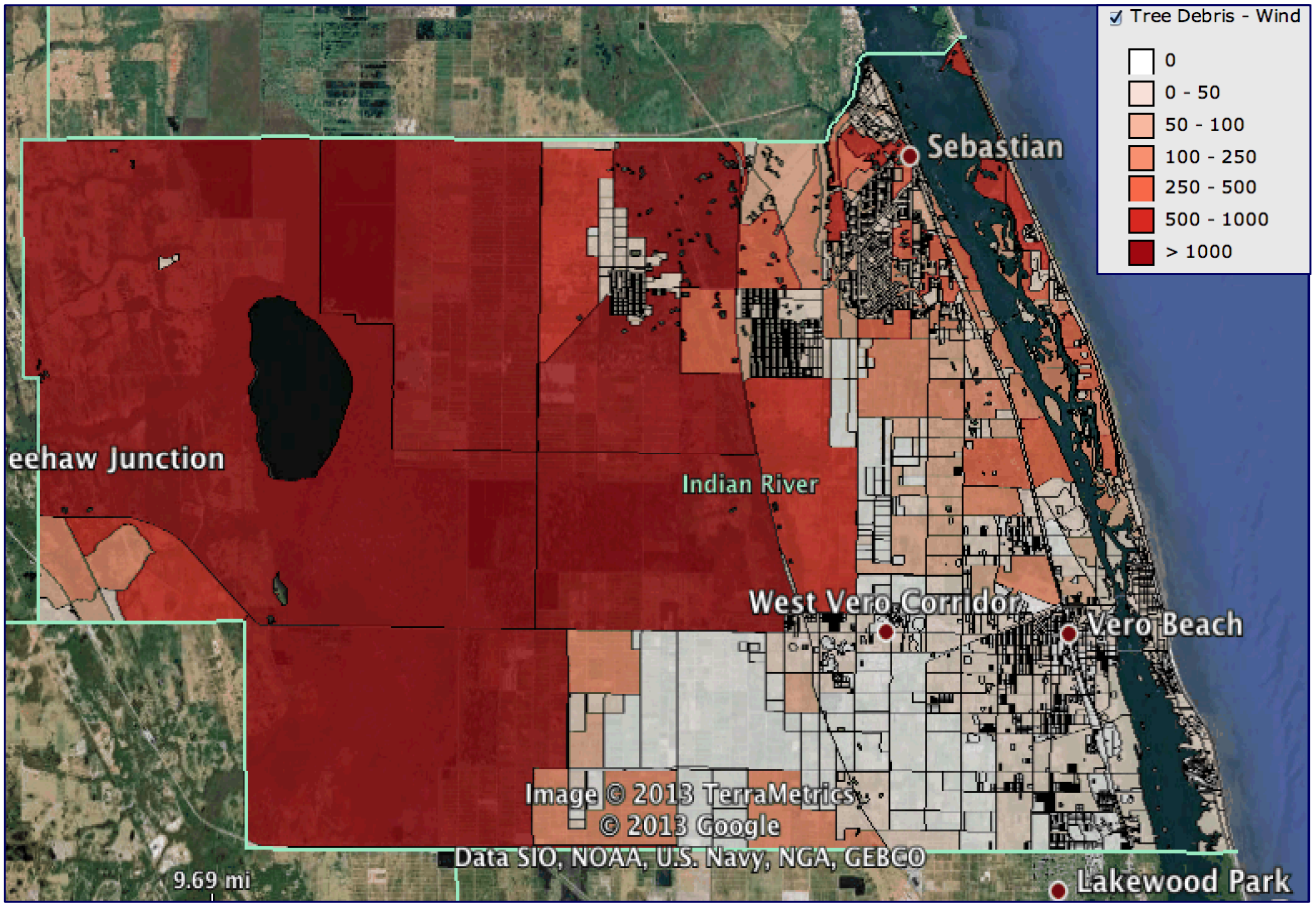
Indian River: Wind – Tree Debris



- **Tonnage of tree debris caused by wind**
- **Analysis**

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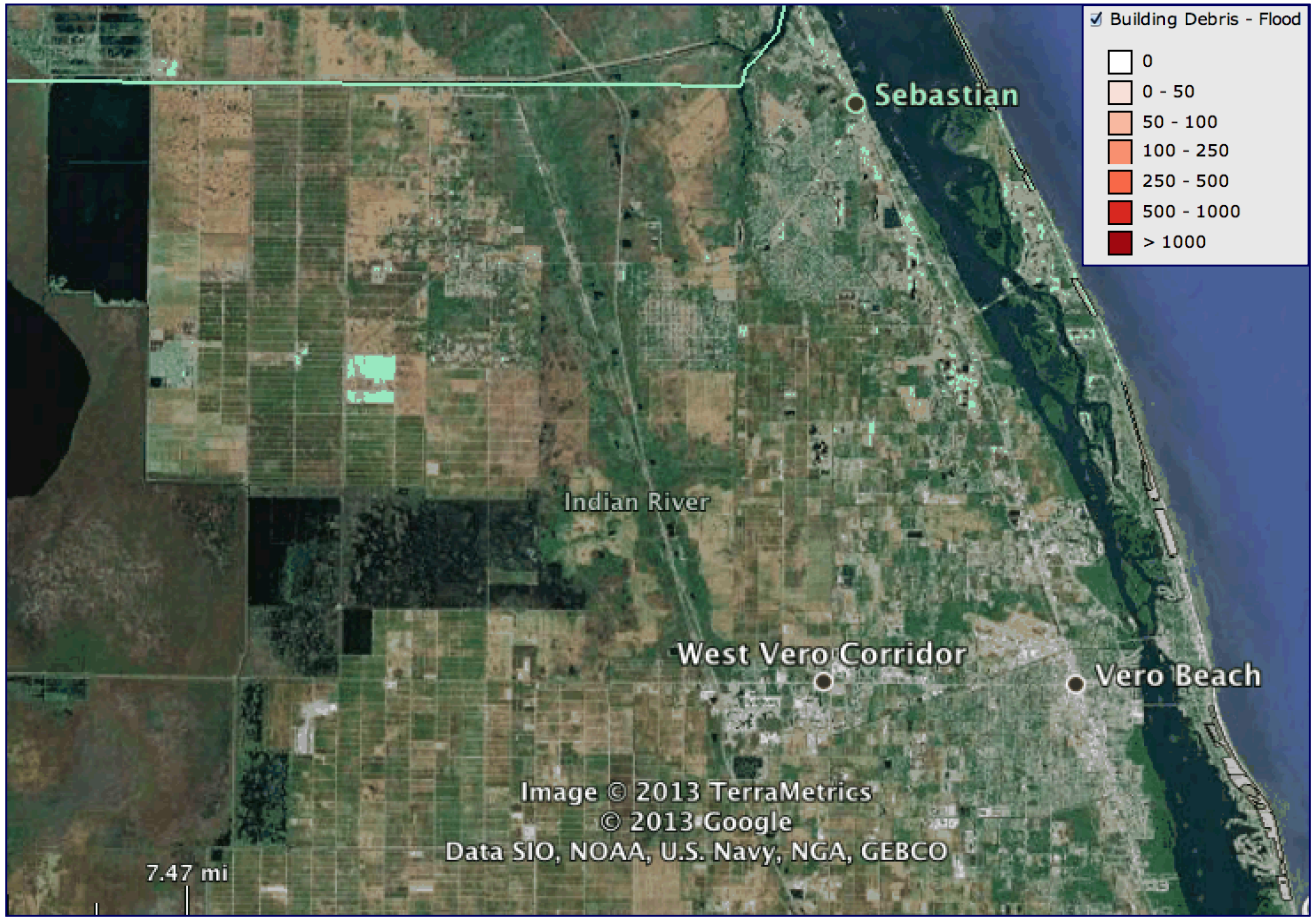
Indian River: Flood – Building Debris



- **Tonnage of building debris caused by flood**
- **Analysis**

NLE 11: New Madrid FSE

Scenario

- 5 day exercise – catastrophic earthquake along New Madrid Fault

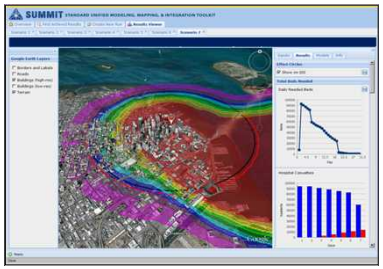
SUMMIT was used for exercise planning:

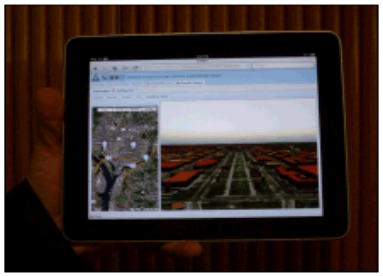
- Provided ground truth data and exercise injects

Models/data integrated in SUMMIT:

- HAZUS earthquake
- Ranges of casualties
- Casualty distribution
- Infrastructure effects
- Building damage editor
- Sheltering needs
- Plume Modeling

SUMMIT's next-generation exercise capabilities





Planners used SUMMIT to generate and refine scenario data

- Linked models to calculate data for scenario
- Brought model-driven scenario with objective-driven scenario

Controllers used SUMMIT to visualize scenario data

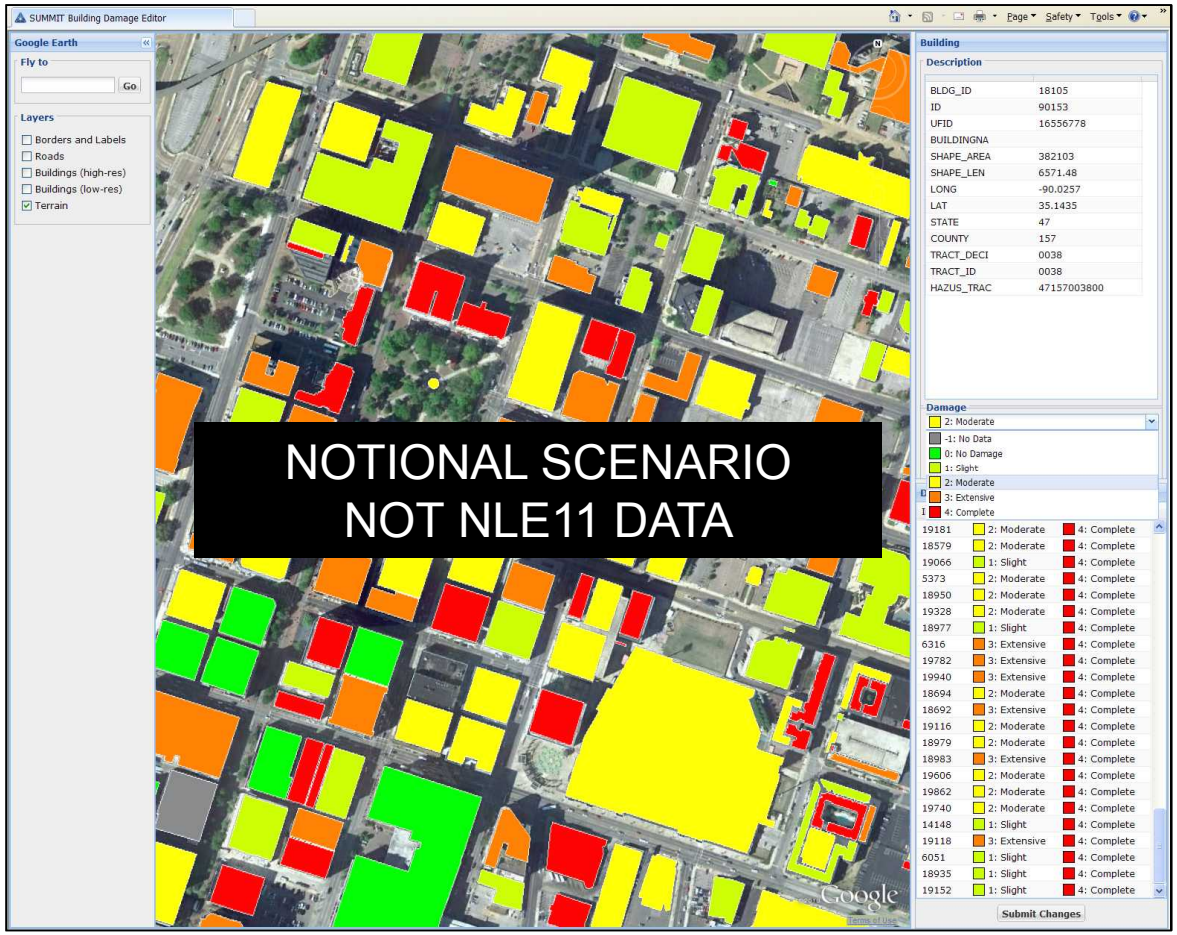
- Visualized model output in 2D (GIS) and with charts/graphs, supporting common operating picture

Players used SUMMIT to view scenario data in a virtual world

- Introduced next-generation immersive visualization tools for exercises

SUMMIT's building damage adjudication tool used to refine NLE 11 scenario

- SUMMIT generated individual building damage states, based on HAZUS results.
- Individual building damage states were modified by planners to support exercise objectives.
- Adjudicated building damage was used in MCC during exercise conduct.
- Tool was piloted in locations with shaking severity (MMI) > VI and populations > 25,000.



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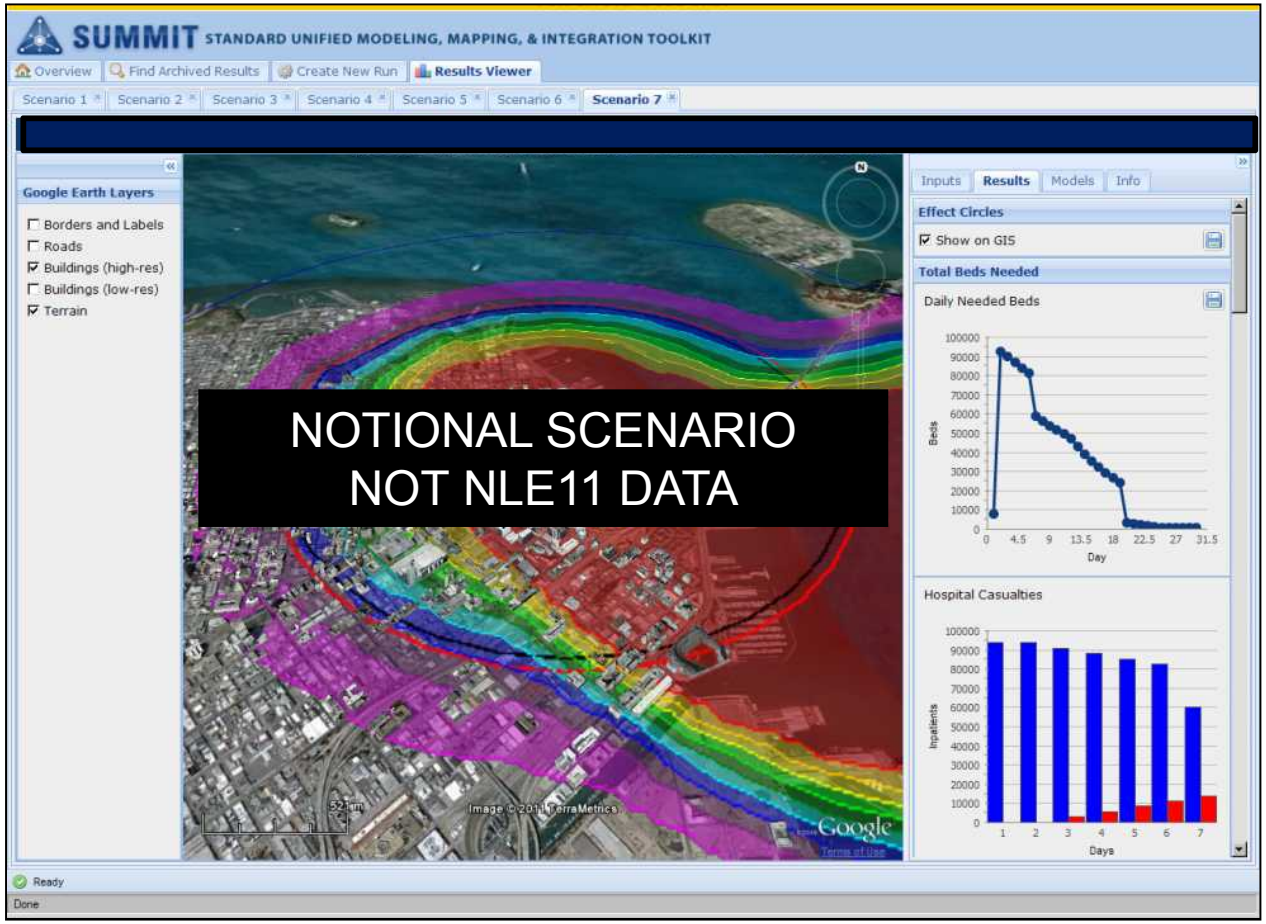
SUMMIT was used to visualize damage and medical surge data

- The SUMMIT results viewer displayed model output in 2D (GIS) and as charts and graphs.
- HAZUS and medical surge data was viewed in SUMMIT for all participating states in the MCC during exercise, which enhanced the common operating picture.



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NLE 11: iPad Pilot

- SUMMIT generated individual building damage states, based on HAZUS results. Building damage was adjudicated with exercise planners.
- Damage data was visualized in a 3D environment and viewed on a portable device (iPad).
- Images of scenario building damage were used by 'boots on the ground' players to inform damage assessments. This virtual view of damage in the field provided enhanced realism to the exercise scenario.

NLE11: Chemical Tanker

SUMMIT Modeling Estimates for NLE11

Where: Jonesboro, AR
What: Chemical Tanker Car Release

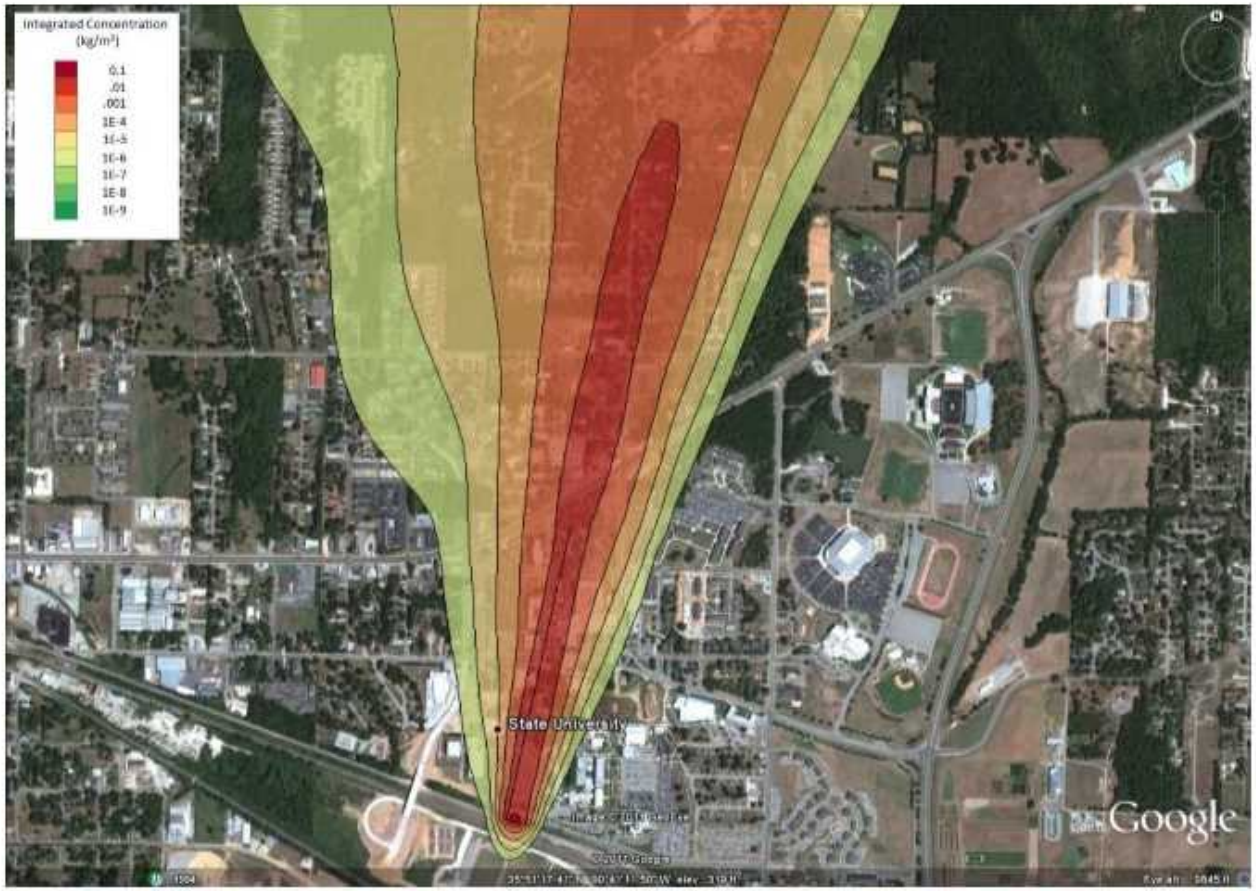

Figure 1. Time snapshots of integrated concentration 15 minutes post release

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NLE11: Chemical Tanker

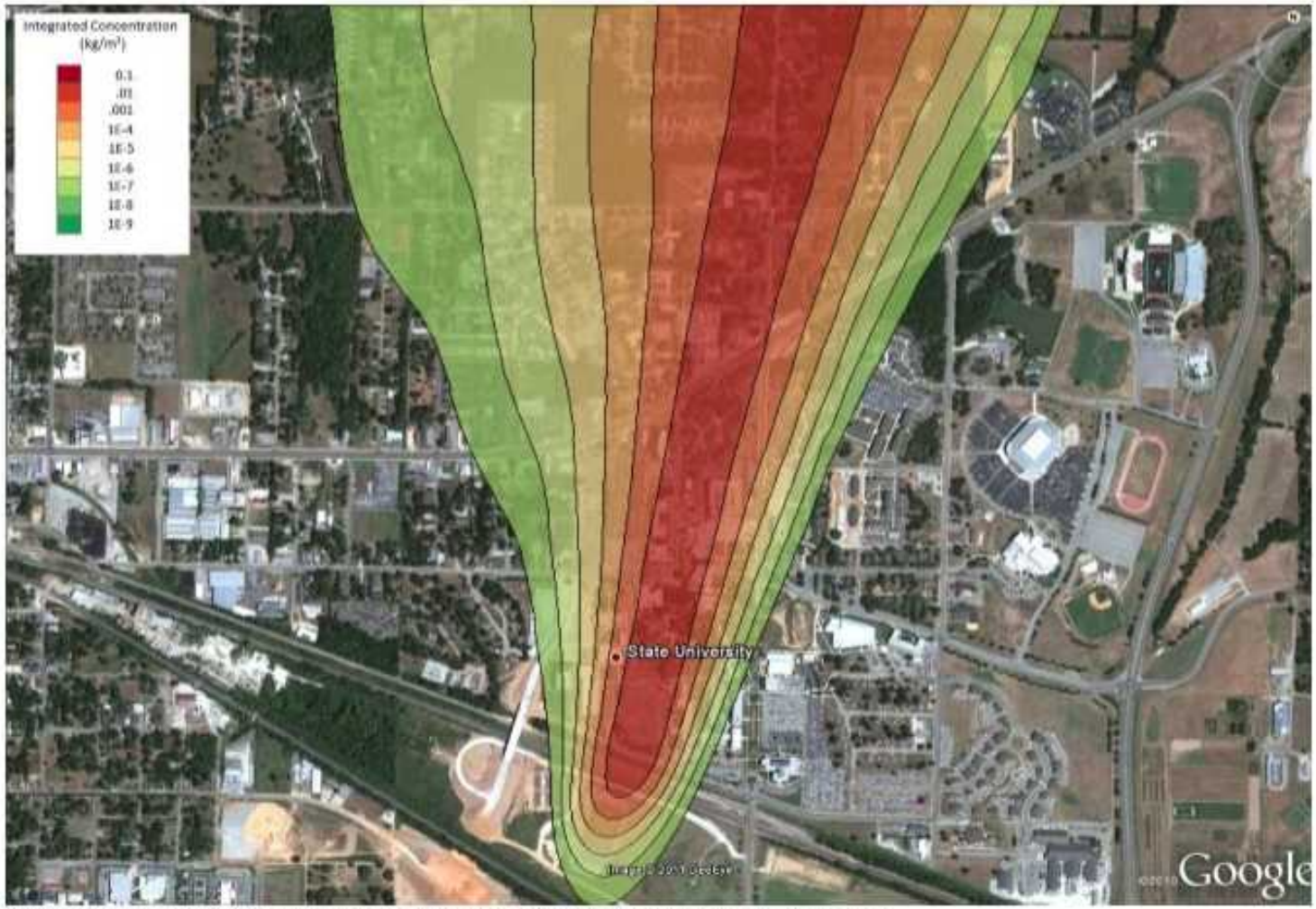


Figure 2. Time snapshots of integrated concentration 30 minutes post release

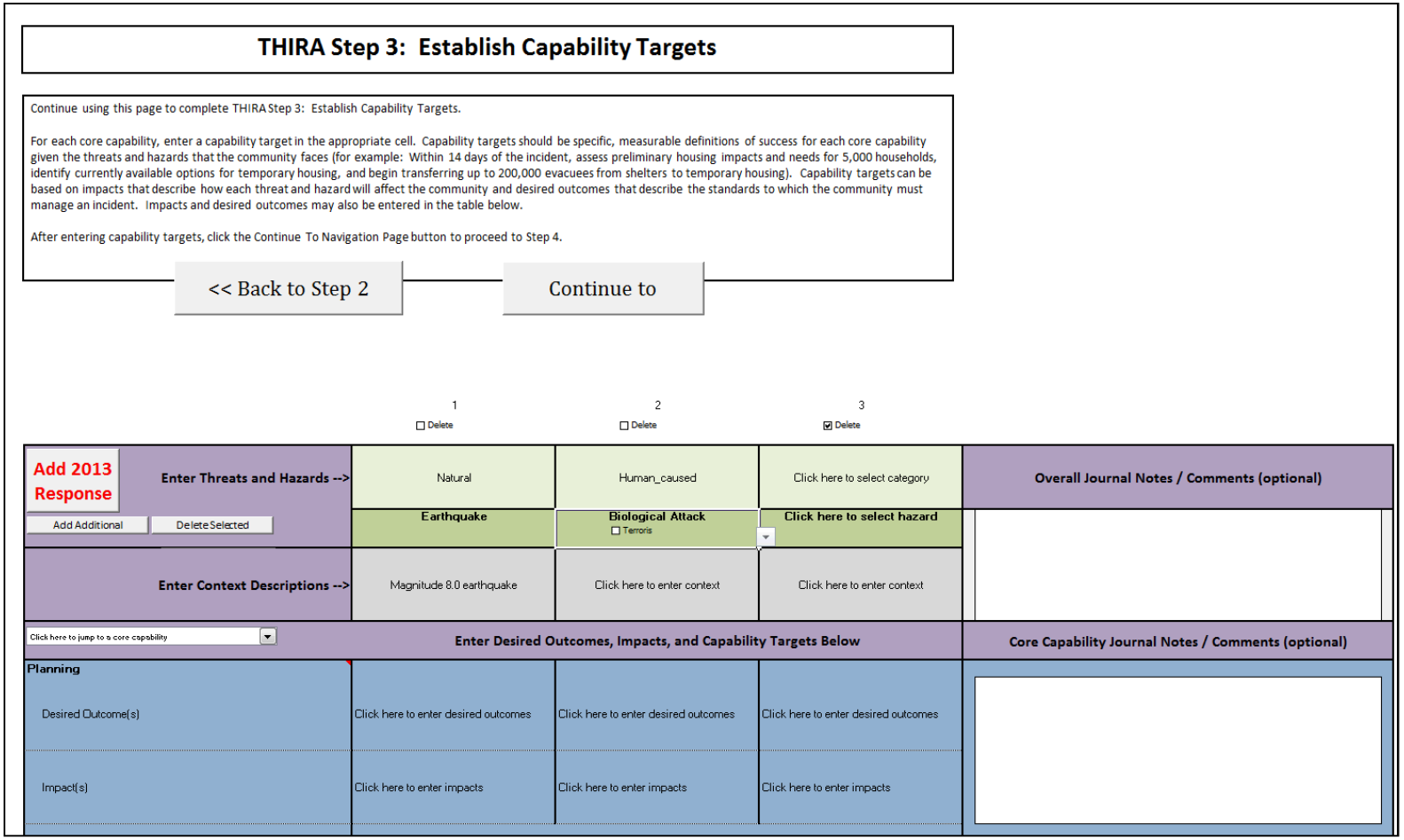
Planning/Preparedness

Key Objectives	Enhanced User Capabilities	Sample Application
Increase understanding of and develop common assumptions about infrequent events	Reuse applicable scenarios and data to inform planning	Modify/adjust scale of an event to better understand resource gaps and develop mitigating strategies before an emergency
Enhance development of appropriate mitigation and response strategies	Decrease time and cost needed to plan/train for potential incidents	Reuse scenarios in different geographical locations to develop (or refine) response plans on a regional level
Improve response resiliency	Visualize impacts of same scenario in a different location	

Planning: THIRA

Threat/Hazard Group	Description	Impacts/Analysis Results	Assumptions	Data Sources
Hazardous Material Incident	On a warm summer morning at 1 am, an industrial fire at a manufacturing facility causes the release of anhydrous ammonia, which is a toxic inhalation hazard. The manufacturing facility is located adjacent to a densely populated urban area and a 5-10 mph breeze spreads anhydrous ammonia into the adjacent neighborhoods. Address of fire – 1300 E. St. Gertrude St. Santa Ana, CA (winds blowing southwest)	• 25,000 affected (AEGL-1) • 10,000 casualties (AEGL-2) • 10 fatalities (AEGL-3) • 50K employee-days affected • $40M loss in GDP	• Location: 33.7196171,-117854478 • 45 deg, 15 mph winds • 1 day, 100% economic disruption • AEGL levels for 60-min exposure: 1 (affected): 1.08E-03 kg-s/m3; 2 (casualties): 5.76E-02kg-s/m3; 3 (fatalities): 3.96 kg-s/m3 • Economic impacts: Estimated Employee-days Affected are the estimates for full-time and part-time employees. Data used within REAcct is from the U.S. Bureau of Economic Analysis and the U.S. Census Bureau. Estimates do not take into account substitution, property damage, price effects, or economic offsets.	SUMMIT (HPAC and REAcct models) https://dhs-summit.us/summit-services-dev/summit.html?id=61f139b2-5d37-4d7d-b456-3bed95b731fc

THIRA-SPR Reporting Tool*: Establish Capability Targets



THIRA Step 3: Establish Capability Targets

Continue using this page to complete THIRA Step 3: Establish Capability Targets.

For each core capability, enter a capability target in the appropriate cell. Capability targets should be specific, measurable definitions of success for each core capability given the threats and hazards that the community faces (for example: Within 14 days of the incident, assess preliminary housing impacts and needs for 5,000 households, identify currently available options for temporary housing, and begin transferring up to 200,000 evacuees from shelters to temporary housing). Capability targets can be based on impacts that describe how each threat and hazard will affect the community and desired outcomes that describe the standards to which the community must manage an incident. Impacts and desired outcomes may also be entered in the table below.

After entering capability targets, click the Continue To Navigation Page button to proceed to Step 4.

<< Back to Step 2 | Continue to

	1 ☐ Delete	2 ☐ Delete	3 ☑ Delete	
Add 2013 Response / Enter Threats and Hazards -->	Natural	Human_caused	Click here to select category	Overall Journal Notes / Comments (optional)
Add Additional / Delete Selected	Earthquake	Biological Attack ☐ Terroris	Click here to select hazard	
Enter Context Descriptions -->	Magnitude 8.0 earthquake	Click here to enter context	Click here to enter context	
Click here to jump to a core capability	Enter Desired Outcomes, Impacts, and Capability Targets Below			Core Capability Journal Notes / Comments (optional)
Planning				
Desired Outcome(s)	Click here to enter desired outcomes	Click here to enter desired outcomes	Click here to enter desired outcomes	
Impact(s)	Click here to enter impacts	Click here to enter impacts	Click here to enter impacts	

*From file: FY_2014_Unified_THIRA-SPR_Reporting_Tool_FINAL.xlsm

THIRA-SPR Reporting Tool*: Establish Capability Targets

Fatality Management Services				
Desired Outcome(s)	Click here to enter desired outcomes	Click here to enter desired outcomes	Click here to enter desired outcomes	
Impact(s)	Click here to enter impacts	Click here to enter impacts	Click here to enter impacts	
Capability Target(s)	Click here to enter capability targets			
Infrastructure Systems				
Desired Outcome(s)	Click here to enter desired outcomes	Click here to enter desired outcomes	Click here to enter desire	
Impact(s)	Click here to enter impacts	Click here to enter impacts	Click here to enter impacts	
Capability Target(s)	Click here to enter capability targets			
Mass Care Services				
Desired Outcome(s)	Click here to enter desired outcomes	Click here to enter desired outcomes	Click here to enter desired outcomes	
Impact(s)	Click here to enter impacts	Click here to enter impacts	Click here to enter impacts	
Capability Target(s)	Click here to enter capability targets			
Mass Search and Rescue Operations				
Desired Outcome(s)	Click here to enter desired outcomes	Click here to enter desired outcomes	Click here to enter desired outcomes	
Impact(s)	Click here to enter impacts	Click here to enter impacts	Click here to enter impacts	
Capability Target(s)	Click here to enter capability targets			
On-scene Security and Protection				

SUMMIT data could go in here

THIRA-SPR Reporting Tool*: Apply the Results

THIRA Step 4: Apply the Results
Fatality Management Services

Use this page to complete THIRA Step 4: Apply the Results for the Fatality Management Services core capability.

Use the NIMS-typed Resources box to enter the NIMS-typed resources needed to achieve your capability target. First select a category in the left-most column. Then select a NIMS-typed resource in the next column (the available selections represent those resources that FEMA has typed as of March, 2014). Select the resource type in the third column, and specify the number needed to achieve the outcome in the fourth column. Information on NIMS-typed resources is available at https://rtlt.ptaccenter.org/Public.

Use the Other Resources box to enter key, shareable resources that are not NIMS-typed but that are required to achieve the capability target. Enter the resource in the first column, specify a category in the second column, and enter the number required in the third column.

After specifying the resource requirements, click the Go To Assessment button to proceed to the SPR assessment for this core capability, or click Return to Navigation to go back to the navigation page.

SUMMIT data could go in here

Go To SPR Assessment | Return to Navigation

Capability Target
Click here to enter capability targets

Resource Requirements				Add 2013 Responses
NIMS-typed Resources	Category	Resource	Type	Number Required
Add				
Add				
Other Resources	Resource (Example: Case Management Team)		Category	Number Required

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15 min

SHERPA Planning & Exercises: Applying Results (1)

1. Break into small groups by agency.

2. Discuss how SHERPA results can be applied to your work (see next slide).

3. Return for large group discussion.

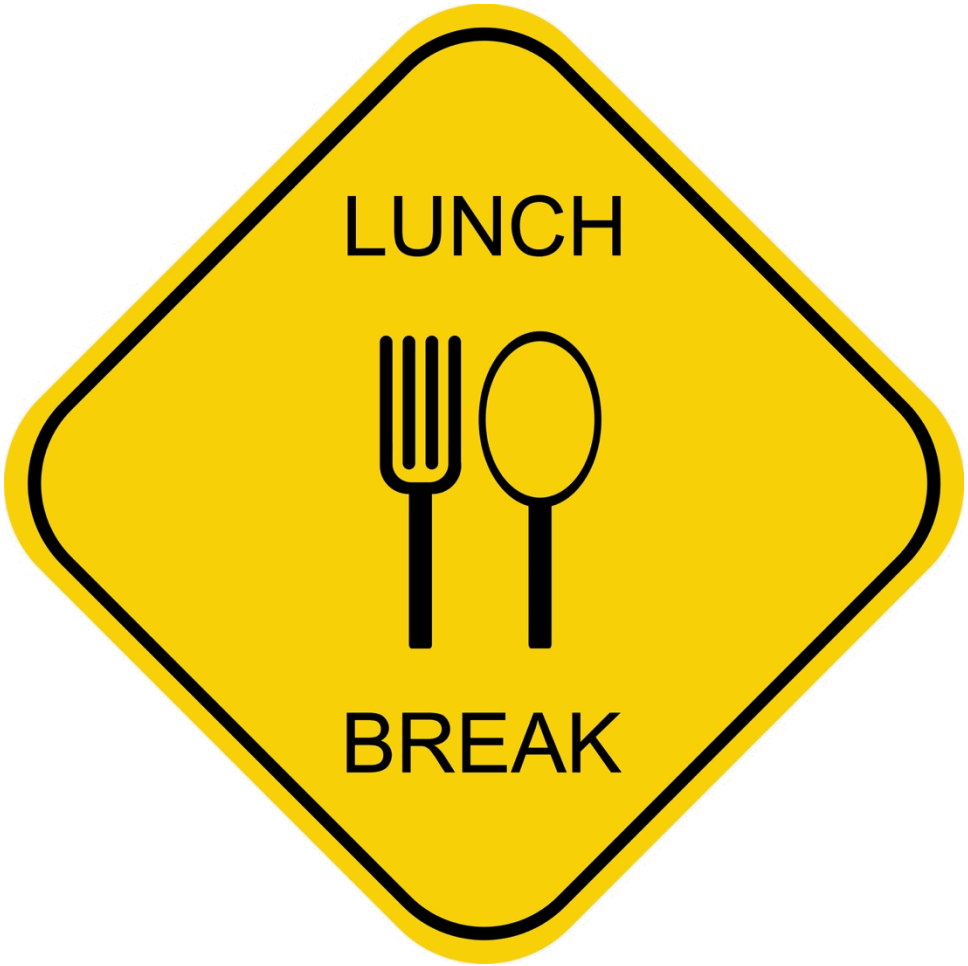
SHERPA Planning & Exercises: Applying Results (2)

1. Which SHERPA results are most useful you, and why?
   - Of the SHERPA results you've seen so far, which were most exciting to you, and why?
   - If you had those results for your region, what would you use them for?
   - What value would those results add to your agency and/or region?
   - Are there any SHERPA results that you are currently unable to get elsewhere?

2. What activities can you use SHERPA for?
   - What exercise/planning/response activities do you participate in?
   - Which of those activities is most difficult, and why?
   - Is there a way for SHERPA to make that activity easier?
   - Which of those activities could benefit most from SHERPA, and why?
   - What is the overarching purpose of those activities?

3. What are the limitations of SHERPA results?
   - When using SHERPA results for an exercise/planning/response activity, what caveats would you place on them?
   - What modeling assumptions and limitations do you think exist in SHERPA?
   - How would those limitations affect the outcome of an exercise/planning/response activity?

Activity: create a prioritized list of exercise/planning/response activities that SHERPA could support.


LUNCH
BREAK

Core Capabilities Crosswalk

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Crosswalk: Target Capabilities

SUMMIT PILOT PROGRAM MAPPED TO EXERCISE TARGET CAPABILITIES		
NLE 11 Target Capability	***SUMMIT Critical Tasks***	***SUMMIT Objective***
Structural Damage Assessment Search & Rescue Emergency Triage and Pre-Hospital Treatment	Link census-level building damage from HAZUS model to a building damage assignment model to provide building damage at the building level for pilot regions.	Objective 1: Provide model-based scenario data to exercise planners in scenario development process.
	Create and link a new model to assign collapsed damage state to individual buildings based on averaged HAZUS probabilities.	
	Create a capability for exercise planners to adjudicate the model-generated building damage data (based on exercise objectives) and re-incorporate adjudicated data into exercise ground truth.	
	Link casualty data from HAZUS to a casualty distribution model and the AHRQ Hospital Surge Model to generate hourly (144 hrs) patient arrival and medical surge needs for 334 medical facilities across all 8 NLE 11 states.	

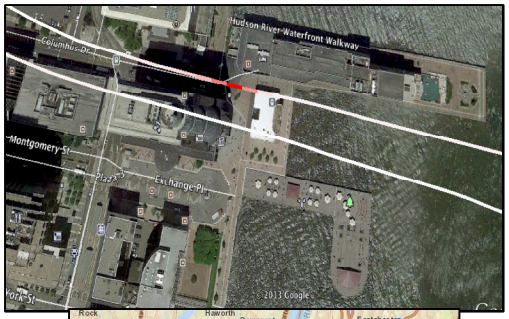
Crosswalk: FEMA II Wildcat Exercise

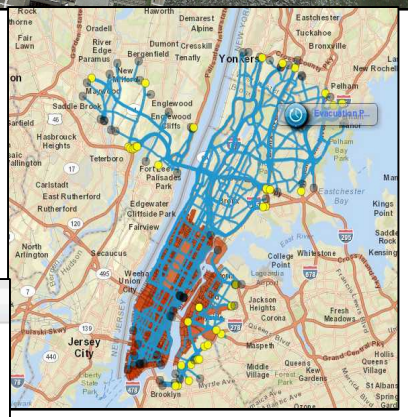
Scenario

- 4 day full-scale exercise to prepare for the 2014 NFL Super Bowl

SUMMIT use in exercise planning and conduct:

- Provided ground truth data and exercise injects
- Provided data used for consequence management



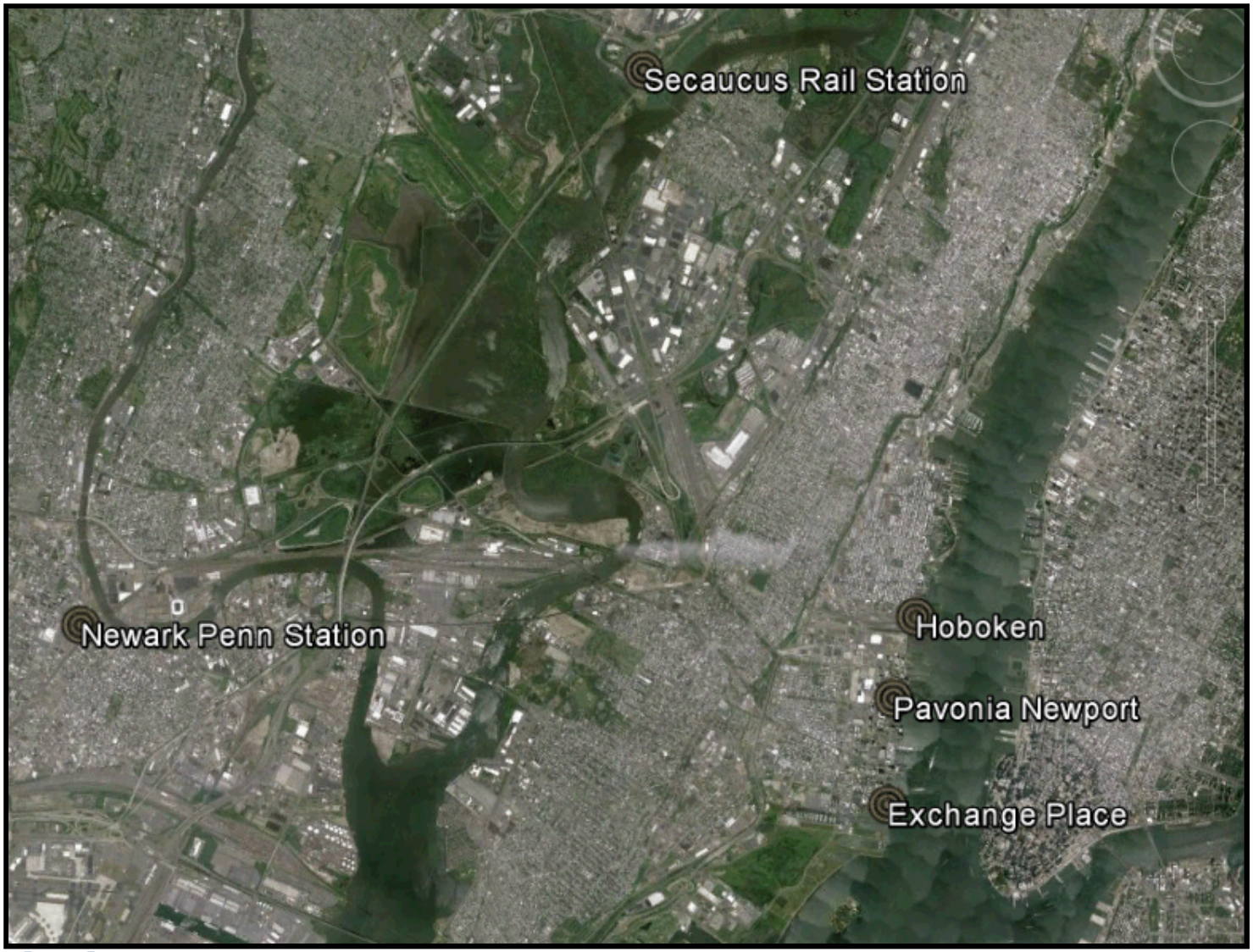


Models/data integrated in SUMMIT:

- ANL Below Ground Model (sarin release)
- HHS AHRQ
- DHS/S&T RtePM

Name	G	R	Y	B
14TH ST	30	0	0	0
9TH ST	0	3	383	0
CHRISTOPHE...	3	3	265	2
PAVONIA/NE...	1	17	560	40
GROVE ST	0	5	591	3
JOURNAL SQ...	0	0	52	0
HOBOKEN	0	0	173	10
EXCHANGE P...	1	1	317	10
PATH WTC	0	0	824	0
NaN	35	29	3,165	65

Crosswalk: FEMA II Wildcat Exercise



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Crosswalk: FEMA II Wildcat Exercise

Core Capabilities and Exercise Objectives

- **Operational Coordination:** Demonstrate effective operation of the Regional Response Coordination System (RRCS)
- **Situational Assessment:** Evaluate the capability of the RRCC to maintain a Common Operating Picture.
  - **FEMA Objective 2A.** Evaluate the completeness and accuracy of transitional briefing between Regional Watch Center and RRCS staff.
  - **FEMA Objective 2B.** Evaluate the completeness and accuracy of Situational Assessment Section entries into WebEOC throughout duration of exercise.
  - **FEMA Objective 2C.** Evaluate the accuracy of SITREPs developed by the RRCS and IMAT
  - **FEMA Objective 2D.** Evaluate the completeness of RRCS Staff Briefing
- **Public Warning & Information:** Assess the ability of FEMA and Federal partners to provide timely, accurate, and coordinated information to the public and media.
- **Public / Private Resources:** Demonstrate the ability the RRCS and IMAT to identify critical resources and manage the request process through Mission Assignments.

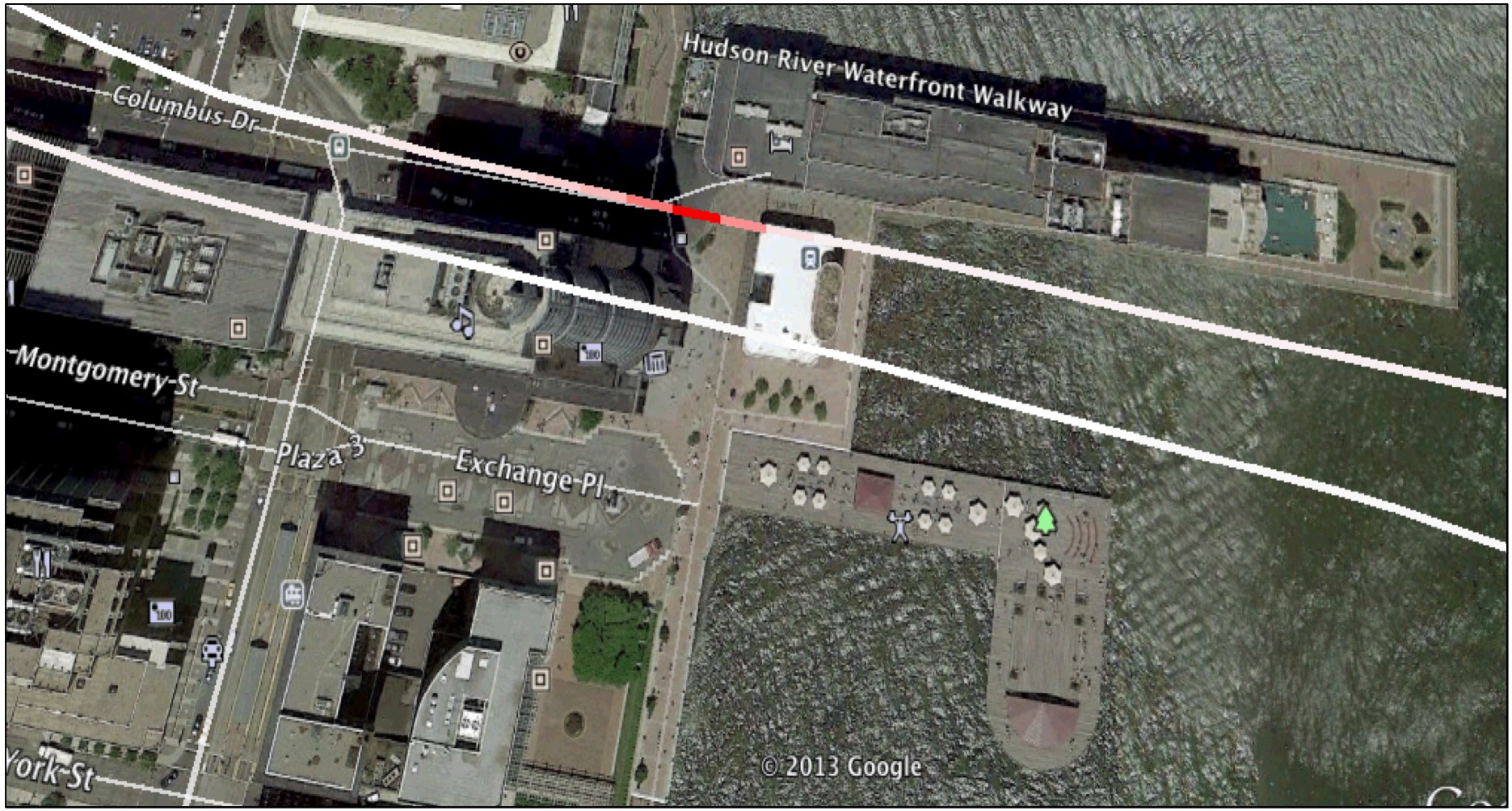
Crosswalk: FEMA II Wildcat Exercise

Inject Number	Date	Time	To	From	Method	Objective	Event Description	Message	Expected Action
RWC SITUATIONAL ASSESSMENT MODULE: JANUARY 17, 2014									
	Jan 17	0920	Regional Watch	New Jersey OEM	Phone	Situational Assessment	Initial report of Secaucus Train Station and Newark Penn Station	"Exercise: This is New Jersey OEM. The Public Safety Compound in American Dream is reporting HIT teams are being requested to Newark Penn Station and the Frank Lautenberg Rail Station in Secaucus. There are reports of people becoming sick at both stations.	1. Continue gathering information
								NYPD and MTA are shutting down all transit into and out of the city. We're reaching out to Port Authority to have them shut down the airports. Updates on incidents are: • Exchange Place Station – At least 300 people are complaining of narrowing vision, chest pain, headache, coughing, sweating. At least 30 people have been shot, 3 are confirmed fatalities. JCPD is reporting at least two gunmen are still active in the station and possibly the Hyatt Hotel. • Pavonia-Newport Station – At least 400 people are complaining of excessive drooling, chest pain, coughing, vomiting, and sweating. At least 20 people have been shot, 3 are confirmed fatalities. JCPD and PAPD report at least one gunman has been killed, they are checking on reports of shots fired in the Westin Hotel.	

Crosswalk: FEMA II Wildcat Exercise

Time	Location	Notes
0900	**Exchange Place** (68 Christopher Columbus Dr, Jersey City) **Hyatt Hotel** (2 Exchange Place, Jersey City)	JCPD, NJSP, FBI, others on scene as part of pre-plan. At least one gunman moves to Hyatt Hotel where NFL team is staying. NJOEM notified by JCPD through American Dream EOC
0905	**Pavonia Newport Station** (Town Square Pl, Jersey City) / **Westin Hotel** (479 Washington Blvd, Jersey City)	JCPD, PAPD, NJSP, FBI, others on scene as part of pre-plan. At least one gunman moves to Westin Hotel where NFL team is staying. NJOEM notified by JCPD through American Dream. News reports incident before NJOEM reports to FEMA
0920	**Newark Penn Station** (Raymond Blvd West and Market Street, Newark)	NJ Transit PD, PAPD on scene as part of normal operations. At least one gunman tries to move towards Seton Hall Law School (1085 Raymond Blvd, Newark)
0920	**Frank Lautenberg Rail Station** (County Rd & County Ave, Secaucus, NJ)	NJ Transit PD on scene as part of normal operations. Both gunman confined to station.
0925	**Hoboken PATH Station** (1 Hudson Place, Hoboken)	Port Authority, NJ Transit, and Hoboken PD on scene or nearby as normal operations.

Crosswalk: FEMA II Wildcat Exercise



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Crosswalk: FEMA II Wildcat Exercise

COMBINED CASUALTY COUNTS (Above and Below Ground)						
Station	**Exposed (Green)**	**AEGL1**	**AEGL2 (Yellow)**	**AEGL3 (Red)**	**Incapacitated**	**Fatal (Black)**
14TH ST	238	30	0	0	0	0
9TH ST	386	0	3	383	0	0
CHRISTOPHER ST	274	3	3	265	0	2
PAVONIA/NEWPORT	618	1	17	560	0	40
GROVE ST	599	0	5	591	0	3
JOURNAL SQUARE	52	0	0	52	0	0
HOBOKEN	183	0	0	173	0	10
EXCHANGE PLACE	342	1	1	317	0	10
PATH WTC	824	0	0	824	0	0
Secaucus Junction (1% Prob of Casualty)	568	--	--	--	--	--
Secaucus Junction (10% Prob of Casualty)	--	--	--	88	--	--
Newark Penn Station (1% Prob of Casualty)	1310	--	--	--	--	--
Newark Penn Station (10% Prob of Casualty)	--	--	--	138	--	--
TOTALS	**5,394**	**35**	**29**	**3,391**	**0**	**65**

Crosswalk: FEMA II Wildcat Exercise

Resource	Units	Peak Need	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15
Enteral feedings (3/day/patient)	Unit of Use	3165	0	1585	1585	1583	1583	1582	1582	1582	3165	3165	3165	3165	3165	3165	3165
Universal Precautions PPE	Unit of Use	3229	3229	3207	3190	3171	3171	3167	3166	3165	3165	3165	3165	3165	3165	3165	3165
Janitorial/Housekeeping	FTE	403	403	400	398	397	397	396	396	396	263	263	263	263	263	263	263
Ventilator equipment	Unit of Use	3169	3165	3169	2349	1739	1288	953	706	523	0	0	0	0	0	0	0
Respiratory Therapists (RT)	FTE	534	534	533	531	530	530	529	529	529	263	263	263	263	263	263	263
Med/Surg Bed	Unit of Use	268	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheet change	Unit of Use	3229	3229	3207	3190	3171	3171	3167	3166	3165	3165	3165	3165	3165	3165	3165	3165
Radiology supplies	EA (Each)	3229	3229	3169	2869	2593	2346	2122	1920	1737	0	0	0	0	0	0	0
Hemodynamic medications	Unit of Use	3165	3165	3165	2345	1737	1287	953	706	523	0	0	0	0	0	0	0
Waste Disposal	Unit of Use	3229	3229	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Temperature monitoring equipment	EA (Each)	3207	268	3207	3190	3171	3171	3167	3166	3165	3165	3165	3165	3165	3165	3165	3165

Crosswalk: FEMA II Wildcat Exercise

Core Capability	Exercise Objective	SUMMIT Role
Operational Coordination	Demonstrate effective operation of the Regional Response Coordination System (RRCS)	Provide all modeling data for the exercise and support the visualization of results to participants in the RRCC to assist decision-makers with evacuation and triage decisions in both New York and New Jersey.
Situational Assessment	Evaluate the capability of the RRCC to maintain a Common Operating Picture	Utilize SUMMIT to support ad-hoc inject creation and situational awareness during the exercise .
Public Information & Warning	Assess the ability of FEMA and Federal partners to provide timely, accurate, and coordinated information to the public and media	Enable rapid estimation of impacts of cascading effects associated with the complex, multi-attack scenario.
Public/Private Resources	Demonstrate the ability the RRCS and IMAT to identify critical resources and manage the request process through Mission Assignments	Provide all modeling data for the exercise and support the visualization of results to participants in the RRCC to assist decision-makers with evacuation and triage decisions in both New York and New Jersey

Overall Core Capabilities

(highlighted, potential SHERPA support)

Planning	1
Public Information and Warning	2
Operational Coordination	3
Forensics and Attribution	4
Intelligence and Information Sharing	5
Interdiction and Disruption	6
Screening, Search, and Detection	7
Access Control and Identity Verification	8
Cybersecurity	9
Physical Protective Measures	10
Risk Management for Protection Programs and Activities	11
Supply Chain Integrity and Security	12
Community Resilience	13
Long-term Vulnerability Reduction	14
Risk and Disaster Resilience Assessment	15
Threats and Hazard Identification	16
Critical Transportation	17
Environmental Response/Health and Safety	18
Fatality Management Services	19
Infrastructure Systems	20
Mass Care Services	21
Mass Search and Rescue Operations	22
On-scene Security and Protection	23
Operational Communications	24
Public and Private Services and Resources	25
Public Health and Medical Services	26
Situational Assessment	27
Economic Recovery	28
Health and Social Services	29
Housing	30
Natural and Cultural Resources	31


15 min

How can SHERPA be integrated into your agency's activities and processes – Region 6 and Region 9?

1. What does the THIRA preparation process look like at your agency?

2. How would SHERPA fit into your THIRA preparation process? What are the insertion points?

3. In addition to THIRA, what are other planning and exercise applications for SHERPA in your agency?

4. Who would use SHERPA in your agency? Would there be one SHERPA user who produces results for others in the agency?

5. What are procedural, technical, or other challenges to using SHERPA in your agency?

Day 3: Hands-On Training

Time	Agenda Item: January 14, 2015
9:00 – 9:15 AM	Training Schedule
9:15 – 9:45 AM	CESC SHERPA Integration
9:45 – 10:45 AM	Small Group Breakout: Template Runs
10:45 – 11:00 AM	Break
11:00 – 12:00 PM	Small Group Breakout: Results Discussion
12:00 – 1:30 PM	Lunch
1:30 – 3:00 PM	Small Group Breakout: Group Report Outs
3:00 – 3:15 PM	Break
3:15 – 4:45 PM	Train-The-Trainer
4:45 – 5:00 PM	Wrap Up & Adjourn

GOAL: To enable stakeholders to use SUMMIT for exercises and disaster planning, including the planning and execution of template runs and the interpretation and communication of results.

How can SHERPA be integrated into your agency's activities and processes – CESC?

1. Who are the primary users of the CESC?

2. Would SHERPA be offered to all CESC users?

3. What planning, exercise, training and other activities occur at the CESC?

4. How would SHERPA fit into these activities? What are the insertion points?

5. Who would use SHERPA in your agency? Would the CESC SHERPA user support the CESC users?

6. What are procedural, technical, or other challenges to using SHERPA in your facility?

Small Group Breakout

1. Break into small groups by agency.

2. Work on applying SHERPA to agency-specific activities.

3. Create a short presentation to share with the larger group that addresses the following:
   - What are you trying to simulate, and why?
   - What templates and models are available in SHERPA that support your goal?
   - Display some example runs and results.
   - How are those SHERPA results useful for your final goal?


15 min

Small Group Breakout

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   - What are you trying to simulate, and why?
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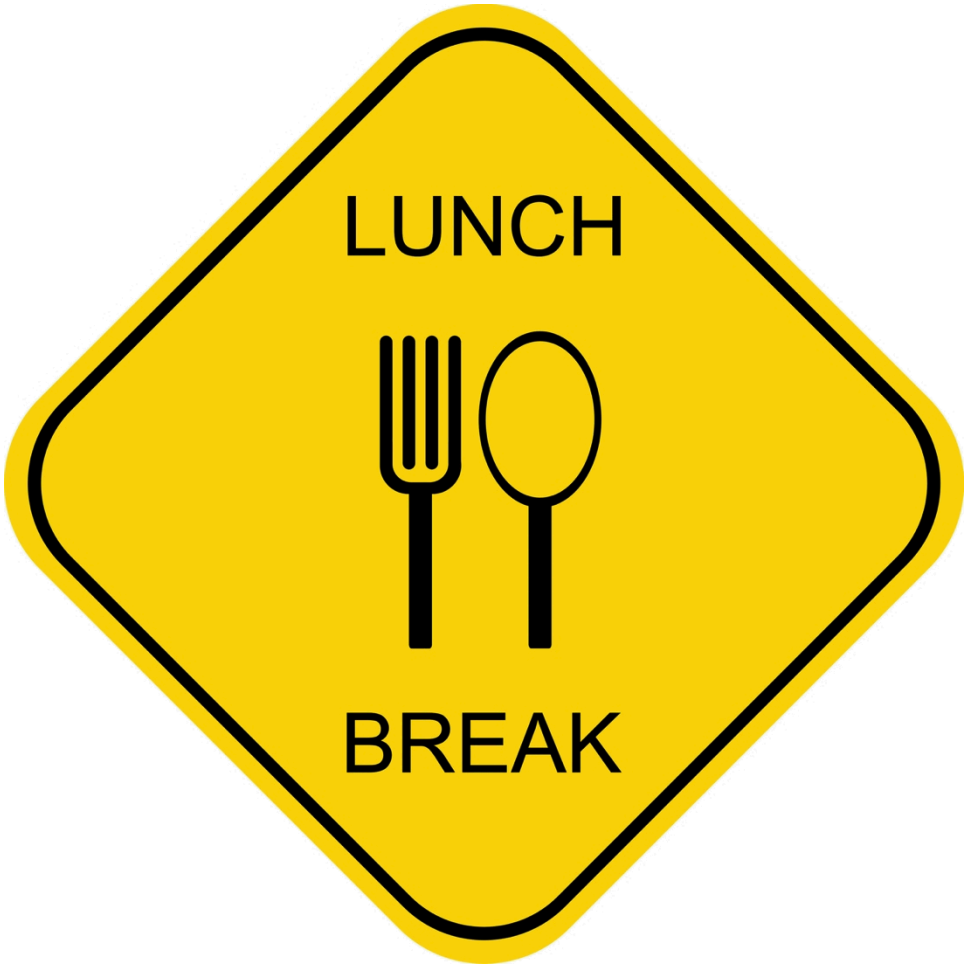
   - Display some example runs and results.
   - How are those SHERPA results useful for your final goal?


LUNCH
BREAK

Train-the-Trainer

SHERPA User Conference

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Science and Technology

Methodology

- Core Capabilities
- Exercise/Planning Objectives
- Scenario Review and Task Review
- Identify Models
- Interpret and Apply Results

Train-the-Trainer Example

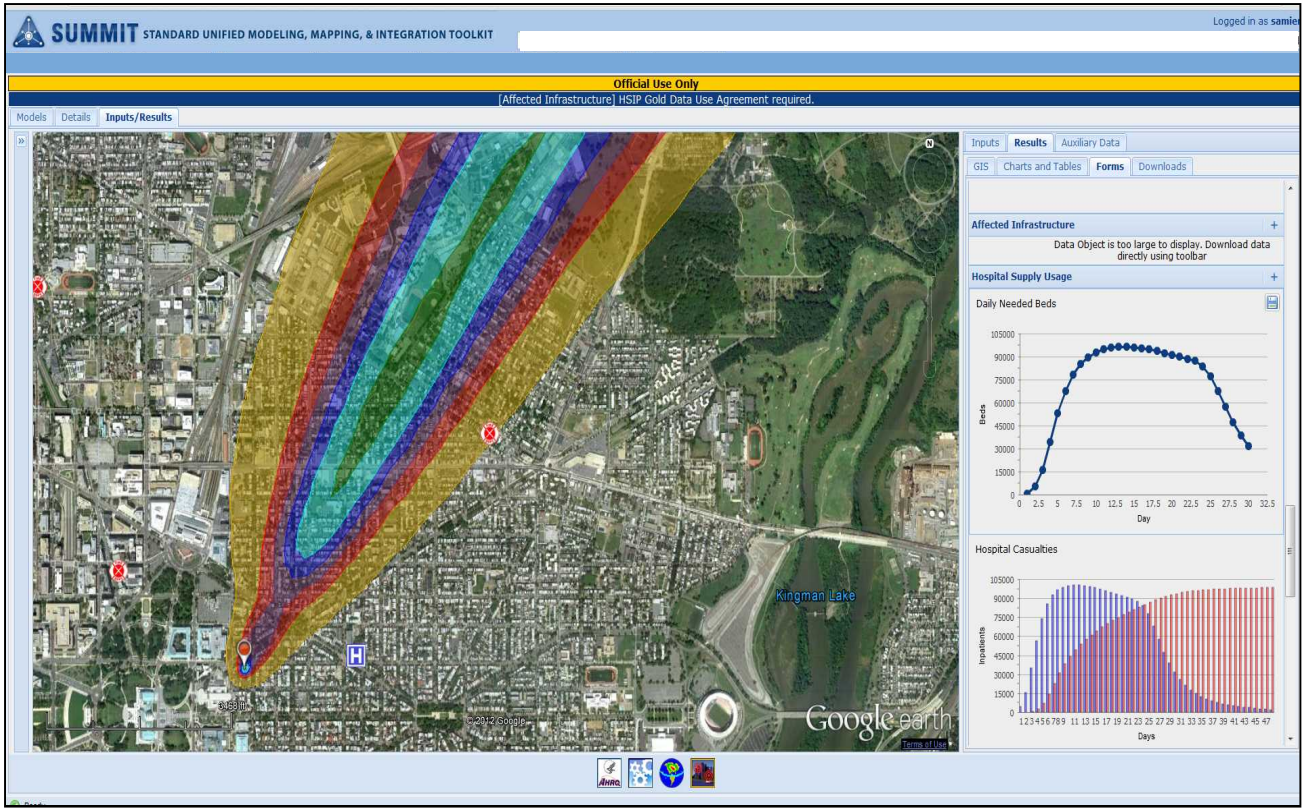
SUMMIT modeling and simulation outputs provide decision-makers with data to enhance situational awareness and inform response actions.

- Initial SUMMIT User Interface: Model Output
- Aerial dispersion and affected population
- Population movement
- Medical countermeasures throughput summary
- Hospital bed needs and casualty estimates

Initial SUMMIT User Interface: Model Output

- "How To"
  - Configure a model from those available.
  - Enter model inputs (material, release source, release amount, etc.).

- SUMMIT Output
  - Air dispersion plume with estimates of the population potentially exposed.



Model Configuration

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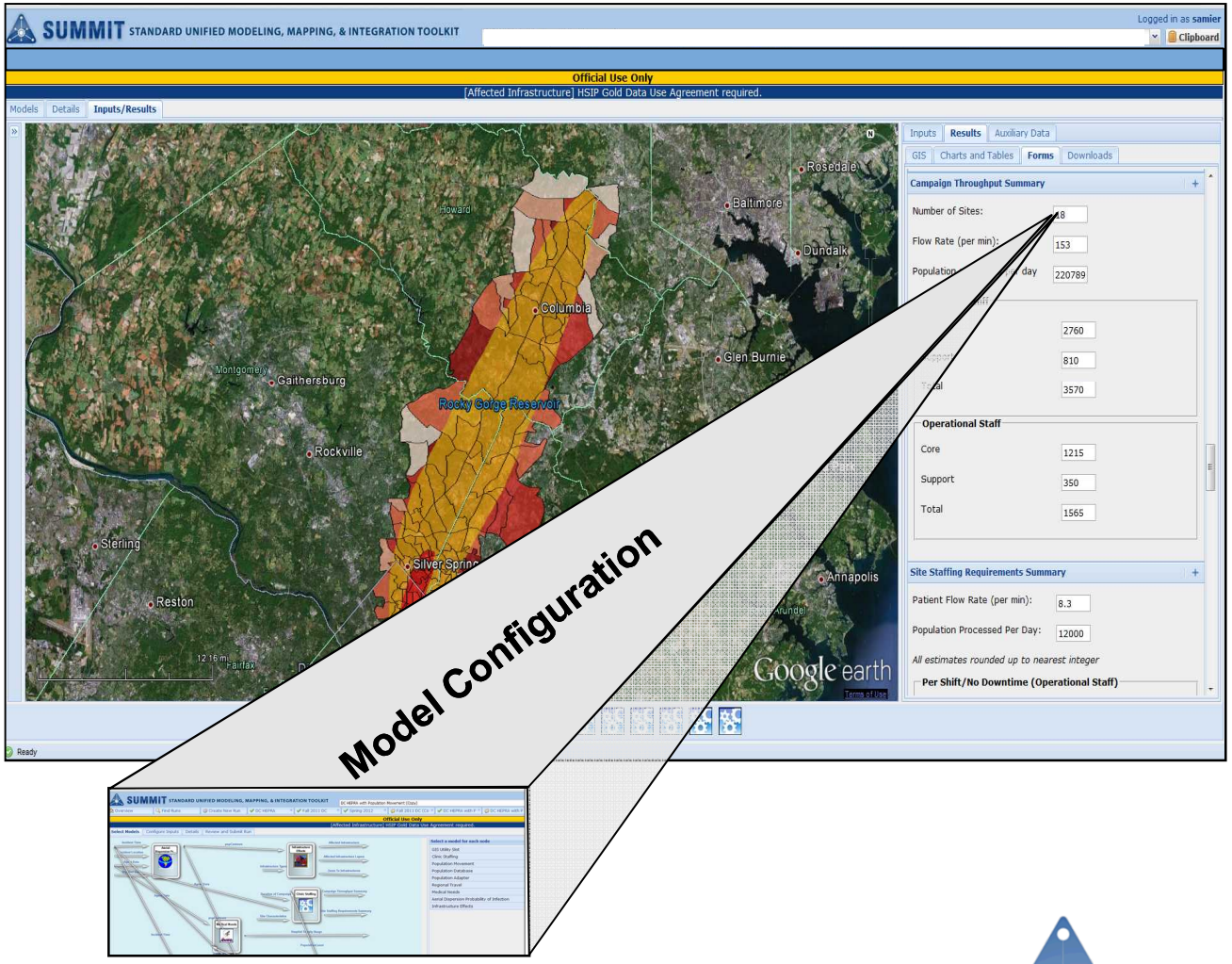
Affected Population at Time of Release

- "How To"
  - Configure a model from those available.
  - Data outputs from 1 model are inputs to a second model.

- SUMMIT Output
  - Potentially exposed population "under" the air dispersion plume output.



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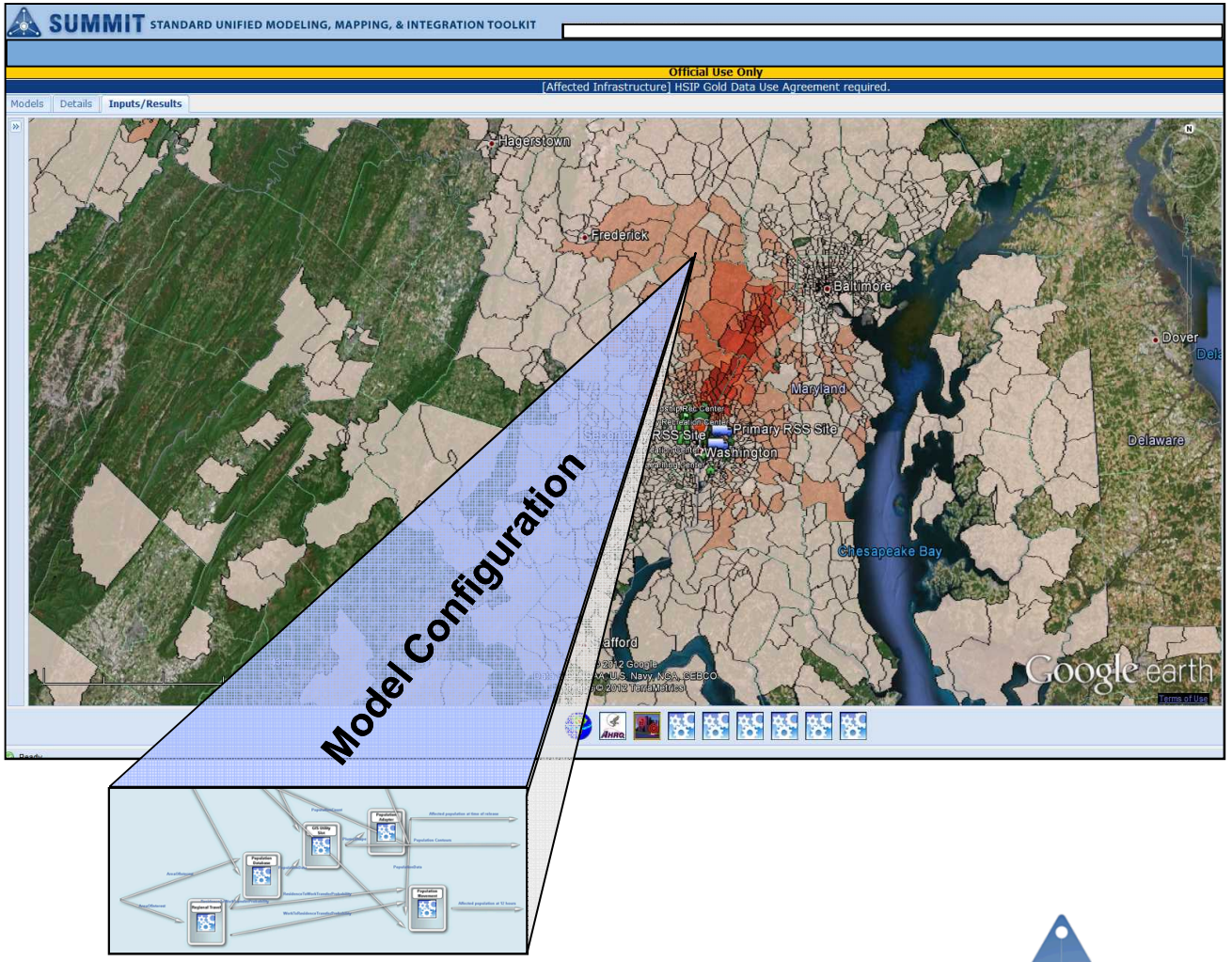
Population Movement (12 Hours after Release)

- "How To"
  - Data outputs from 1 model continue to provide data input for another model.

- SUMMIT Output
  - 12 hours later - Potentially exposed population "under" the air dispersion plume output.



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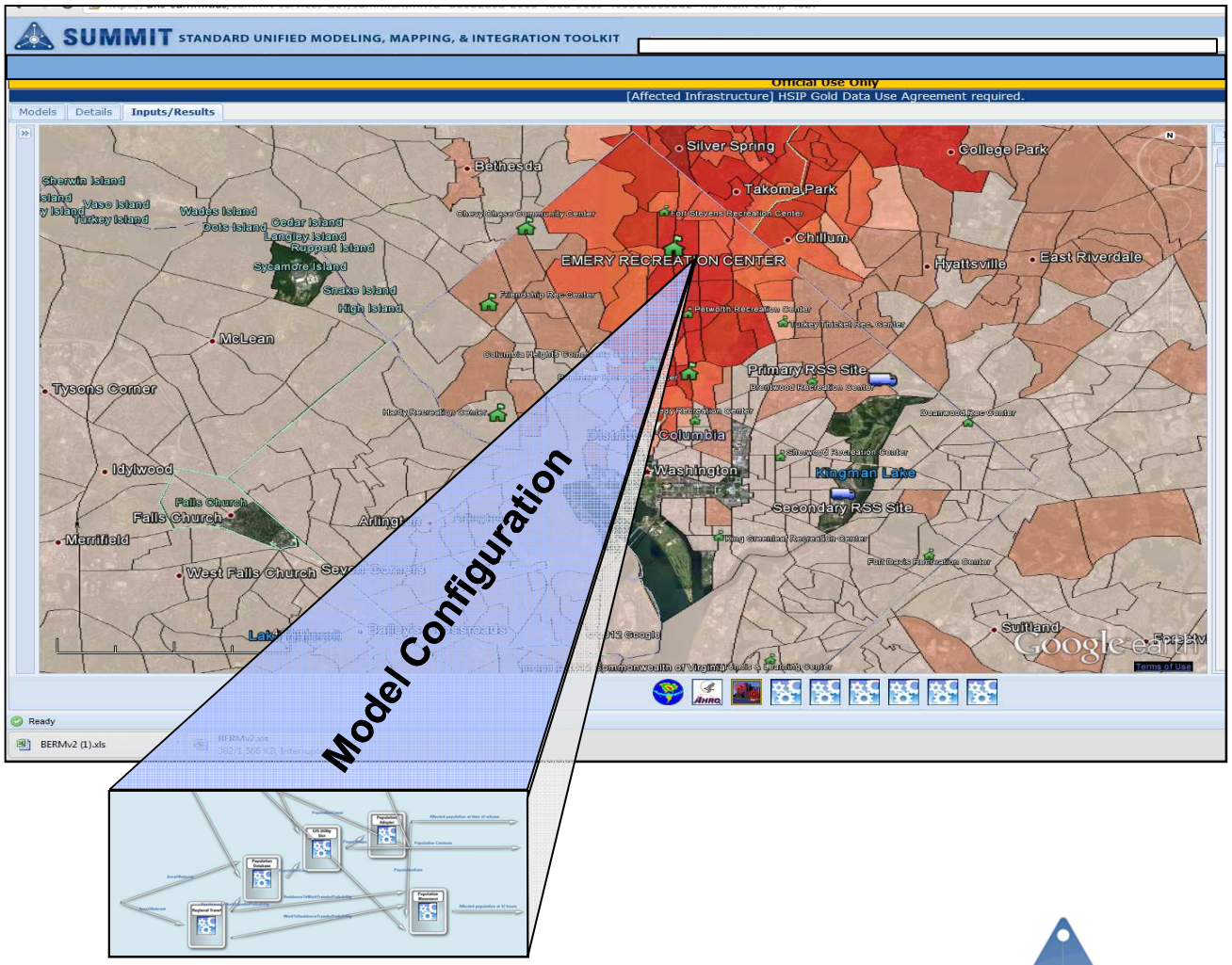
Data Support for Decision-Making

- "How To"
  - Modeling output aggregates data and categorizes by potential exposure severity.

- SUMMIT Output
  - Potentially exposed population (in red)
  - Data informs location of pharmaceutical dispensing sites.



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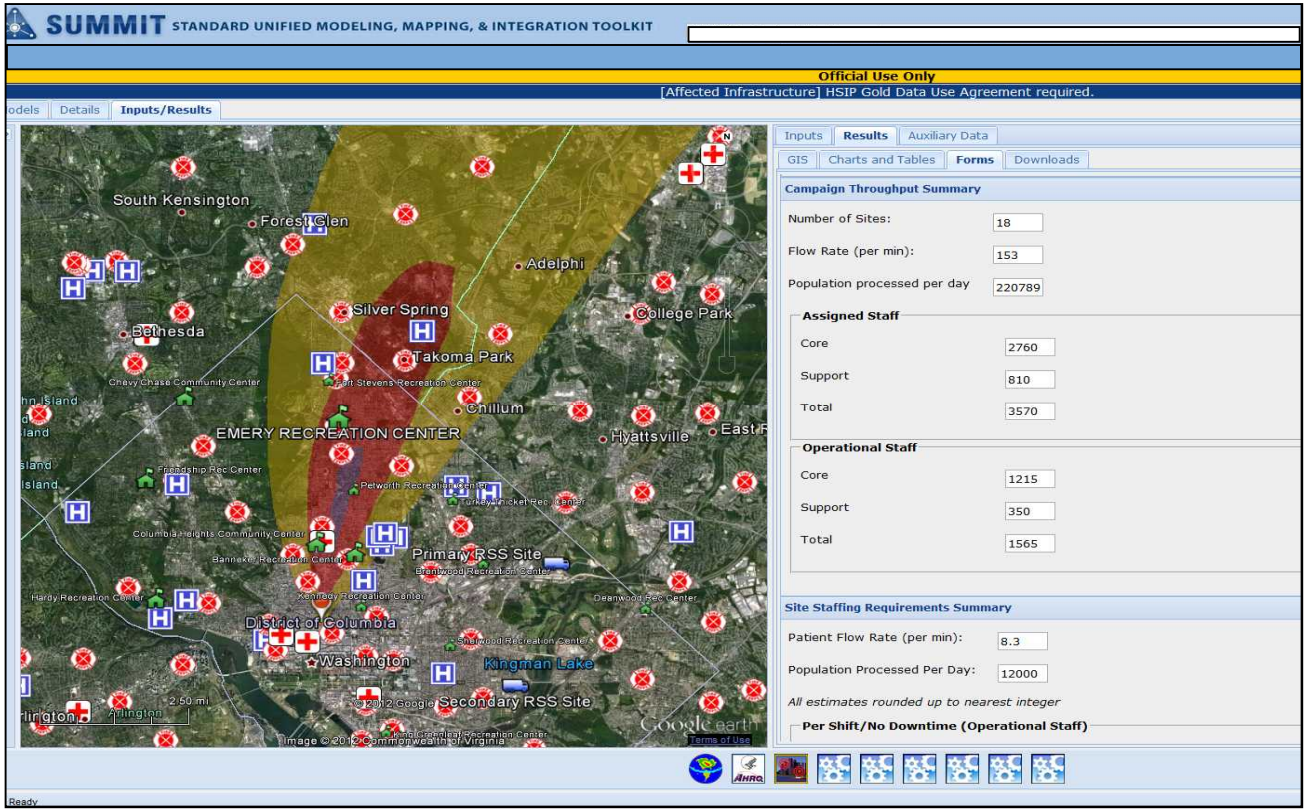
Medical Countermeasures Throughput Summary

- "How To"
  - Select the data output produced from the model.

- SUMMIT Output
  - The number of care and support staff needed to dispense medical countermeasures for each POD location is estimated.

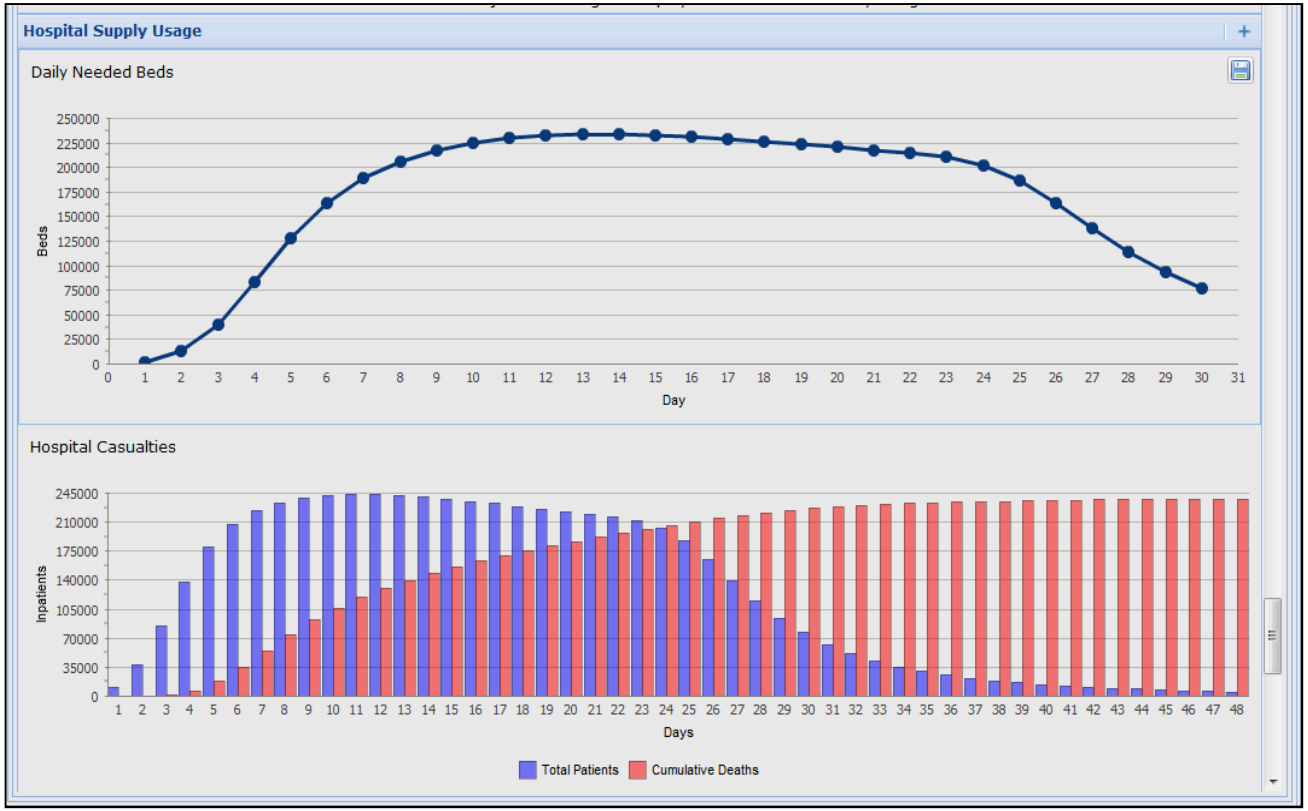


Data Output Selection

Hospital Beds/Casualties

- "How To"
  - Select Hospital Supply Usage as the data output produced from the model.

- SUMMIT Output
  - The number of casualties is estimated.
  - The total number of beds needed each day is estimated.



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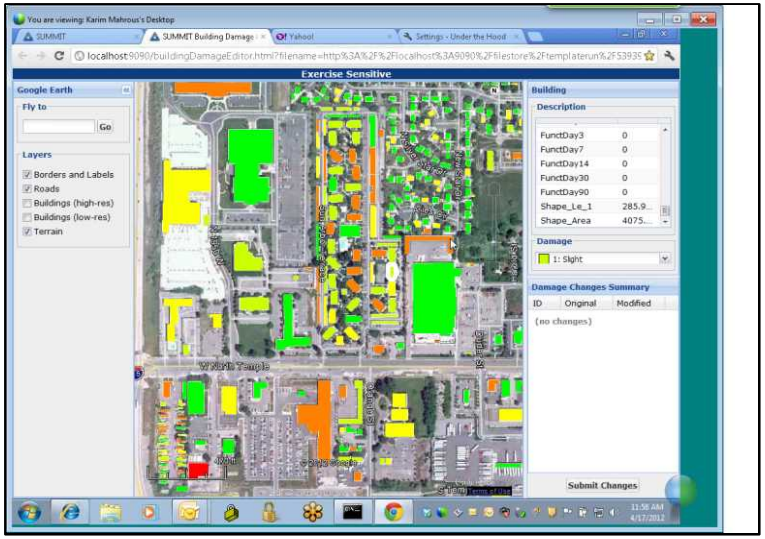
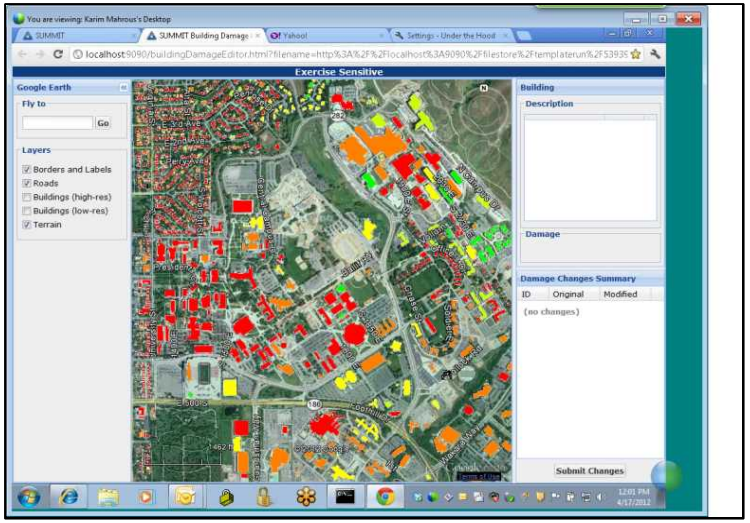
Train-the-Trainer: Your Turn



Exercise Scenario Background

- Catastrophic earthquake
- Extreme damage to CI/KR
- Severe resource needs



Information needs include:

- **Casualty counts by county**
- **Current hospital capabilities and capacity**
- **CI/KR damage data**
- **Mass care shelter needs**

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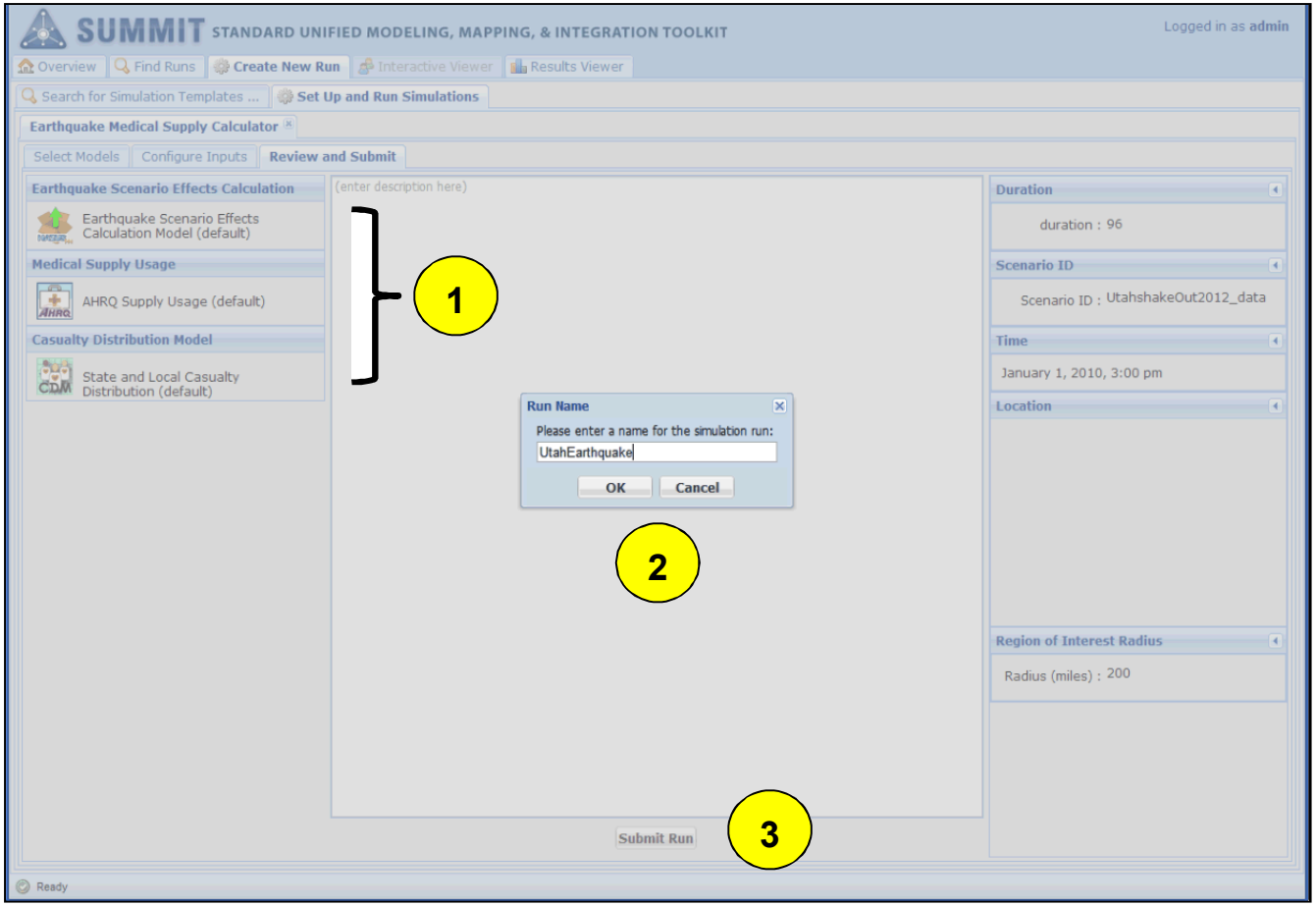
Identify Models

- "How To"
  1. Identify the models to produce casualty counts.
  2. Title the model run.
  3. Submit.

- SUMMIT Output
  - The number of casualties is estimated.
  - The total number of beds needed each day is estimated.



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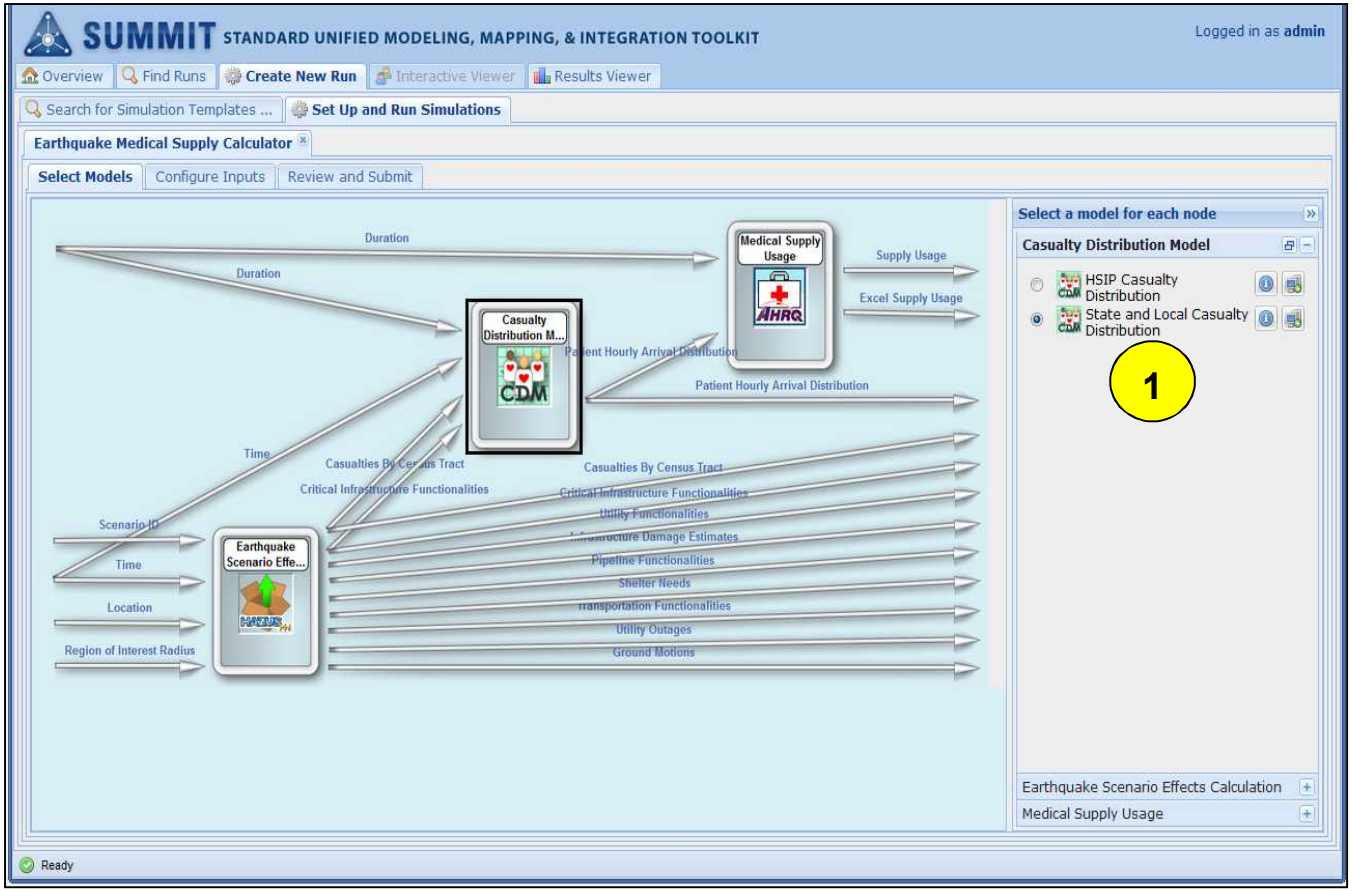
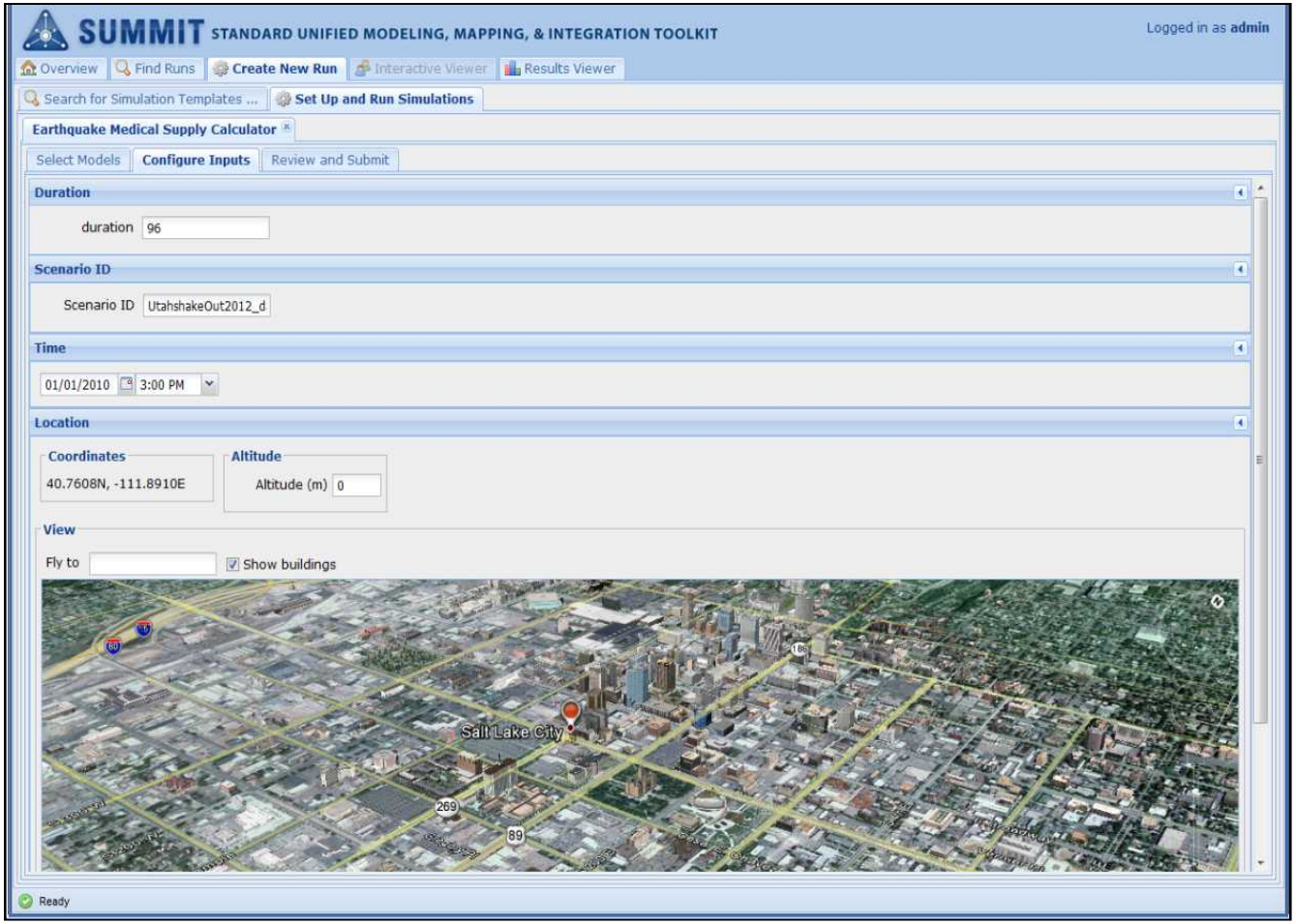
Template

- "How To"
  - Identify the models needed for the scenario.



Model Inputs

- "How To"
  - Configure the inputs for each model identified.
  - The model run is to determine the Earthquake Medical Supply Calculator



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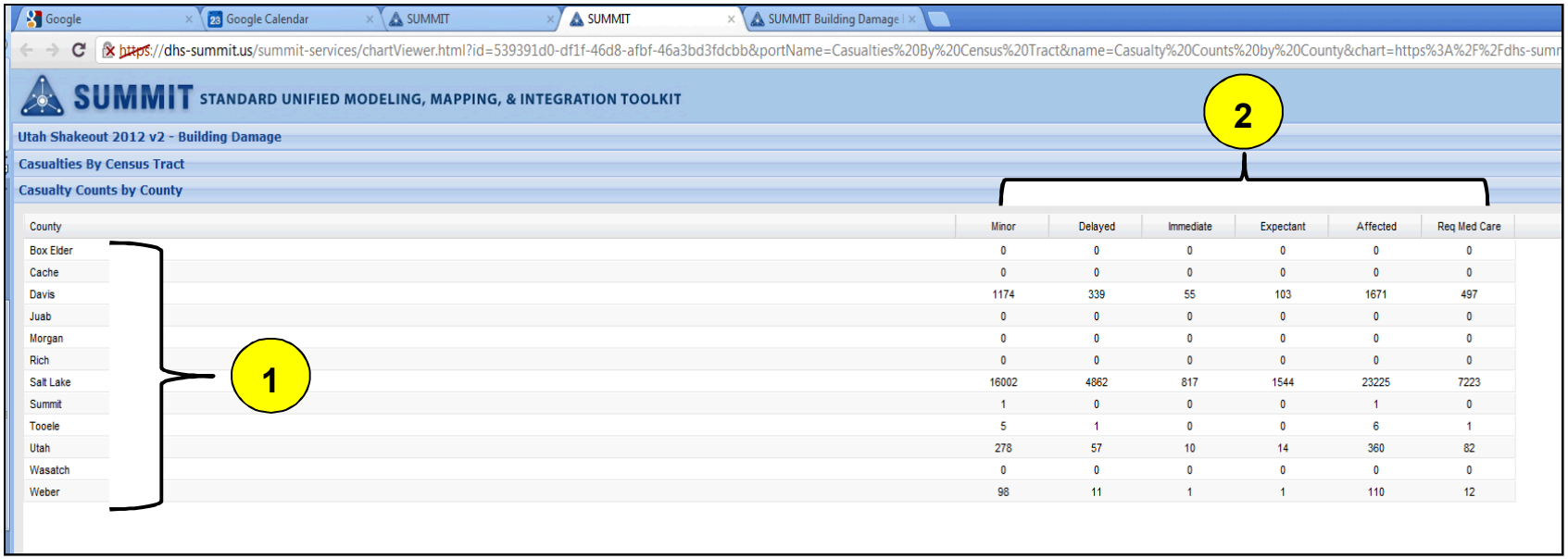
Casualty Counts



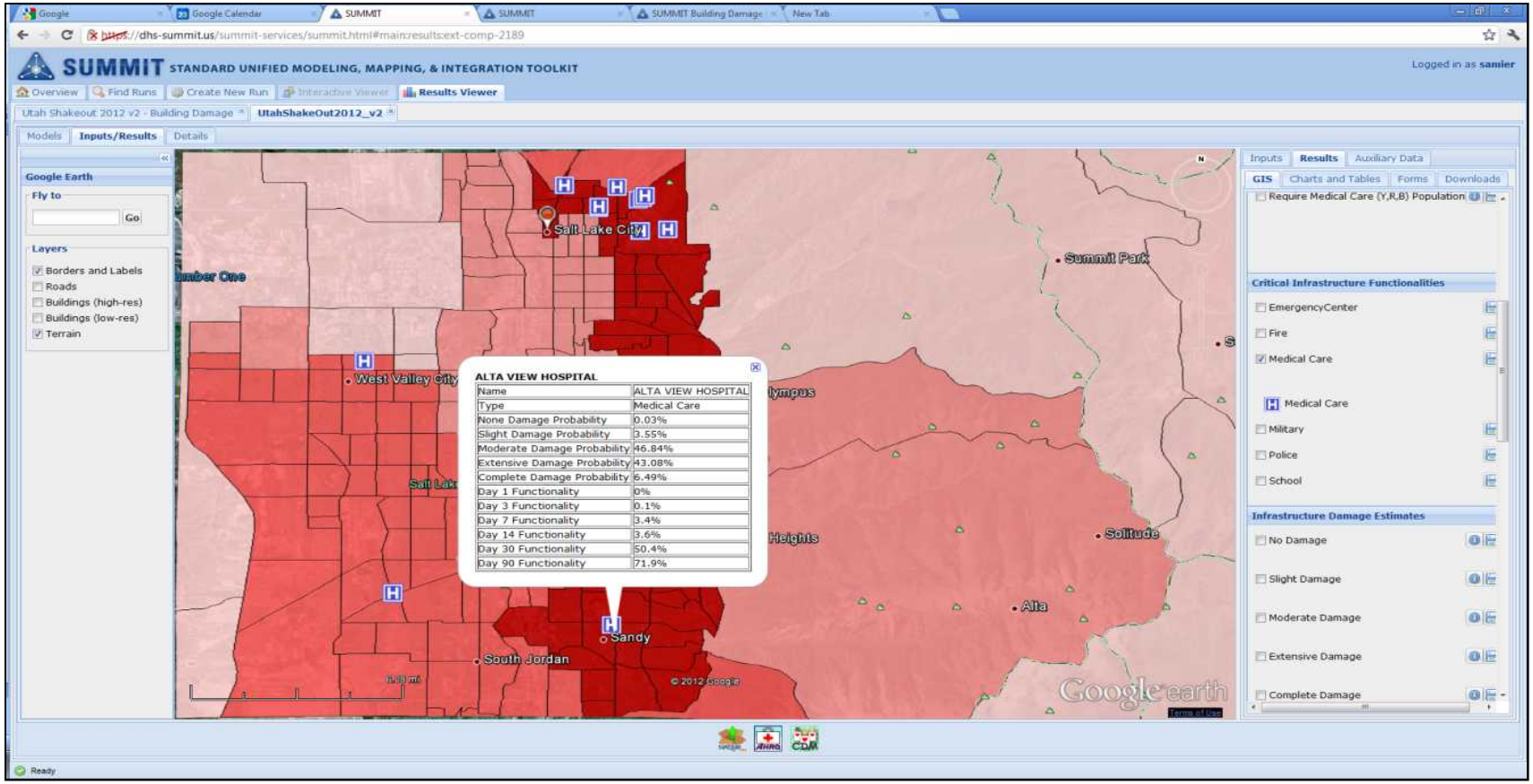
County	Minor	Delayed	Immediate	Expectant	Affected	Req Med Care
Box Elder	0	0	0	0	0	0
Cache	0	0	0	0	0	0
Davis	1174	339	55	103	1671	497
Juab	0	0	0	0	0	0
Morgan	0	0	0	0	0	0
Rich	0	0	0	0	0	0
Salt Lake	16002	4862	817	1544	23225	7223
Summit	1	0	0	0	1	0
Tooele	5	1	0	0	6	1
Utah	278	57	10	14	360	82
Wasatch	0	0	0	0	0	0
Weber	98	11	1	1	110	12

1 • The resultant output of the model is the total number of casualties.

• The number of casualties expected is segmented by county.

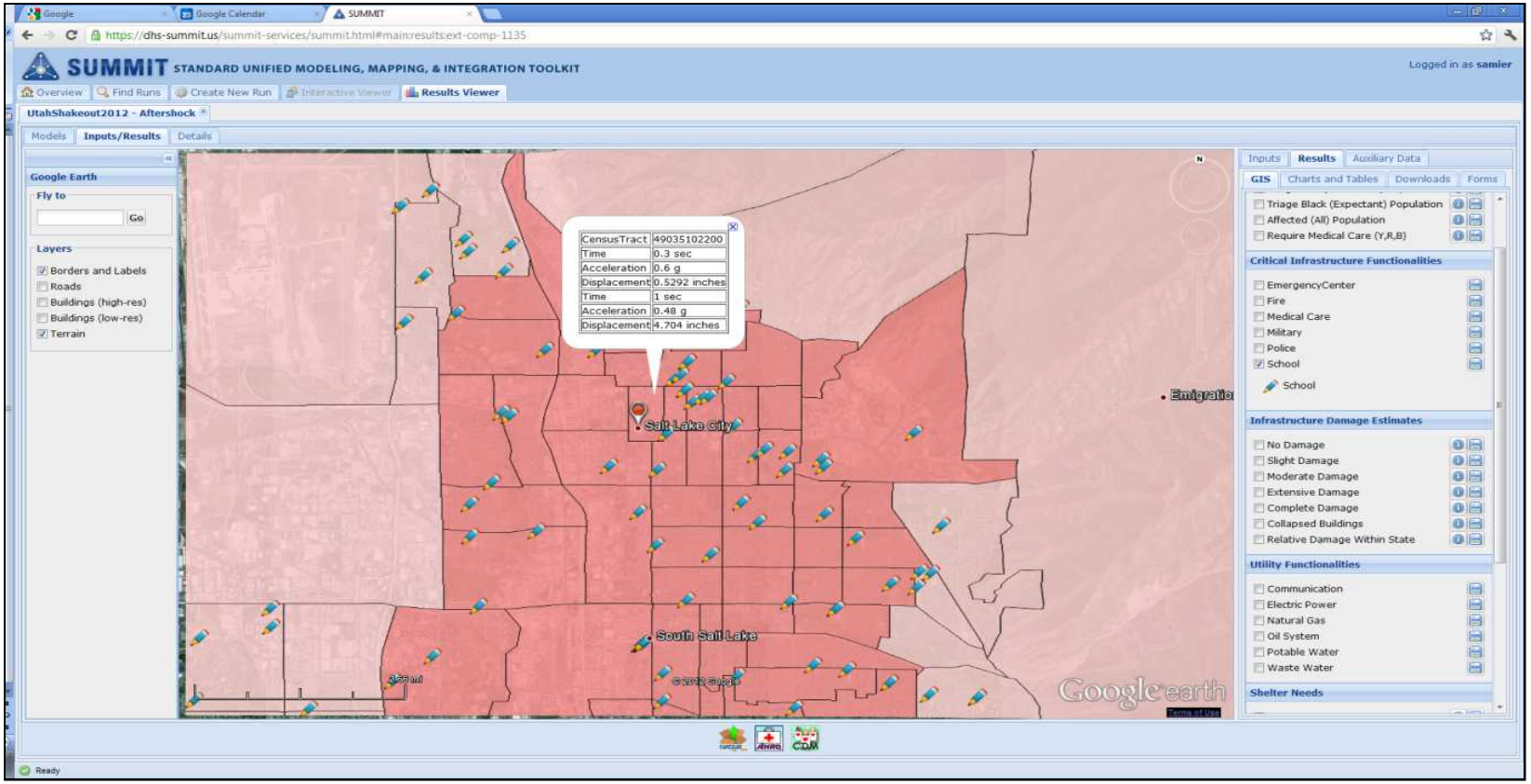
2 • Casualty counts are also segmented by types/categories requiring care.

Hospital Capacity



- Vital information about a hospital's capacity can be viewed for use by responders and decision-makers.

Critical Infrastructure



- The impacts of the earthquake by critical infrastructure, such as hospitals, is displayed.

Day 4: Requirements

Time	Agenda Item: January 15, 2015
9:00 – 9:15 AM	Training Schedule
9:15 – 10:15 AM	Advanced SHERPA Features
10:15 – 10:30 AM	Break
10:30 – 12:00 PM	THIRA Applications
12:00 – 2:00 PM	Lunch and Personal Work
2:00 – 3:00 PM	SHERPA Transition Discussion
3:00 – 3:15 PM	Break
3:15 – 4:45 PM	SHERPA Requirements Gathering
4:45 – 5:00 PM	Wrap Up & Adjourn

GOAL: To demonstrate how SUMMIT can support THIRA applications, and to gather input from stakeholders on the development, functionality, and capability of SHERPA.

Advanced SHERPA Features

SHERPA User Conference

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15 min

THIRA Applications (1)

- Pilot program with Louisiana Governor's Office of Homeland Security & Emergency Preparedness (LA-GOHSEP)
  - THIRA scenarios included sever weather, wildfire, hurricane, radiological attack, etc.
  - Switch to SHERPA to highlight some template runs

THIRA Applications (2)

1. Break into small groups by agency.

1. Discuss how SHERPA can support your THIRA applications (see next slide).

2. Return for large group discussion.

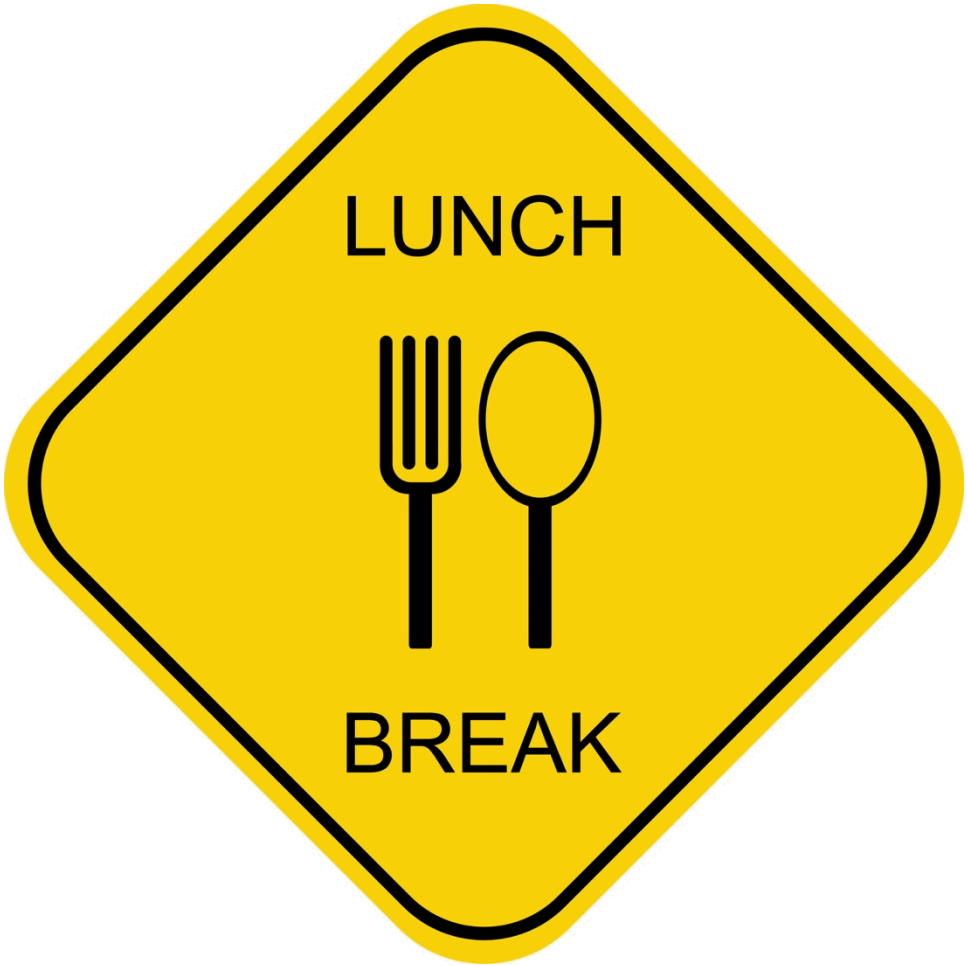
THIRA Applications (3)

1. Which disaster scenarios are most important?
   - What disaster scenarios did/will you consider in your THIRA application this year?
   - How did you come up with those scenarios?
   - What disasters is your region most concerned about, and why?

2. What gaps exist in your current tools?
   - What tools do you currently use for THIRA applications?
   - Which models and datasets do you currently use?
   - Which model and datasets would you like to use? Why can't you use them now?
   - What metrics or statistics do you wish you could estimate?

3. What gaps exist in SHERPA?
   - Which models would you like to run in SHERPA?
   - What is the biggest hurdle to using SHERPA for THIRA?
   - What metrics are required for a THIRA application, and do you think SHERPA can provide them?

Activity: create a prioritized "wish list" of tools, models, and datasets that you would like to use for THIRA applications.


LUNCH
BREAK

SHERPA Transition

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15 min

SHERPA Requirements Gathering

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Talking Through Process

Setting The Stage

- Recall the last response plan development activity, THIRA planning activity, or exercise development/conduct/evaluation

Thought Questions

- What problems, roadblocks, hurdles, impediments did you experience?
- What are/were the root causes?
- What prevented solution execution/implementation?

Requirements Gathering

- What additional modeling capability is needed to address gaps/needs for you (given the Mission Needs presented on the handout)?

- What SHERPA operational attributes (i.e. requirements) are needed to enhance planning, training, exercise, response capabilities? (Ex: Real time data feeds, customized report generator)

- If your organization wanted to deploy SHERPA, what are the top 5 hurdles (e.g. server deployment)?