

# Virtual USA

## A National Technical & Cultural Shift in Information Sharing



# The National Problem

1. Inability to seamlessly share information and collaborate in real time
  - Contributed to Hurricane Katrina problems
  - Inhibits protection, prevention, response, mitigation and recovery
2. Cultural behavior among jurisdictions impedes sharing of information
3. Incompatible communication and information sharing systems at all levels of government

# **The National Solution – Virtual USA**

- 1. Technology Agnostic Platforms**
- 2. Resilient & Redundant Technological Infrastructure**
- 3. Appropriate Governance Structure**
- 4. Preservation of & Respect for Information Origins**

# **Making Information Actionable To Enable Collaboration**



# **vUSA Model #1: VIPER**

- **Uses ESRI**
- **A common incident based operations platform that integrates disparate GIS and data sets to enable seamless information sharing and collaboration among relevant stakeholders when needed**
- **Available to all VA government agencies and citizenry**
- **<https://cop.vdem.virginia.gov/viper>**

# Virginia's Problem

- **Vital sensors and systems were not part of a unified common operating picture.**
- **Their GIS could not keep up with the fluid demands of an operations environment.**

**MORE PROACTIVE - LESS REACTIVE**

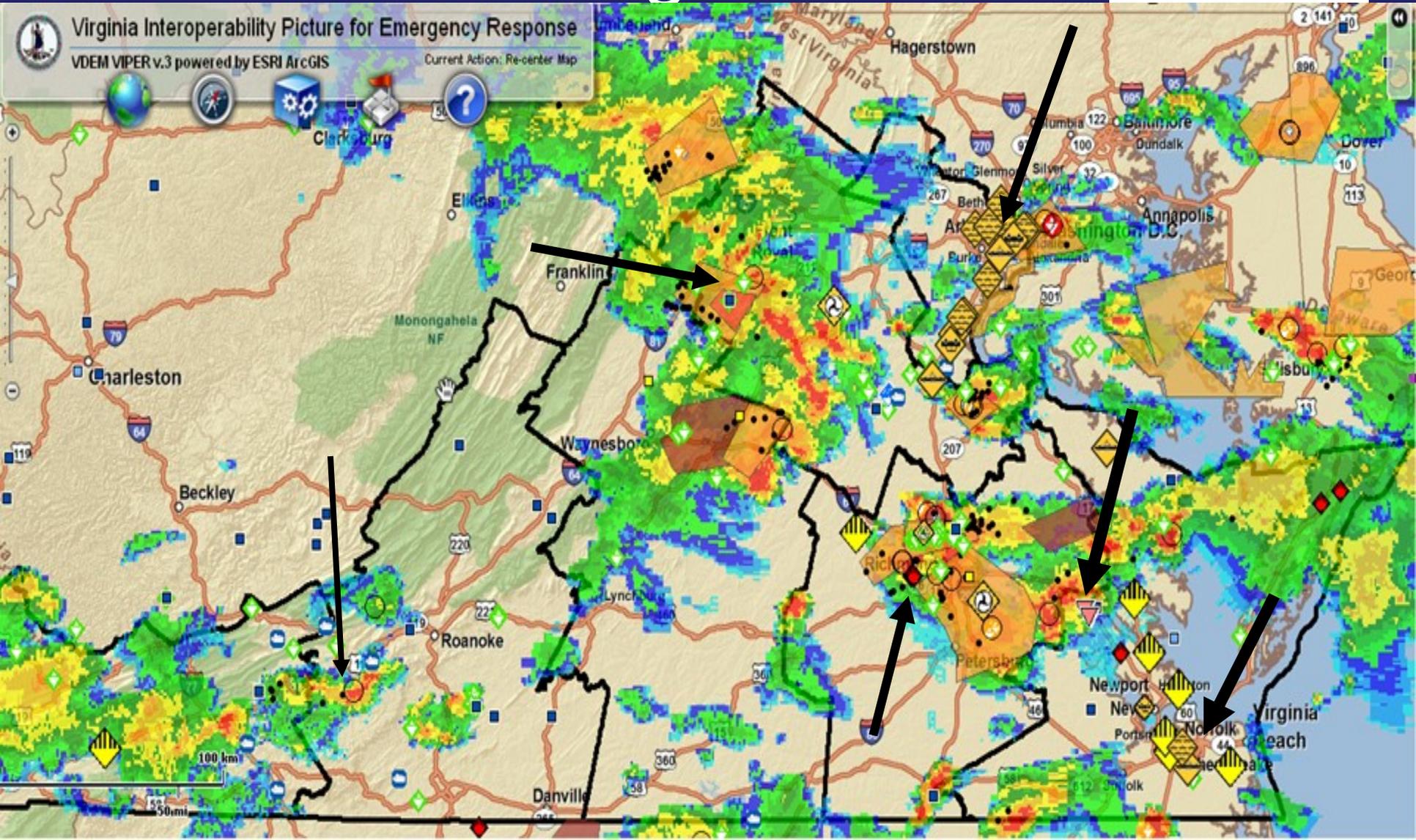
# Virginia's Solution: VIPER

1) Unite real-time systems with GIS

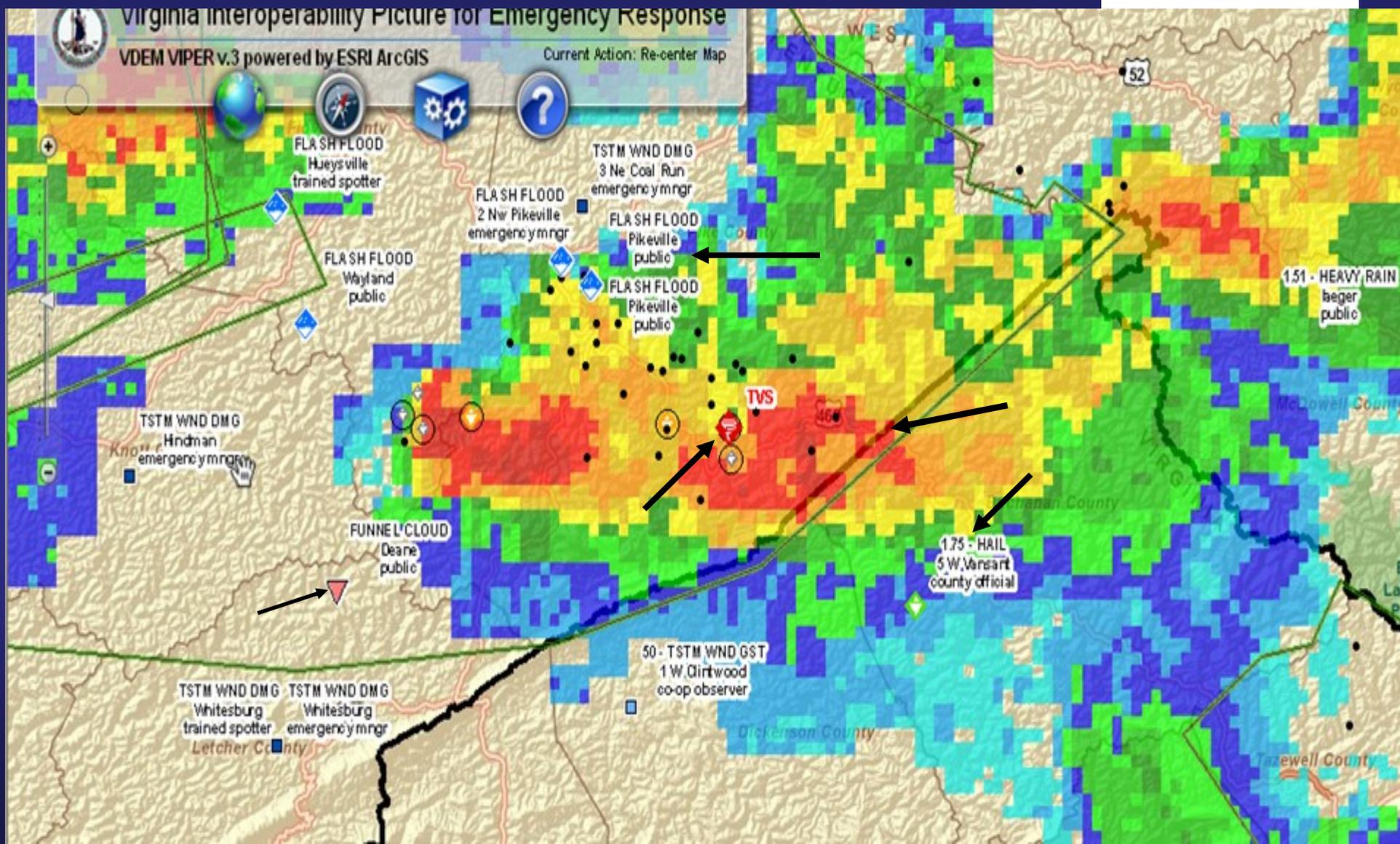
2) Present only what matters most

***INTEROPERABILITY & REPORT BY EXCEPTION***

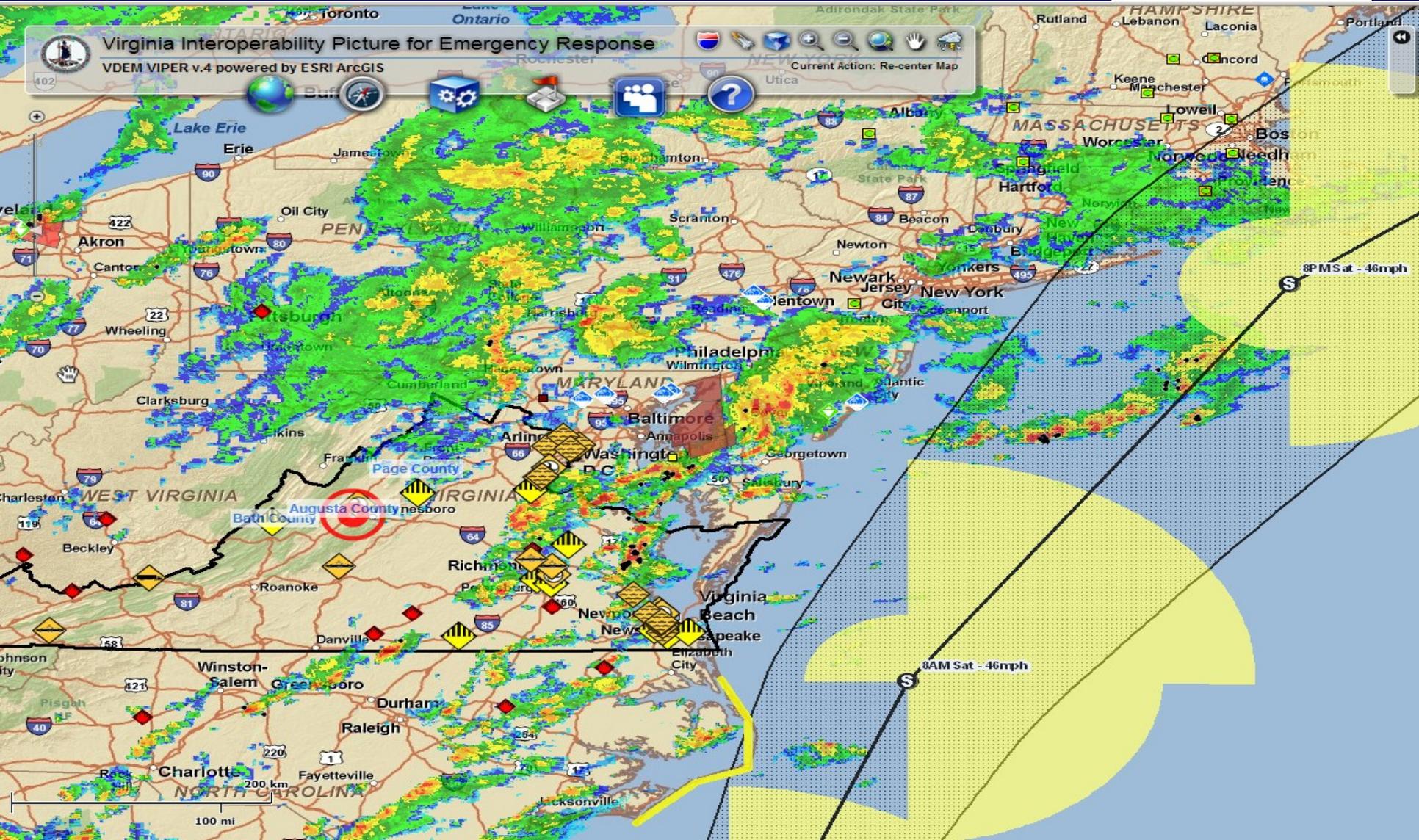
# COP of Virginia – Multiple Events Occurring



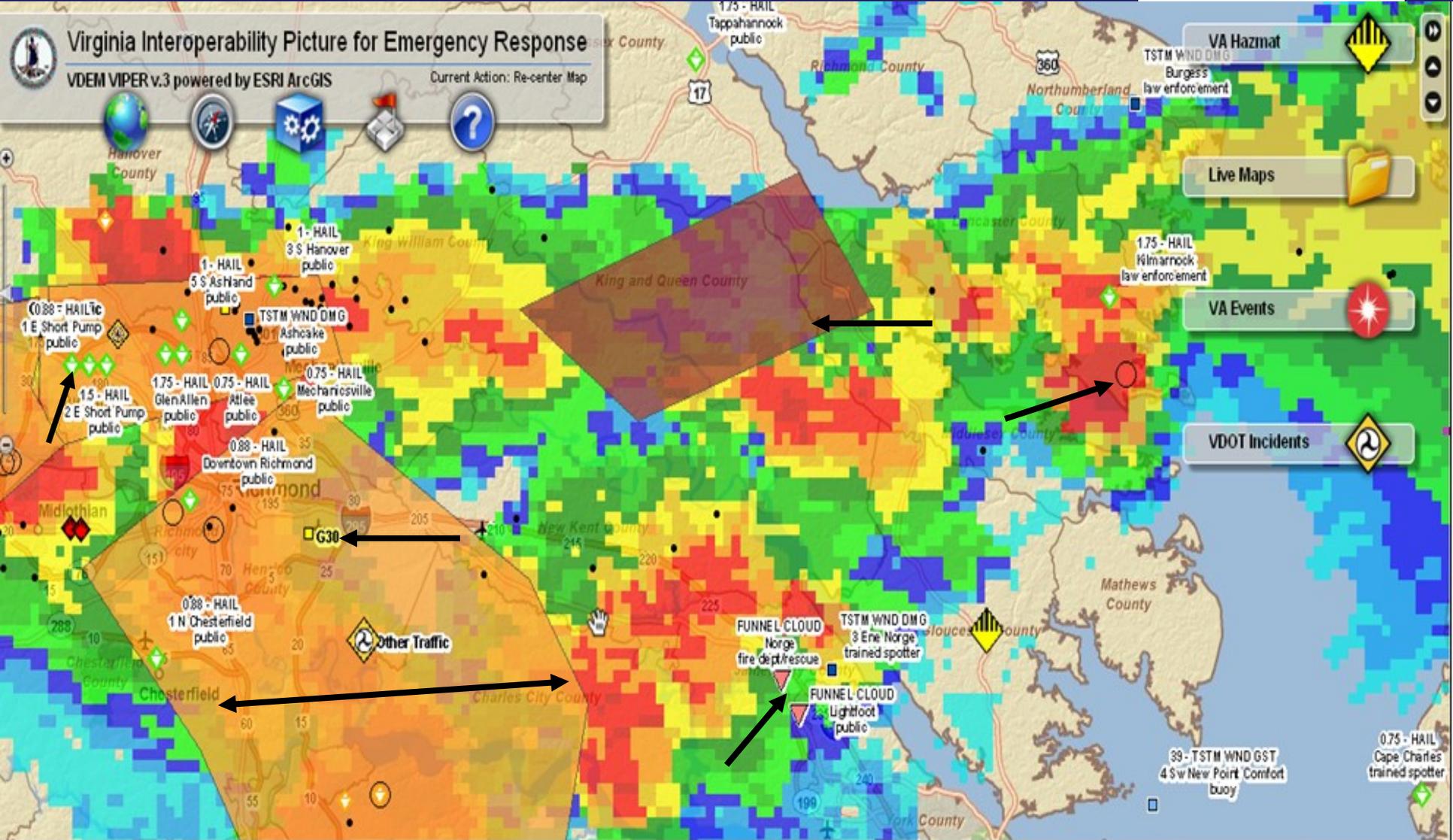
# VIPER Data Aids Decision Making (early warning notifications)



# TS Danny



# Weather watches/warnings and real time data as reported



# Near real time data w/ static GIS display



Virginia Interoperability Picture for Emergency Response  
VDEM VIPER v.3 powered by ESRI ArcGIS  
Current Action: Zoom In

**Vehicle Fire**  
timestamp: 6/3/2009 12:00:00 AM  
template\_5: On I-95 at mile marker 133 in the County of Stafford, motorists can expect potential delays due to a vehicle fire. The south left shoulder, left lane, center lane, right lane, and right shoulder are closed. containing: Stafford (County)

1- HAIL  
2 W Fredericksburg trained spotter

0.89 - HAIL  
Fredericksburg Pr

1- HAIL  
0 New Fredericksburg trained spotter

FLASH FLOOD  
2 S W Fredericksburg 911 center

3 km  
2 mi

Create map - windows internet explorer

https://cop.vdem.virg

Google

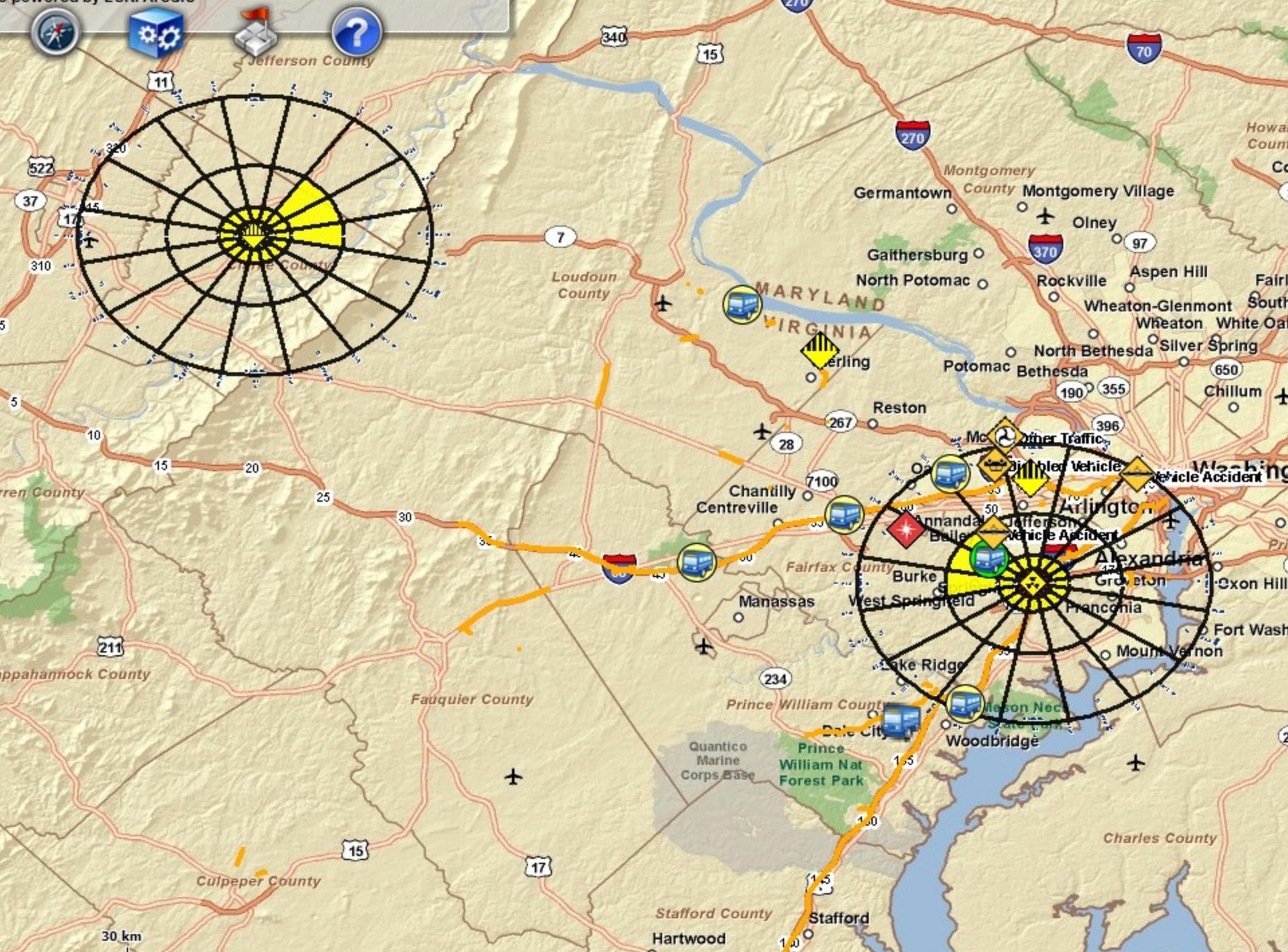
Create Map

N  
Road Aerial Bird's eye Labels  
W E  
S

50 yds

bing





# WebEOC

2009-08 Virginia Daily Activity

## Other Events



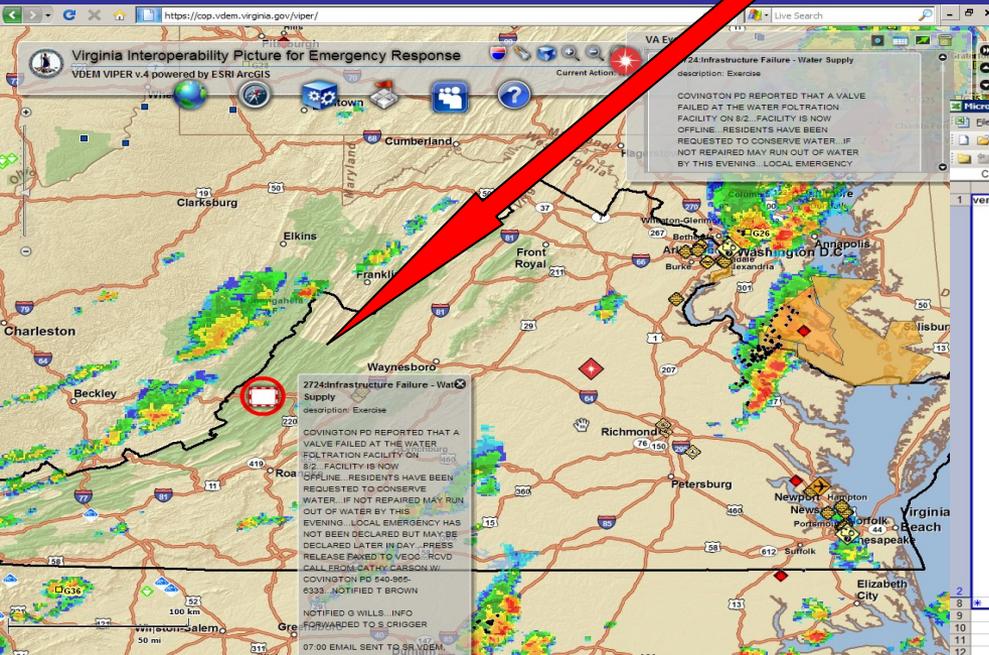
# GeoRSS

Dataid	Event Date/Time	Event Type	Jurisdiction	Status	Details / Map	Update
2691	07/29/2009 15:48:42	Suspicious Activity		Open	Detail	Update
2703	07/30/2009 14:51:54	Transportation Incident - Private Aircraft	York County	Open	Detail	Update
2724	08/21/2009 05:31:27	Infrastructure Failure - Water Supply	Covington City	Open	Detail	Update
2859	08/21/2009 11:47:07	Event Not Otherwise Specified	Louisa County	Open	Detail	Update
2853	08/20/2009 23:15:18	Suspicious Activity	Chesapeake City	Open	Detail	Update
2864	08/21/2009 12:44:49	Damaging Weather Event Local	Bristol City	Open	Detail	Update
2874	08/21/2009 12:37:26	Weather Event (Pre Occurrence Watch/Warning)	Fairfax County	Closed	Detail	Update
2873	08/21/2009 10:58:22	Tropical Storm	Richmond City	Closed	Detail	Update
2872	08/20/2009 23:04:33	Hurricane Readiness Condition III Setting		Closed	Detail	Update
2871	08/20/2009 19:14:07	Weather Event (Pre Occurrence Watch/Warning)	Patrick County	Closed	Detail	Update
2870	08/20/2009 17:22:17	Weather Event (Pre Occurrence Watch/Warning)		Closed	Detail	Update

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      <title>2724:Infrastructure Failure - Water Supply</title>
      <description>
        Exercise COVINGTON PD REPORTED THAT A VALVE FAILED AT THE WATER FOLTRATION FACILITY ON 8/2. FACILITY IS NOW OFFLINE. RESIDENTS HAVE BEEN REQUESTED TO CONSERVE WATER. IF NOT REPAIRED MAY RUN OUT OF WATER BY THIS EVENING. LOCAL EMERGENCY HAS NOT BEEN DECLARED BUT MAY BE DECLARED LATER IN DAY. PRESS RELEASE FAXED TO VEOC. RCVD CALL FROM CATHY CARSON W/ COVINGTON PD 540-965-6333. NOTIFIED T BROWN NOTIFIED G WILLS. INFO FORWARDED TO S CRIGGER 07:00 EMAIL SENT TO SR VDEM. OPS, S CRIGGER 16:42 SENT SIG EVENT REGION 6 COORD STAN CRIGGER IS ENROUTE TO COVINGTON TO ASSIST WITH WATER SHORTAGE CAUSED BY A VALVE FAILURE ON THE EVE OF AUG 2. AT THE CITY'S WATER FILTRATION PLANT 16:47 RCVD LOCAL SITREP FROM COVINGTON PRIMARY INFO.As of 1630 hrs on Aug 3, 2009, the water filtration plant has been restored to approximately 50% of its operating capacity. Repairs will continue over the next 24-48 hrs in order to bring the filtration and pumping systems back to full capacity. 18:20 RCVD CALL FROM STAN CRIGGER PUMPS ARE HOLDING AT 50% AND ARE EXPECTED MAINTAIN THAT LEVEL THROUGHOUT THE EVENING. S. CRIGGER WILL BE GOING HOME TONIGHT AND WILL RESPOND TO COVINGTON TOMMOROW. SIG EVENT SENT
      </description>
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      <entrydate>
        Last Update:Last Update: 8/21/2009 6:27:53 PMStatus: Open, ID:2724, Name:Infrastructure Failure - Water Supply
      </entrydate>
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      <geolong>-79.987938</geolong>
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      <description>
        Exercise RCVD NRC # 915226 SECURITY BREACH PURDUE FARMS INC 501 BARNES ROAD CHESAPEAKE VA PORT FACILITY DESCRIPTION OF INCIDENT AN INDIVIDUAL DISEMBARKED THE VESSEL AND HAD AN ESCORT ON THE PIER. THE ESCORT LEFT THE INDIVIDUAL THERE AND DEPARTED THE FACILITY. THE INDIVIDUAL DID NOT CALL THE ESCORT AS HE SHOULD HAVE AND LEFT THE PIER. ACTIONS: FWED NRC RPT TO VFC 23:25 ALERTED SDO T. BROWN 23:27 T. BROWN ACKED 23:35 FAXED VSP DIV 5
      </description>
    </item>
  </channel>
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# VIPER

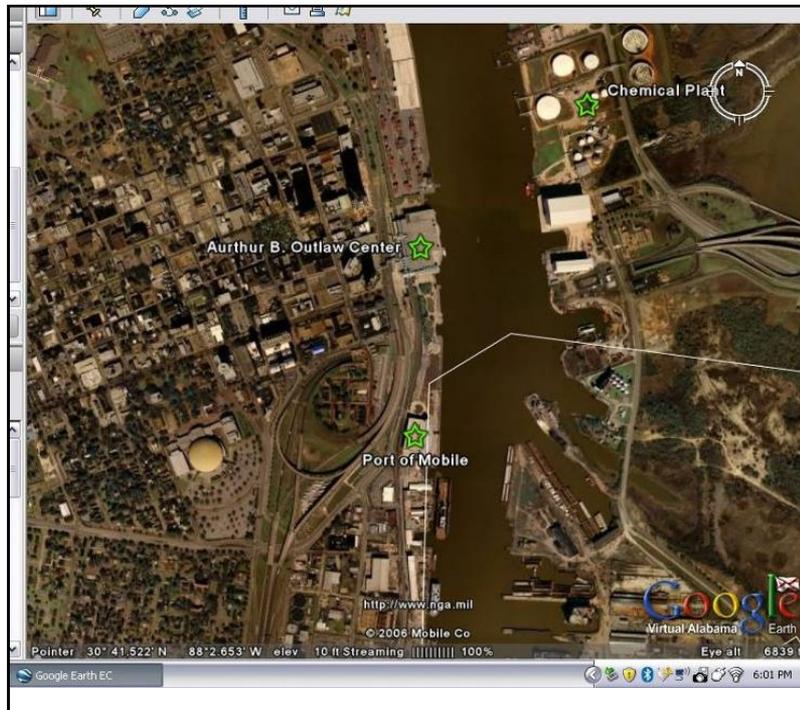


# MS Excel

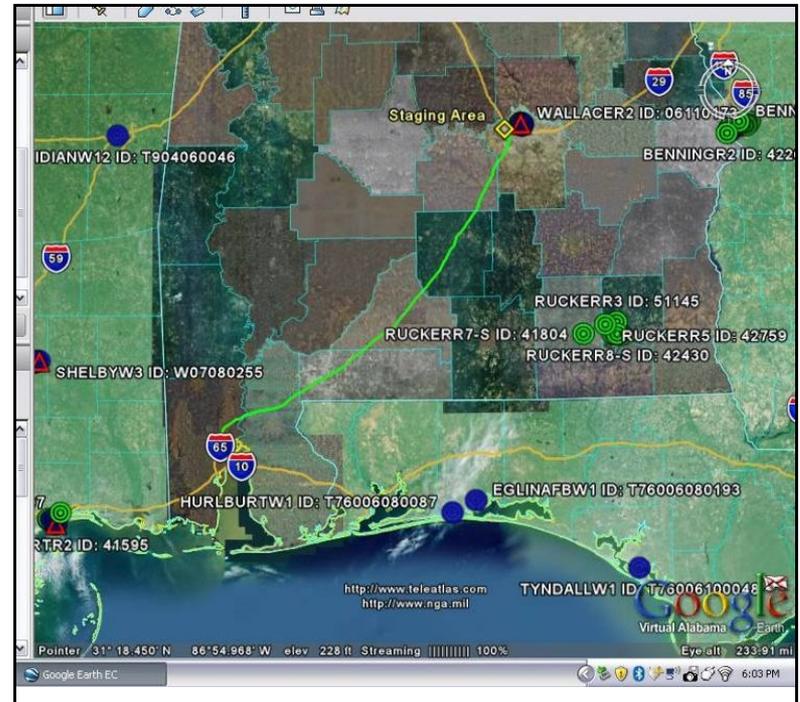
version	eventtype	title	description	pubDate
1	Infrastructure Failure - Water Supply	2724:Infrastructure Failure - Water Supply	Exercise COVINGTON PD REPORTED THAT A VALVE FAILED AT THE WATER FOLTRATION FACILITY ON 8/2. FACILITY IS NOW OFFLINE. RESIDENTS HAVE BEEN REQUESTED TO CONSERVE WATER. IF NOT REPAIRED MAY RUN OUT OF WATER BY THIS EVENING. LOCAL EMERGENCY HAS NOT BEEN DECLARED BUT MAY BE DECLARED LATER IN DAY. PRESS RELEASE FAXED TO VEOC. RCVD CALL FROM CATHY CARSON W/ COVINGTON PD 540-965-6333. NOTIFIED T BROWN NOTIFIED G WILLS. INFO FORWARDED TO S CRIGGER 07:00 EMAIL SENT TO SR VDEM. OPS, S CRIGGER 16:42 SENT SIG EVENT REGION 6 COORD STAN CRIGGER IS ENROUTE TO COVINGTON TO ASSIST WITH WATER SHORTAGE CAUSED BY A VALVE FAILURE ON THE EVE OF AUG 2. AT THE CITY'S WATER FILTRATION PLANT 16:47 RCVD LOCAL SITREP FROM COVINGTON PRIMARY INFO.As of 1630 hrs on Aug 3, 2009, the water filtration plant has been restored to approximately 50% of its operating capacity. Repairs will continue over the next 24-48 hrs in order to bring the filtration and pumping systems back to full capacity. 18:20 RCVD CALL FROM STAN CRIGGER PUMPS ARE HOLDING AT 50% AND ARE	Last Update: 8/21/2009 7:03:11 PM

# vUSA Model #2: Virtual Alabama

Able to pre-determine critical assets, staging areas, and routes, or determine rapidly based on mission requirements and situational awareness.



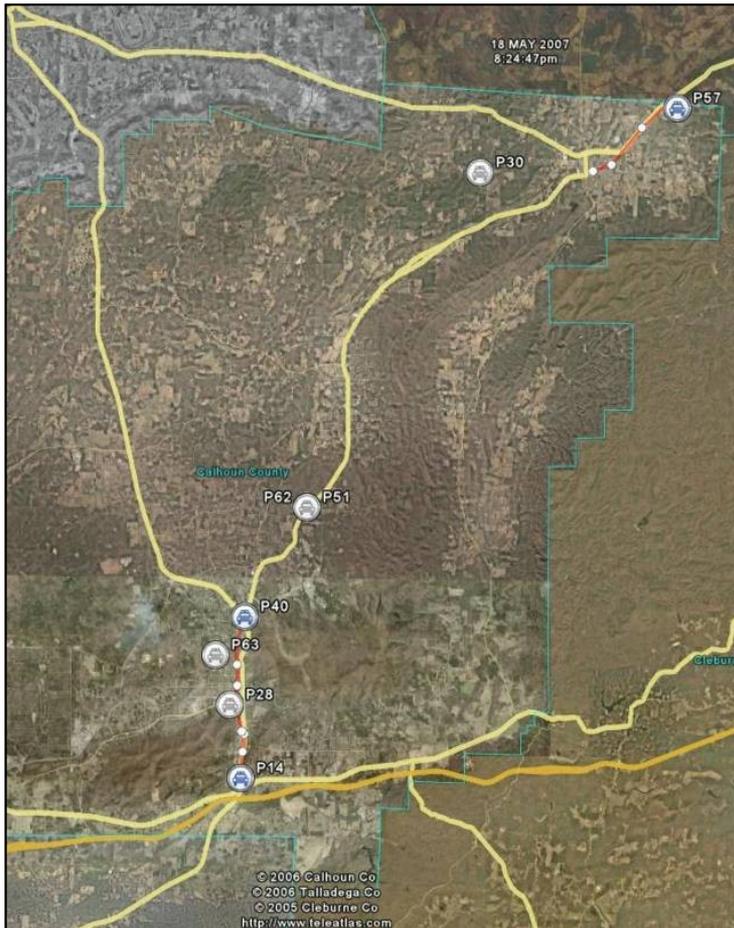
**Alabama Critical Assets**



**Alabama Staging Areas**

# Real Time Information Feeds

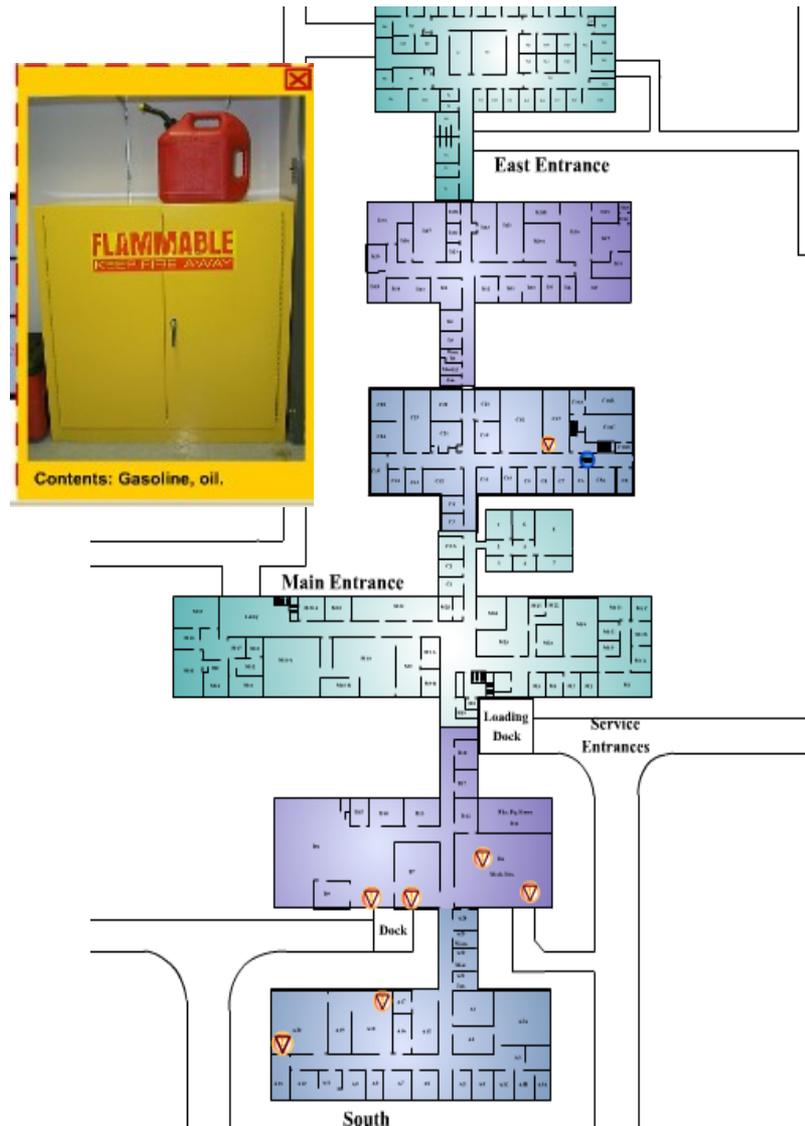
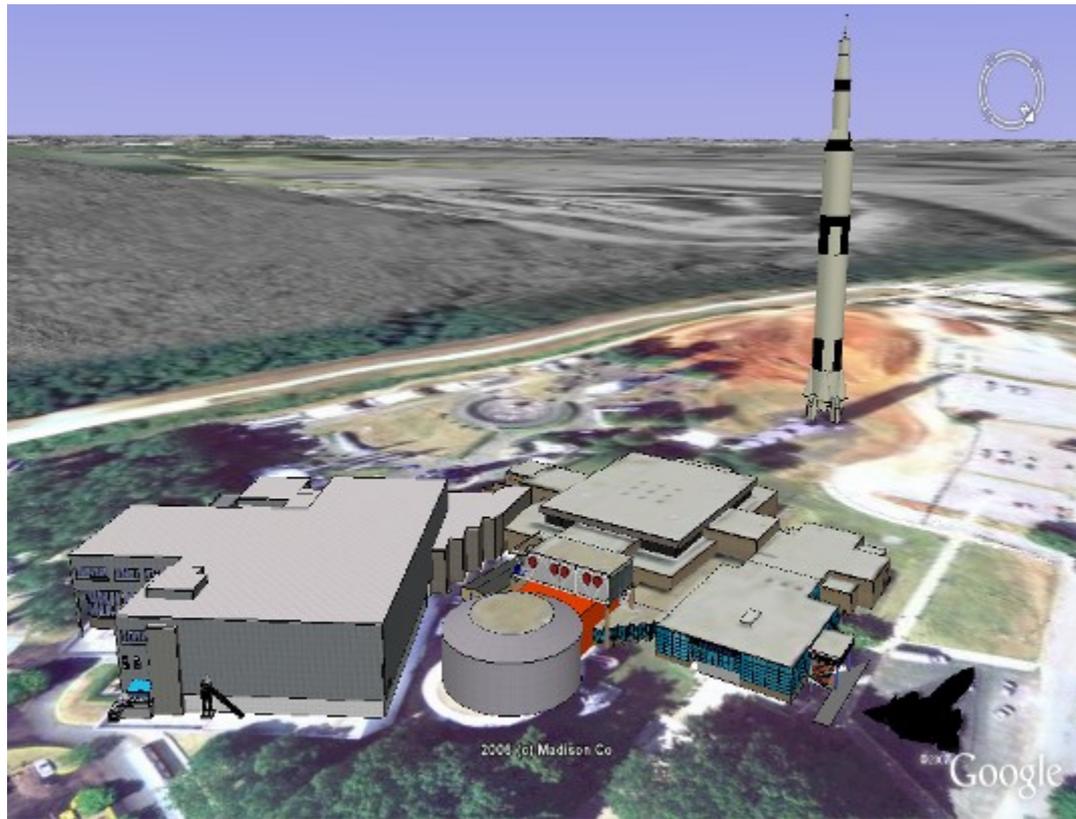
Visibility of Multiple Disciplines  
(Police and Fire)



Use of existing DoT  
WEB CAM

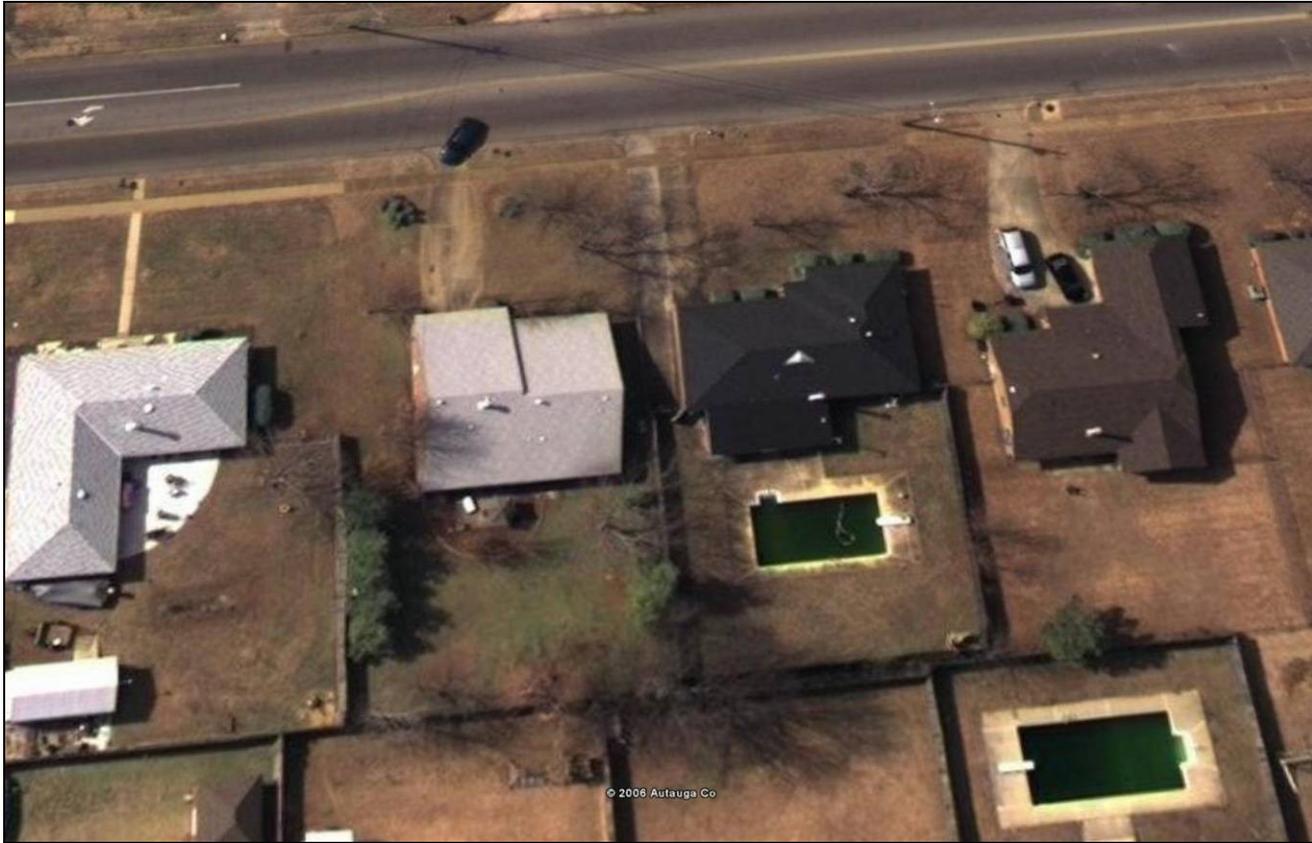


3D models can be enhanced with information about locations of hazardous materials as well as provide access to live video feed where available.



# Virtual Alabama

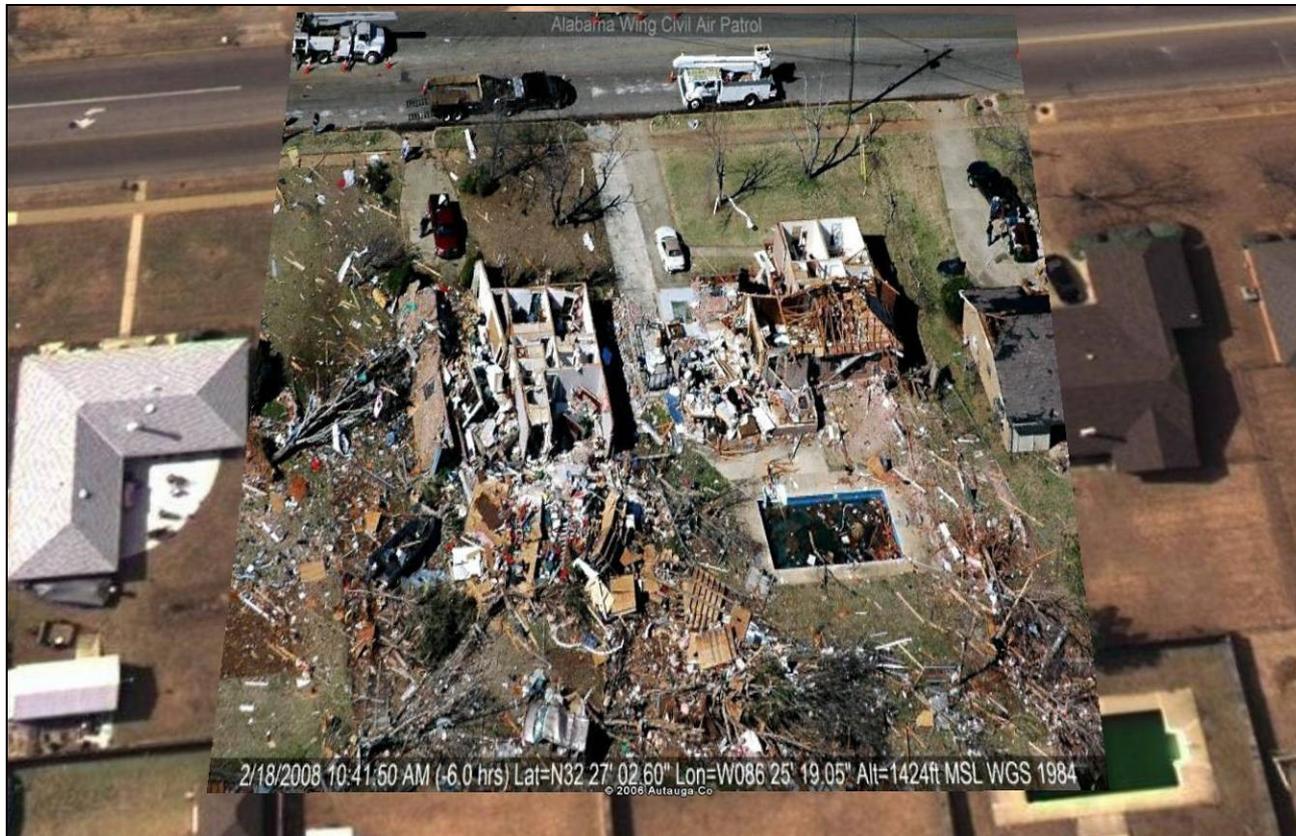
And the ability to provide Before ...



*Used for Recovery Mission (determine \$\$ Value)*

# Virtual Alabama

... and After Situational Awareness of Area of Operation



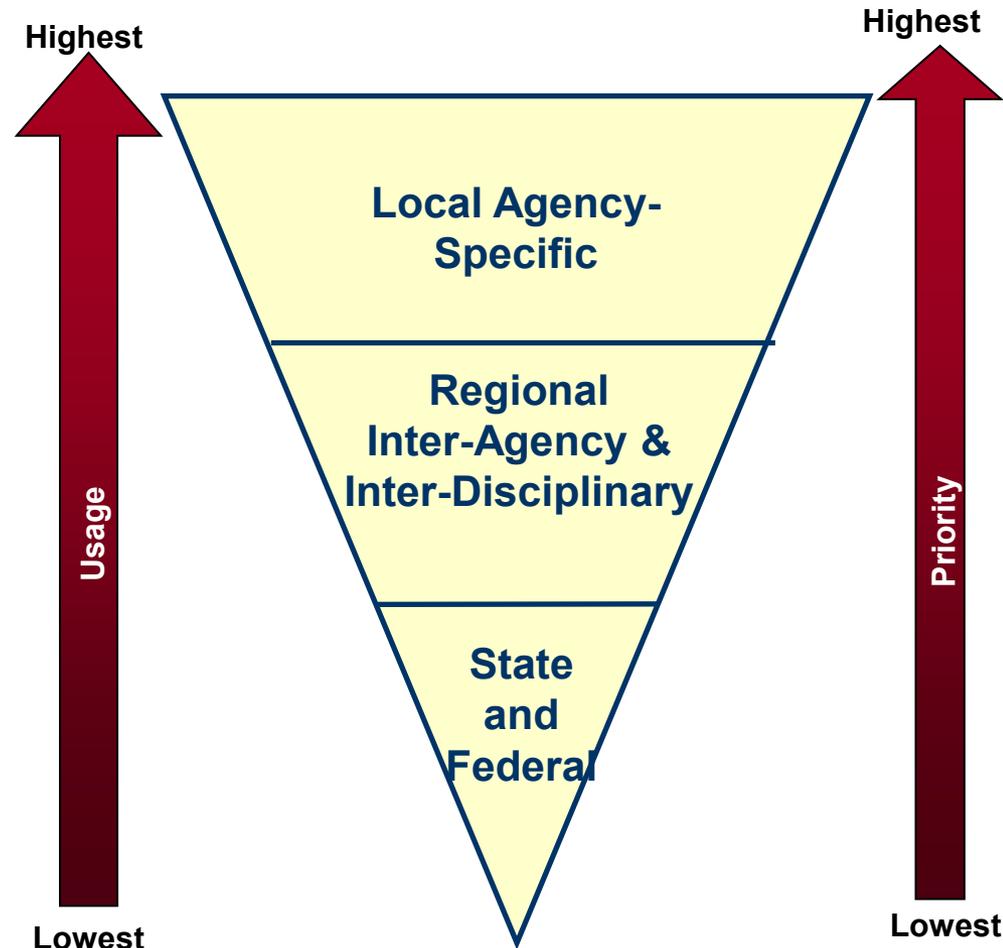
*Data provided within 4 hours of Incident, help with rescue mission*

# Virtual USA



# Virtual USA Core Principles

- All Data/Information is LOCAL
- Bottom Up Approach = Practitioner Driven
- Integrates existing frameworks
- Builds on existing investments



# Virtual USA – Regional Pilots

## **Regional Operations Platform Pilot (ROPP)**

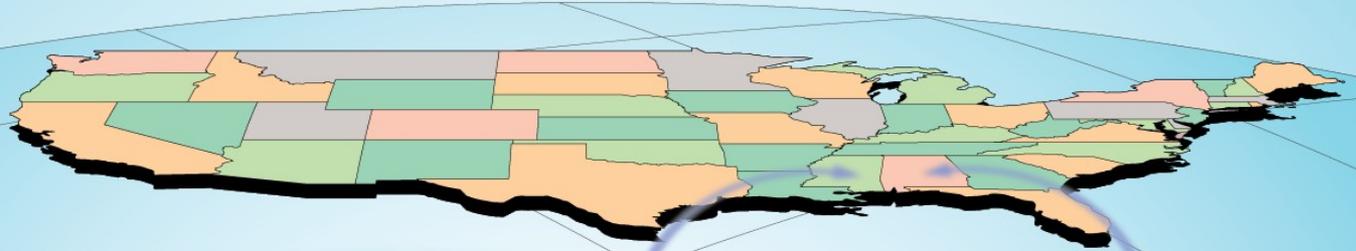
- 7 States: Alabama, Louisiana, Mississippi, Florida, Texas, Virginia, Georgia
- At beginning: Only 2 states had platforms (different technology bases)
- Currently: All 7 states have platforms
- Project Charter & Governance Compact
- November 2009: Demonstration

## **Pacific Northwest Pilot (PNW)**

- 5 States: Alaska, Idaho, Montana, Oregon, Washington
- Kickoff meeting September 2009

# VIRTUAL USA

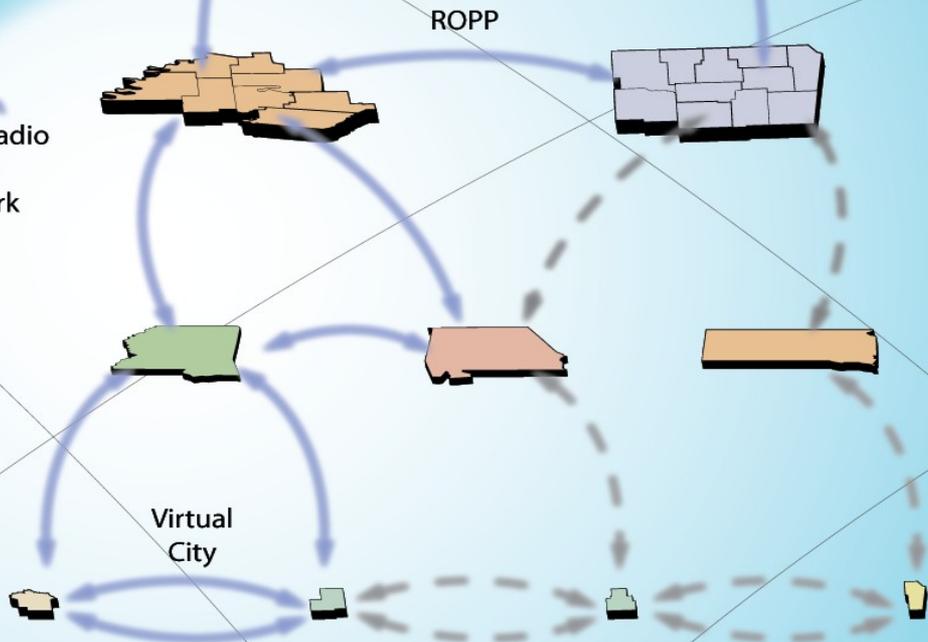
NATION



REGION



STATE



CITY