Pacific Northwest Pilot Update

Sean McSpaden
Oregon Deputy State Chief Information Officer
vUSA PNW Pilot – Technical Working Group Chair
August 2010

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Pacific Northwest (PNW) Pilot

- Kickoff Meeting: Tacoma, WA – September 2009
  - Goal: Develop a regional information sharing capability (Common Operating Picture for Emergency Management)
- Shared Commitment
  - Adjutant Generals from each of the five member states agreed to create a PNW Regional Pilot Demonstration within a year (October 2010)
  - Scenario: Severe Winter Storm
- Pilot participants
  - Alaska
  - Idaho
  - Montana
  - Oregon
  - Washington

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PNW Pilot Milestones

Virtual USA – Pacific Northwest Regional Pilot

Oct-Dec 2009	Jan-Mar 2010	Apr-Jul 2010	Aug-Oct 2010
• Introduce Virtual USA to Pilot stakeholders o Alaska o Idaho o Montana o Oregon o Washington • Identify initial data requirements, available data sets, current GIS architecture and capabilities • Identify representatives to the regional PNW Pilot steering committee • Form state level steering, operational, and technical working groups	• Conduct outreach to increase federal, regional, tribal, and local government involvement • Finalize and deploy Requirements Workbook • Confirm state-specific operational and data requirements • Fuse separate state requirements and confirm regional and Federal partner information requirements • Hold Working Group meetings o Steering Group o Operational Working Group o Technical Working Group • Agree on authoritative data sources and identify and/or establish data stewards	• vUSA Pilot Implementation Team visits each PNW Pilot state to help build capacity • Build prototypes • Collaborative Development among state and local government & vUSA partners • Determine opportunities for funding, sustainment of long-term effort beyond September 2010 • Develop funding request to encourage state level support • Confirm grant funding opportunities (multi-county, multi-jurisdictional, multi-state) • Hold Working Group meetings o Steering Group o Operational Working Group o Technical Working Group • July 27, 2010 – PNW Pilot Plenary Meeting in Camp Murray, Washington	• Finalize stewardship agreements for key data sets • Hold Working Group meetings o Steering Group o Operational Working Group o Technical Working Group • Conduct a Pilot demonstration involving Alaska, Idaho, Montana, Oregon, and Washington plus Federal partners • Winter storm scenario • Confirm regional partners' intent to support PNW Pilot continuation • Continue improvement of state and regional information-sharing/mapping capabilities • Share lessons learned with vUSA and other future regional pilots

Bi-Weekly Teleconference calls with PNW Pilot states and vUSA Team

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PNW Pilot Methodology

Phase I
Initial Planning and Stakeholder Engagement

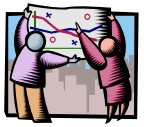
- Identify key players
- Assemble stakeholders
- Develop initial communication and outreach material
- Establish expectations
- Define scope

Phase 2
Requirements Gathering

- Document operational, technical and governance requirements
- Determine information needs
- Inventory existing systems

Phase 3
Solutions Planning and Design

- Analyze requirements
- Develop implementation strategy and timeline
- Prioritize potential solutions
- Identify options
- Select options



Phase 4
Tech Implementation

- Implement solutions

Phase 5
Test & Evaluation

- Functional Test
- Internal demonstration
- Operational assessment

Phase 6
Implementation and Sustainability

- Operationalize
- Support
- Communications & Outreach
- Training
- Gather new requirements

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PNW Pilot Status

- Solution Planning and Design & Tech Implementation
  - Using the Requirements Workbook information gathered during the five state visits, the vUSA Pilot Implementation Team is analyzing potential solutions and providing recommendations for implementation
  - Alaska – Completing requirements gathering phase
  - Idaho – Evaluating Mapper Pro vs. alternative viewer(s) to determine what solutions best meets their needs
  - Montana - Purchased WebEOC. In process of installing Mapper Pro
  - Oregon "VENOM" prototype deployed July 2010
  - Washington "WISE" system operational
- Next Steps
  - Regional plenary held on July 27, 2010 – Camp Murray, Washington
  - Purpose: Bring together the PNW States to:
    1. Discuss/demonstrate progress to date within states and across the region
    2. Identify/define path forward to achieve regional pilot objectives
  - Technical and Operations Working Groups are conducting virtual meetings to work on governance & information sharing requirements

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PNW Pilot Governance

- A Memorandum of Agreement (MOA) has been drafted and is circulating across the five PNW states for final review and comment.
- Technical Working Group has completed its initial work on the MOA Appendix V1.0
  - File Formats
  - Metadata
  - Common Information Needs (Datasets members will share)
- Future Technical Working Group focus will be on
  - Symbology
  - Security – ensure appropriate level of secure access to data

PNW Pilot File Formats

- **Status:** Consensus reached July 3, 2010
- Technical Working Group consensus reached to provide/share data in one or more formats:
  1. XML
  2. KML
  3. KMZ
  4. GeoRSS
  5. WMS
  6. REST Services API
  7. ATOM
- **Note:** If primary file format of dataset is KML or KMZ, members agree to provide/share data in at least one additional alternative file format listed above. In addition, members agree to develop a common protocol/approach for providing access to data using secure and non secure http (https:// and http://) as appropriate.

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PNW Pilot Metadata

Status: Consensus Reached at July 27, 2010 Plenary

- Initial plan: Adopt a *Metadata-Light* approach for initial data sharing
  - Subset of Metadata fields from a recognized Metadata Standard (e.g. FGDC, ANSI North American Profile, Dublin Core, etc.)
  - Tried to align closely with Southeast ROPP Metadata List
- Long-term plan: Adopt and progressively move toward the provision of Metadata that is fully compliant with standard

PNW Pilot Metadata Standards

Fields	vUSA Pacific NW Pilot Metadata Standards (Aligned with FGDC Metadata Standard)	PNW Pilot *"Metadata Light"*	*SE ROPP – "Metadata Light"*
1	Title	Required	
2	Originator	Required	*Originator*
3	Description	Required	*Description*
4	Update Frequency	Required	*Update Frequency*
5	Use Constraints	Required	
6	Contact Organization (Contact Information)	Required	*Data Coordinator (Point of Access)*
7	*Format **	*Required for Gen II/III Upload*	
8	*Online Linkage (Published Access Point) **	*Required for Gen II/III Upload*	*Published Access*
9	*Bounding Coordinates*	*Highly Desirable*	
10	*Entity Attributes*	*Highly Desirable*	
11	*Theme Keyword(s)*	*Highly Desirable*	

* Note: **Format (i.e. KML, XML GeoRSS, REST, ATOM, etc.) and Published Access Point (Data Location – i.e. URL)** will be required metadata fields during the upload process to the Generation II/III Prototype Information Sharing Environment but will not be required metadata within the dataset/file being shared.

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PNW Pilot Participant Information Needs

- **Status:** Reached consensus at July 27, 2010 Plenary ~ 30 categories

- EOC Status
- Situational reports from affected areas
- Requests for assistance and status
- Available resources and location
- Shelter locations and status
- EMAC requests and status
- Weather Forecasts
- Severe storm warnings
- Flooding projections
- Stream Gauge readings
- Regional events (date, time, size, location)
- Who, what, when, where of any incident of significance
- Volcano Status
- Alaska Marine Highway System Status
- Demographics at the county level
- Infrastructure (location, status, at risk)
- Road conditions/restrictions/ limitations
- Road construction and detours
- Traffic cameras/imagery
- Power outage areas
- Seismic monitoring & tsunami warnings
- Lightning strikes
- Fire Warnings
- Threats along state borders
- Medical/Public Health Notices
- Airports and Airport Status
- Ports and Port Status
- Railroads and Railroad Status
- Telecommunications Status of PSAPs (e.g. Phone, Cell, Internet)

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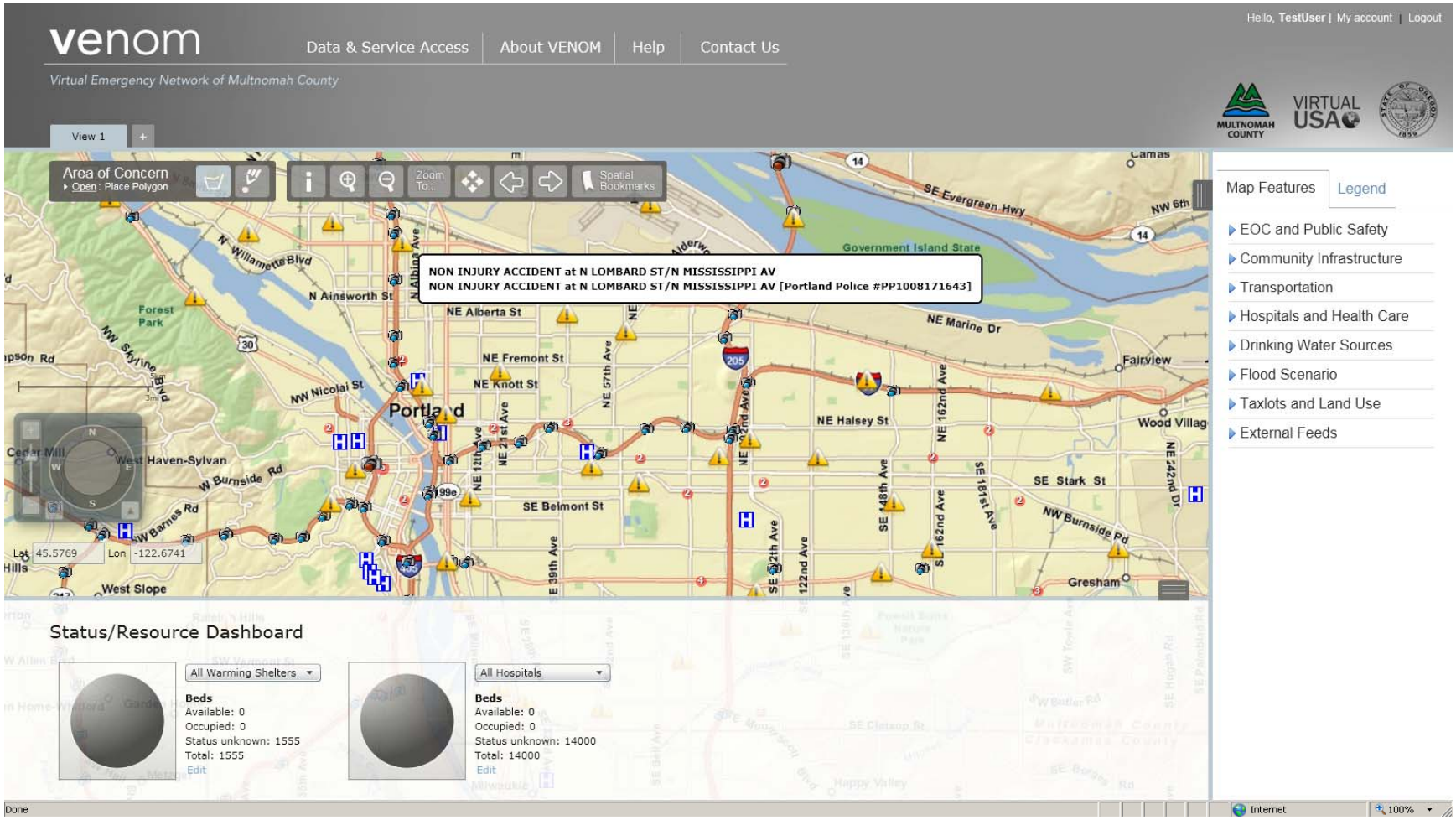
PNW Pilot Symbology

- Initial meeting held in Seattle, WA - July 8, 2010
  - Pacific NW National Labs (PNNL) hosted representatives from Oregon and Washington as initial focus group
  - Starting Point
    - FGDC Homeland Security Working Group/ESRI ArcGIS Symbology
- Follow-on work will involve all PNW Pilot states
  - **Goal:** Reach consensus with the five PNW pilot states on a common symbology palette for use in the pilot demonstration and beyond

PNW Pilot Update: Oregon

Virtual Emergency Network of Multnomah (VENOM)



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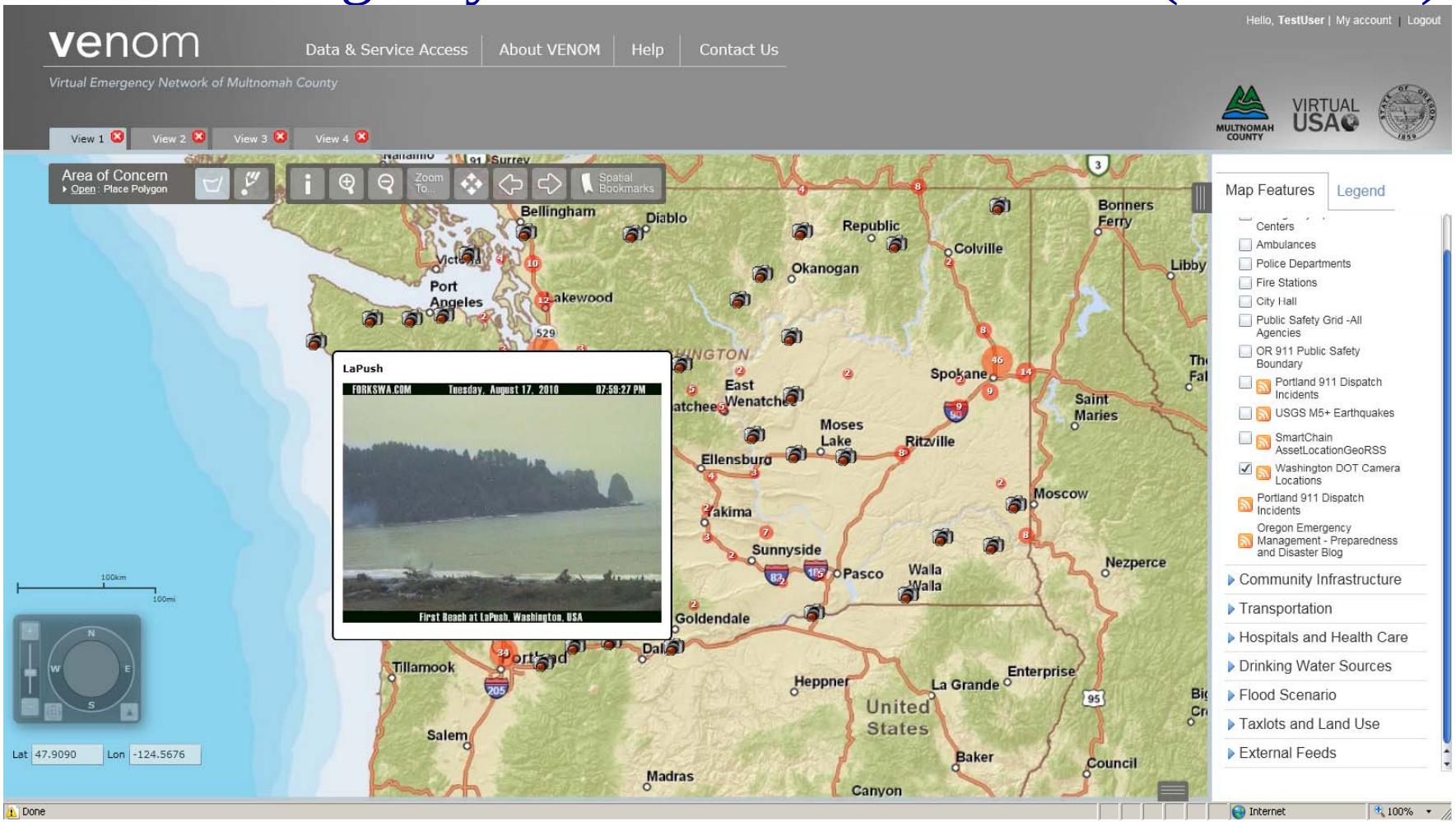
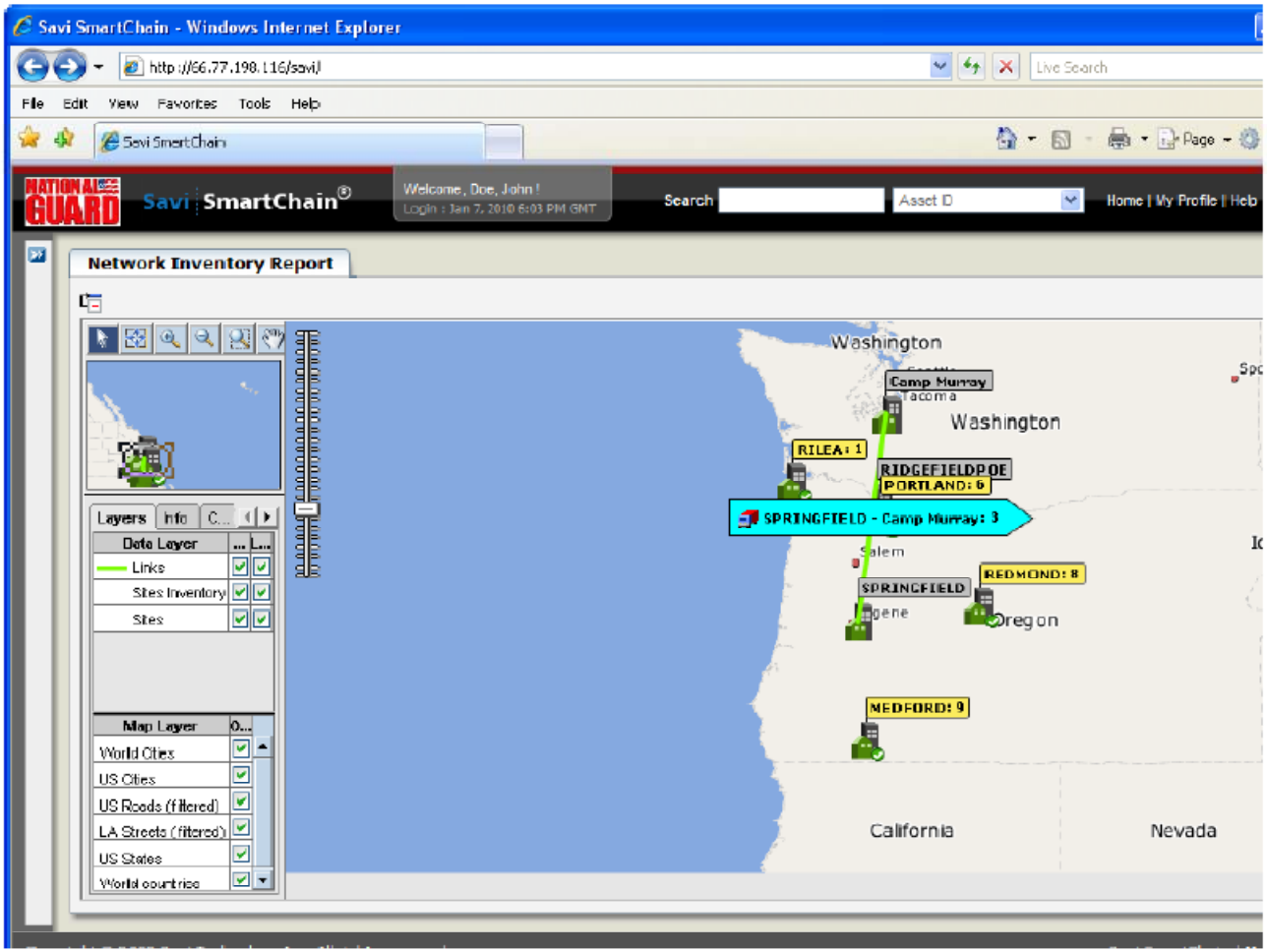


PNW Pilot Update: Oregon

National Guard SmartChain Information Sharing



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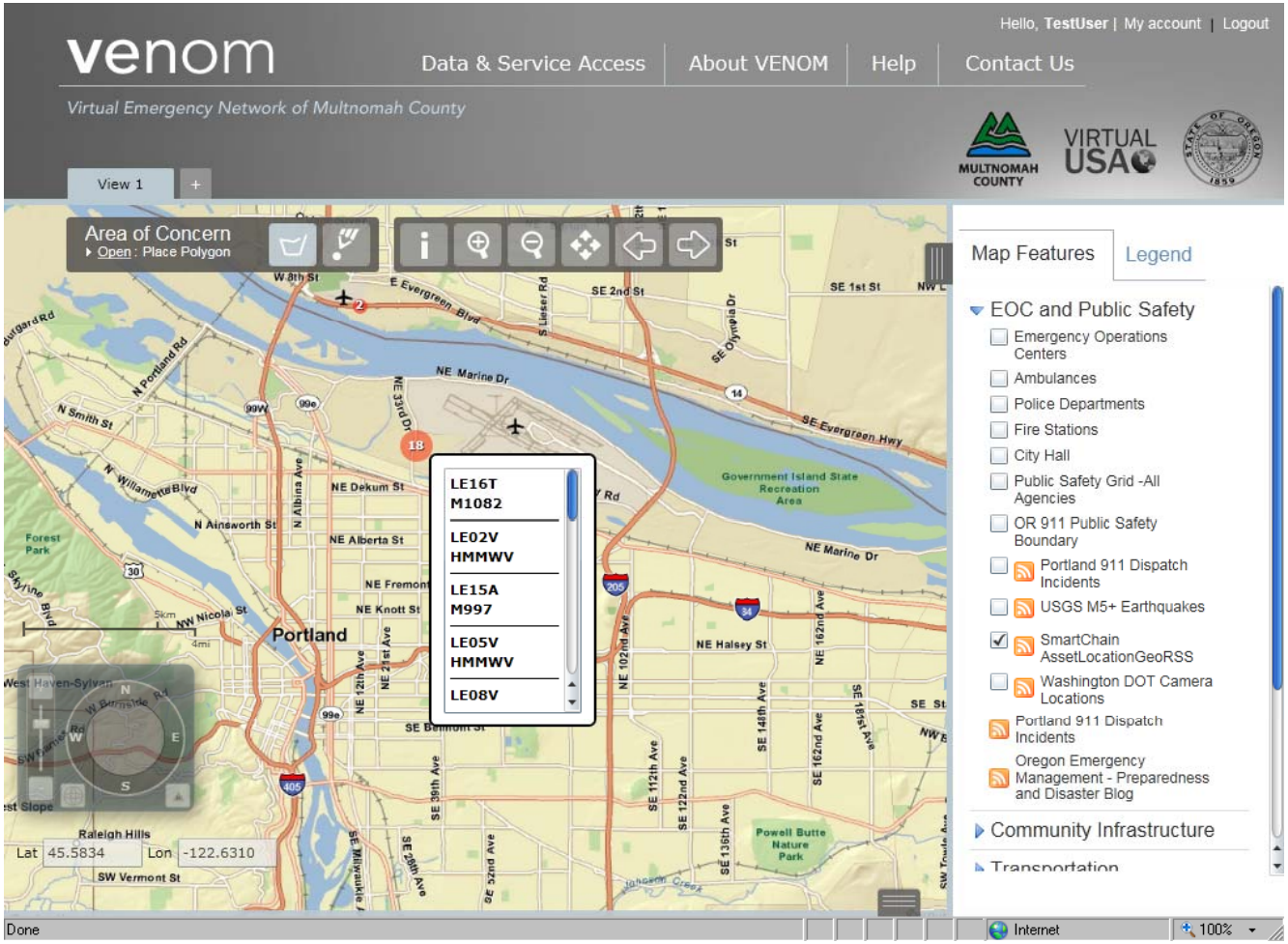
PNW Pilot Update: Oregon

VENOM View of SmartChain Asset Visibility Data



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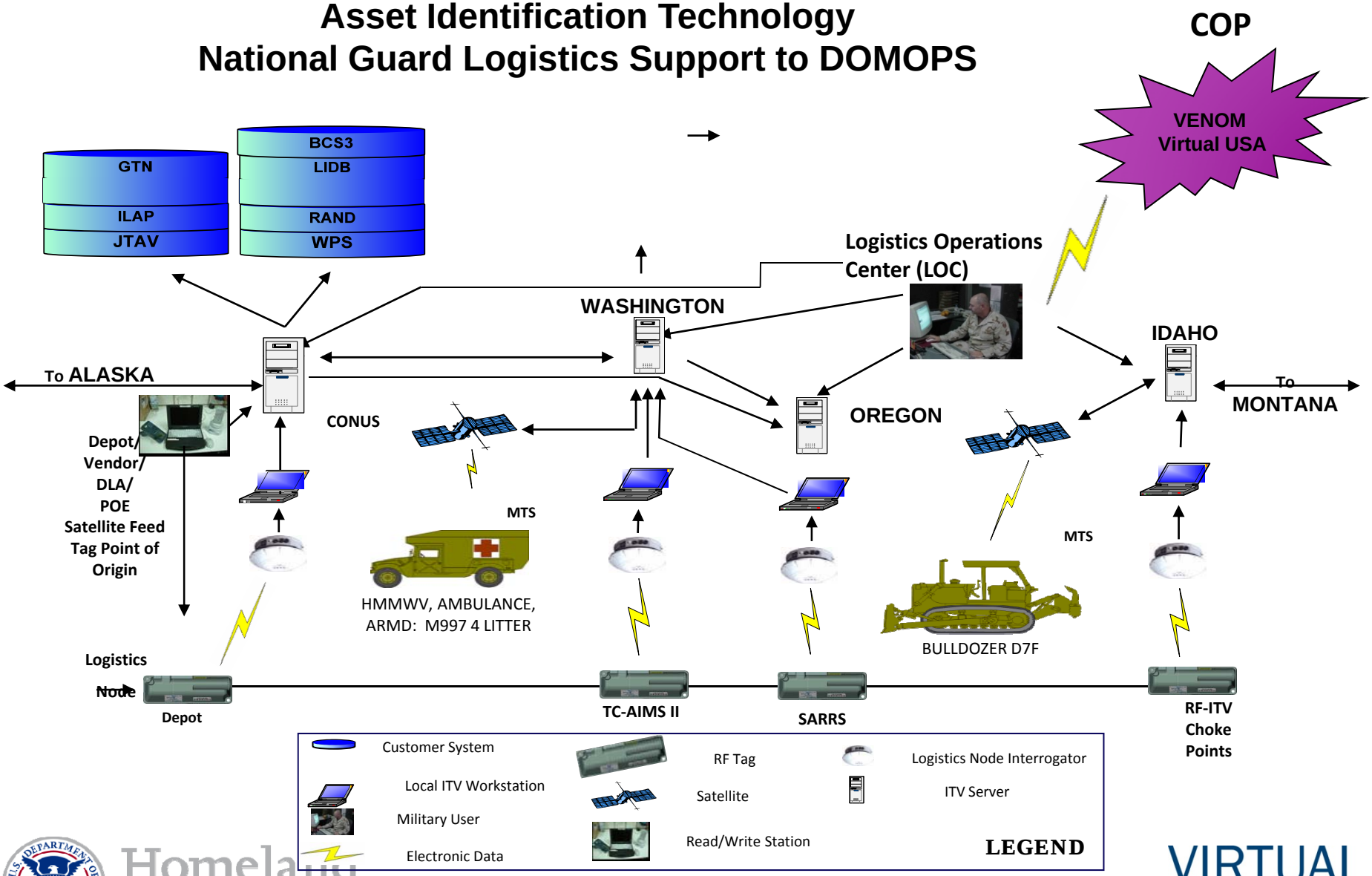
Alaska, Idaho, Montana, Oregon, and Washington
Asset Identification Technology
National Guard Logistics Support to DOMOPS



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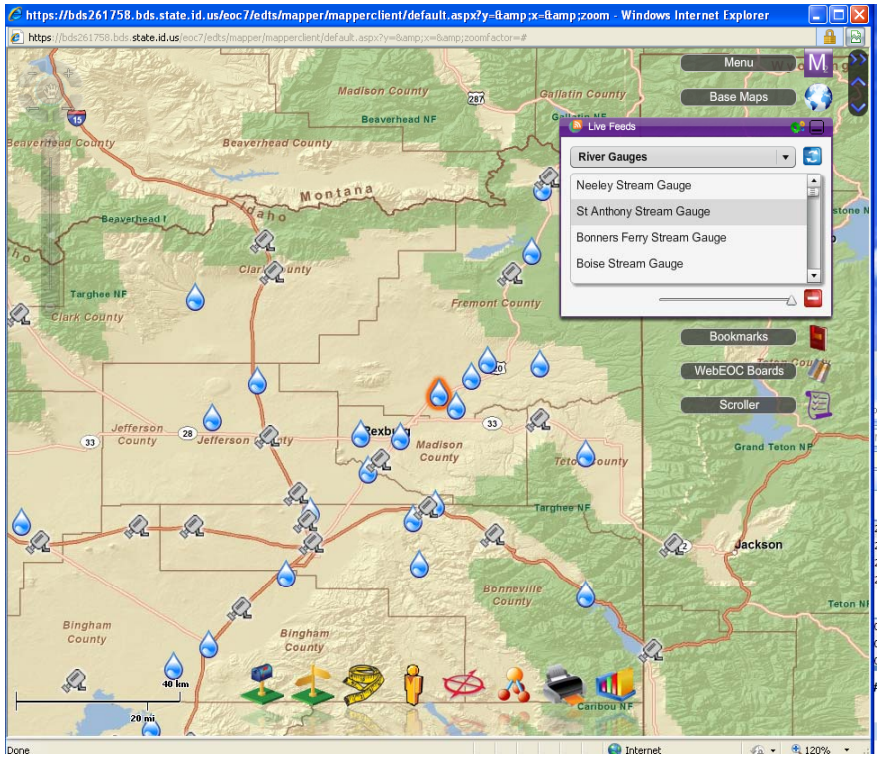
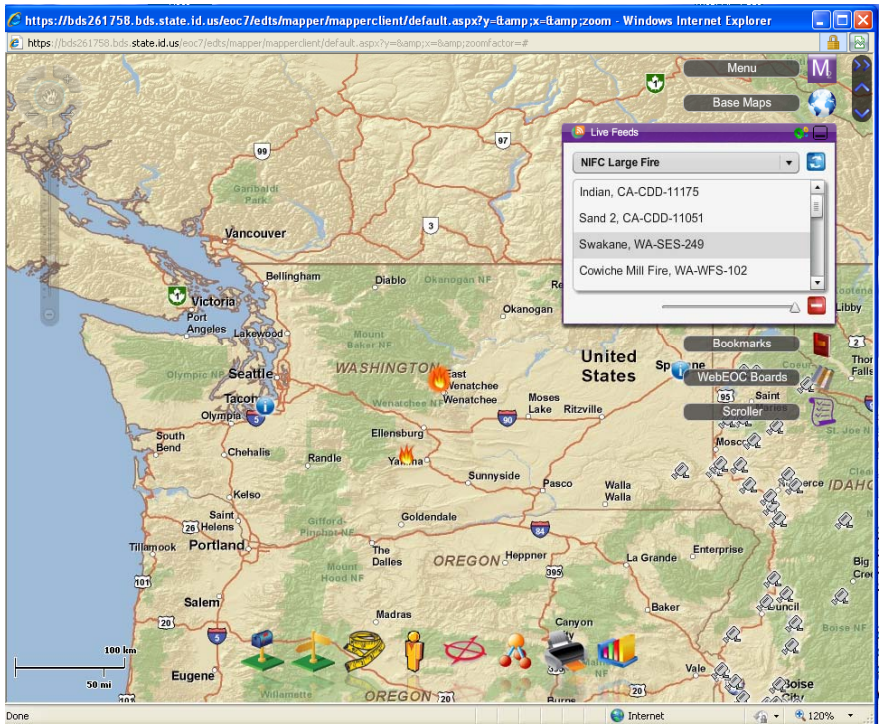
Idaho Mapper Pro Screen Shots





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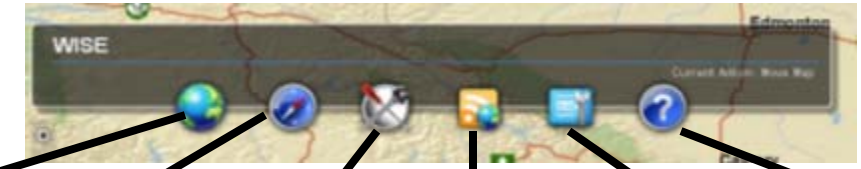
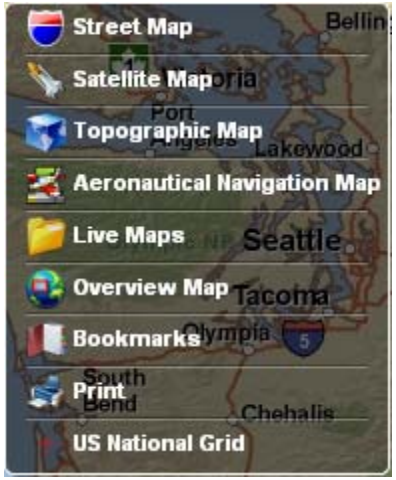
PNW Pilot: Washington Information-Sharing Environment (WISE)

PNW Pilot: Washington Information-Sharing Environment (WISE) Tools Menu



Maps



Navigation

Zoom bar

or mouse scroll

can be used.

Tools

Feeds

Resources

Help

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The Flooded River….

PNW Pilot Challenges

- Sprawling Geography and Dispersed Population

State	Sq. Miles	Rank	Persons per Sq. Mile
Washington	71,303	18	88.6
Idaho	83,574	14	15.6
Oregon	98,386	9	35.6
Montana	147,046	4	6.2
Alaska	656,425	1	1.1

- Varied Capabilities & Standards
  - Technical Infrastructure, GIS and Operational Systems
  - Geospatial and Operational Data
  - Standard Operating Procedures
- Need for Dedicated Resources - Project management/technical staff
- Need for Sustainability - Funding and support beyond the pilot
- Sovereignty & Governance
  - Strong history of autonomy across jurisdictions

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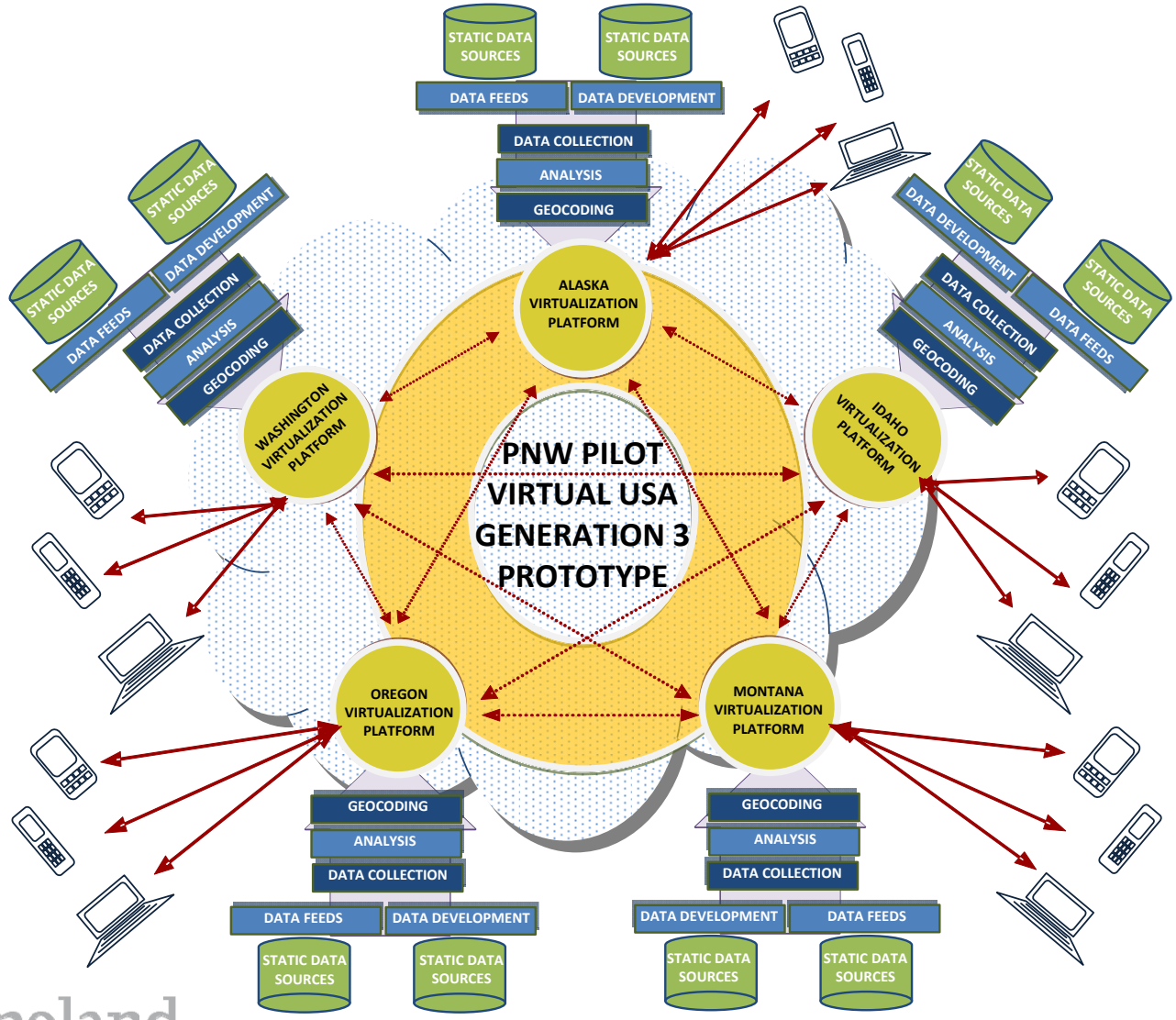
PNW Pilot Demonstration



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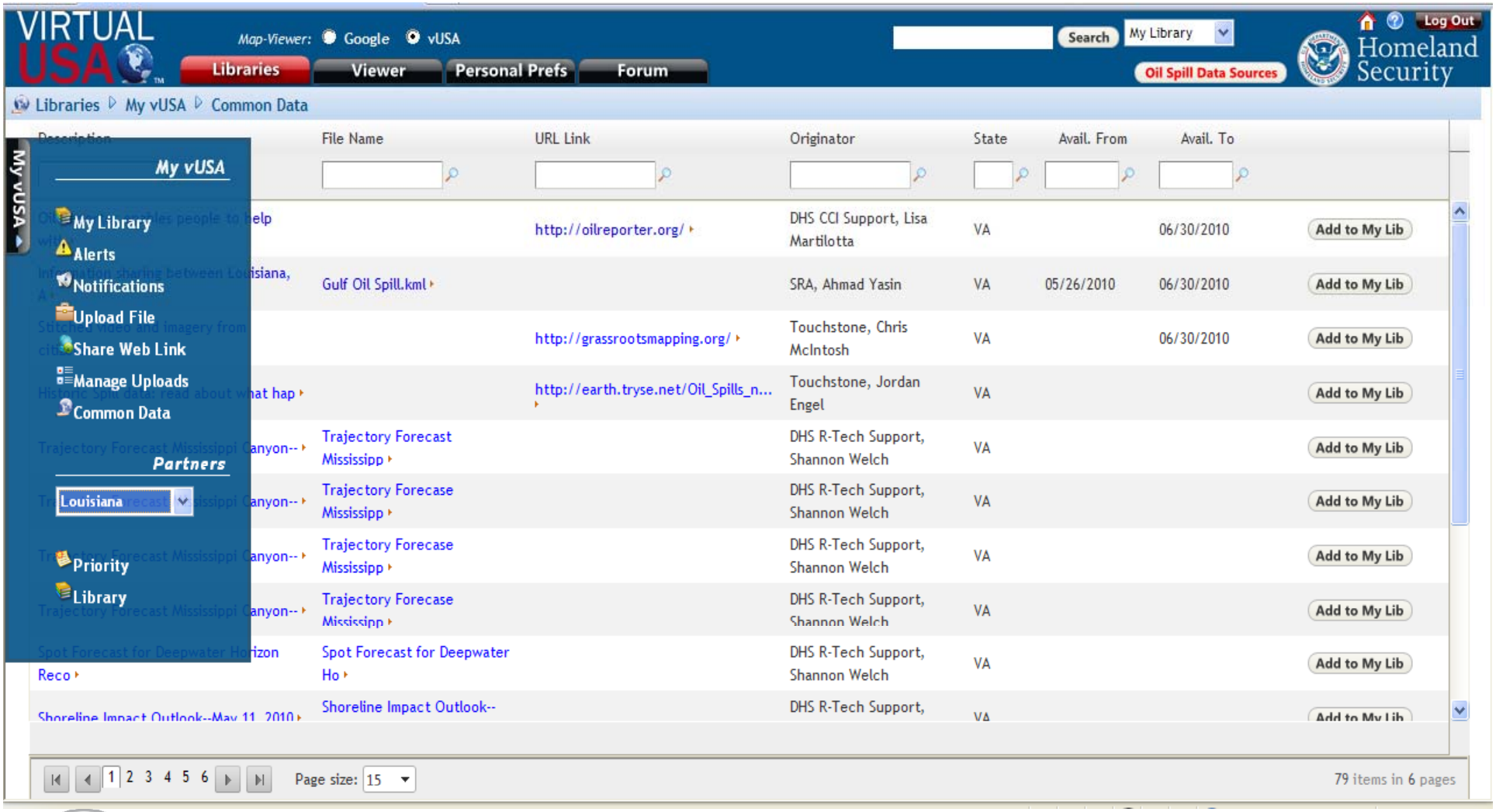
Generation II Prototype- Web-based Collaboration



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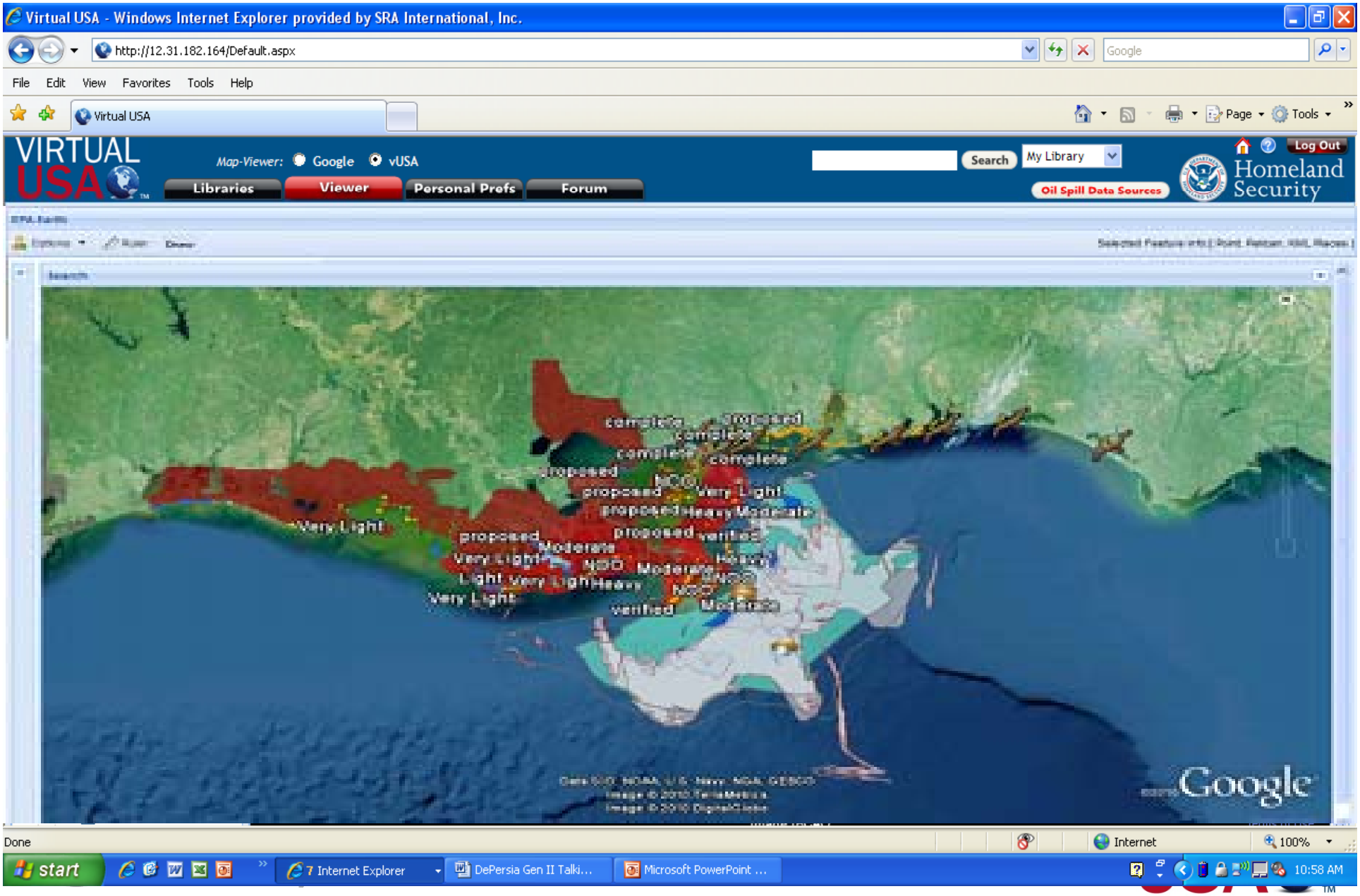
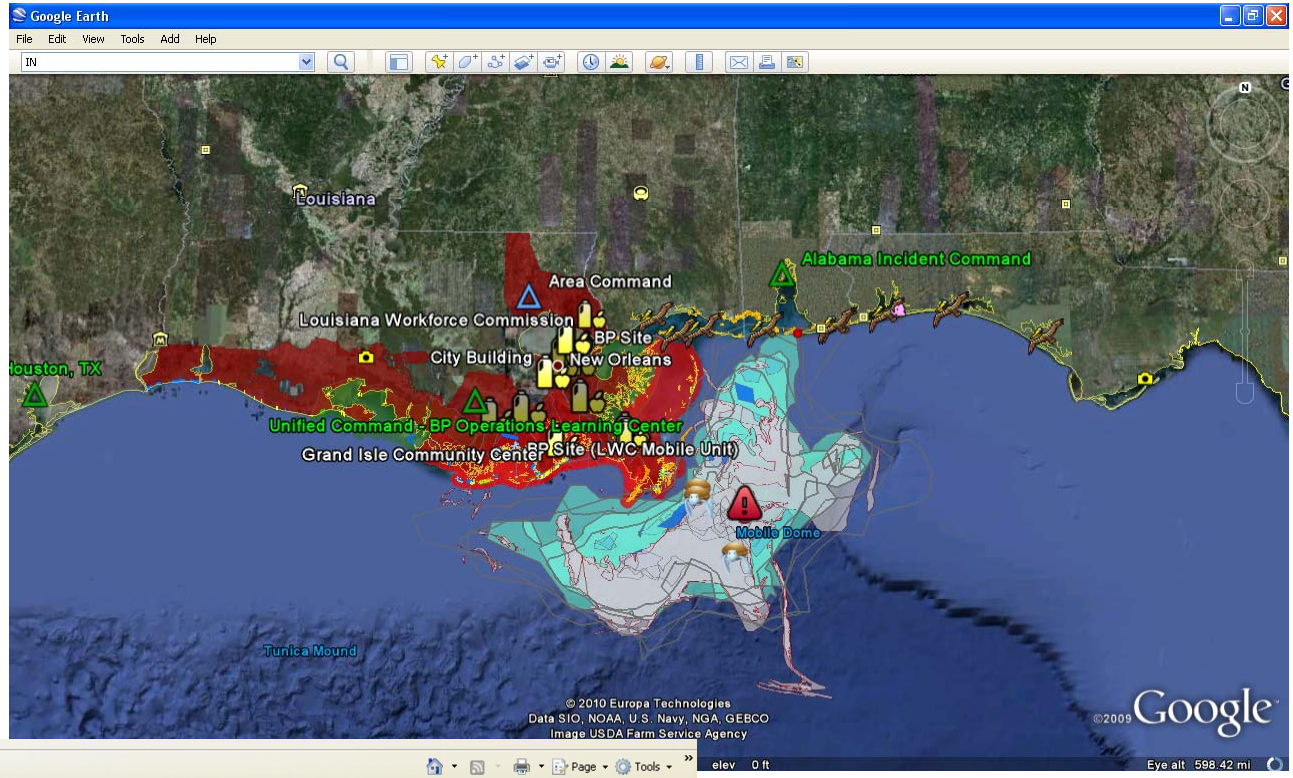
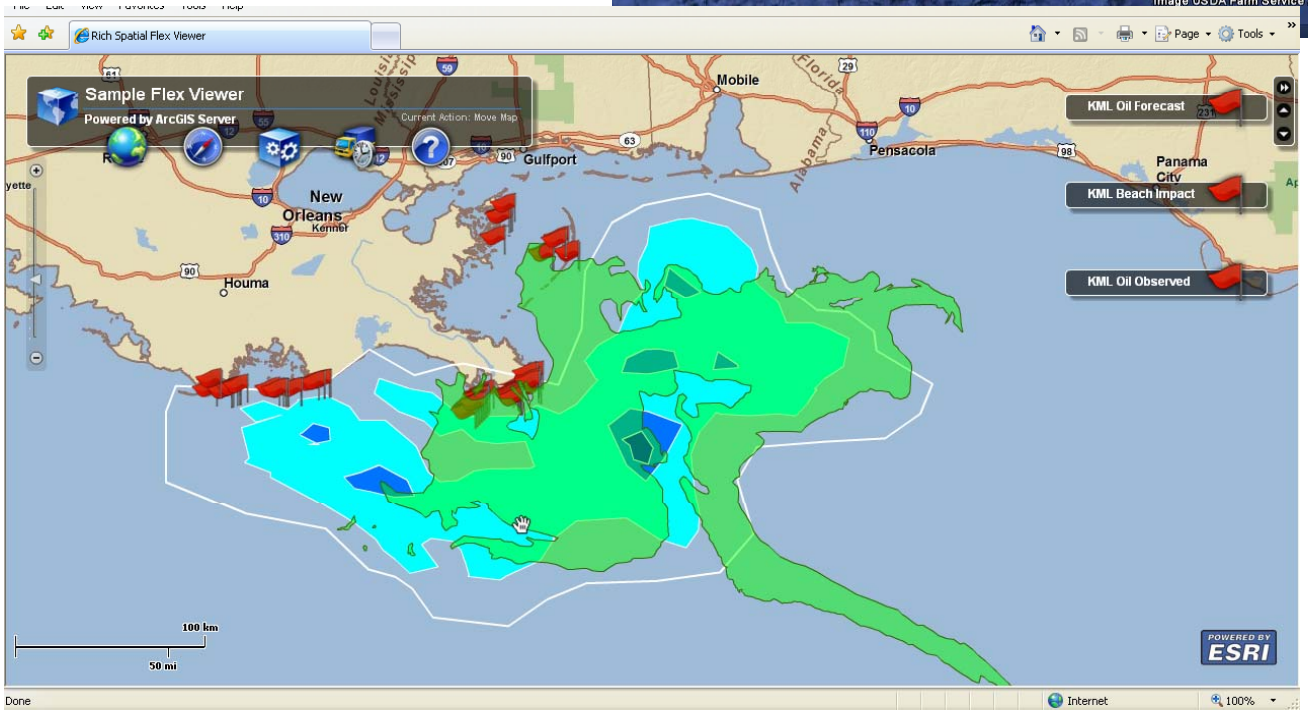
Generation II Prototype Visualization



Technology Agnostic and Open Source Tools





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Southeast Region Pilot
Lessons Learned

- Formal Governance & Sustainability of funding and commitment are essential
- Access to Relevant Data is key
- Data Standards and solving data format incompatibility must be a priority
- Standard Operating Procedures are an imperative next step
- Technical vs. Operational Capability (Two worlds apart)

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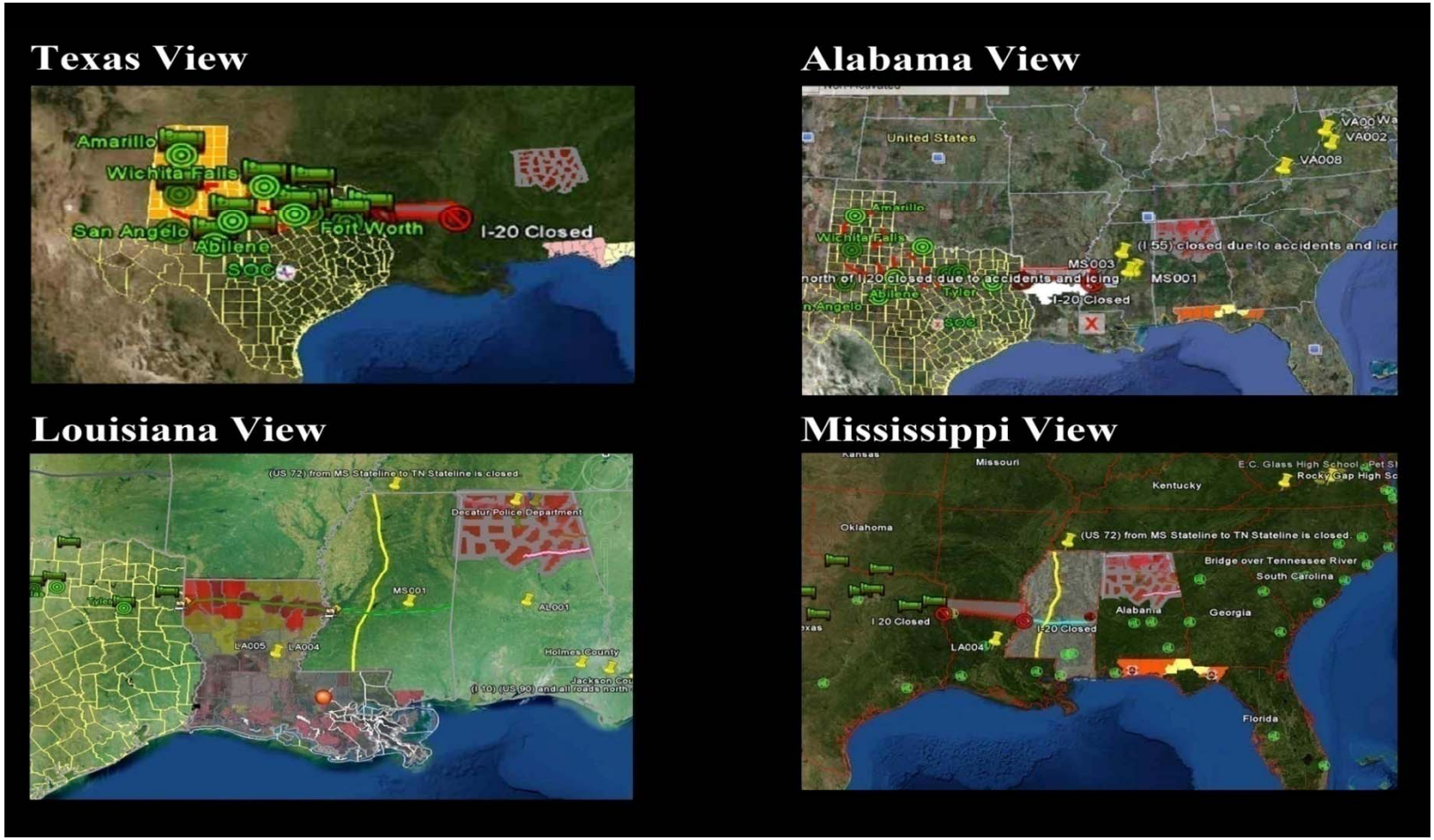
SE ROPP Demonstration



States shared and viewed information (e.g., shelter status, road closures, county EOC activation, FEMA staging areas, etc.) in real time using their own platforms.

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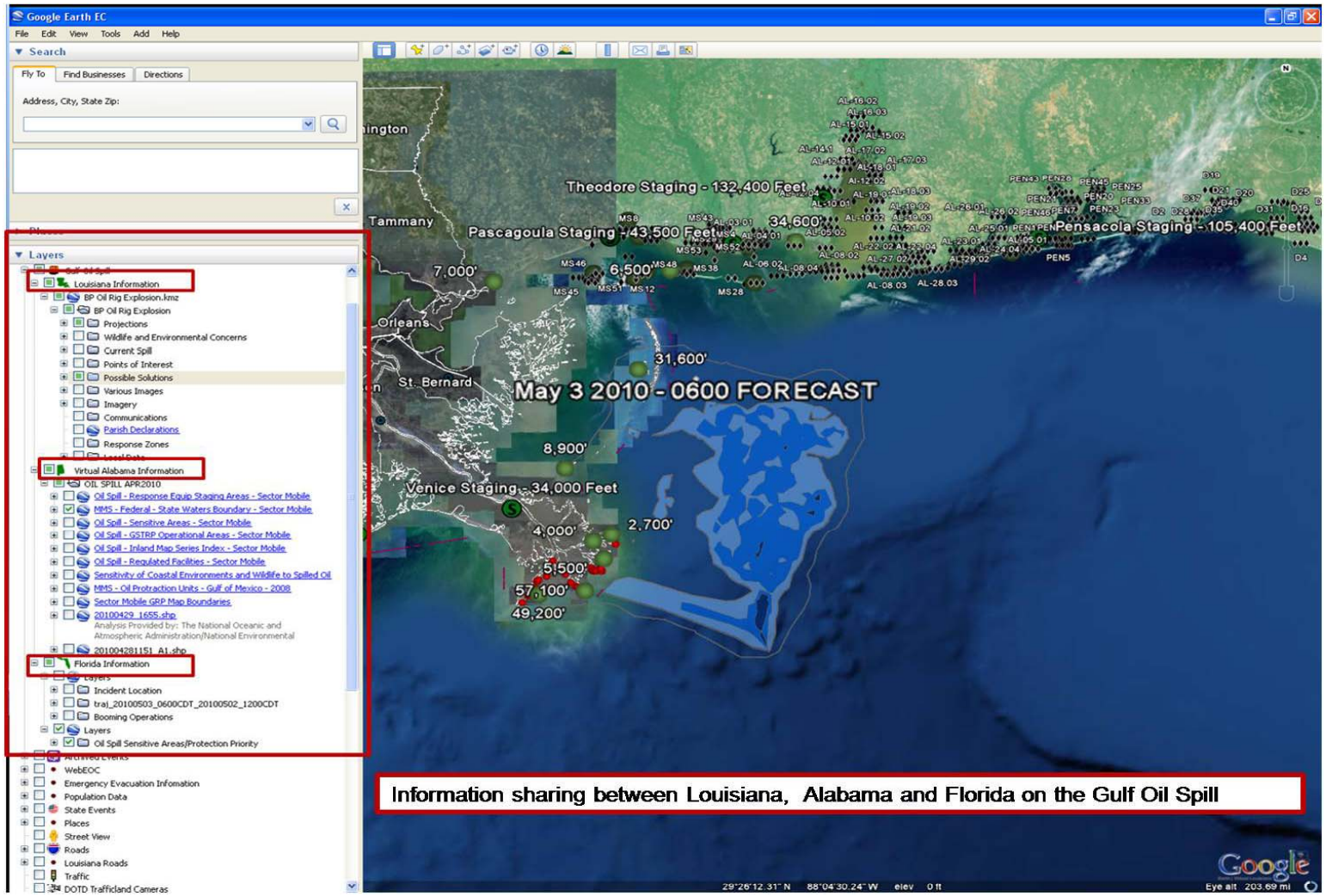
User-Defined Operating Picture



vUSA Relationships Enhance Oil Spill Response

BP common operating picture integrating data from Florida Department of Emergency Management in collaboration with National Guard and Florida Wildlife Commission

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Primary Lessons Learned

- It's about more than a Map.
- It's about relationships, partnerships and collaboration
- It's about the information we share with one another to protect lives, property and the environment … AND
- Don't forget the practitioner! Remember who the Common Operating Picture is supposed to serve!

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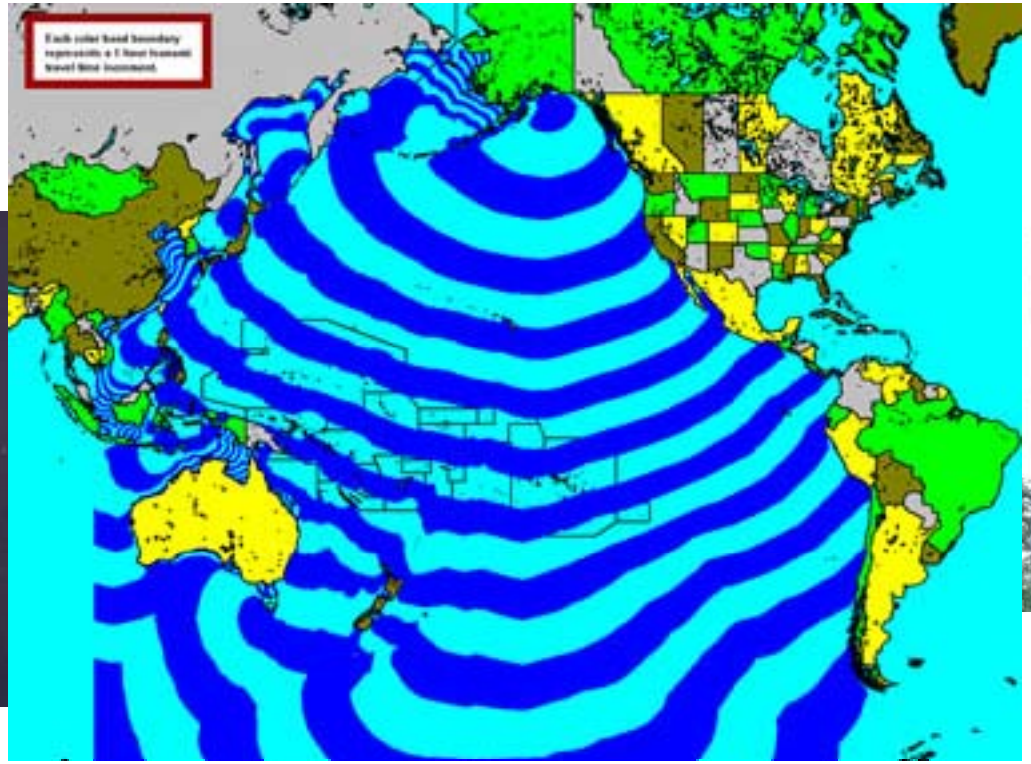
Tsunami Planning and Response



Travel time map for a tsunami triggered by a subduction zone earthquake off the southern coast of Alaska. Each color band is a one-hour travel time increment. Image by NOAA

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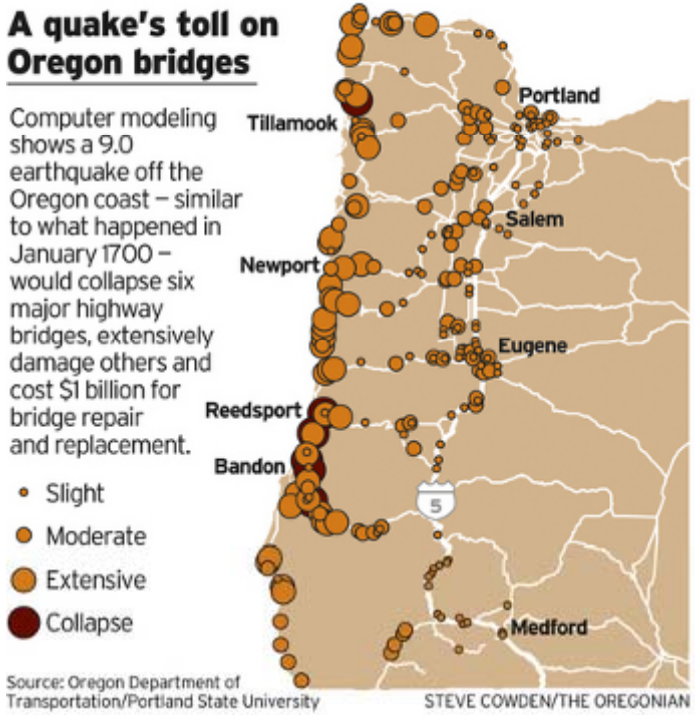
The Great Earthquake of 2xxx



The Cascadia subduction zone last experienced a great earthquake in 1700 and so **<u>may</u>** be only about halfway through its ~600-year earthquake cycle.

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Flood Response

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Fire Response

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Hazmat Response

Security

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Winter Storm Response

Highway 30 Mudslide

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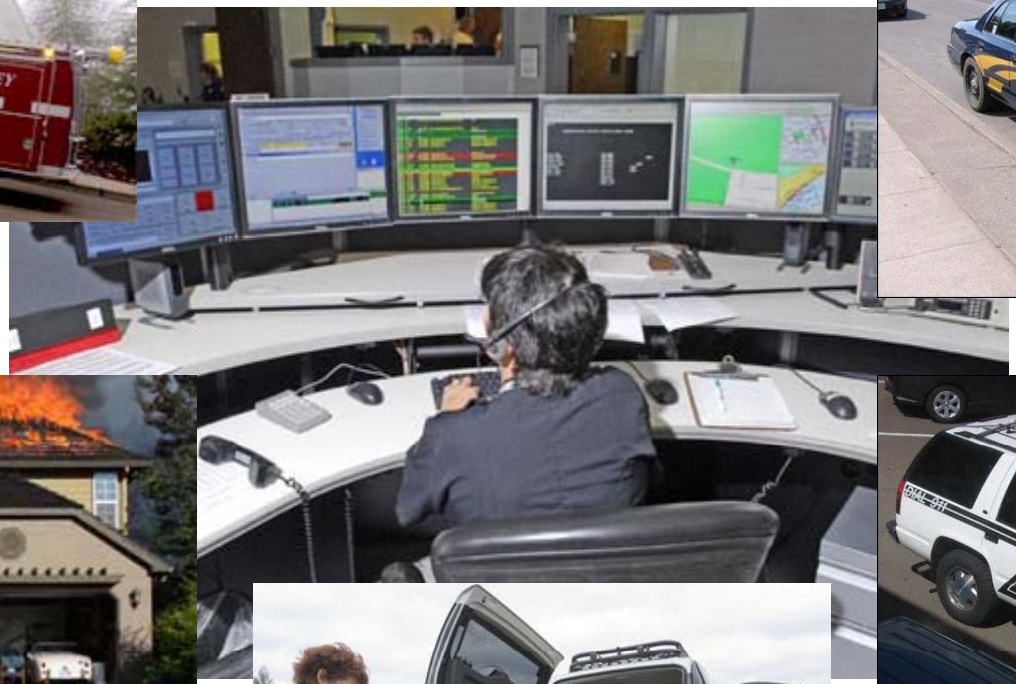
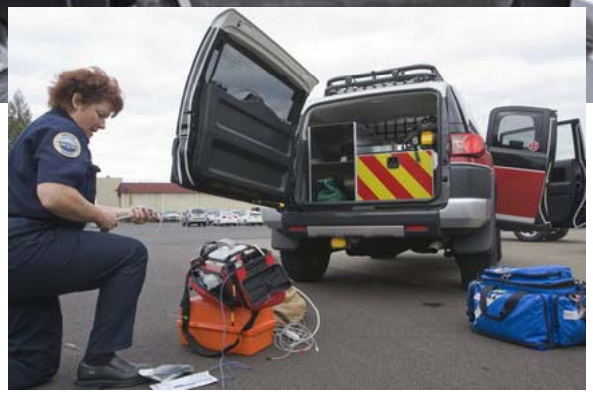
Police, Fire & EMS Dispatch





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Opportunities to Leverage Existing Resources

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State/Federal Government Partnerships

FEMA

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

USGS
science for a changing world

NATIONAL GUARD
ALWAYS READY ALWAYS THERE

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

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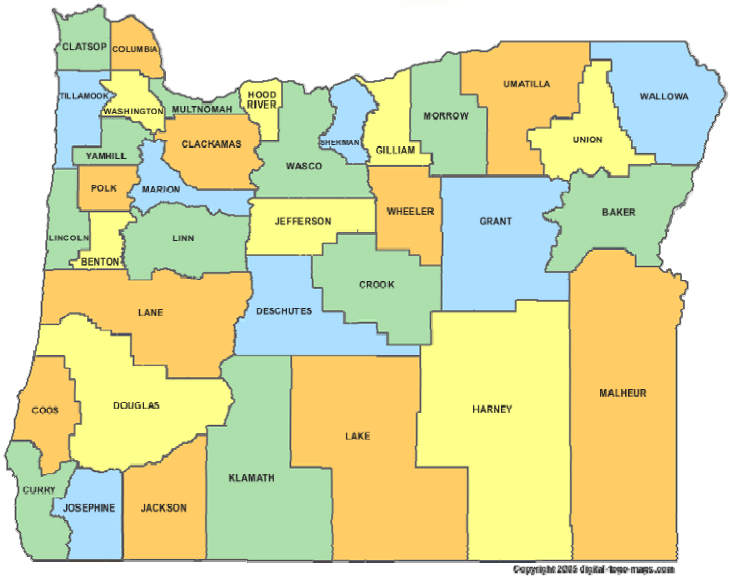
Tribal/State/Local Government Partnerships



LCOG
LANE COUNCIL OF GOVERNMENTS

Metro

OAGITM

AOC Association of Oregon Counties

Mid Willamette Valley Council of Governments

LEAGUE of Oregon CITIES

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OREGON & SOUTHWEST WASHINGTON URISA

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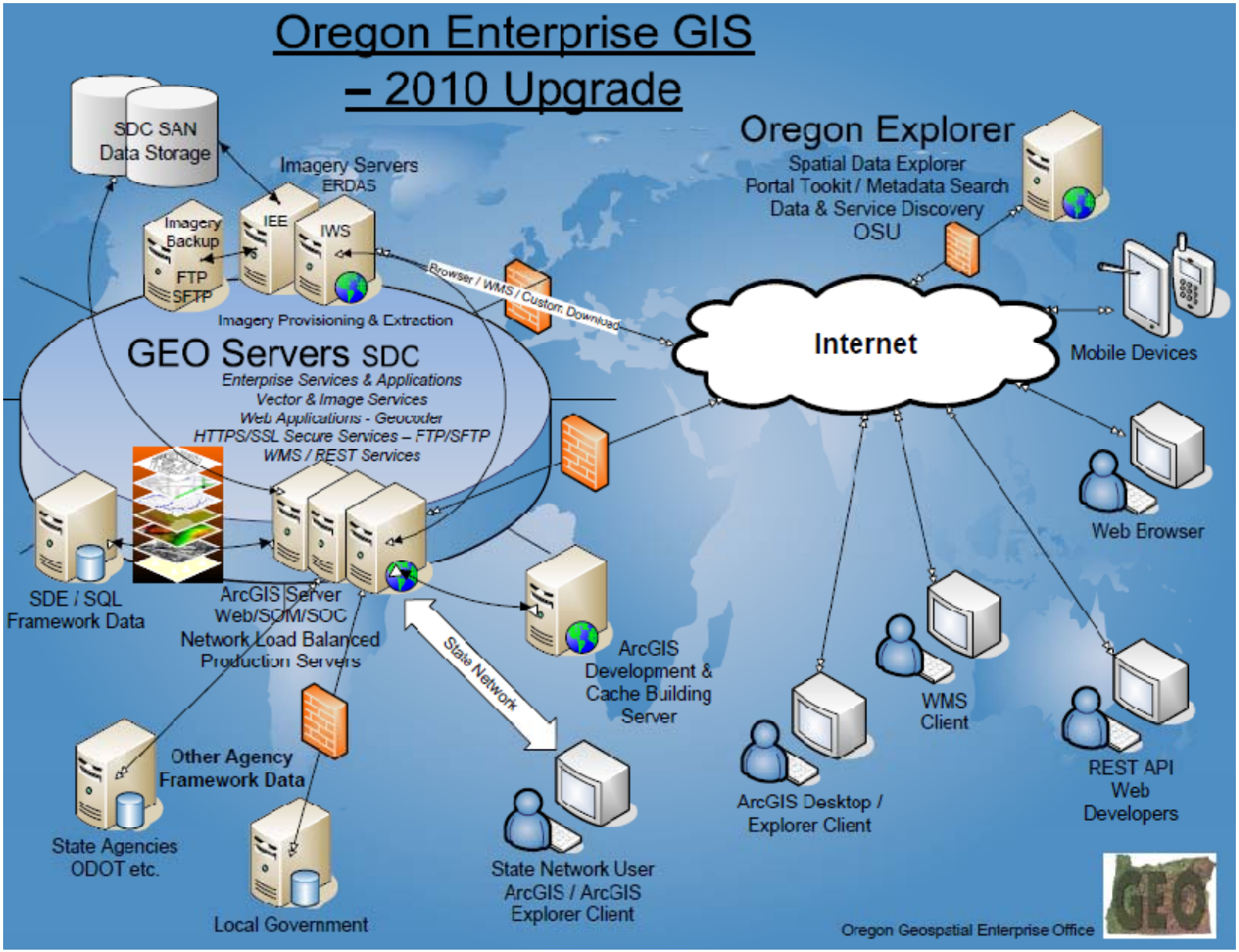

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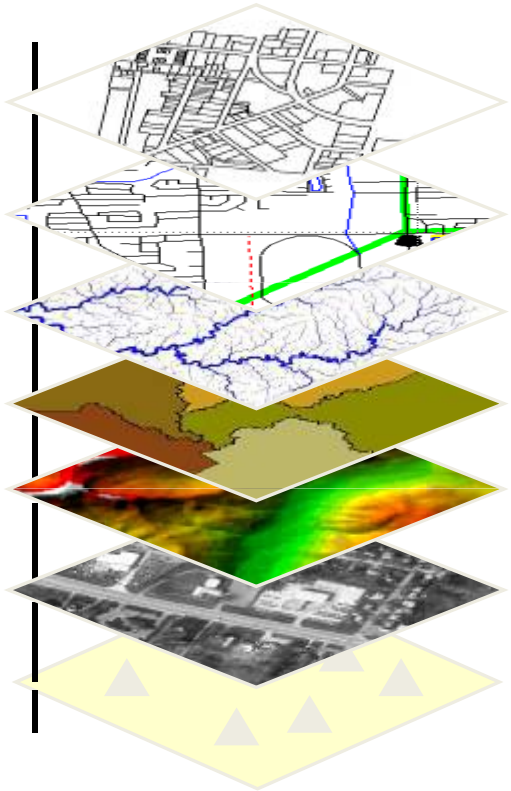
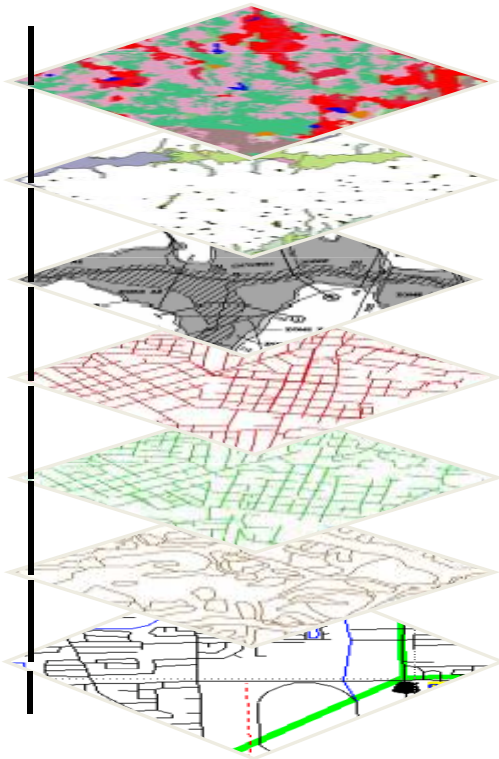
GIS Framework Data

National Standards



Oregon Standards



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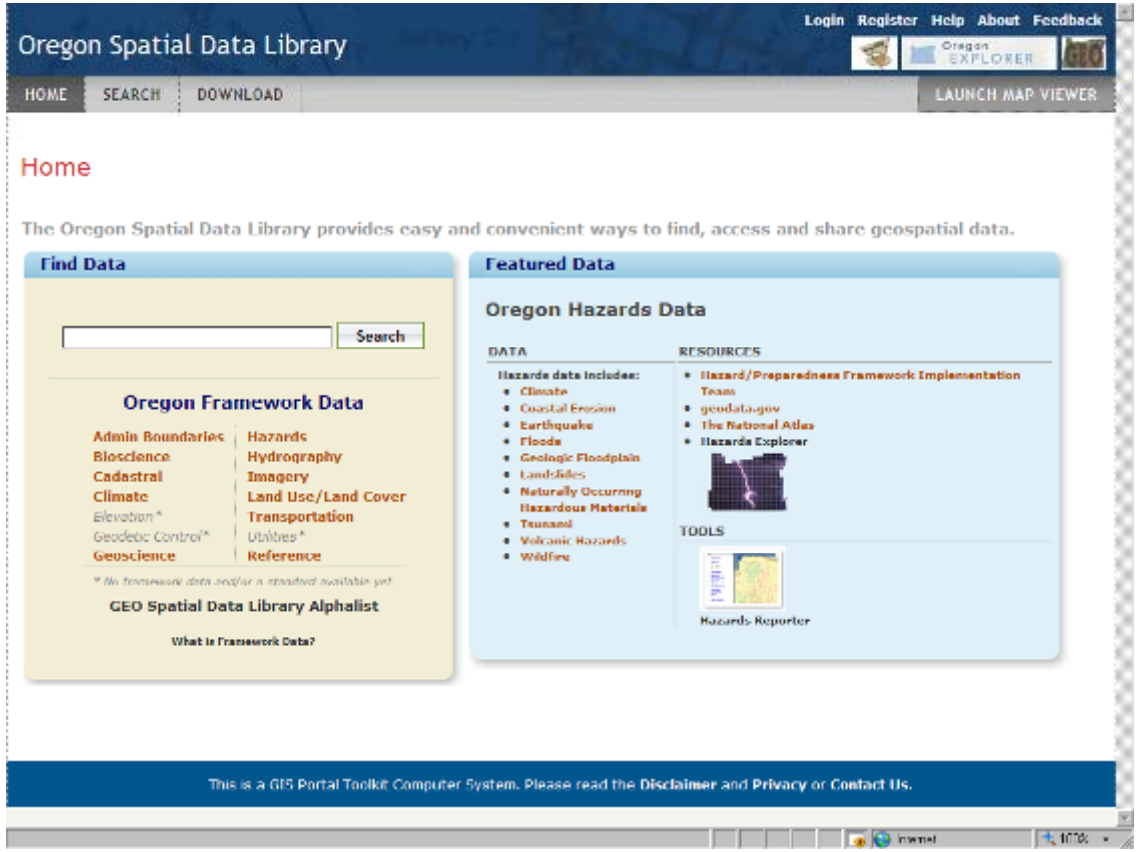
Oregon Spatial Data Library

- Searchable data-access tool
- ~ 100 spatial datasets are available for download or access via web services
- Multi file formats (Shapefile, KML, EOO, ACAD, etc.)
- Metadata for each dataset is available



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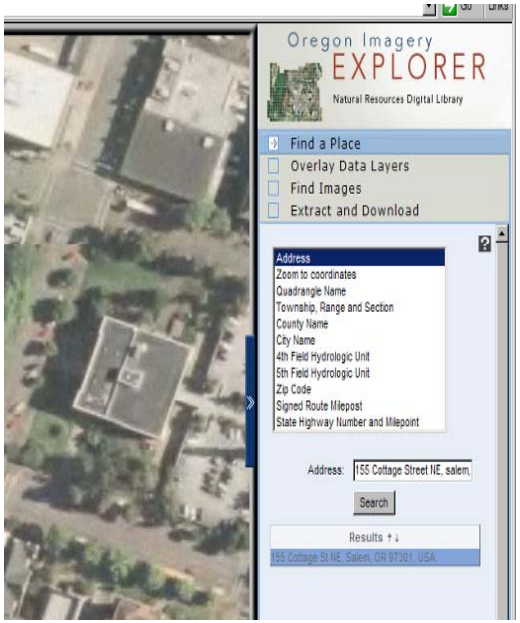
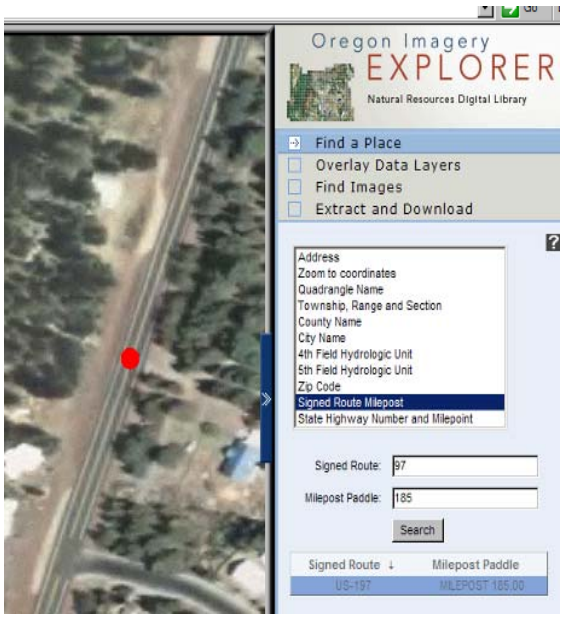
Oregon Imagery Explorer

1996, 1999, 2005 & 2009 Digital Aerial Imagery

Find a Place: Address





Find a Place: Signed Route Milepost

Extract data: “Clip, Zip and Ship”

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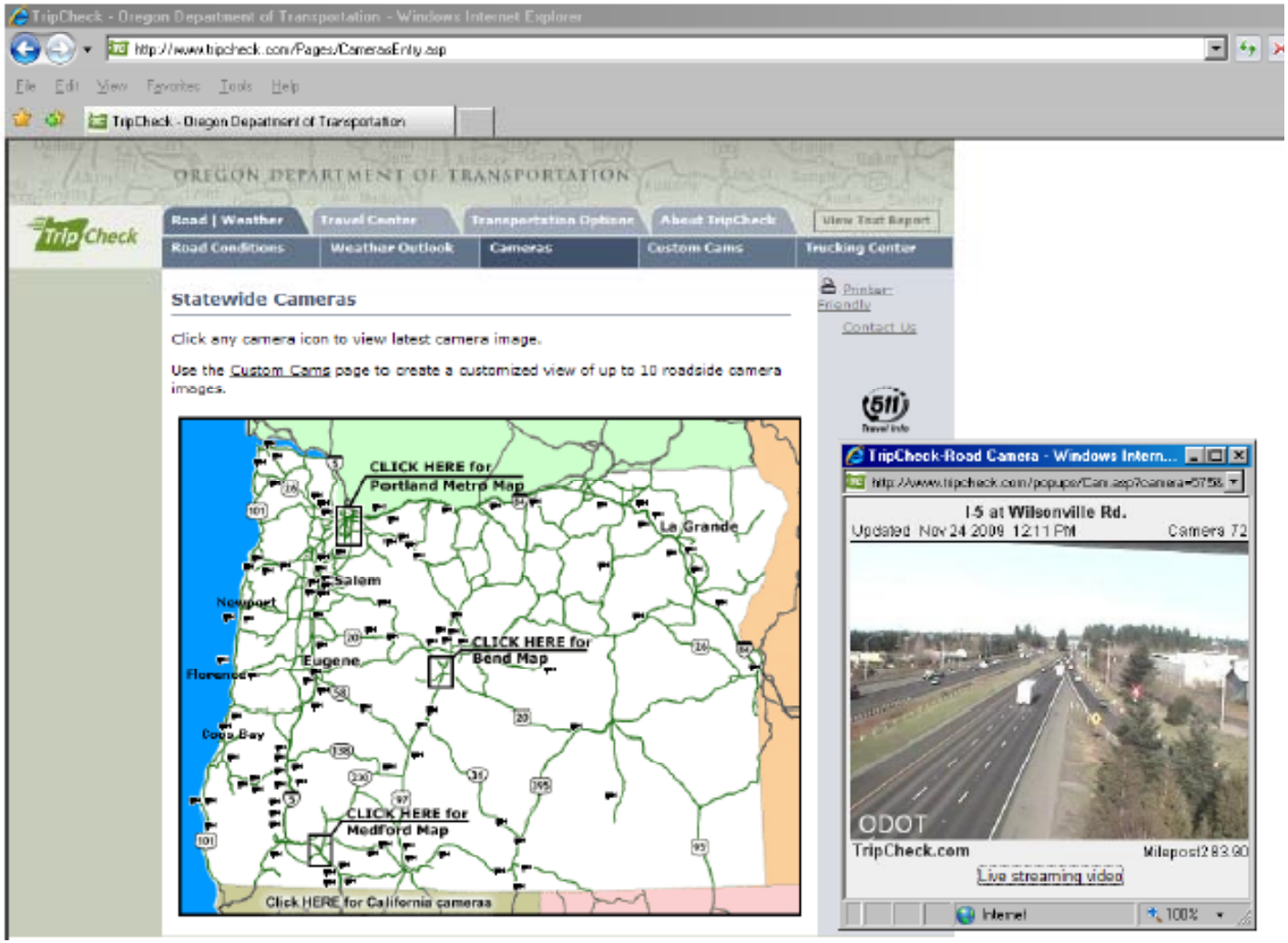

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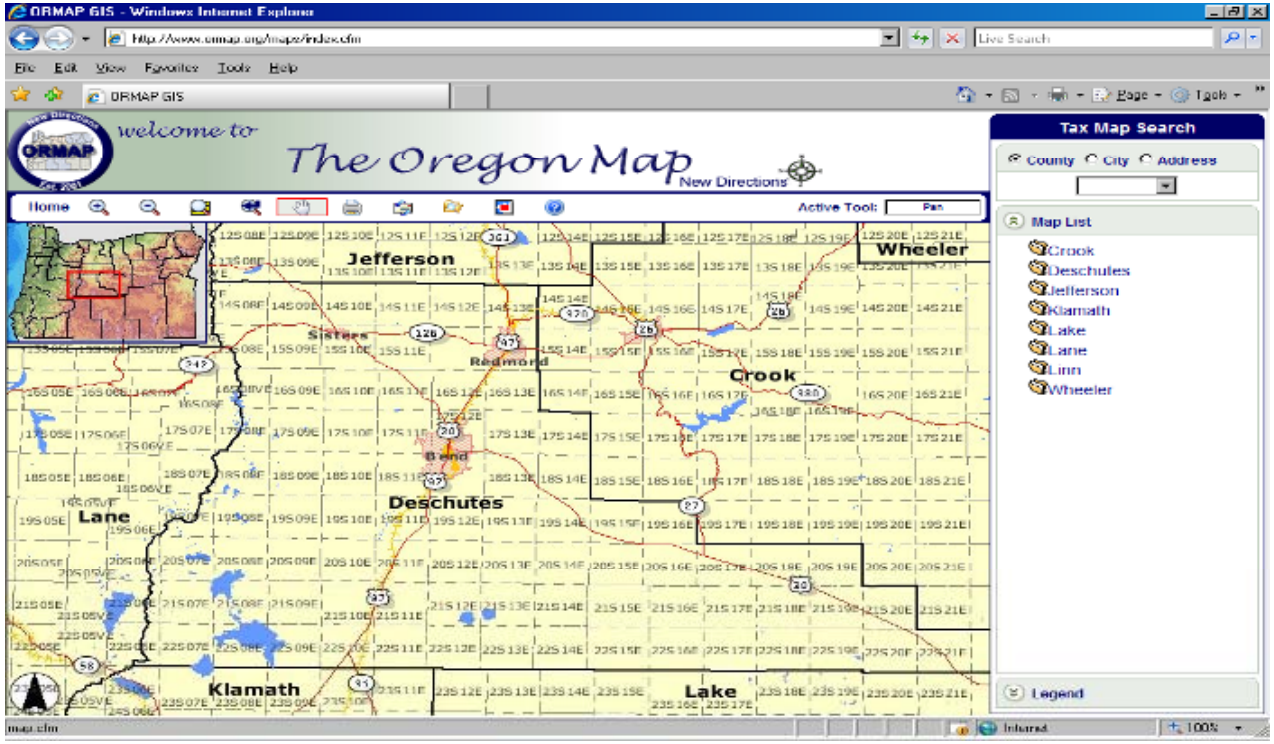
Cadastral – Tax Lot Data



Available for viewing and download

Vision: 36 Counties, 9 Regions, One State, One Map, One Taxlot Base GIS for Public and Private use

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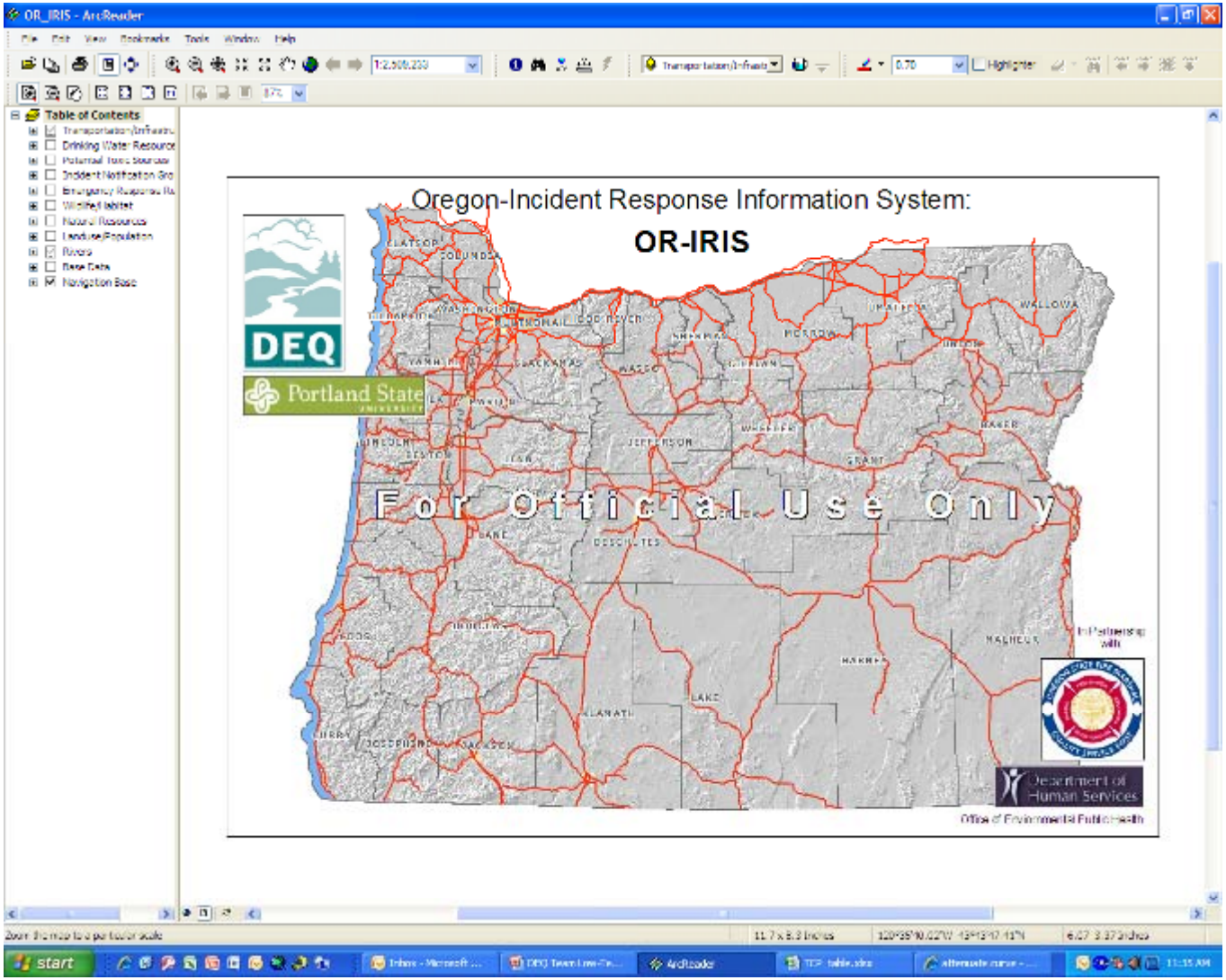

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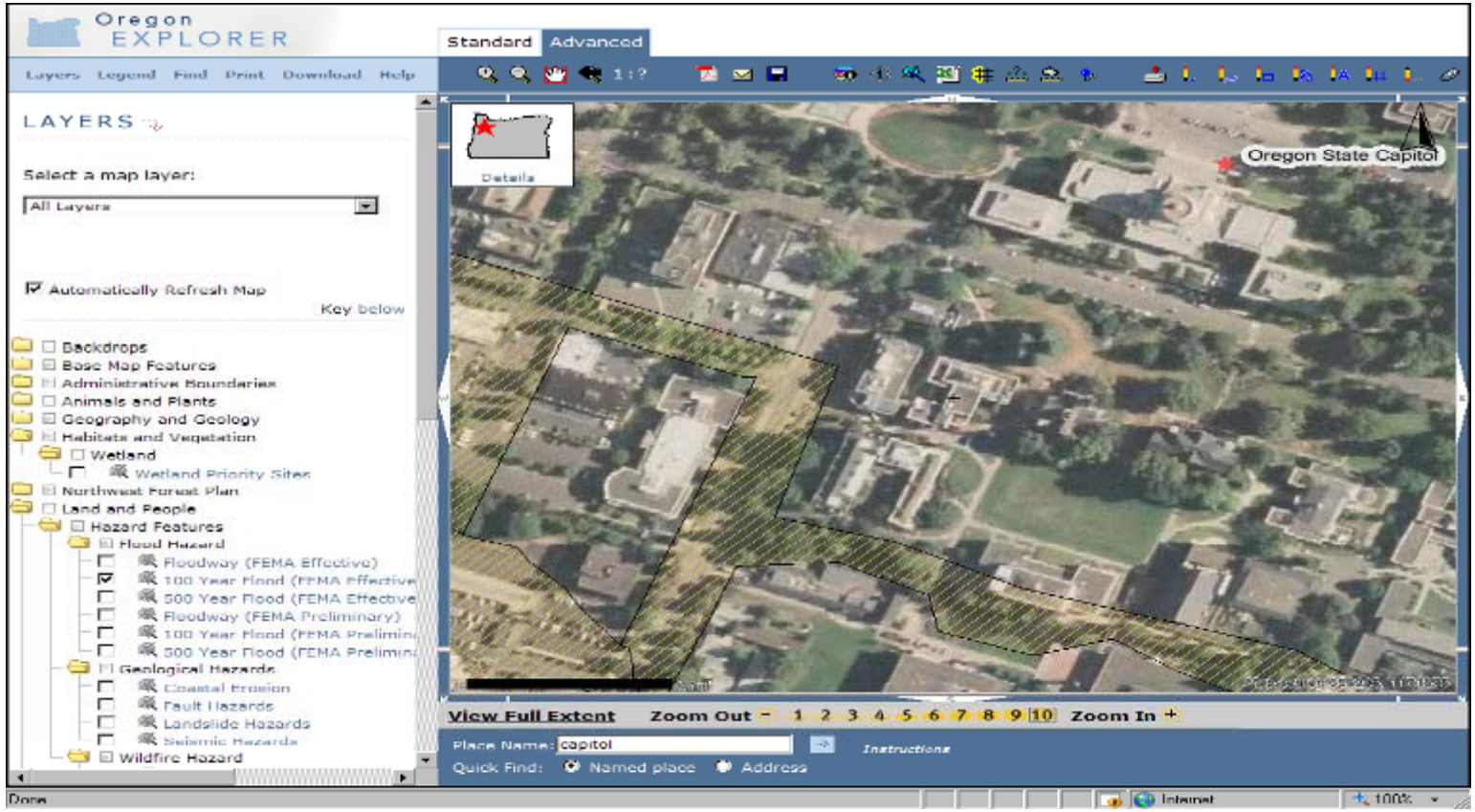
Oregon Hazards Explorer



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A Decade of Preparation

- Building Strong Relationships
  - Federal, Regional, Tribal, State, and Local Government
- Building Capacity
  - Skilled Professionals
  - GIS Technologies
- Building and providing access to Relevant Datasets
  - Geospatial Data Development and Stewardship
- Preparing for this moment in history. The moment has come….

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Resources

- Oregon Virtual USA – PNW Pilot Website
  - http://www.oregon.gov/DAS/EISPD/GEO/VirtualUSA.shtml

- Oregon Geographic Information Council
  - http://www.oregon.gov/DAS/EISPD/GEO/ogic/OGIC.shtml
- Oregon Geospatial Enterprise Office
  - http://gis.oregon.gov/
- Oregon Geospatial Data Clearinghouse
  - http://gis.oregon.gov/DAS/EISPD/GEO/sdlibrary.shtml
- Oregon Framework Implementation Team
  - http://www.oregon.gov/DAS/EISPD/GEO/fit/FIT.shtml

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Resources

- Oregon Spatial Data Library
  - http://spatialdata.oregonexplorer.info/
- Oregon Imagery Explorer – Statewide Ortho Imagery
  - http://www.oregonexplorer.info/imagery/
- ODOT TripCheck
  - http://www.tripcheck.com/
- ORMAP – Cadastral/Tax Lot Data
  - http://www.ormap.org/
- Oregon Hazards Explorer
  - http://www.oregonexplorer.info/hazards/

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PNW Pilot - Oregon Contact Information

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- David Houten, Director – Multnomah County Office of Emergency Management
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- Idaho
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  - Bob Oenning - Washington Emergency Management
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  - Major Orion Inskip
    - Phone: 801-705-7973 Email: orion.inskip@us.army.mil
  - Sgt. Tim Kettlewell
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  - Joy Paulus – State GIS Coordinator
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