Pacific Northwest Pilot Update

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vUSA PNW Pilot – Technical Working Group Chair
August 2010
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
### PNW Pilot Milestones

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>* Introduce Virtual USA to Pilot stakeholders</td>
<td>* Conduct outreach to increase federal, regional, tribal, and local government involvement</td>
<td>* vUSA Pilot Implementation Team visits each PNW Pilot state to help build capacity</td>
<td>* Finalize stewardship agreements for key data sets</td>
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<tr>
<td>o Alaska</td>
<td>* Finalize and deploy Requirements Workbook</td>
<td>* Build prototypes</td>
<td>* Hold Working Group meetings</td>
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<tr>
<td>o Idaho</td>
<td>* Confirm state-specific operational and data requirements</td>
<td>* Collaborative Development among state and local government &amp; vUSA partners</td>
<td>o Steering Group</td>
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<tr>
<td>o Montana</td>
<td>* Fuse separate state requirements and confirm regional and Federal partner information requirements</td>
<td>* Determine opportunities for funding, sustainment of long-term effort beyond September 2010</td>
<td>o Operational Working Group</td>
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<tr>
<td>o Oregon</td>
<td>* Hold Working Group meetings</td>
<td>* Develop funding request to encourage state level support</td>
<td>o Technical Working Group</td>
</tr>
<tr>
<td>o Washington</td>
<td>o Steering Group</td>
<td>* Confirm grant funding opportunities (multi-county, multi-jurisdictional, multi-state)</td>
<td>Conduct a Pilot demonstration involving Alaska, Idaho, Montana, Oregon, and Washington plus Federal partners</td>
</tr>
<tr>
<td>* Identify initial data requirements, available data sets, current GIS architecture and capabilities</td>
<td>o Operational Working Group</td>
<td>* Hold Working Group meetings</td>
<td>* Winter storm scenario</td>
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<tr>
<td>* Identify representatives to the regional PNW Pilot steering committee</td>
<td>o Technical Working Group</td>
<td>* steering Group</td>
<td>* Confirm regional partners’ intent to support PNW Pilot continuation</td>
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<td>* Form state level steering, operational, and technical working groups</td>
<td>* Agree on authoritative data sources and identify and/or establish data stewards</td>
<td>o Steering Group</td>
<td>* Continue improvement of state and regional information-sharing/mapping capabilities</td>
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</tbody>
</table>
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
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
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.
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

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

*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.*
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
- Telecommunications Status of PSAPs (e.g. Phone, Cell, Internet)
- 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)
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)
PNW Pilot Update: Oregon

Virtual Emergency Network of Multnomah (VENOM)
PNW Pilot Update: Oregon
National Guard SmartChain Information Sharing
PNW Pilot Update: Oregon
VENOM View of SmartChain Asset Visibility Data
Alaska, Idaho, Montana, Oregon, and Washington
Asset Identification Technology
National Guard Logistics Support to DOMOPS
PNW Pilot: Washington Information-Sharing Environment (WISE)
PNW Pilot: Washington Information-Sharing Environment (WISE) Tools Menu

Maps
- Street Map
- Satellite Map
- Topographic Map
- Aeronautical Navigation Map
- Live Maps
- Overview Map
- Bookmarks
- South Print
- US National Grid

Navigation
- Zoom In
- Zoom Out
- Full Extent
- Re-center Map
- Zoom bar or mouse scroll can be used.

Tools
- Locate
- Draw
- Identify
- Demographics
- Service Area
- Query Builder
- Find GIS Data
- Directions

Feeds
- Reuters US News
- Reuters World News
- Fire Hot Spots
- Hurricane Tracks
- River Gauges

Resources
- Traffic Cameras
- WS3OT Incidents
- WebEOC
- JIEE Events
- JIEE Mission Training
- JIEE Mission Training
- JIEE Events Exercise
- JIEE Mission Training
- Border Wait Times

Help
- Help
- Home
- Resources
- About
The Flooded River....
PNW Pilot Challenges

• Sprawling Geography and Dispersed Population

<table>
<thead>
<tr>
<th>State</th>
<th>Sq. Miles</th>
<th>Rank</th>
<th>Persons per Sq. Mile</th>
</tr>
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<tbody>
<tr>
<td>Washington</td>
<td>71,303</td>
<td>18</td>
<td>88.6</td>
</tr>
<tr>
<td>Idaho</td>
<td>83,574</td>
<td>14</td>
<td>15.6</td>
</tr>
<tr>
<td>Oregon</td>
<td>98,386</td>
<td>9</td>
<td>35.6</td>
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<tr>
<td>Montana</td>
<td>147,046</td>
<td>4</td>
<td>6.2</td>
</tr>
<tr>
<td>Alaska</td>
<td>656,425</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

• 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
Generation II Prototype - Web-based Collaboration
Generation II Prototype Visualization
Technology Agnostic and Open Source Tools
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)
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.
User-Defined Operating Picture

Information sharing between Louisiana, Alabama and Florida on the Gulf Oil Spill
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
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!
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
The Great Earthquake of 2xxx

The Cascadia subduction zone last experienced a great earthquake in 1700 and so may be only about halfway through its ~600-year earthquake cycle.
Flood Response
Hazmat Response
Winter Storm Response

Highway 30 Mudslide
Police, Fire & EMS Dispatch
VIRTUAL USA
Pacific NW Pilot
Opportunities to Leverage Existing Resources
State/Federal Government Partnerships

[Seal of the United States Coast Guard]
[Seal of the U.S. Department of Homeland Security]
[FEMA]
[U.S. Department of the Interior Bureau of Land Management]
[USGS - science for a changing world]
[National Guard - Always ready always there]
[Department of Defense]
[Seal of the State of Washington]
[Seal of the State of Oregon]
[Seal of the State of Alaska]
[Virtual USA]
Tribal/State/Local Government Partnerships
GIS Framework Data

National Standards

- Land Ownership
- Transportation
- Hydrography
- Boundaries
- Elevation
- Aerial Imagery
- Geodetic Control

Oregon Standards

- Landcover/Use
- Bioscience
- Climate
- Utilities
- Critical Infra.
- Geoscience
- Hazards
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
Oregon Imagery Explorer


Find a Place:  
Address

Find a Place:  
Signed Route Milepost

Extract data: “Clip, Zip and Ship”
Cadastral – Tax Lot Data

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

Available for viewing and download
Oregon Hazards Explorer
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....
VIRTUAL USA
Pacific NW Pilot
Resources

• Oregon Virtual USA – PNW Pilot Website

• Oregon Geographic Information Council

• Oregon Geospatial Enterprise Office
  – http://gis.oregon.gov/

• Oregon Geospatial Data Clearinghouse

• Oregon Framework Implementation Team
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/
PNW Pilot - Oregon Contact Information

• Sean McSpaden, Deputy State Chief Information Officer
  – Phone: 503-378-5257    Email: Sean.L.McSpaden@state.or.us

• Dave Stuckey, Deputy Director - Oregon Emergency Management
  – Phone: (503) 378-2911 x 22292    Email: dave.stuckey@state.or.us

• Lieutenant Colonel Martin Plotner
  – Phone: 503-584-3980 (Oregon Military Department #)
  – Email: martin.plotner@ang.af.mil

• Cy Smith, State GIS Coordinator
  – Phone: 503-378-6066    Email: Cy.Smith@state.or.us

• Amy Esnard, GIS Project Manager - Multnomah County - Oregon
  – Phone: 503-752-5601    Email: Amy.ESNARD@co.multnomah.or.us

• David Houten, Director – Multnomah County Office of Emergency Management
  – Phone: 503-988-4580    Email: david.b.houghton@co.multnomah.or.us
PNW Pilot – Other State Contact Information

- Alaska
  - Michael O’Hare, Deputy Director- Dept. of Military and Veterans Affairs Homeland Security & Emergency Management
    • Phone: 907-524-2406  Email: mike.ohare@alaska.gov
  - Jonel Schenk, Dept. of Military and Veterans Affairs Homeland Security & Emergency Management
    • Email: Jonel.schenk@alaska.gov

- Idaho
  - Pat Frischmuth, Deputy Director - Bureau of Homeland Security
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  - Julie Sendra, GIS Unit Leader - Bureau of Homeland Security
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PNW Pilot – Other State Contact Information

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• Washington
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  – Bob Oenning - Washington Emergency Management
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  – Major Orion Inskip
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  – Sgt. Tim Kettlewell
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