


WESTCARB Annual Business Meeting

Characterization of Sedimentary Basins in Washington & Oregon

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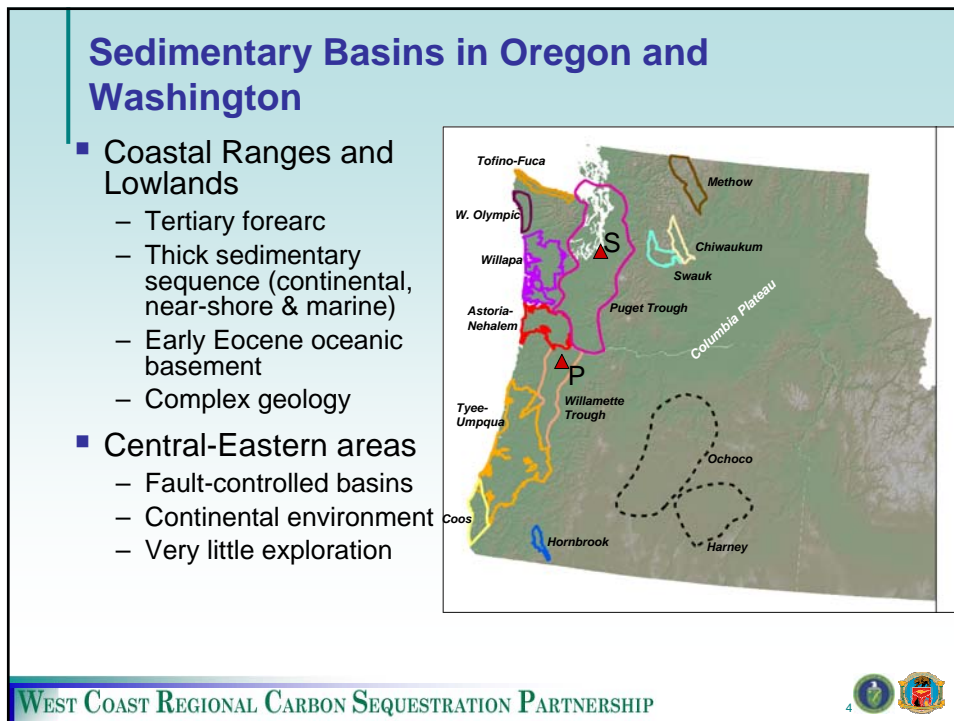
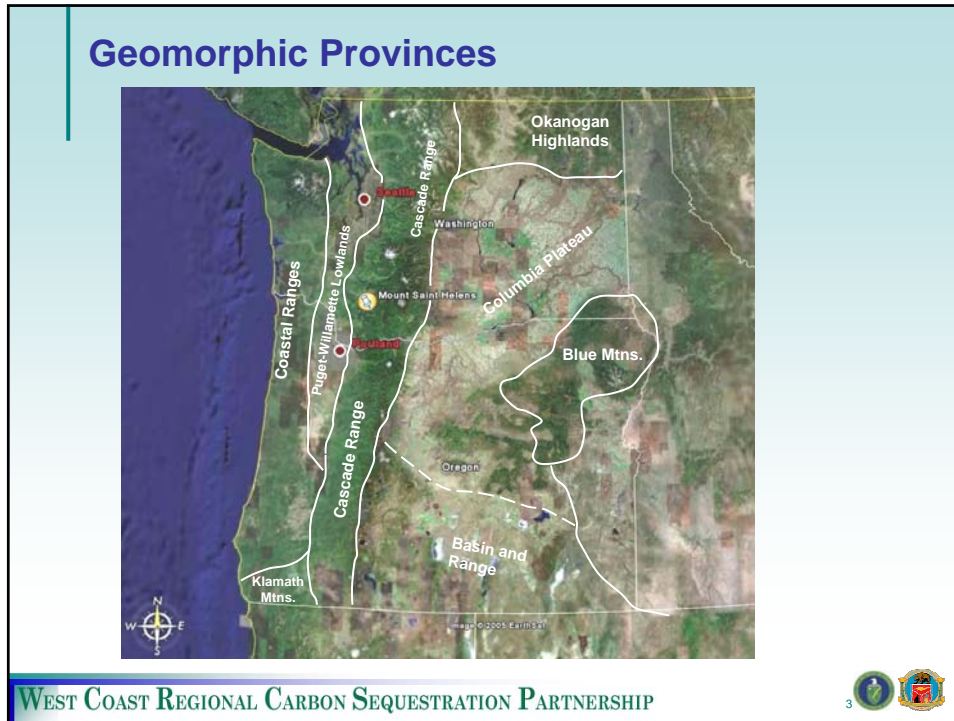


Objectives

- On-shore sedimentary basins
 - Complete data collection (well logs)
 - Identify additional basins, key structural features, parameters
 - Develop storage resource estimates
- Off-shore sedimentary basins
 - Identify basins, plays
 - Initial storage estimates

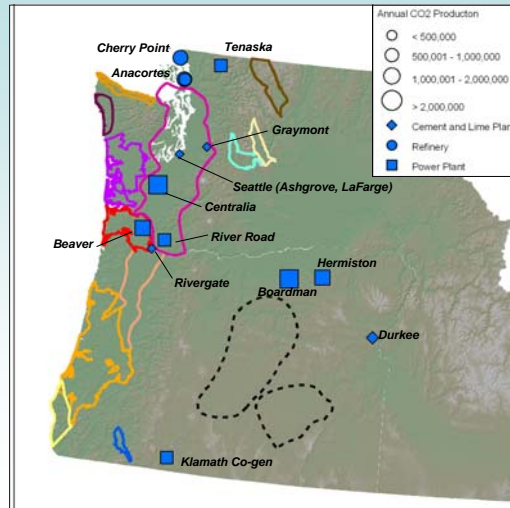
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Basins and Major CO₂ Sources

- Six power plants
 - Two coal and four NG
 - 19.1M tCO₂/yr
- Three refineries
 - 0.5M barrels/day
 - 4.1M tCO₂/yr
- Five cement plants
 - 1.4M tCO₂/yr



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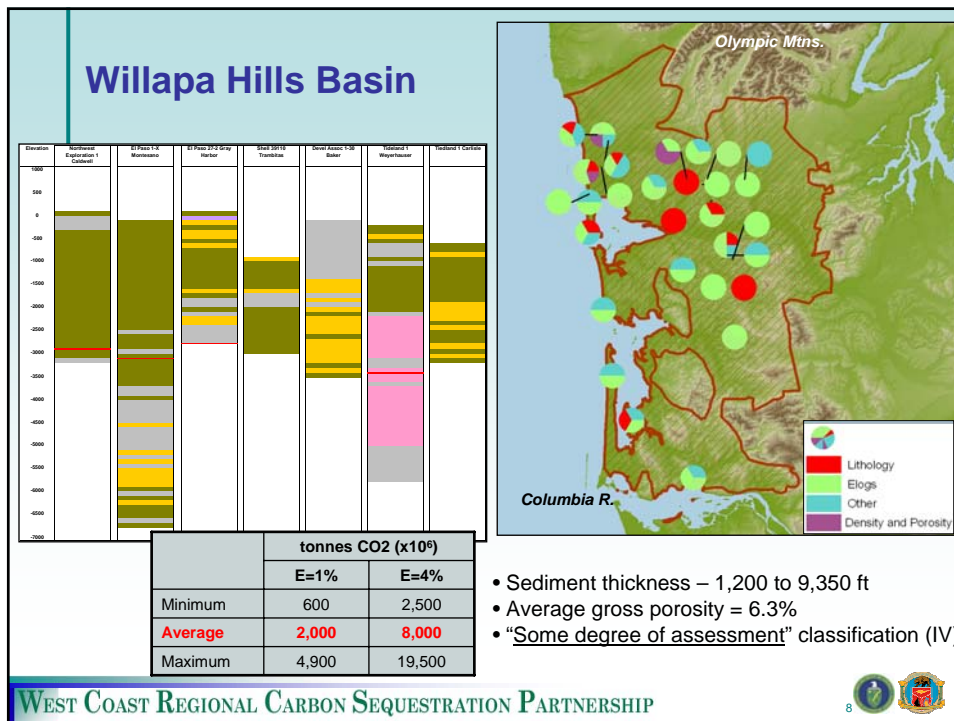
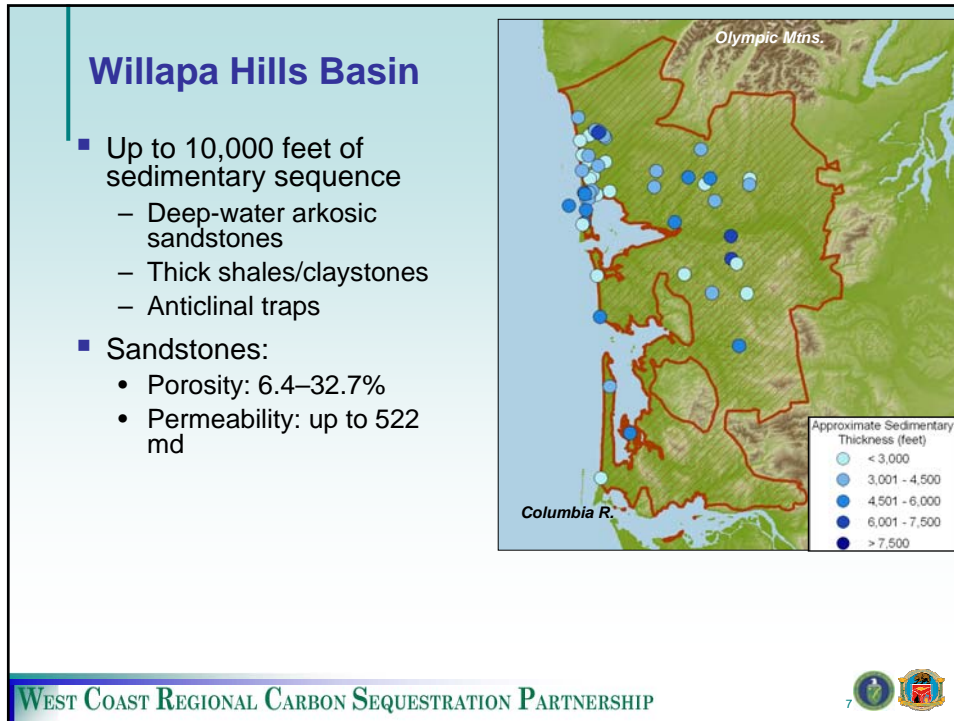


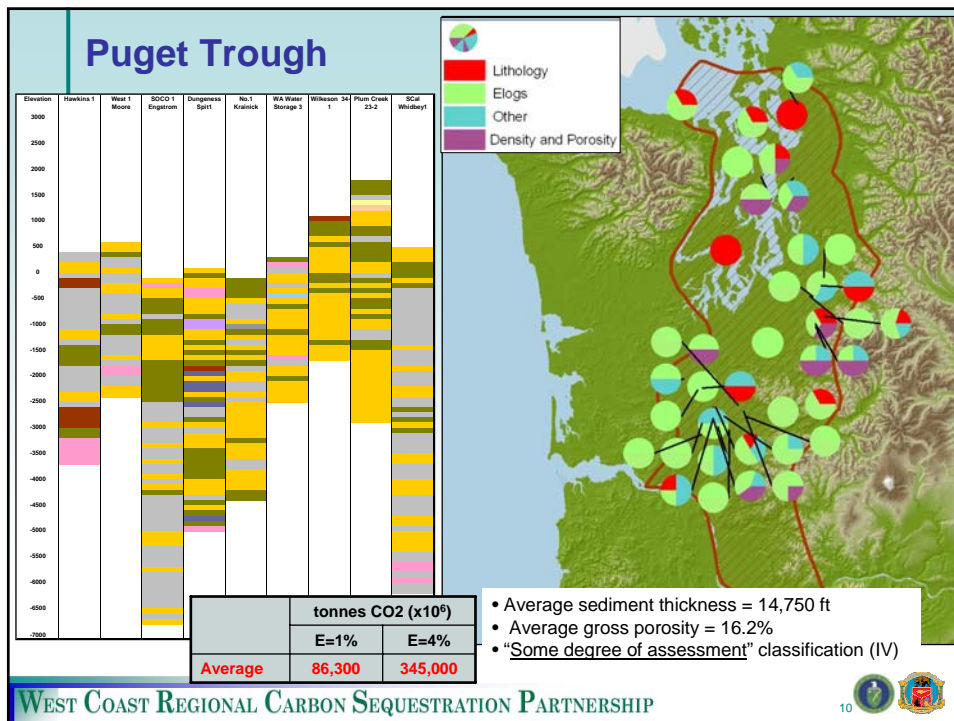
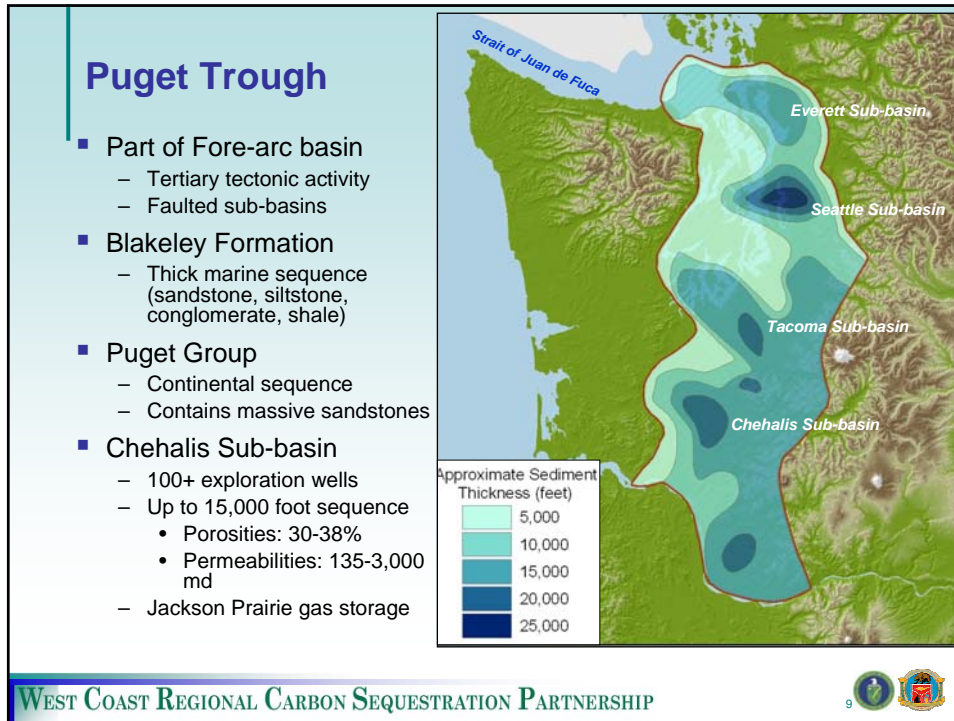
Storage Calculation - 2007 Geologic Working Group Approach (Saline Formations)

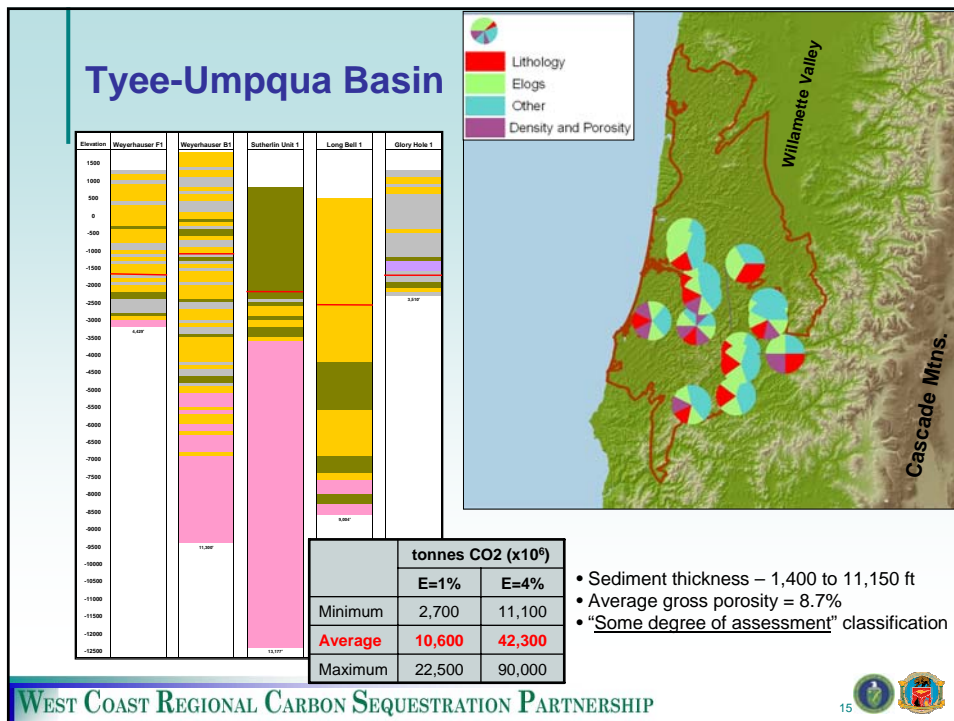
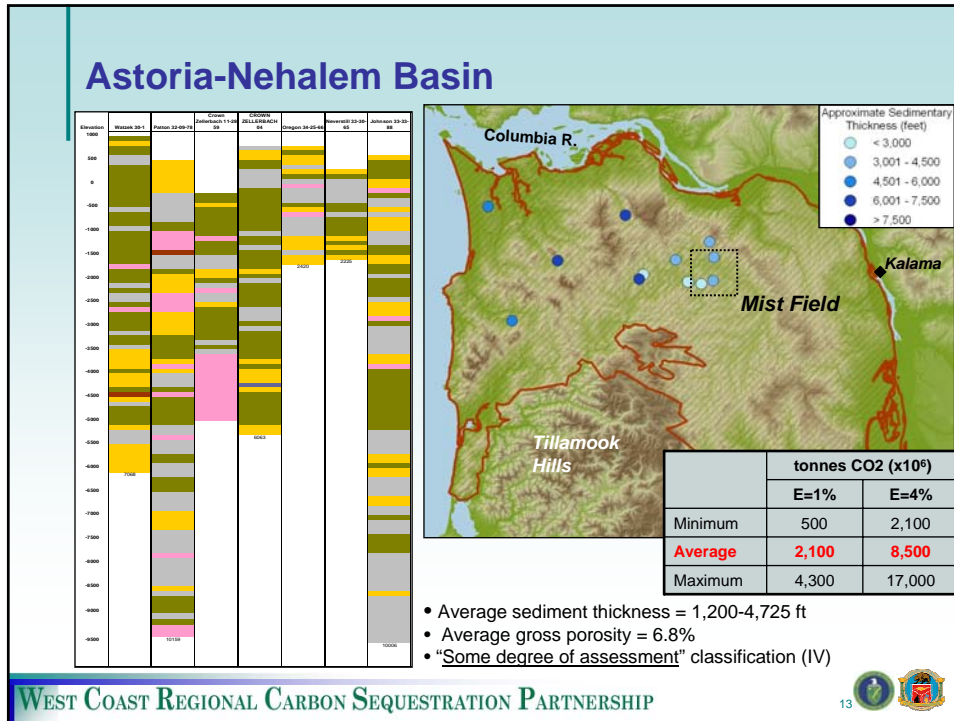
- Resource rather than capacity
 - Lower degree of certainty at this stage
- Basin classifications
 - I: No sedimentary rocks present
 - II: Sedimentary rocks, but not suitable for storage
 - III: Known sedimentary rocks, but not adequately assessed for storage
 - IV: Known sedimentary rocks, with some degree of quantitative assessment
- Depth (P/T conditions; >800m)
- Suitable seal exists (no min. thickness specified)
- TDS >10,000 ppm
- Apply Efficiency Factors – account for effective porosity, displacement efficiency and gravity effects
- Basin-scale - multiple formations

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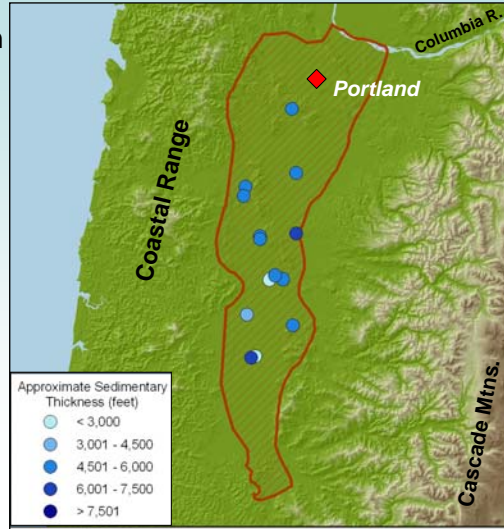




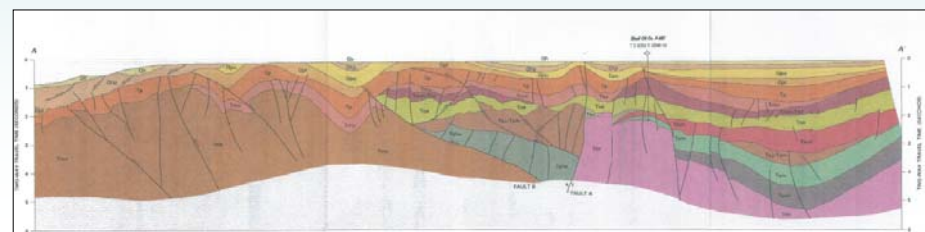
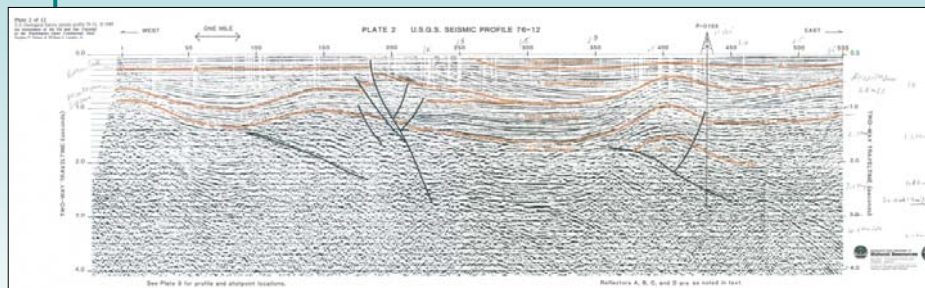


Willamette Trough

- Populated, lowland region
- Extension of forearc basins
- Important groundwater resource
 - Thick overlying unconsolidated deposits

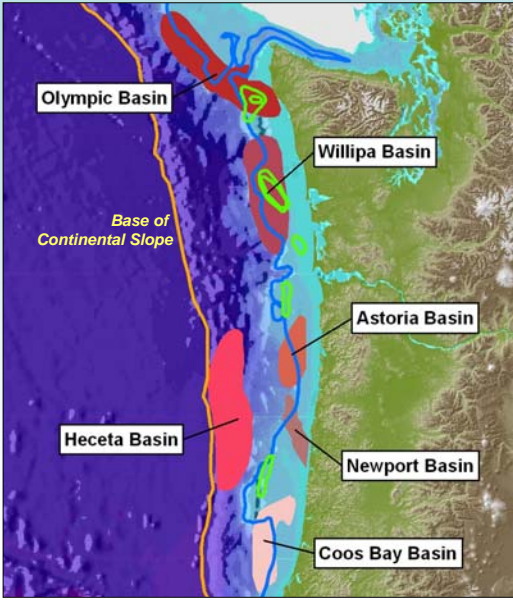


USGS – WADNR Offshore Profiles



Offshore Basins


- USGS geophysical work
 - 15 offshore wells
- WA DNR Interpretation
 - Six major basins
 - Up to 15,000 ft thick
 - Montesano formation, sandstone member
 - Several hundred feet thick
 - Porosity: 15-24%
 - Permeability: 1,000 md
 - Overlying siltstone-claystone members



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Enjoy your stay in the PNW



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