


**WEST COAST REGIONAL CARBON SEQUESTRATION PARTNERSHIP**  
*westcarb.org*




## WESTCARB Annual Business Meeting

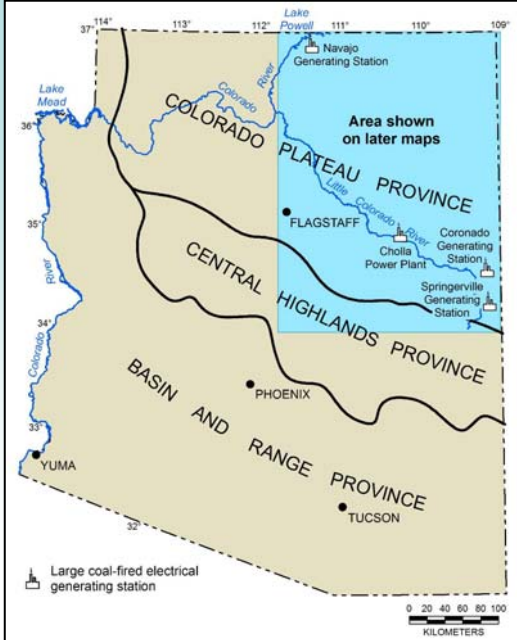
### Regional Geological and Hydrological Characterization for Northern Arizona

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Phoenix, AZ  
November 8, 2006




## Arizona Geologic Provinces



Area shown on later maps

Large coal-fired electrical generating station

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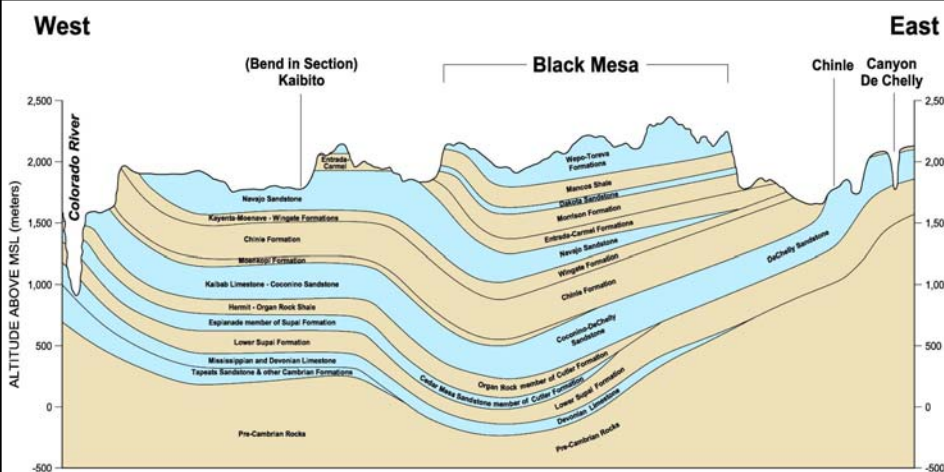


## Colorado Plateau Province

- 140,000 square miles in Northern Arizona
- Thick sequence of nearly flat-lying sedimentary strata
- Some structural deformation
- Some areas of coal, oil, and gas accumulations
- Contains 4 large coal-fired power plants
- Potential for geologic sequestration of CO<sub>2</sub> on production scale



## Geologic Cross-Section from Grand Canyon, through Black Mesa, to Canyon de Chelly

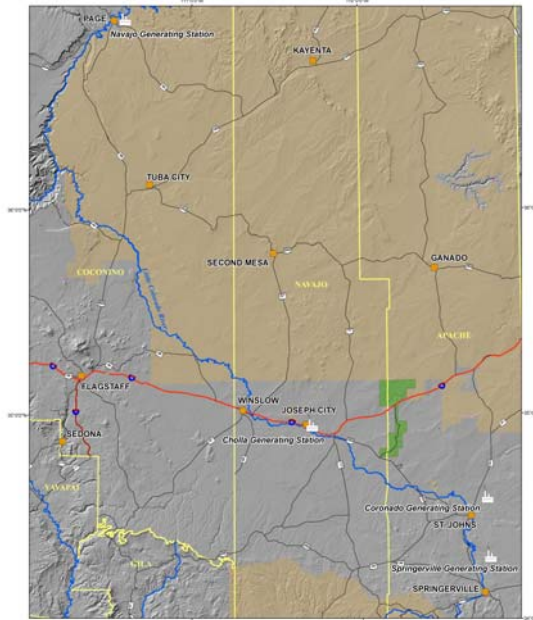


## Potential CO<sub>2</sub> Reservoirs in Vicinity of Navajo Generating Station

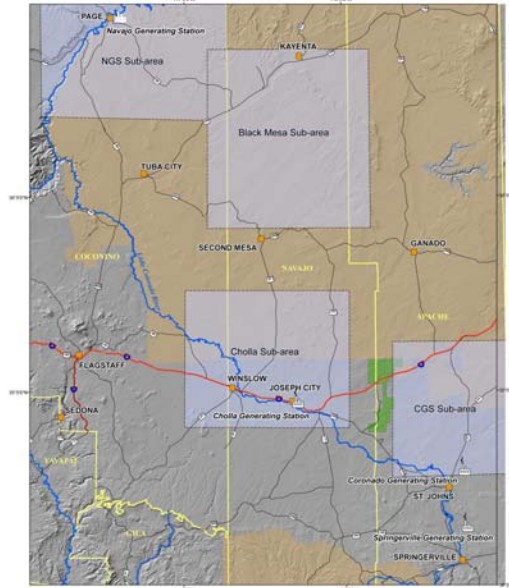
	Cedar Mesa Sandstone	Miss/Dev Limestones	Tapeats Sandstone
<b>Depth (feet bls)</b>	~ 4,000	~ 5,000	~ 6,000
<b>Thickness (feet)</b>	600	700+	1,000
<b>Porosity %</b>	~ 10-15	< 10	~ 10
<b>Groundwater Conditions</b>	Confined	Confined	Confined



## Colorado Plateau of Northeast Arizona



## Preliminary Areas of Interest for Siting of Arizona Pilot Project



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## Arizona Siting Study

- Screen and evaluate potential CO<sub>2</sub> storage sites
- Collaborative and interactive work process with WESTCARB, EPRI, and SRP
- First phase (November-December)
  - Define specific areas of interest
  - Compile geohydrologic attributes of potential CO<sub>2</sub> reservoirs and seals
  - Prepare interpretative analysis of sub-areas
- Second phase (January-February)
  - Identify and compile critical attributes for selection
  - Conduct detailed comparative analysis of sub-area

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