

Texas General Land Office

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Sustainable Energy

Wind Workshop for State Lands

National Wind Technology Center

Boulder, Colorado

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Energy Resources Division



Sustainable Energy Project

- ⌘ The General Land Office (GLO) has been involved in sustainable energy since 1995.
- ⌘ The Sustainable Energy Project (Division) was created from the Sustainable Energy Development Council (SEDC)--a group of sustainable energy stakeholders that studied the sustainable energy potential of Texas. The Land Commissioner was co-chair of the SEDC.

Sustainable Energy Potential on State Lands

- ⌘ Wind energy: the coast and west Texas.
- ⌘ Solar power: anywhere--best in west.
- ⌘ Biomass: agricultural or forest areas.
- ⌘ Geothermal: Upper Rio Grande and coast.
- ⌘ Wave energy: coast.
- ⌘ Ocean thermal energy: coast.

Sustainable Energy Success Story

- ⌘ The SEDC found that the GLO, with its state lands, could lead development in sustainable energy.
- ⌘ Hence--The Texas Wind Power Project.
- ⌘ A public-private partnership.
- ⌘ The first utility-scale wind plant in Texas.
- ⌘ Located on state land easements, operating since August 1995.

Sustainable Energy Success Story

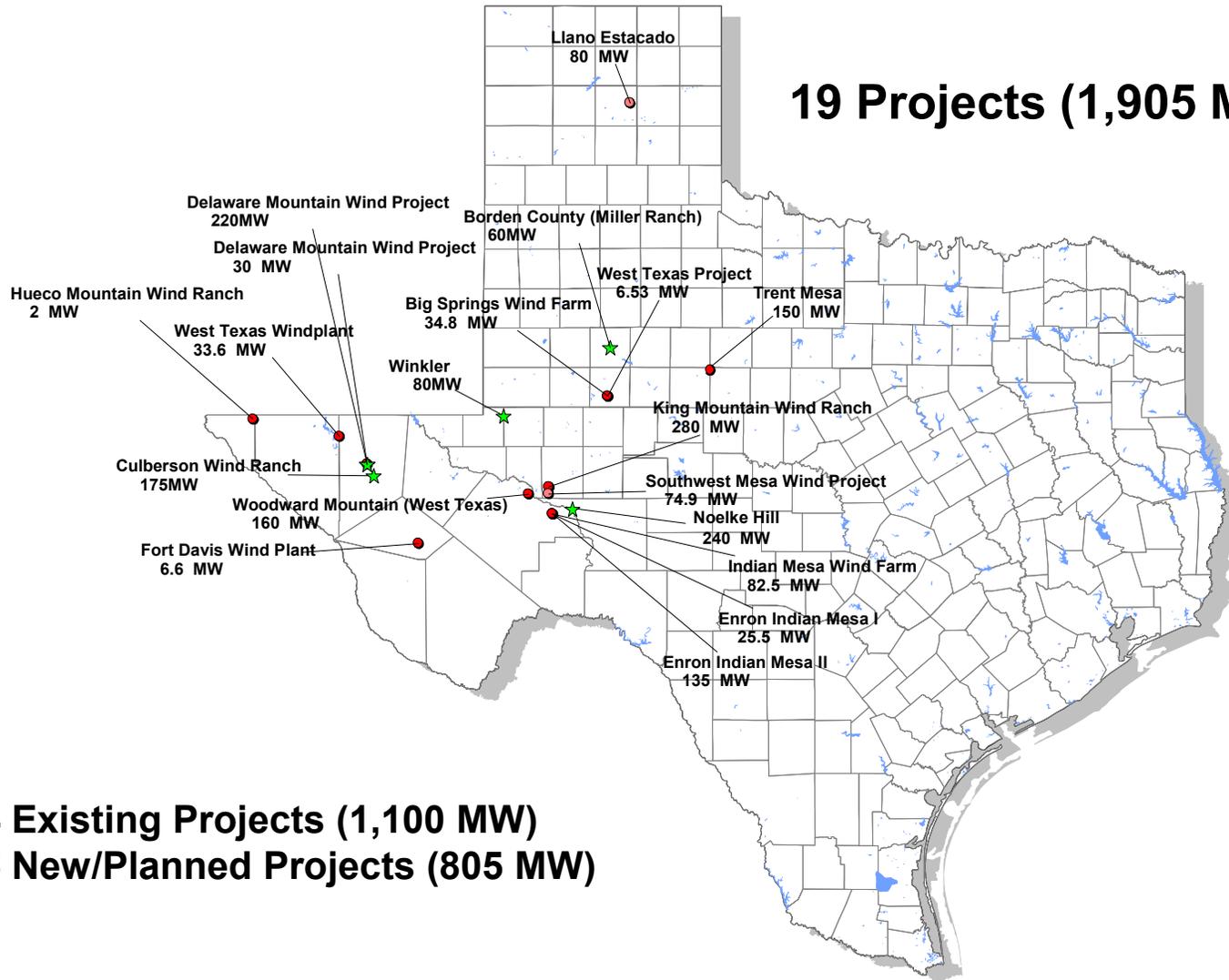
- ⌘ 118 Kenetech wind turbines producing over 35 megawatts of power.
- ⌘ Has paid more than \$620,000 in royalties to Permanent School Fund. It is projected to pay nearly \$3 million in its 25 year life.
- ⌘ Located in Delaware Mountains of West Texas (Culberson County)

Texas Wind Power Project Catalyst for Texas wind boom



Wind Energy Projects in Texas

19 Projects (1,905 MW)



- 14 Existing Projects (1,100 MW)
- ★ 5 New/Planned Projects (805 MW)

TX WIND POTENTIAL (GIS)

CLASS	AREA, SQ MI	MEGAWATTS
3	56,000	396,000
4	11,500	101,600
5	2,000	21,600
6	200	2,000
TOTAL	69,700	521,200

Sustainable Energy Maps

- ⌘ GLO is continually evaluating all types of sustainable energy development potential on state lands.
- ⌘ Digitized GIS maps are available showing sustainable energy resources and energy infrastructure in Texas.
- ⌘ These maps were developed with State Energy Conservation Office funding.

Sustainable Energy Maps Resources and Infrastructure

- ⌘ Wind Energy Classification.
- ⌘ Solar Insolation Classification.
- ⌘ Transmission Lines in Texas.
- ⌘ Electric Utility Service Area Locations.
- ⌘ Oil and Gas Well locations (geothermal).

- ⌘ www.glo.state.tx.us/energy/sustain/

Mineral Maps / GIS - Uplands

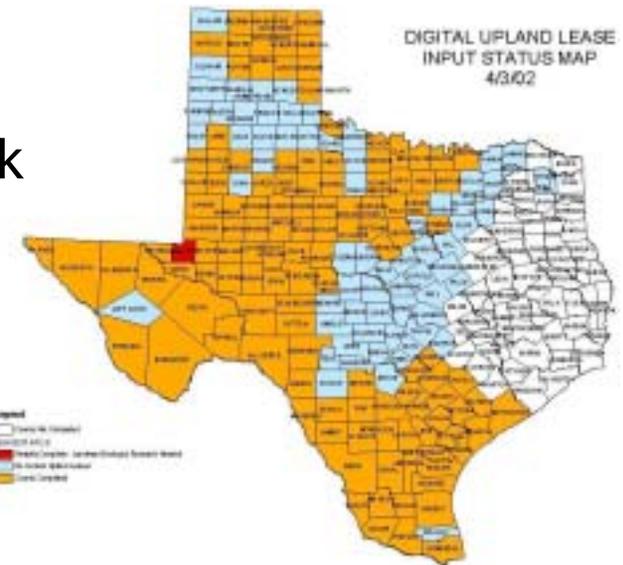
Another GLO area resource

- Upland mineral lease layers in development
- Database reconciliation completed with GIS work

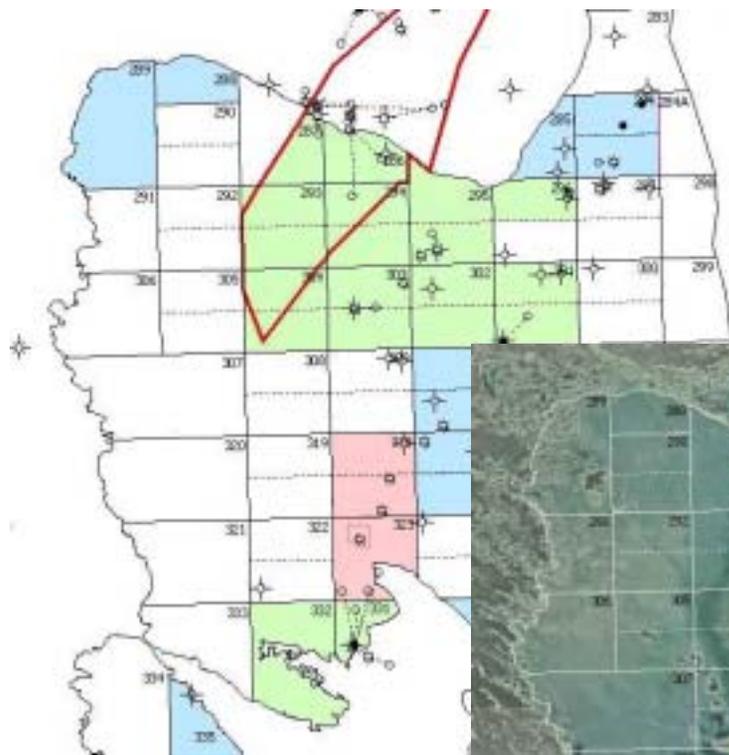
Current Records:

- 3454 upland leases
- 1460 submerged leases
- 1640 pooling agreements

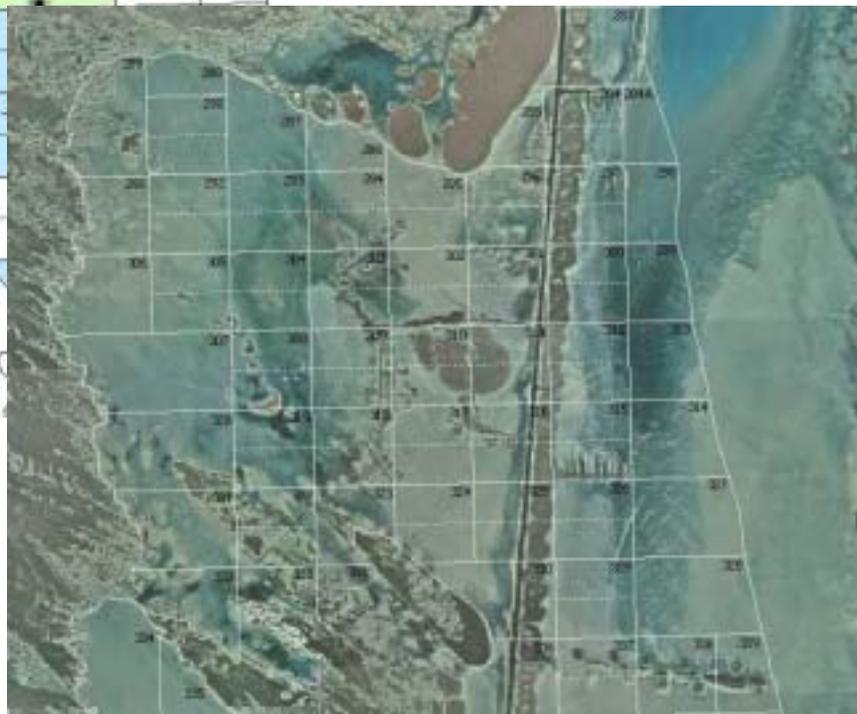
- 70% of current records digitized
- Over 70% of Texas counties completed



Mineral Maps/GIS-Submerged Help from other GLO areas



- Maps and other research tools assist with evaluation of mineral leases in offshore areas of Texas Gulf Coast



ELLIS:
Energy Land and
Lease Inventory
System allows
public customers
to research
offshore activity
with lease maps
and data over the
internet

Energy Inspections

Help from other GLO areas

Routine inspection activity continues along with special requests and termination requests. Coastal inspectors continue their efforts with the Mineral Leasing Division and the Texas Railroad Commission on the Commissioner's initiative to get abandoned offshore wells plugged.



To establish the offshore site and for maintenance, we will go along during routine inspections--saving time/funds

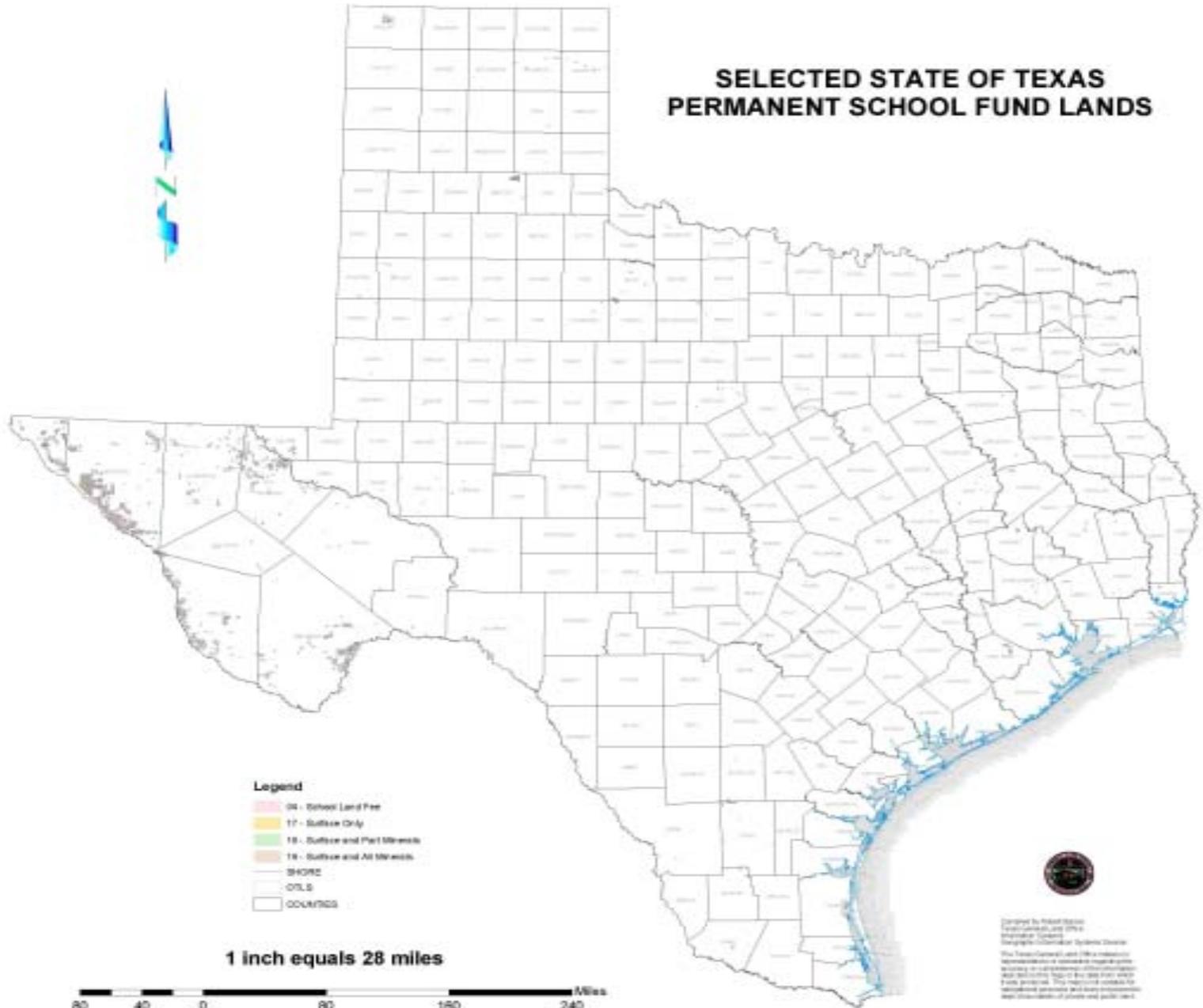




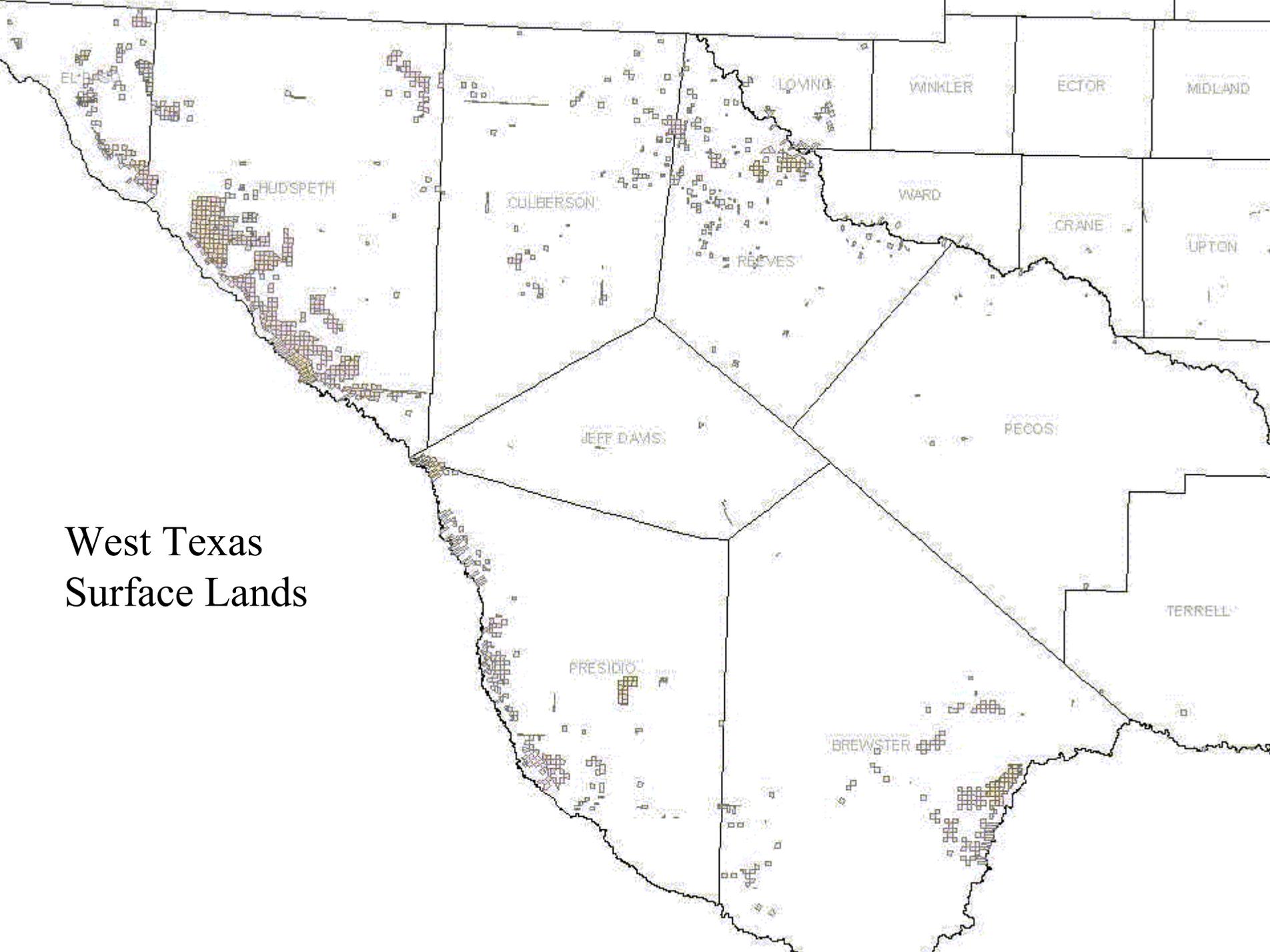
State Land Meteorological Data Network--Four Sites

- ⌘ Wind monitoring under way at sites in West Texas, and along the Coast where the majority of state land is located.
- ⌘ Permanent University Fund Land in central Culberson County.
- ⌘ PSF land in Hudspeth County.
- ⌘ PSF land in Presidio County.
- ⌘ State land in Kleberg County on the coast.

SELECTED STATE OF TEXAS PERMANENT SCHOOL FUND LANDS



West Texas Surface Lands



State Energy Conservation Office (SECO) Funding

- ⌘ SECO has funded the GLO wind evaluation project since September 2000.
- ⌘ GLO has partnered with the Alternative Energy Institute--West Texas A&M University to install equipment and evaluate data obtained on existing sites.
- ⌘ Continued SECO funding will enable us to establish one more land site and an offshore site.

SECO Funding

Other State Agency sites

- ⌘ SECO has helped fund two distributed wind sites on state agency land in Texas.
- ⌘ SECO partnered with the Alternative Energy Institute--West Texas A&M University and the Texas Department of Transportation to install a 10 kilowatt turbine and a 50 kilowatt wind turbine on highway rest areas in West Texas.

