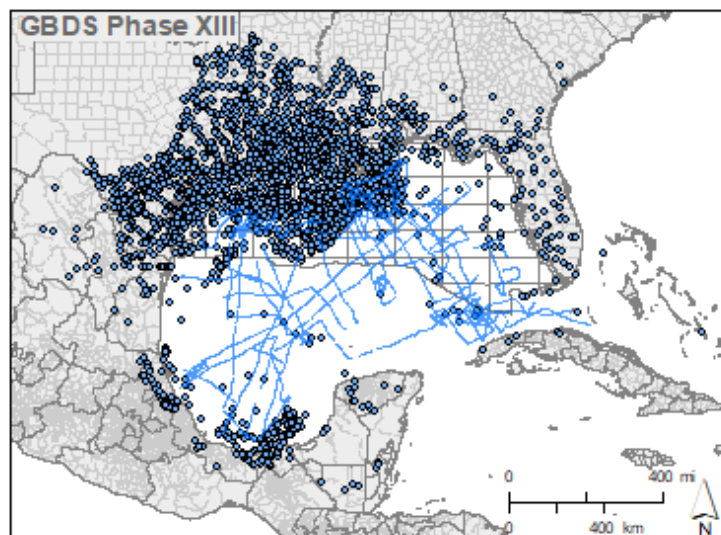


Gulf Basin Depositional Synthesis

**The only academic Gulf of Mexico-wide
regional research program**

Introduction

The Gulf Basin Depositional Synthesis Project (GBDS) is an industry-sponsored consortium studying and mapping the depositional history of the Gulf of Mexico of post Paleozoic to the Pleistocene. Our goal is to guide and predict reservoir distribution and characteristics by providing our sponsors detailed, quick, and easy to access regional Gulf of Mexico maps and data.



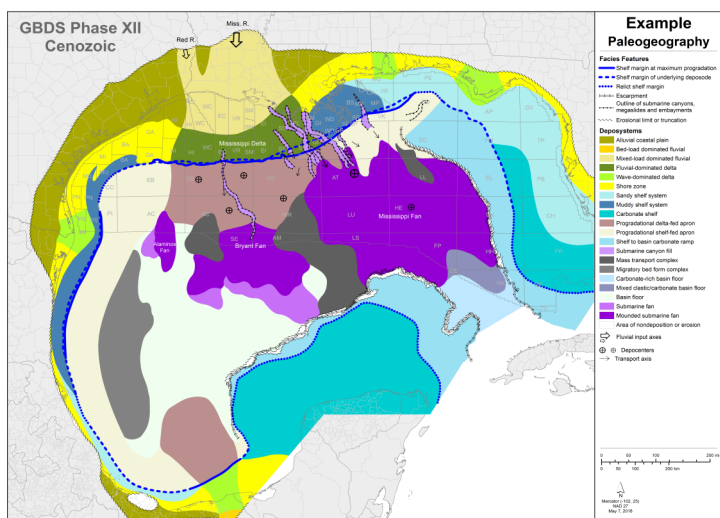
Delivered interpreted wells and 2D seismic

Project Deliverables

The GBDS GIS database is a compilation of well logs, seismic, and published literature from public and partner sources. All this is packaged with an intuitive custom set of GIS tools and delivered to project sponsors.

Deliverables include:

- ArcGIS GBDS database and tools
- 35 depositional units mapped Gulf-wide
- Over 316 preconstructed maps
- Over 2,811 detailed interpreted wells
- Over 2,658 publications in our library
- 1,389 digitized LAS files
- UT's Gulf-Wide 2D seismic (14,000 km)
- Source rock studies, onshore and offshore
- Key Gulf of Mexico papers by Galloway, Snedden, Fulthorpe, Sweet and students



Example paleogeographic map

Students

In it's 26 year history GBDS has supported over 100 graduate and undergraduate students in preparation for careers in industry and academia.

For more info visit: <https://ig.utexas.edu/energy/gbds/>

09/09/2021

Gulf Basin Depositional Synthesis



The University of Texas at Austin

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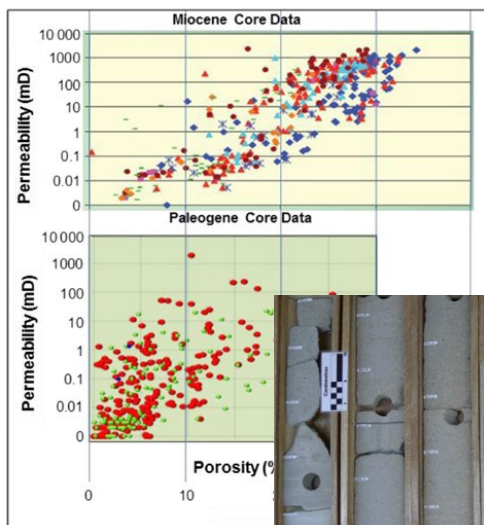


Gulf Basin Depositional Synthesis

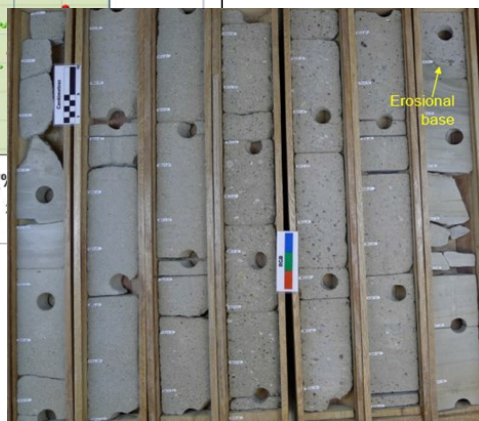
Continued Focus on Mexico

Data Mining in Mexico

GBDS employs students who are fluent in Spanish to help search and mine data and from publications focusing on Mexico, for example, UNAM theses and dissertations, theses from non-Mexican university like Aberdeen Imperial, and any open access publications released by Pemex. GBDS has also made trips to Mexico to view and gather samples from cores. UT is also one of the first universities to be granted access to well packages for student use. All of this is incorporated into our mapping.



Veracruz Basin Permeability & Porosity

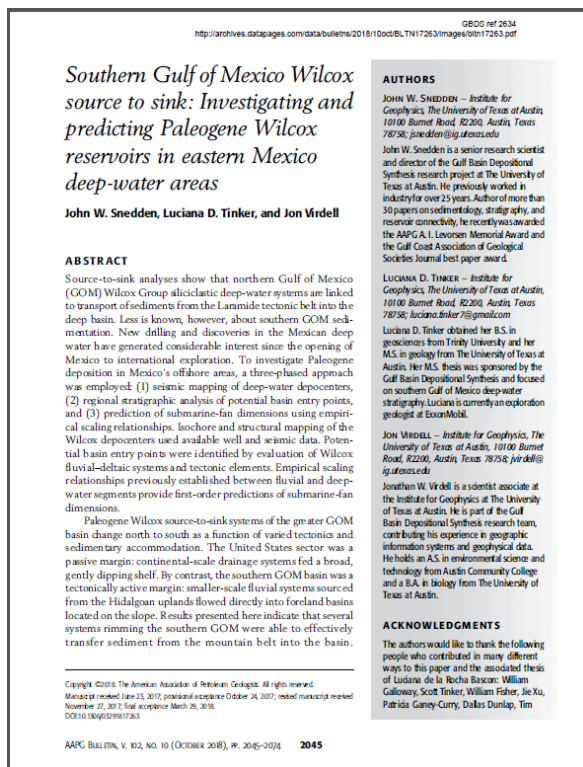


Core from Noxal-1

For more info visit: <https://ig.utexas.edu/energy/gbds/>

Publications

Since the opening of Mexico to international exploration in 2015 GBDS has supported three masters' theses with a focus on Mexico and published several papers. All of these are added to comprehensive reference library for sponsor use.



Mexico Database Metrics

- Over 333 interpreted wells in Mexico
- Over 384 references focusing on Mexico
- Over 27 thousand miles of seismic coverage in the southern Gulf of Mexico that underlies our mapping
- Expansion of all GBDS map units and types into the southern Gulf of Mexico

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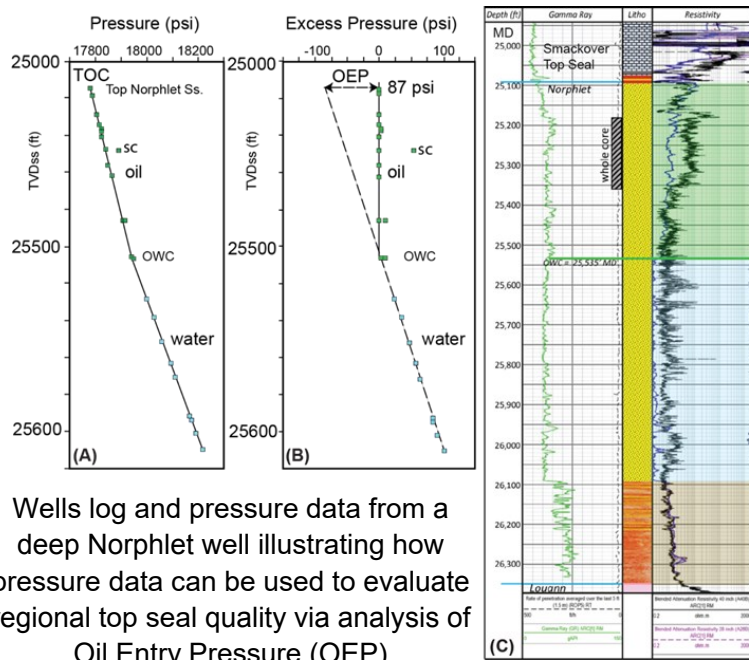


Gulf Basin Depositional Synthesis

CCS and Pressure/Seal in the Gulf

GBDS Pressure and Seal Analysis

GBDS has acquired from BOEM pressure data on 1177 wells in the Gulf of Mexico including key explorations such as Tiber, Ballymore, Kaskida, Appomattox, and Great White. Integrating these data with well logs, 3D seismic, and biostratigraphy and placing them in a structural/stratigraphic context and will lead to insights into key aspect of the GOM petroleum system including: regional and local seals, regional pressure trends, reservoir compartments, OEP/GEP for estimating seal quality, pressure & mobility vs depth, from Jurassic to Pleistocene

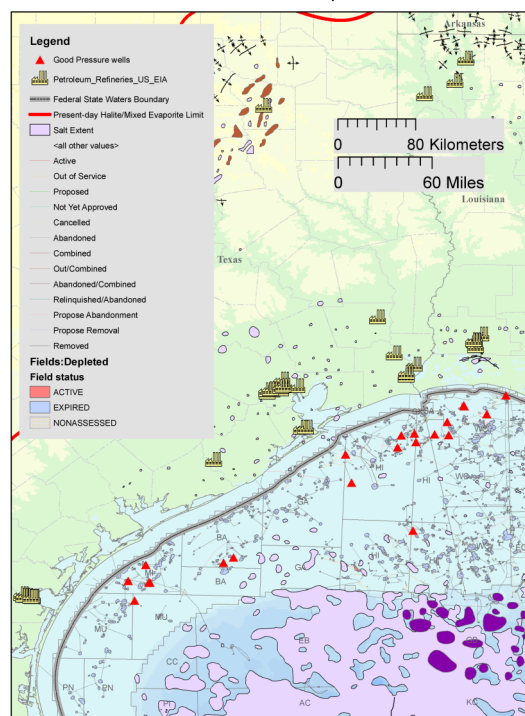


Wells log and pressure data from a deep Norphlet well illustrating how pressure data can be used to evaluate regional top seal quality via analysis of Oil Entry Pressure (OEP)

Carbon Storage Initiative

GBDS has begun evaluating the potential of storing carbon in abandoned oil and gas fields in the Federal waters of offshore Texas and Louisiana. The Texas and Louisiana Gulf Coast is particularly important for carbon storage for several reasons. First, there is a large source of anthropogenic carbon from chemical plants, oil refineries and other industrial facilities that were sited in the Gulf Coast to be near the oil and gas fields that were discovered onshore and in State and Federal waters. Second many of these fields are abandoned or nearing the end of their productive lives so they could be reused for carbon storage. Our pressure and seal analysis is highly applicable.

Location Map



For more info visit: <https://ig.utexas.edu/energy/gbds/>

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