



Federal Outer Continental Shelf Oil and Gas Overview

From the Eastern Gulf of Mexico Perspective

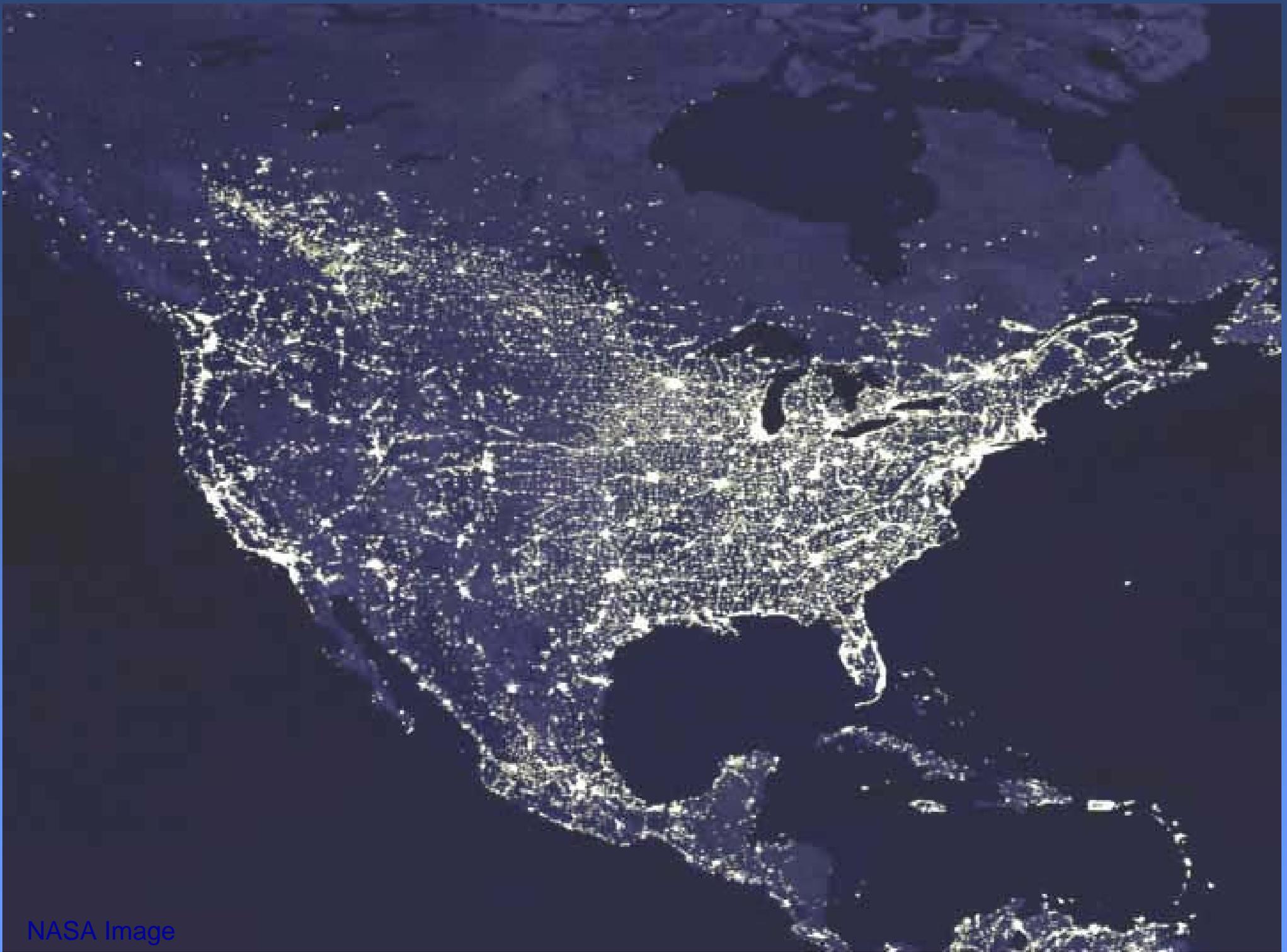
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U.S. Minerals Management Service (MMS)
Gulf of Mexico Region

Presented to:

Tampa Bay Regional Planning Commission
October 12, 2009

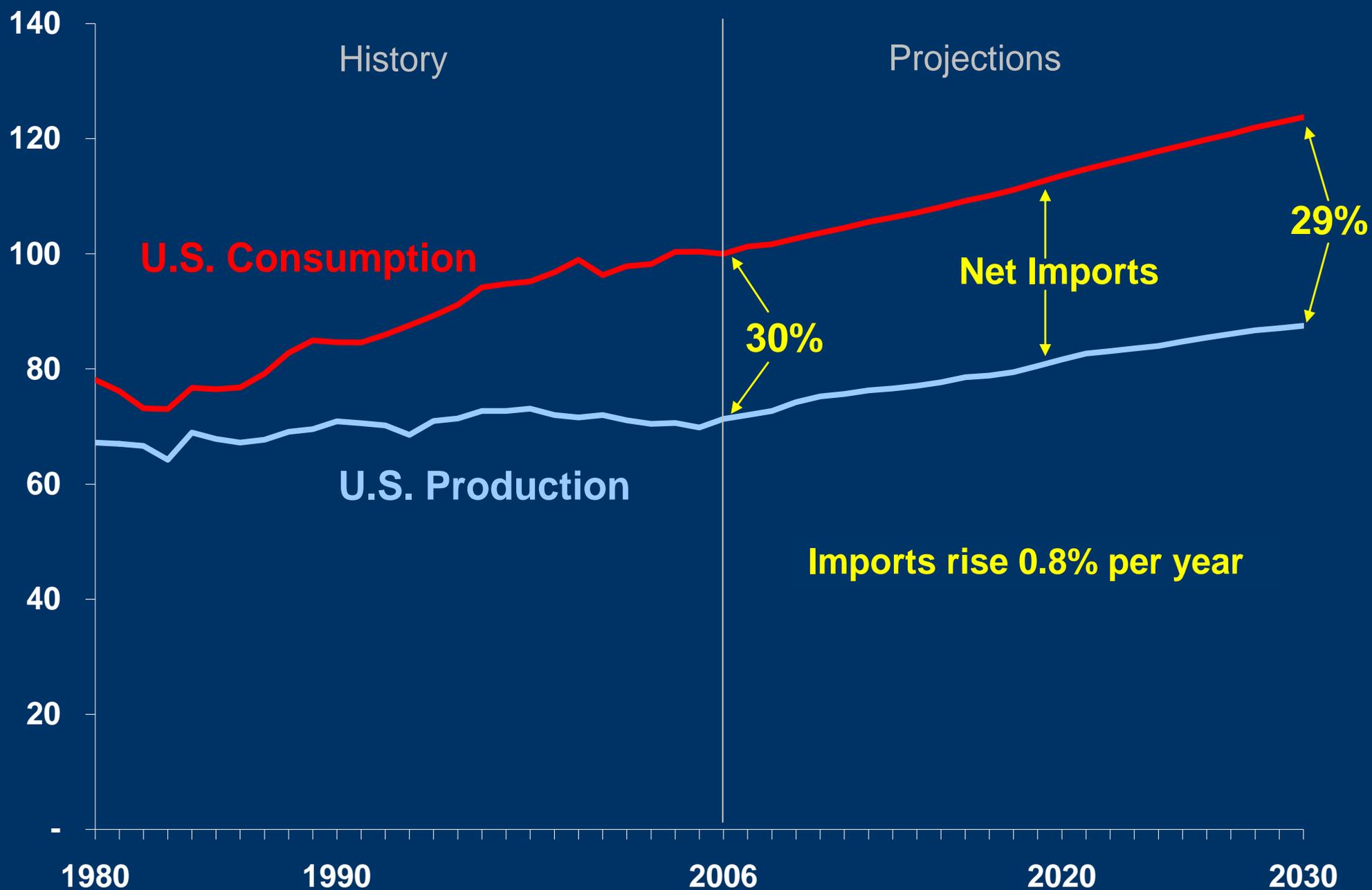
Presentation Agenda

- **Overall U.S. Energy Situation**
- **Current Gulf of Mexico Oil and Gas Activity**
- **Potential Future Eastern Gulf of Mexico Oil and Gas Activity**



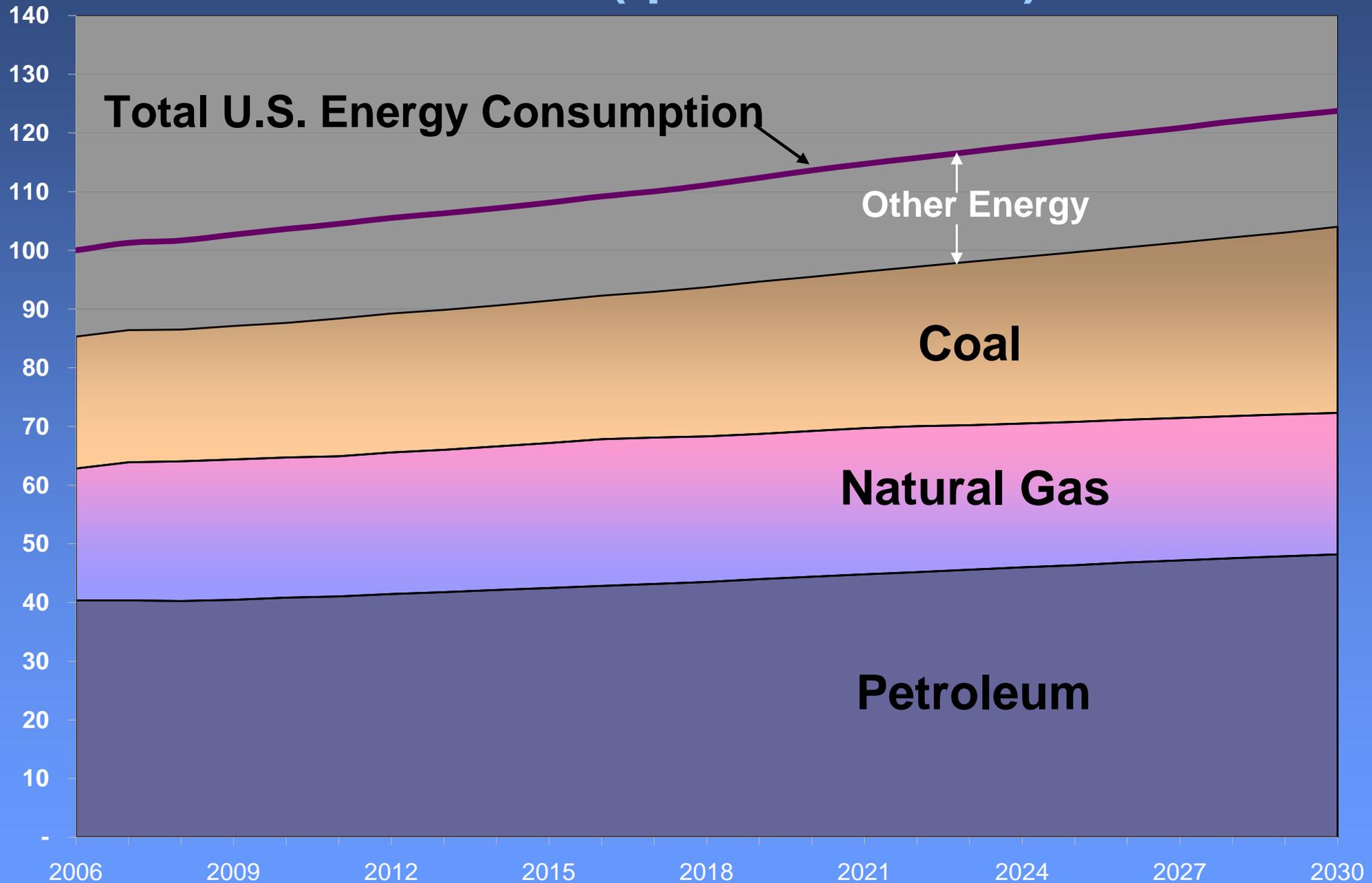
NASA Image

U.S. Total Energy Production, Consumption, and Net Imports, 1980-2030 (quadrillion Btu)



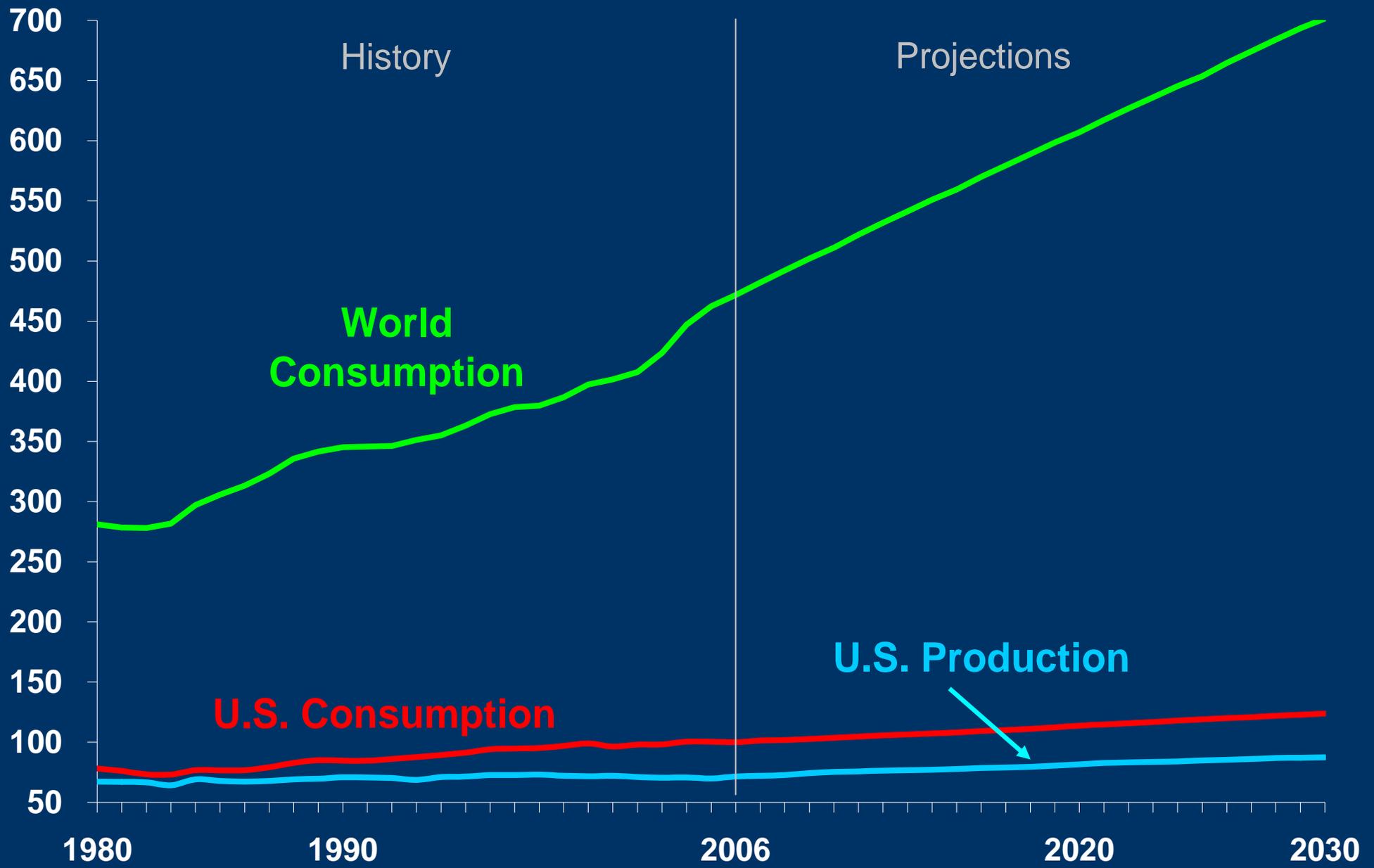
Source: EIA Annual Energy Outlook 2008, Early Release (December 2007)

U.S. Primary Energy Consumption 2006-2030 (quadrillion Btu)



Source of Data: EIA, Annual Energy Outlook 2008, early release (December 2007)

World Consumption and U.S. Energy Production and Consumption 1980-2030 (quadrillion Btu)

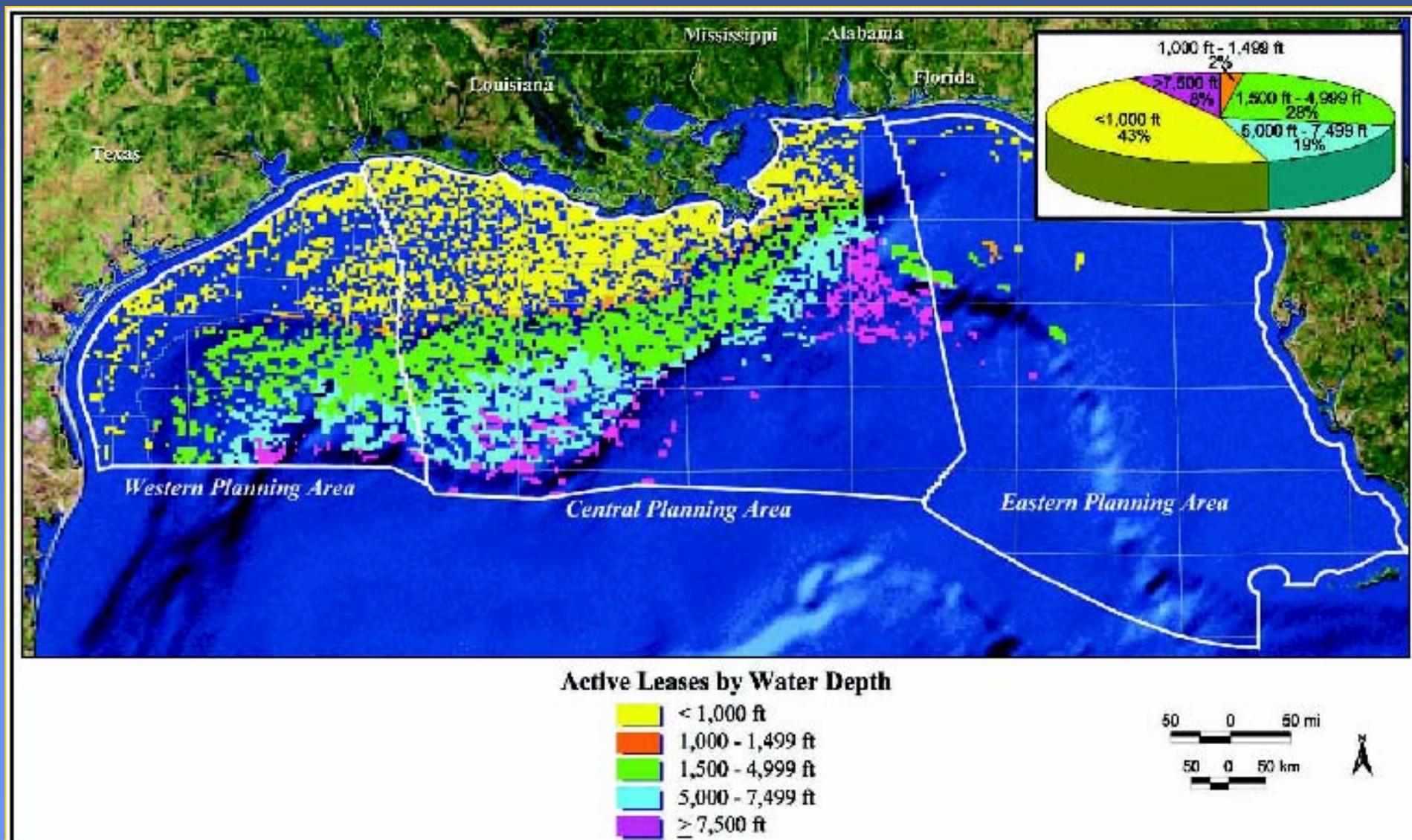


Sources : EIA International Energy Outlook 2007 (May 2007) and EIA Annual Energy Outlook 2008, Early Release (December 2007)

Reasonable Conclusions Based on both World and U.S. Energy Consumption Projections...

- Petroleum and natural gas will continue to grow as a source of U.S. energy demand, even with expansion of alternative energy production.**
- World energy consumption and demand for petroleum and natural gas supplies will grow at an even faster pace.**
- Increased worldwide competition for petroleum and natural gas supplies will result in higher costs for U.S. imports in the future.**
- Increased domestic energy production (of all kinds) will help to alleviate effect of higher cost imports as well as provide important economic benefits due to growth in U.S. energy sector investment and jobs.**
- Some believe there are also national security issues associated with continued heavy reliance on imports.**

Active Leases by Water Depth

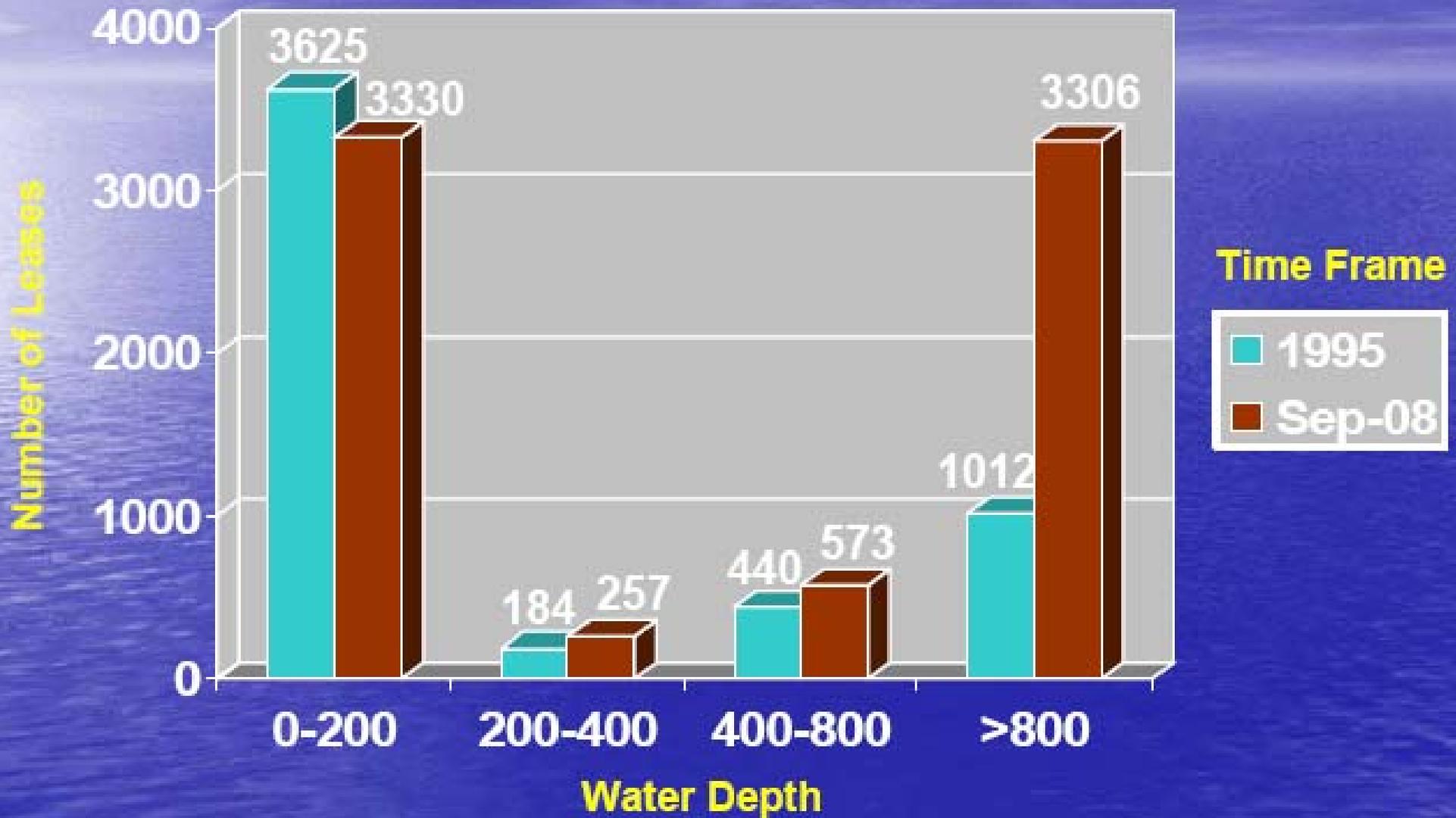


Gulf of Mexico Statistics by Water Depth As of July 6, 2009

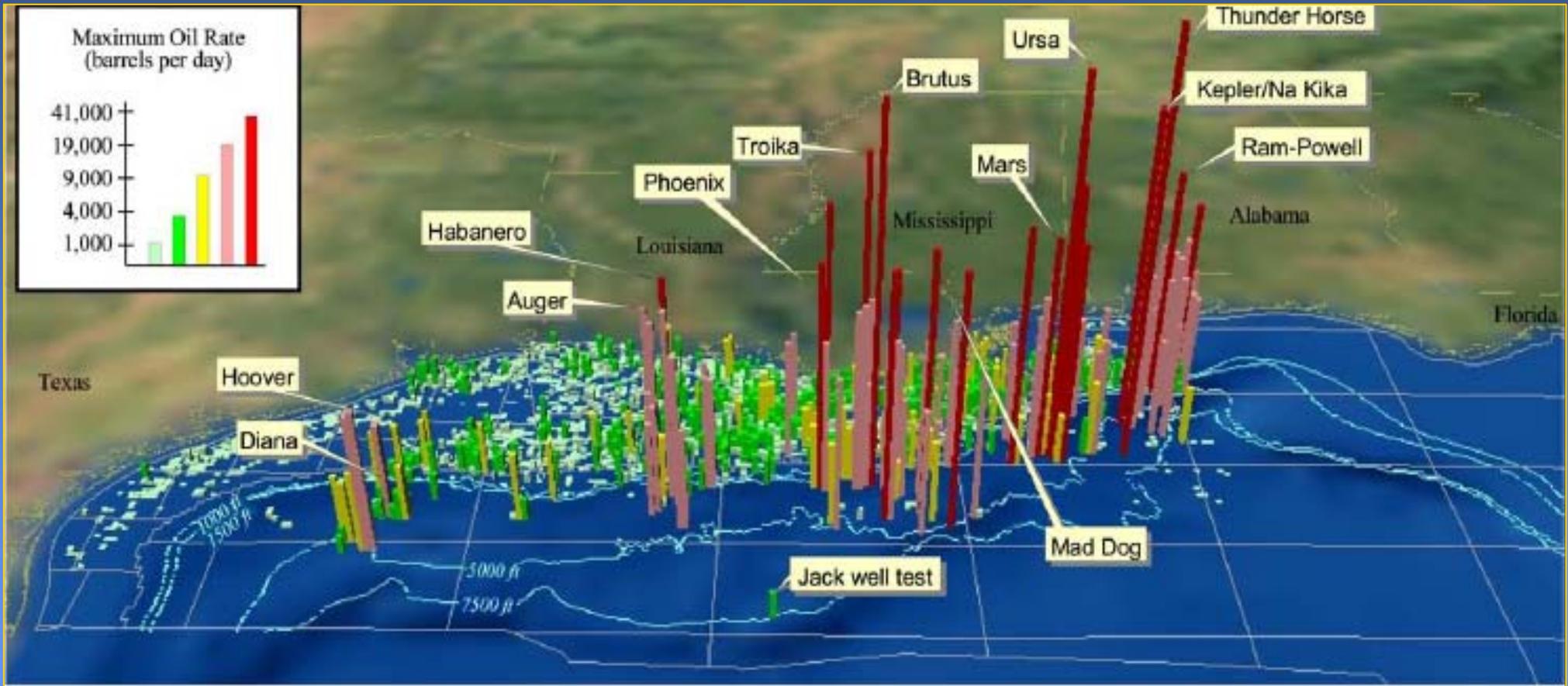
Water Depth in Meters	Active Leases	Approved Applications to Drill	Active Platforms
0-200	2,674	33,429	3,674
201-400	176	1,095	21
401-800	360	827	9
801-1000	417	489	7
1000 and Above	3,367	1,532	23

Expanded Deepwater Leasing in the Gulf

Number of Leases by Water Depth

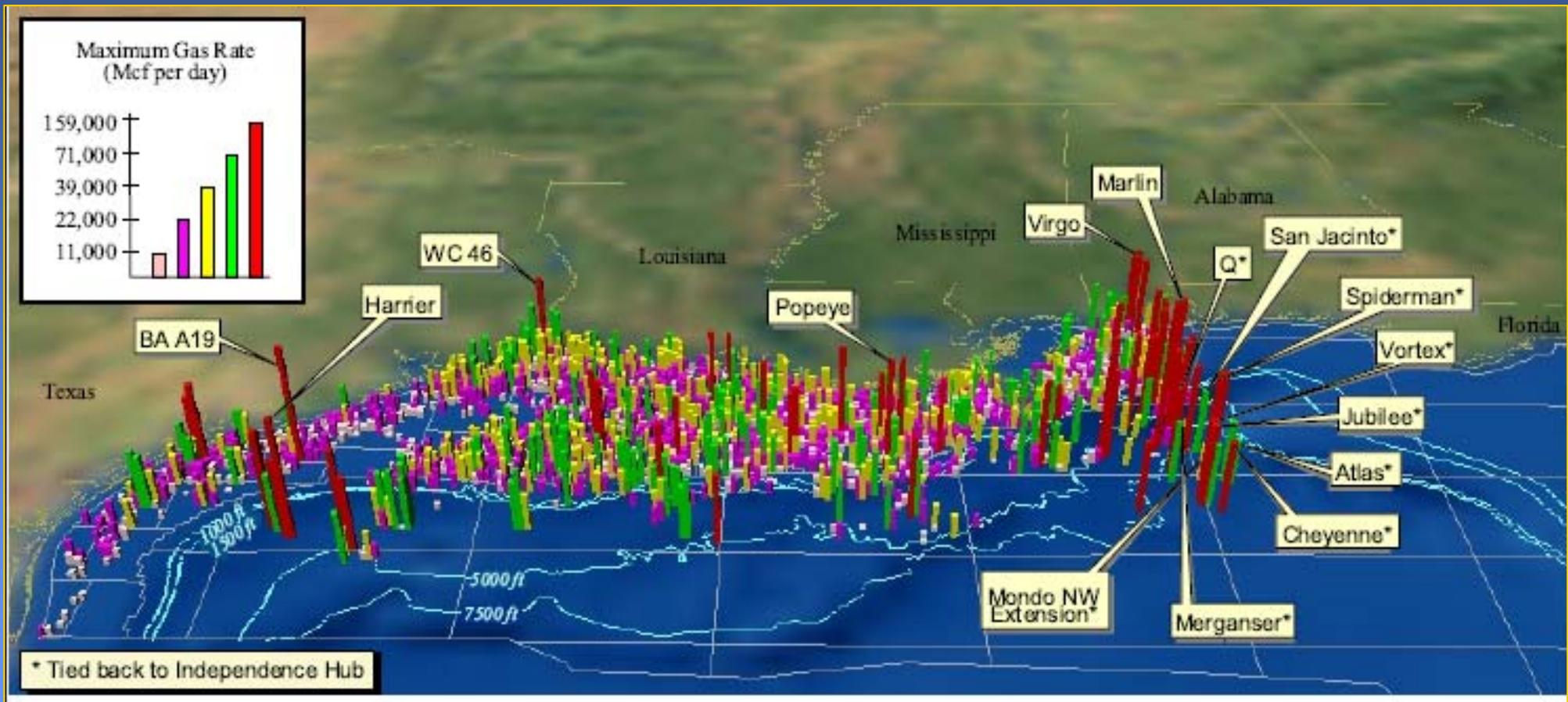


The Gulf of Mexico OCS Provides about 25% of U.S. Domestically Produced Oil



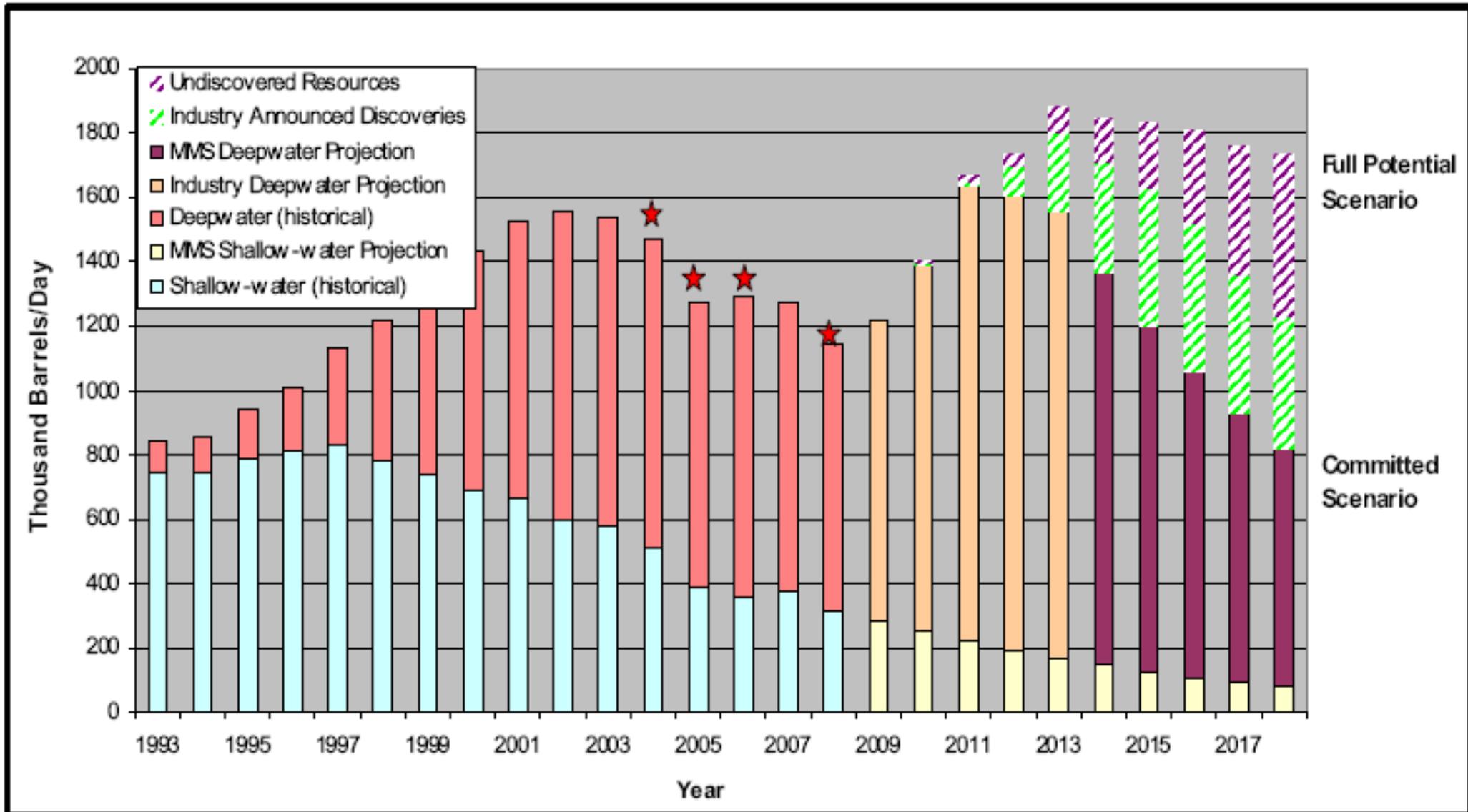
72% of the oil produced in the Gulf comes from deepwater. This is equivalent to 19% of the total US production.

The Gulf of Mexico OCS Provides about 15% of U.S. Domestically Produced Natural Gas



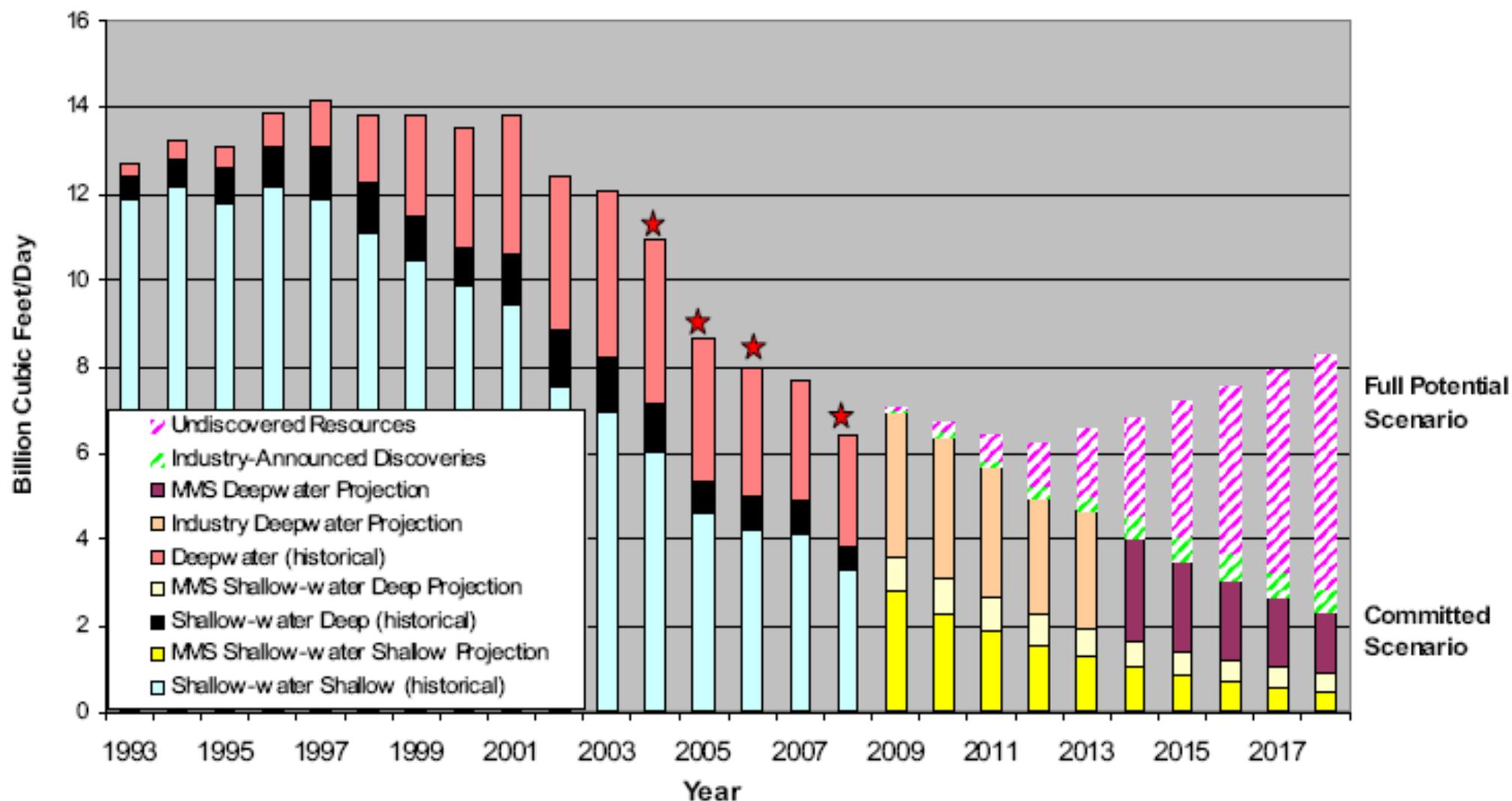
38% of the gas produced in the Gulf comes from deepwater. This is equivalent to 6% of the total US production.

Oil Production Forecast 2009- 2018



★ Indicates years with known anomalous data due to hurricane affected shut-in

Natural Gas Production Forecast 2009-2018

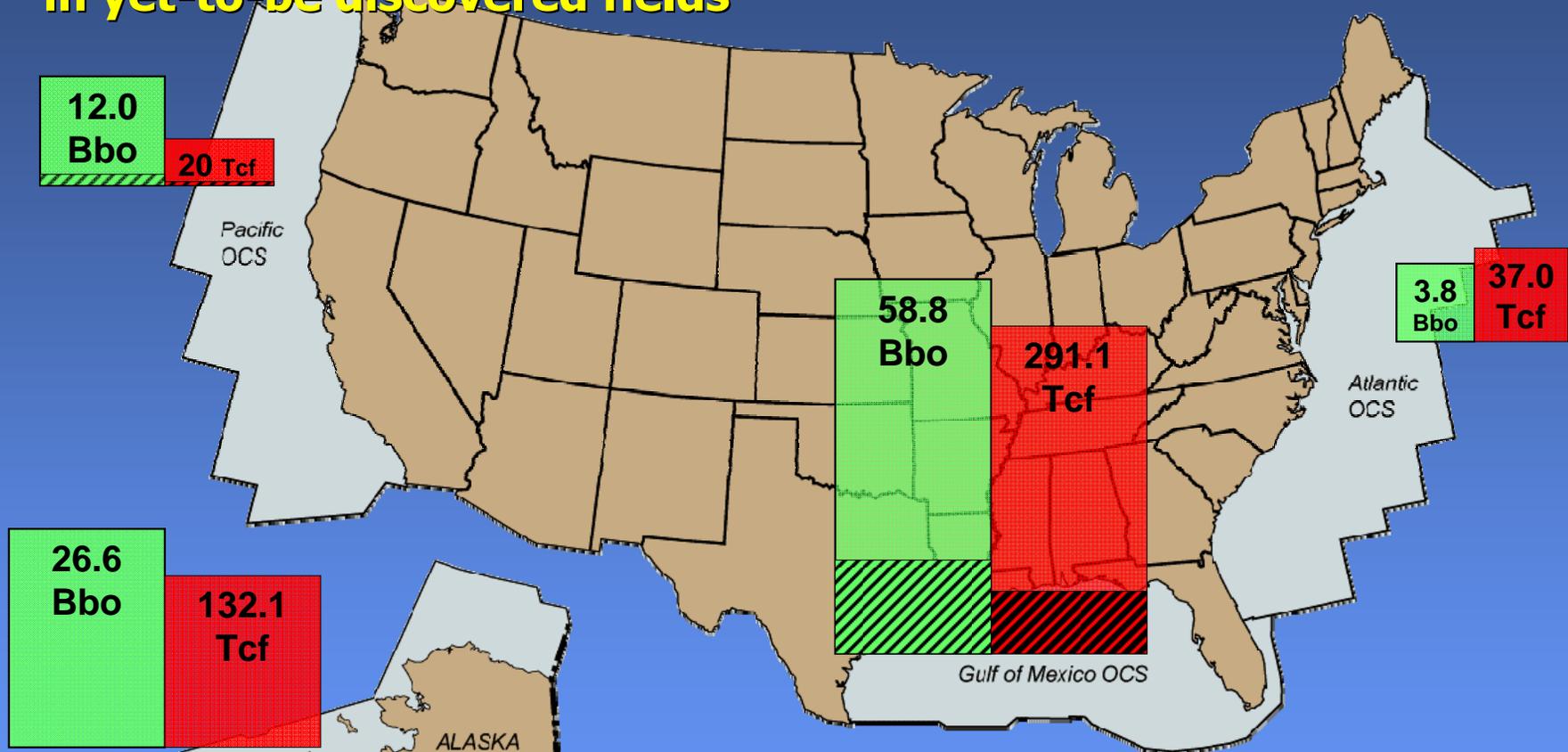


★ Indicates years with known anomalous data due to hurricane affected shut-in



OCS Hydrocarbon Potential

16 Bbo and 170 Tcf of gas produced since 1954.
Significant potential remains as reserves (in known fields) or resources in yet-to-be discovered fields



MMS National Assessment, 2006

* Undiscovered Technically Recoverable Resources
 Reserves and Reserves Appreciation

Resource Category*		Alaska OCS	Pacific OCS	Atlantic OCS	Gulf of Mexico OCS	Total OCS
Reserves	Oil - Billion Barrels (Bbo)	.03	1.5	0	13.9	15.4
	Natural Gas - Trillion Cubic Feet (Tcf)	0	1.6	0	58.6	60.2
Resources	Oil	26.6	10.5	3.8	44.9	85.8
	Gas	132.1	18.3	37.0	232.5	419.9

Table 5: Resources by Planning Area (Low, Mid, and High Price Scenarios)
 (All unleased, undiscovered, economically recoverable resources as of July 2010)

Planning Area	Resources at \$60/bbl & \$6.41/mcf			Resources at \$110/bbl & \$11.74/mcf			Resources at \$160/bbl & \$17.08/mcf		
	Oil BBO	Gas Tcf	Both BBOE	Oil BBO	Gas Tcf	Both BBOE	Oil BBO	Gas Tcf	Both BBOE
Central Gulf of Mexico	14.37	59.52	24.96	16.01	73.38	29.07	16.60	77.51	30.39
Western Gulf of Mexico	5.74	33.78	11.78	6.39	39.01	13.33	6.62	40.63	13.85
Southern California	4.15	7.08	5.41	4.72	8.22	6.19	4.87	8.47	6.38
Eastern Gulf of Mexico	3.03	10.97	4.98	3.46	16.38	6.38	3.61	18.17	6.84
North Atlantic	1.33	7.32	2.64	1.57	10.85	3.50	1.67	12.77	3.94
Central California	2.17	2.28	2.58	2.25	2.35	2.67	2.26	2.37	2.68
Northern California	1.63	2.30	2.04	1.82	2.75	2.31	1.86	2.86	2.37
Mid-Atlantic	0.94	5.54	1.93	1.15	8.56	2.67	1.24	10.17	3.05
Beaufort Sea	1.36	1.58	1.64	2.94	5.79	3.97	3.48	9.37	5.15
Cook Inlet	0.73	0.70	0.85	0.86	0.97	1.04	0.91	1.04	1.09
South Atlantic	0.31	1.69	0.61	0.35	2.44	0.79	0.37	2.85	0.88
North Aleutian	0.43	0.79	0.57	0.59	4.62	1.41	0.64	5.92	1.69
Washington-Oregon	0.30	1.28	0.53	0.35	1.57	0.63	0.35	1.64	0.65
Gulf of Alaska	0.22	1.26	0.44	0.35	2.12	0.73	0.40	2.44	0.84
Chukchi Sea	0.11	0.16	0.13	1.59	4.21	2.34	2.71	9.22	4.35
Straits of Florida	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.01	0.02
Hope Basin	**	**	**	**	**	**	**	**	**
Norton Basin	**	**	**	**	**	**	**	**	**
Navarin Basin	**	**	**	**	**	**	**	**	**
St. George Basin	**	**	**	**	**	**	**	**	**
Shumagin	**	**	**	**	**	**	**	**	**
Kodiak	**	**	**	**	**	**	**	**	**
Aleutian Arc	**	**	**	**	**	**	**	**	**
Aleutian Basin	**	**	**	**	**	**	**	**	**
Bowers Basin	**	**	**	**	**	**	**	**	**
St. Matthew-Hall	**	**	**	**	**	**	**	**	**

Notes

Bbl: barrel of oil. mcf: thousand cubic feet of natural gas BBO: billion barrels oil. Tcf: trillion cubic feet of gas. BBOE: billion barrels oil equivalent

** negligible development value.

Past Eastern Gulf of Mexico Offshore Activity...

- **There have been notable leasing, exploration, and discovery activities in the EGOM (based on both prior and current definitions of EGOM area).**
 - **14 lease sales to date since 1959.**
 - **662 leases issued.**
 - **65 wells drilled.**
 - **20 wells with commercially producible hydrocarbon discovery.**

EGOM Discovery History

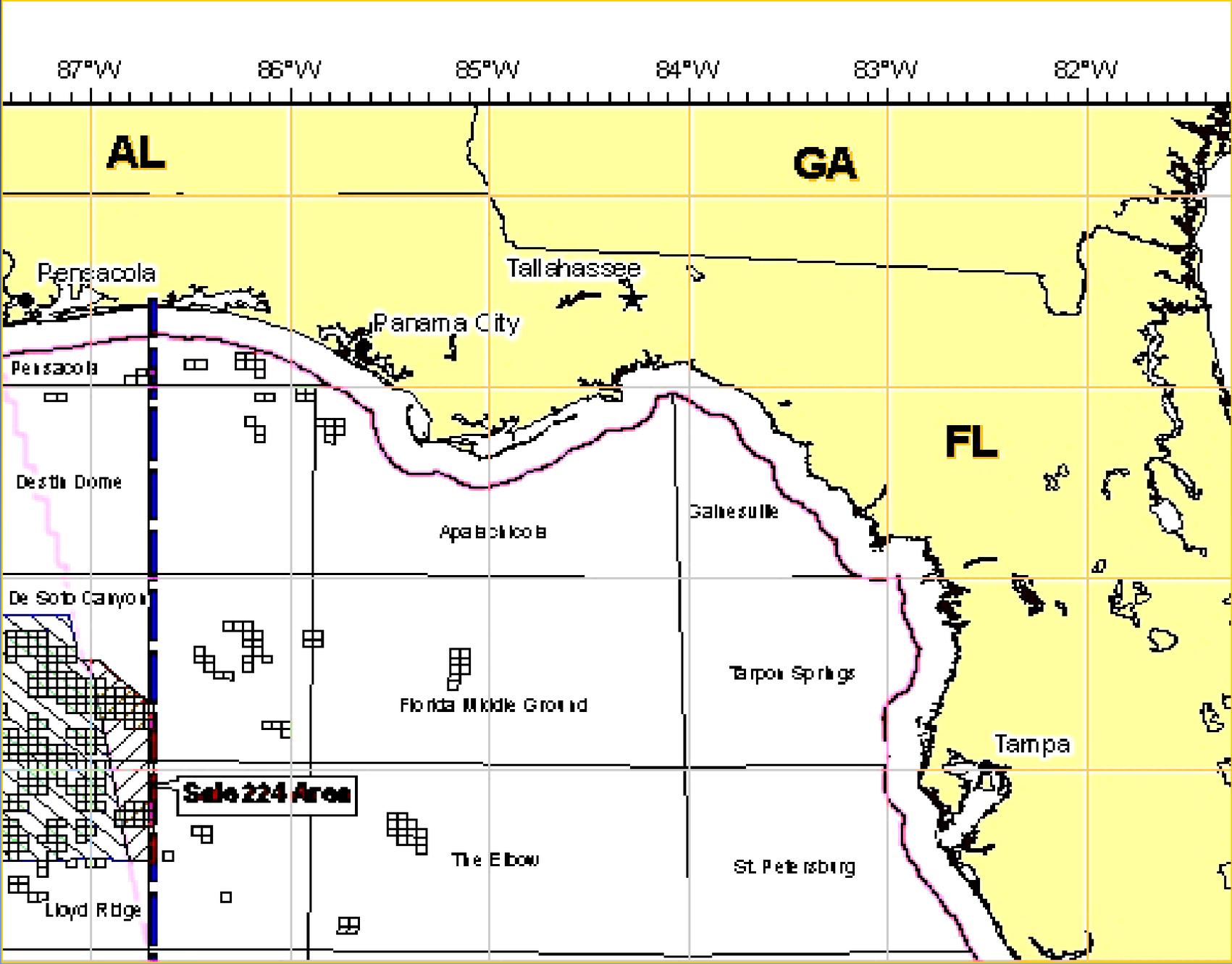
To date 20 of the 65 wells drilled have had commercially producible hydrocarbon discovery.

Area/Block	Well No.	Date Drilled	Operator	Comments
Destin Dome 160	001	01/85	Shell	First Eastern Gulf Discovery (oil); lease relinquished in January 1990
Pensacola 948	001	02/85	Sohio	Gas/condensate pay discovered; lease expired in July 1996
Pensacola 948	002	06/87	Tenneco	Gas/condensate discovered; lease expired in July 1996
Destin Dome 111	001	06/87	Amoco	Oil pay discovered; lease relinquished in January 1994
Destin Dome 56	001	06/87	Chevron	Norphlet dry natural gas discovered; development plan filed; DD56 Unit
Pensacola 996	001	04/88	Texaco	Oil pay discovered; lease expired in December 1998
Destin Dome 56	002	10/89	Chevron	Norphlet dry natural gas discovered; development plan filed; DD56 Unit
Destin Dome 1	001	01/89	Maritech Resources	Natural gas; Miocene sands; never produced; lease terminated January 2004
Destin Dome 2	001	01/89	Maritech Resources	Natural gas; Miocene sands; never produced; lease terminated January 2004
Pensacola 881	001	01/89	SPN Resources	Natural gas; Miocene sands; production since February 1999
DeSoto Canyon 133	001	02/93	Amoco	Successful test of Miocene gas sands; 1 st production September 2002
Destin Dome 57	001	11/95	Chevron	Norphlet dry natural gas; 41 mmcf/d; development plan filed; DD56 Unit
DeSoto Canyon 177	001	02/97	Amoco	Successful test; Miocene gas sands; lease expired June 2009
Lloyd Ridge 50	001	05/03	Anadarko	Natural gas sands; producing July 2007
DeSoto Canyon 269	001	06/03	Shell	Announced discovery (Shiloh); potential subsea tieback
DeSoto Canyon 621	001	10/03	Anadarko	Targeted middle Miocene sands; producing September 2007
Lloyd Ridge 5	001	12/03	Anadarko	Miocene gas sands; producing July 2007
DeSoto Canyon 618	001	04/04	Dominion	Natural gas sands; producing September 2007
Lloyd Ridge 1 & 2	001	12/04	Anadarko	Natural gas sands; producing July 2007
DeSoto Canyon 353	001	05/07	Shell	Announced discovery (Vicksburg); potential subsea tieback

Completed Environmental Studies in the EGOM

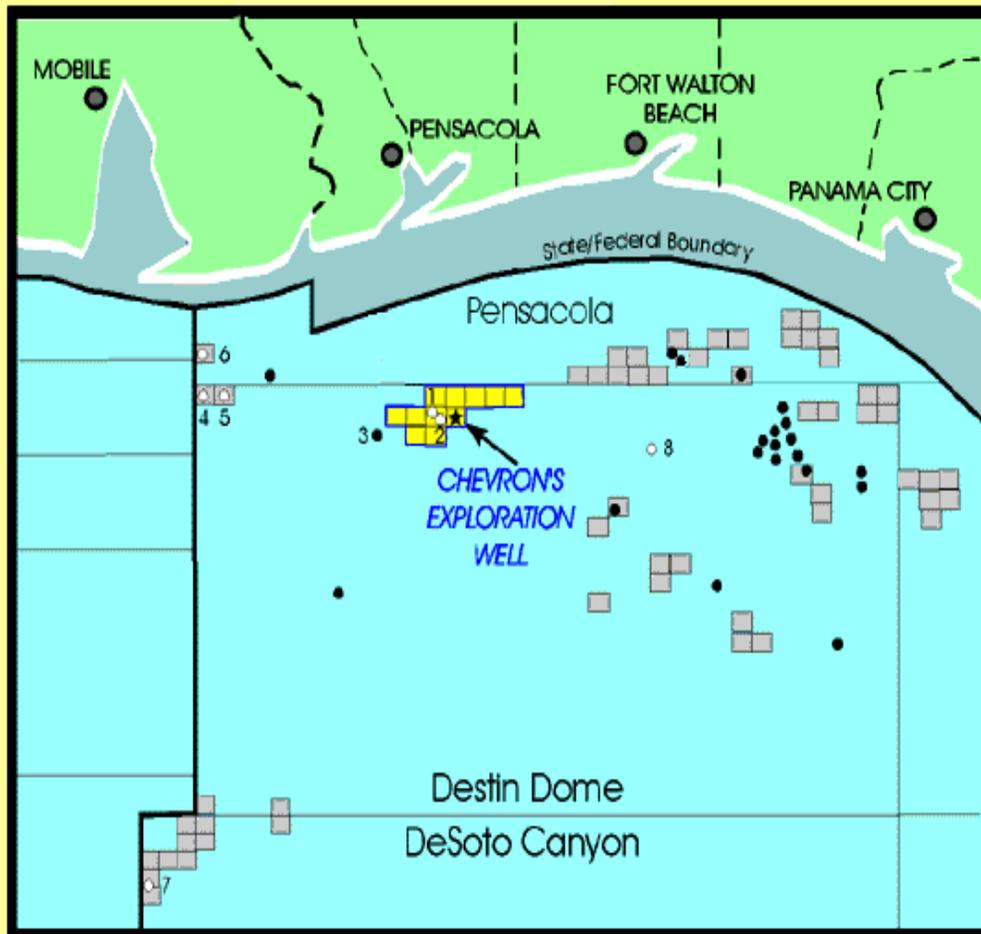
- **44 contract environmental studies specifically pertaining to EGOM resources have been completed to date:**
 - **18 Coastal and Marine Ecosystem Studies**
 - **15 Physical Oceanography Studies**
 - **11 Socioeconomic Studies**

Active EGOM Leases



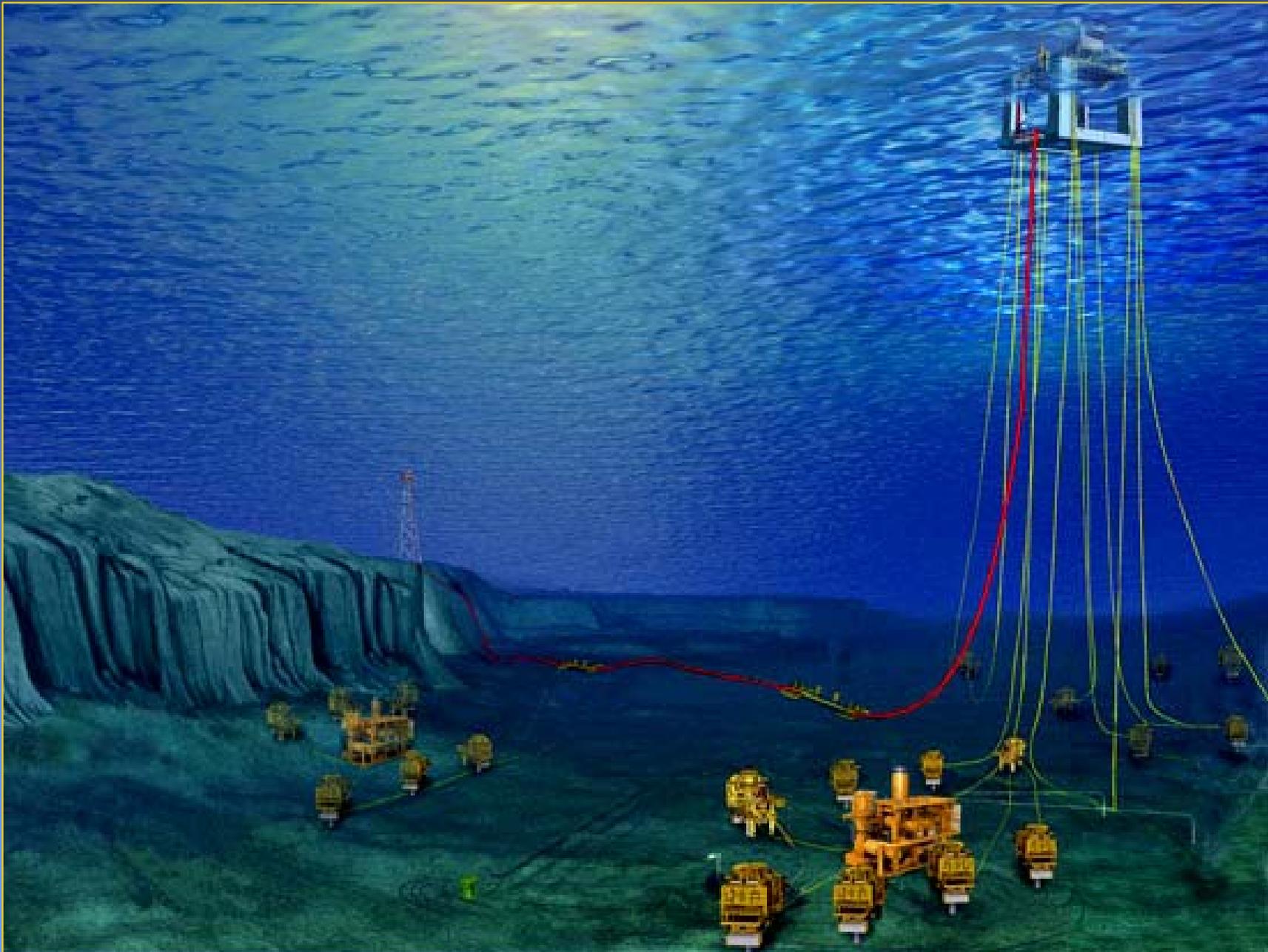
Destin Dome Blocks 56 and 57

Offshore Drilling Activity In The Florida Panhandle



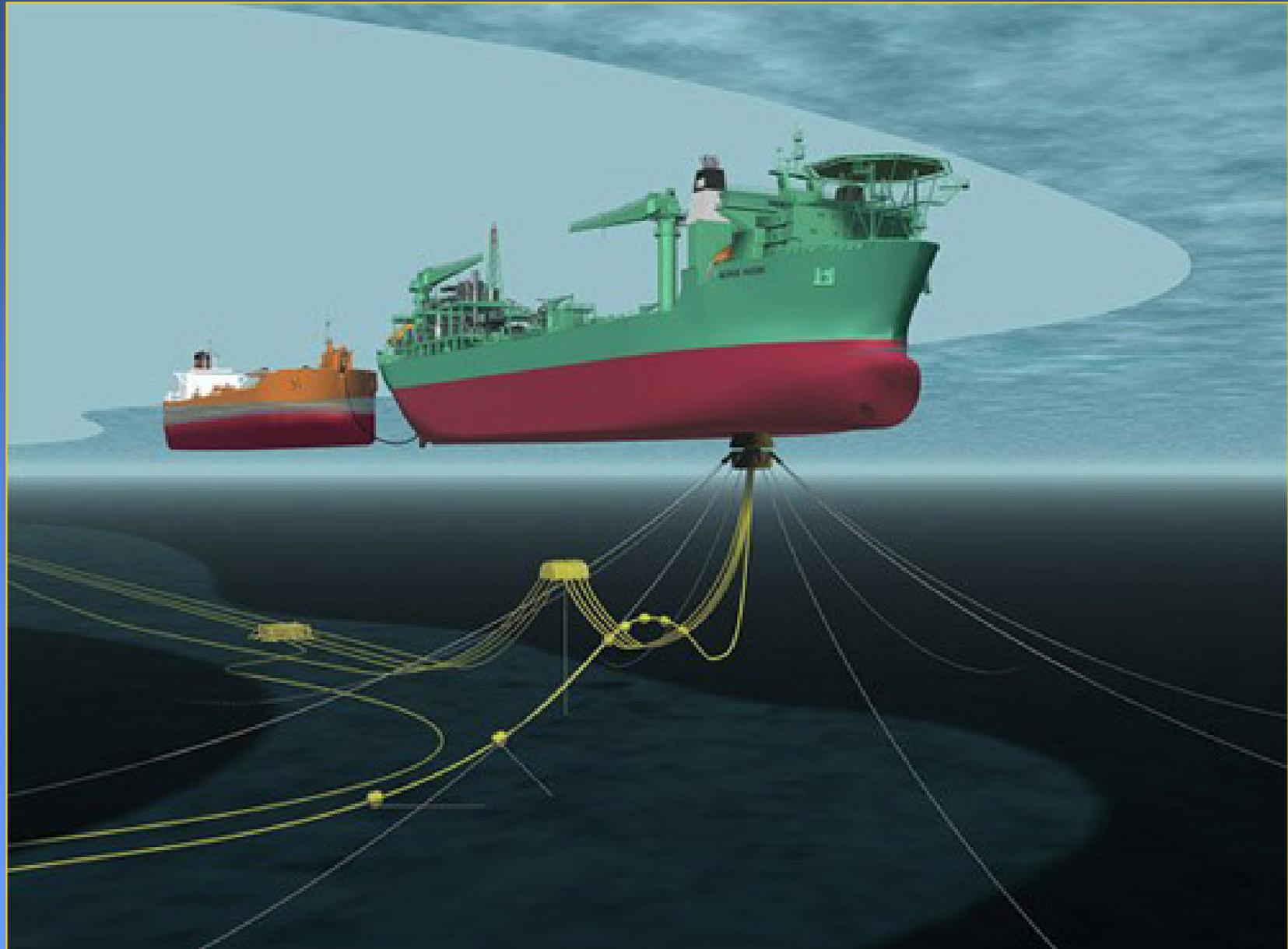
- +25 miles offshore Pensacola, FL
- West of the Military Mission Line
- Originally part of 11 block prospect leased in 1984, 1985 and 1988
- Original partners were Chevron/Murphy/Conoco
- Commercial natural gas discovery in 1987 (600 + BCF)
- FL objected to development in 1988 under CZMA
- Partners filed appeal in 1999 and then a "Taking" lawsuit against US in 2000
- Legal settlement in 2002 resulted in return of 9 leases to US and suspension of leases on Blocks 56 and 57 until 2012
- Murphy is sole owner of remaining 2 leases and hopes to get permission from US and Florida to pursue development before 2012 based on reduced footprint and "over the horizon" development concept

Hub Development Concept

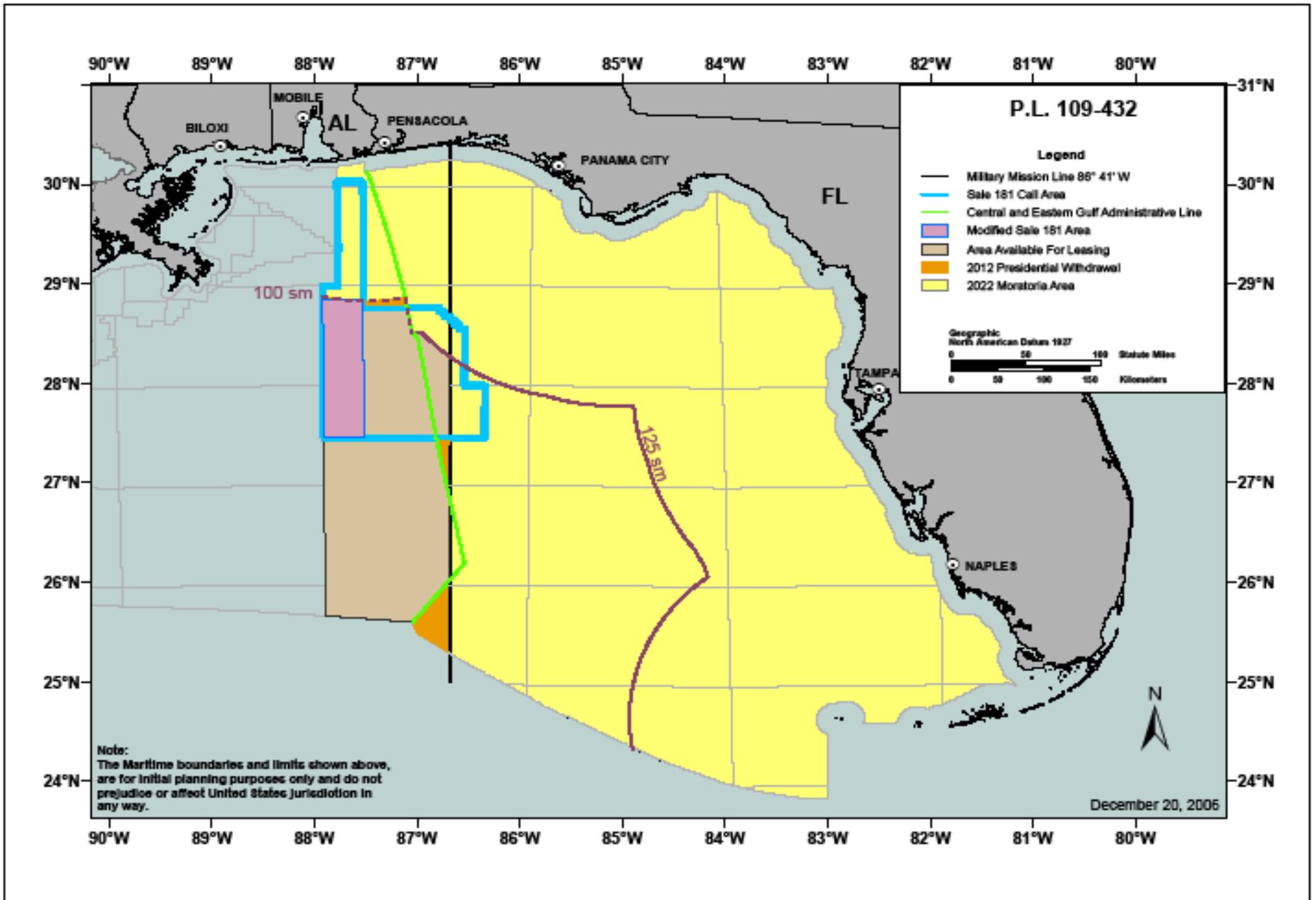


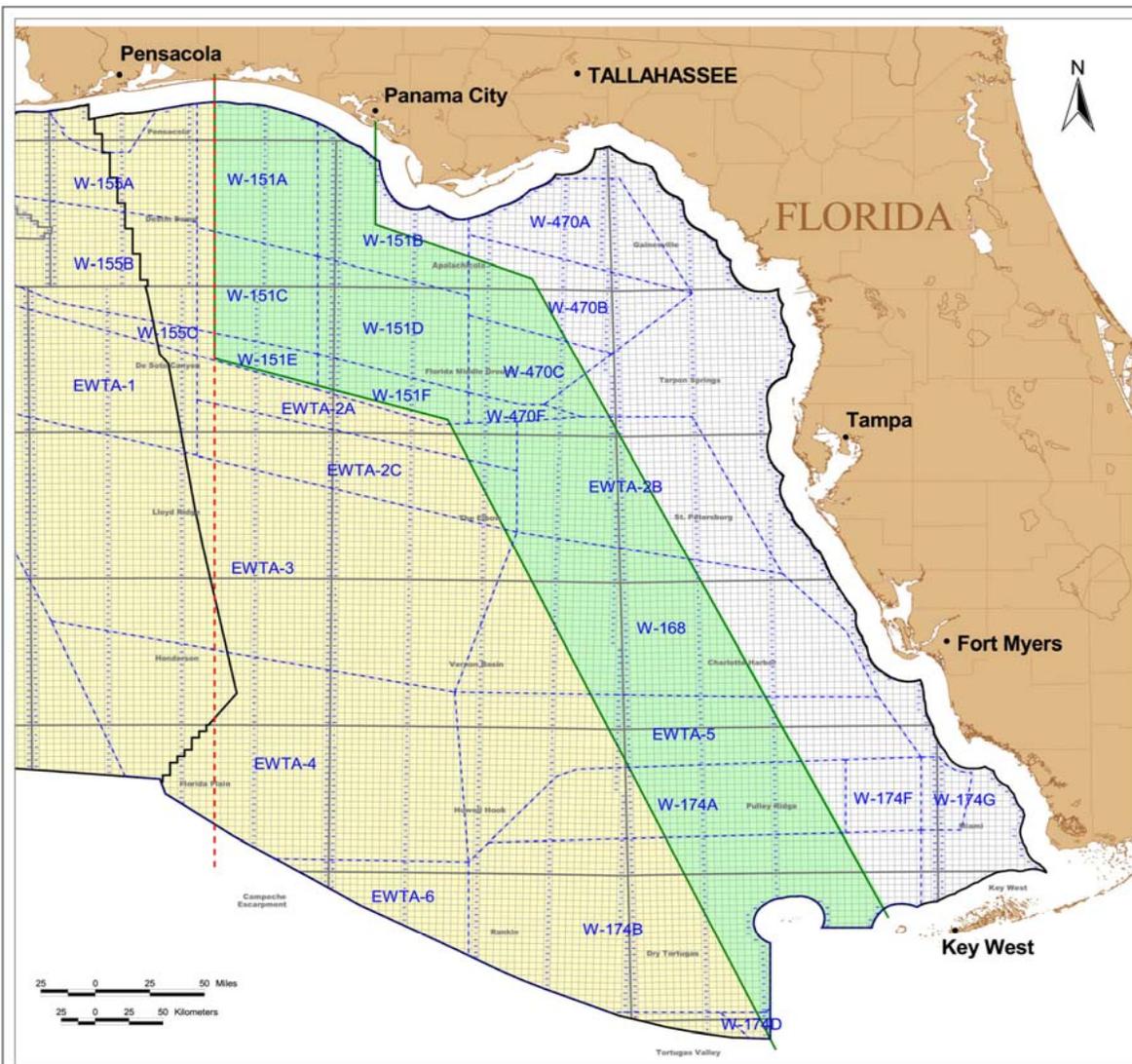
Cascade-Chinook

Floating Production Storage Offloading (FPSO) Facility



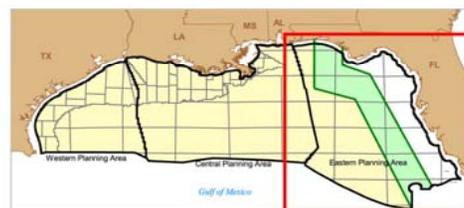
Gulf of Mexico Energy Security Act of 2006 (GOMESA)



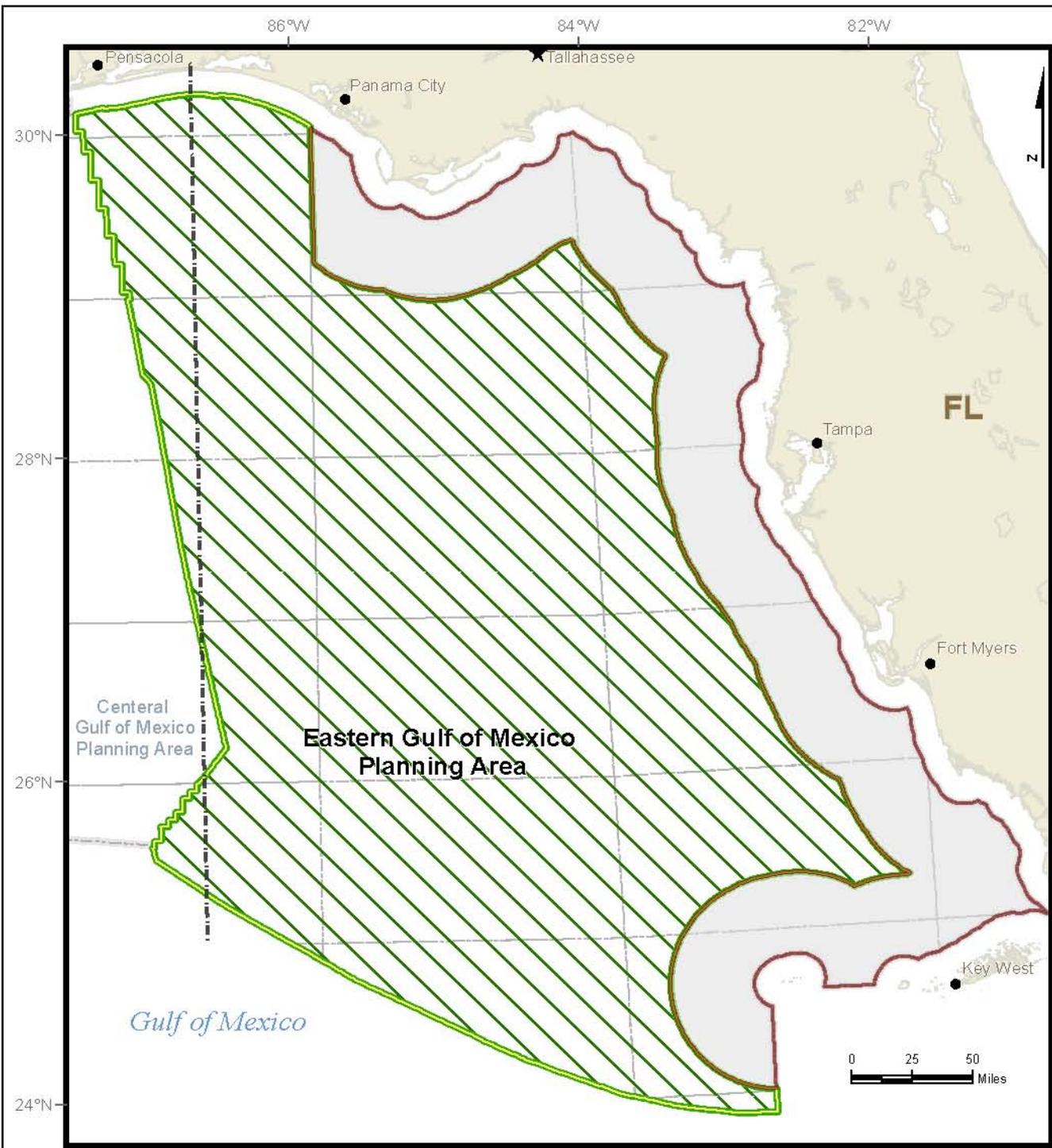


**GULF OF MEXICO OCS REGION
EASTERN GULF OF MEXICO PLANNING AREA
DRAFT PROPOSED PROGRAM AREA 2010-2015**

- No Permanent O&G Surface Structures*
- Draft Proposed Program Areas
- Military Mission Line (86° 41' W)
- Military Warning Areas
Eglin Water Test Areas



*Boundaries are approximate.

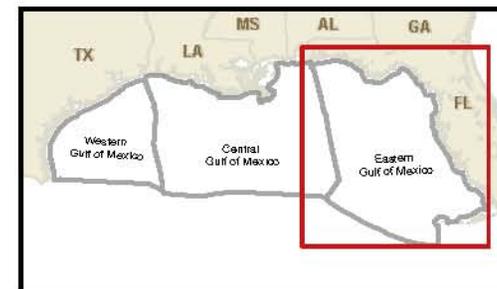


Gulf of Mexico OCS Region
EGOM Planning Area

**S. 1462 - American Clean Energy
Leadership Act
Section 343**

- Military Mission Line (86° 41' W)
-  Available for Leasing
-  Moratoria 45 Nautical Mile Buffer
- ending June 30, 2022

(Boundaries are approximate)



Gulf of Mexico Pipelines

- **Pipelines are the primary method used to transport liquid and gaseous products between OCS production sites and onshore facilities around the Gulf of Mexico.**
- **As of June 2006, there were more than 37,000 km (22,991 mi) of active OCS pipelines.**
- **Over the last 10 years, the average annual installation rate for OCS pipelines was 1,600 km (994 mi) and more than 250 pipelines and pipeline segments.**

Gulf of Mexico Onshore Infrastructure

- **Offshore development is supported by onshore infrastructure consisting of thousands of small and large contractors responsible for virtually every facet of the activity, including supply, maintenance, and crew bases.**
- **Contractors are hired by majors and independents alike to service production areas, provide material and manpower support, and to repair and maintain facilities along the coasts.**
- **Offshore support industry employs thousands of workers and is responsible for billions of dollars in economic activity in the analysis area.**
- **Virtually all of these support industries are found adjacent to ports.**

Gulf of Mexico Refineries

- **According the U.S. Energy Information Administration, U.S. refineries are currently operating at an 85% operable utilization rate.**
- **One-third of operable U.S. petroleum refineries are located in the Gulf States of Alabama, Louisiana, Mississippi, and Texas.**
- **In recent years, refining operations were consolidated, the capacity of existing facilities was expanded, and several refineries were closed.**
- **About 60% of refinery inputs are imports.**

Gulf of Mexico Gas Processing Plants

- **More than half of the current natural gas processing plant capacity in the U.S. is located convenient to Gulf of Mexico offshore, in Texas and Louisiana.**
- **Over the past 10 years, the number of gas processing plants in the U.S. has decreased from 727 in 1995 to 530 in 2004. However, average daily processing capacity has increased by 49 percent.**
- **In Alabama, Mississippi and the eastern portion of South Louisiana, new larger plants and expansions built to serve new offshore production increased the average plant capacity significantly.**
- **New gas processing plants might be built in Florida if there is an expansion of offshore gas activity in the Eastern Gulf of Mexico.**

Gulf of Mexico Oil Spills

- **The following is a summary of what is known about trends in U.S. oil spill risk as derived from USCG data from 1973 through 2004:**
 - **The volume of reported spill incidents in U.S. waters has been on a steady downward trend since 1973 due to positive prevention and preparedness initiatives to protect U.S. coastal waters from oil pollution.**
 - **The majority of reported spills since 1973 involved discharges between 0.024 and 2.4 bbl (1 and 100 gallons).**
 - **Spills by origin:**
 - Tank vessels (ships/barges) - 47% of volume spilled.**
 - Facilities and other non-vessels - 22% of volume spilled.**
 - Pipelines - 17% of volume spilled.**
 - Mystery sources - 8% of volume spilled.**
 - Non-tank vessels - 6% of volume spilled.**

Hurricane-related Gulf of Mexico Oil Spills from 2002-2008

- **There were no accounts of environmental consequences resulting from spills from OCS facilities impacted by major hurricanes from 2002 through 2008:**
 - **No oiling of marine mammals, birds, or other wildlife.**
 - **No large volumes of oil on the ocean surface to be collected or cleaned up.**
 - **No identified environmental impacts from any OCS spills from these hurricanes.**
- **There were 231 spills totaling about 25,600 bbl identified as having occurred during or soon after the storms:**
- **Of the 231 spills:**
 - **206 (89%) were MINOR (less than 238 barrels in size).**
 - **25 (11%) were MEDIUM (238 to 2,380 barrels in size).**
 - **Platforms and rigs were the source of 111 (48%) of the spills.**
 - **Pipelines were the source of 120 (52%) of the spills.**

Hurricane-related Gulf of Mexico Oil Spills from 2002-2008

- **All OCS facilities in areas threatened by the storms were shut in prior to the hurricanes so that oil losses were mostly limited to the oil stored on the damaged platforms and rigs or contained in damaged pipeline sections between the check valves.**
- **The hydrocarbons lost during the hurricanes were thoroughly dispersed by the hostile sea conditions which eliminated the potential for oiling the shores.**
- **MMS has strengthened design and hurricane response criteria since those storms to further minimize the effect of hurricanes in the future on oil spill occurrences.**

Oil Spill Risk Analysis

- **Oil-Spill Risk Analysis (OSRA) model combines the probability of spill occurrence with a statistical description of hypothetical oil-spill movement on the ocean surface.**

Probability of
Occurrence

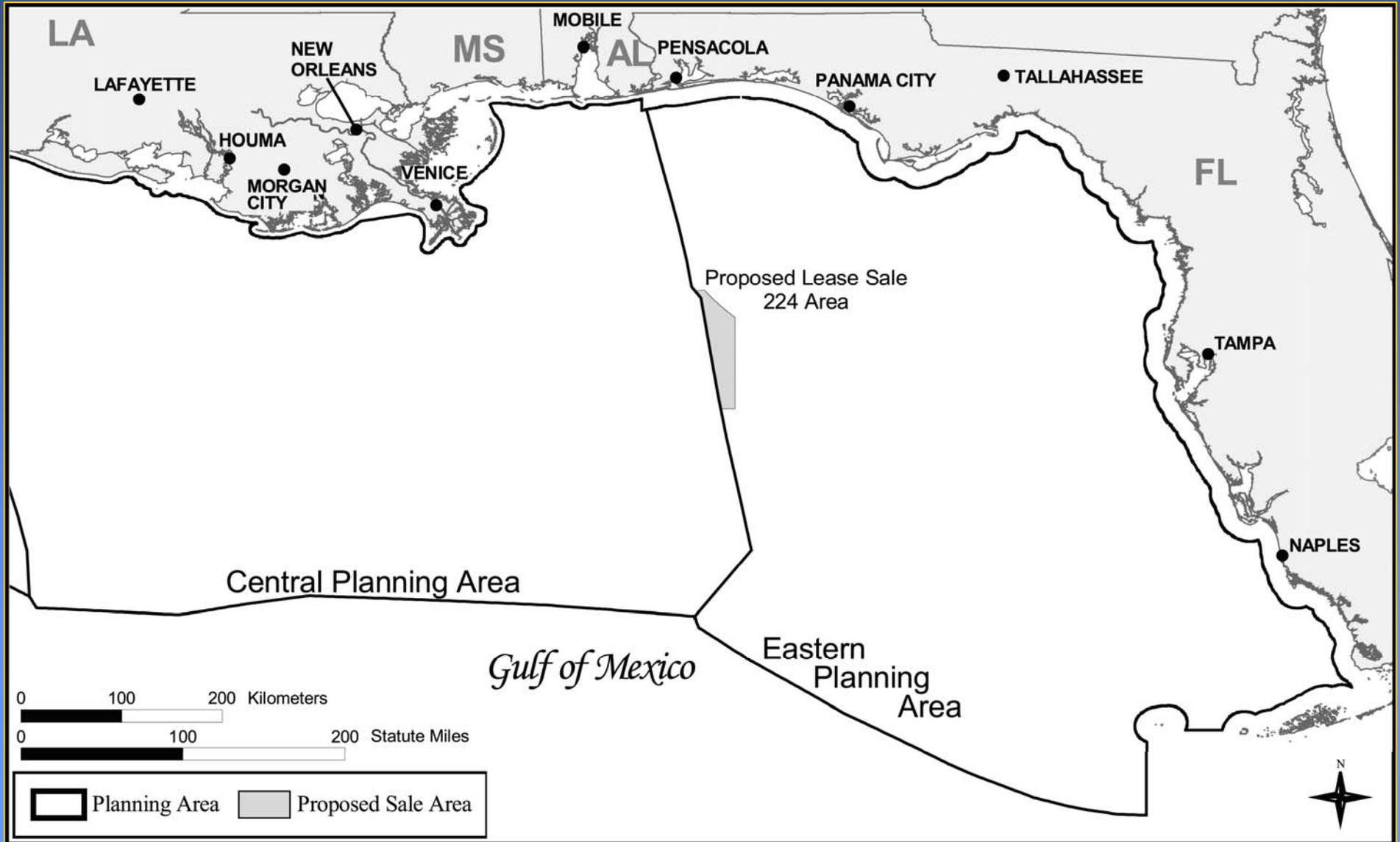


Probability of
spill contacting



Oil Spill Risk
Analysis

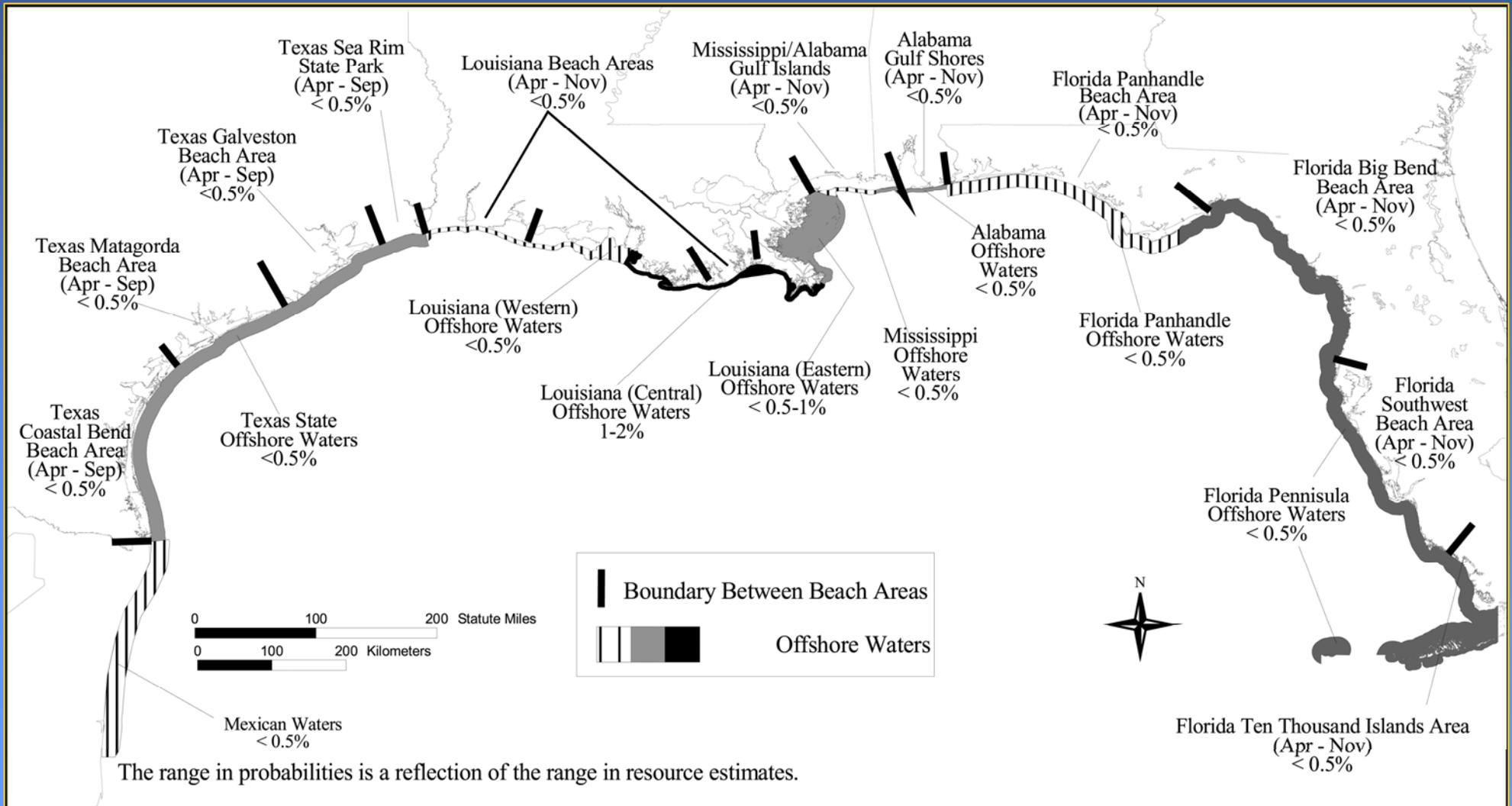
Proposed Lease Sale 224 Area



Eastern Gulf of Mexico Lease Sale 224

Probabilities of Oil Spills ($\geq 1,000$ bbl)

Occurring and Contacting State Waters or Beaches within 10 Days



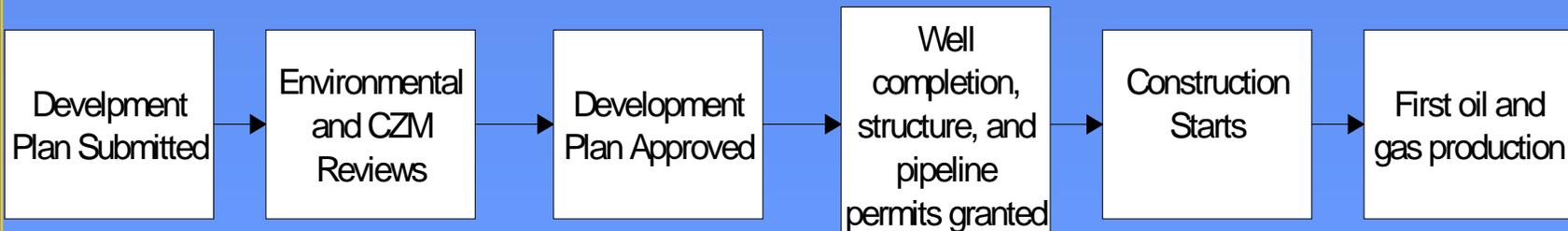
After offshore federal leases are issued, there are several mandated opportunities for Federal/State coordination prior to commencement of offshore activity...

Post Lease Exploration and Development Process

Exploration Plan Approval



Development Plan Approval



Thank You!



Questions?

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