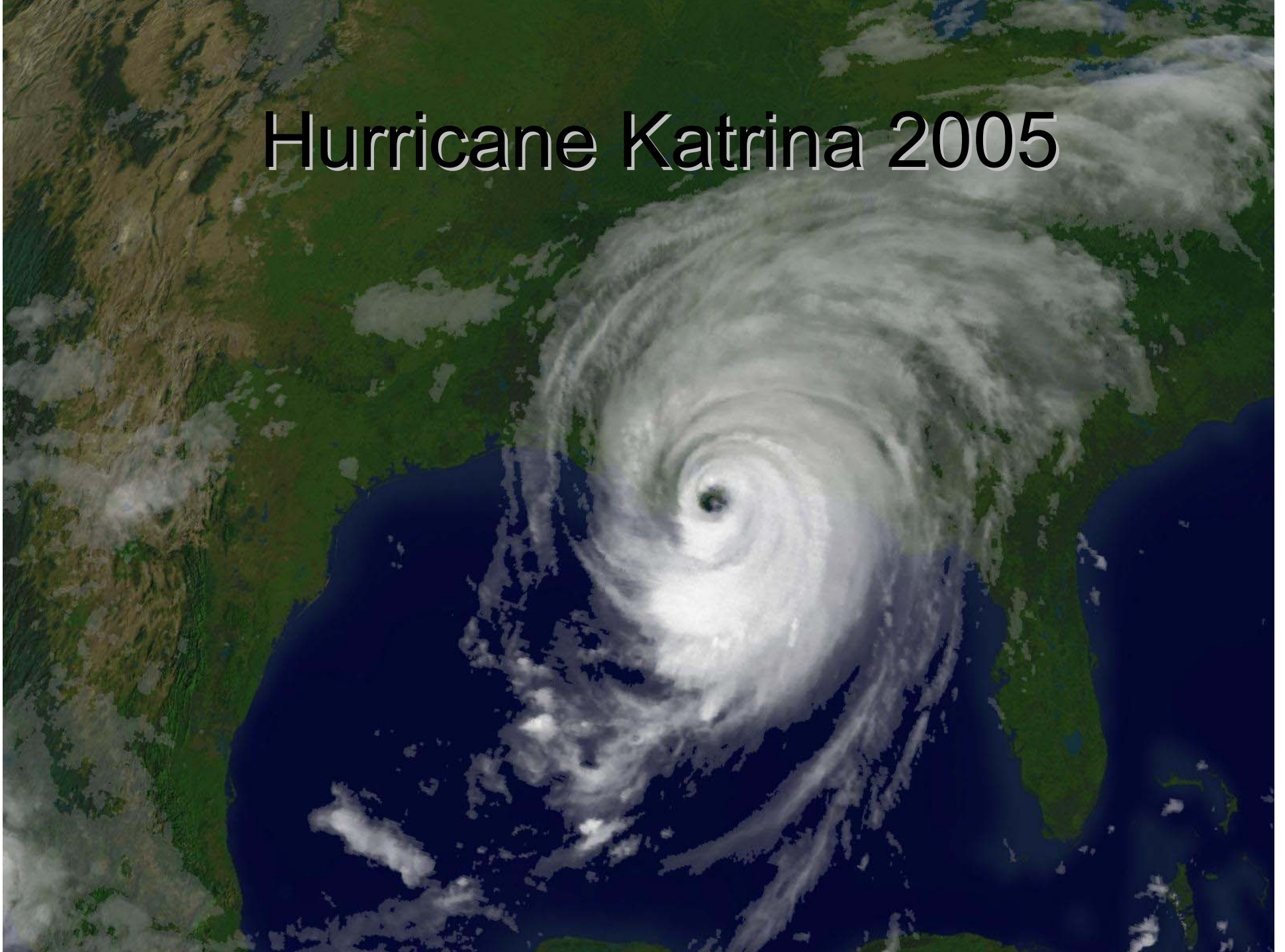
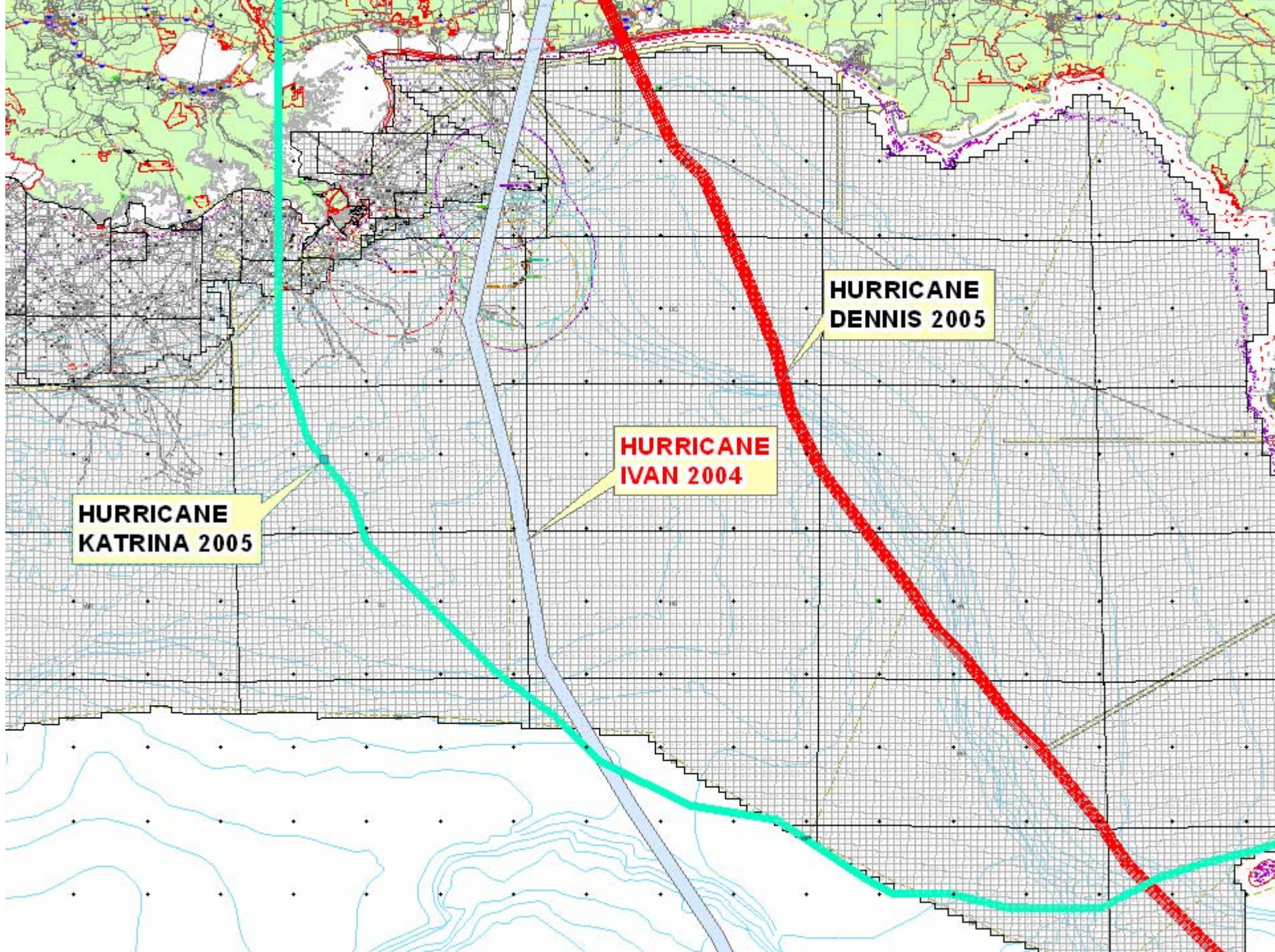


Hurricane Katrina 2005

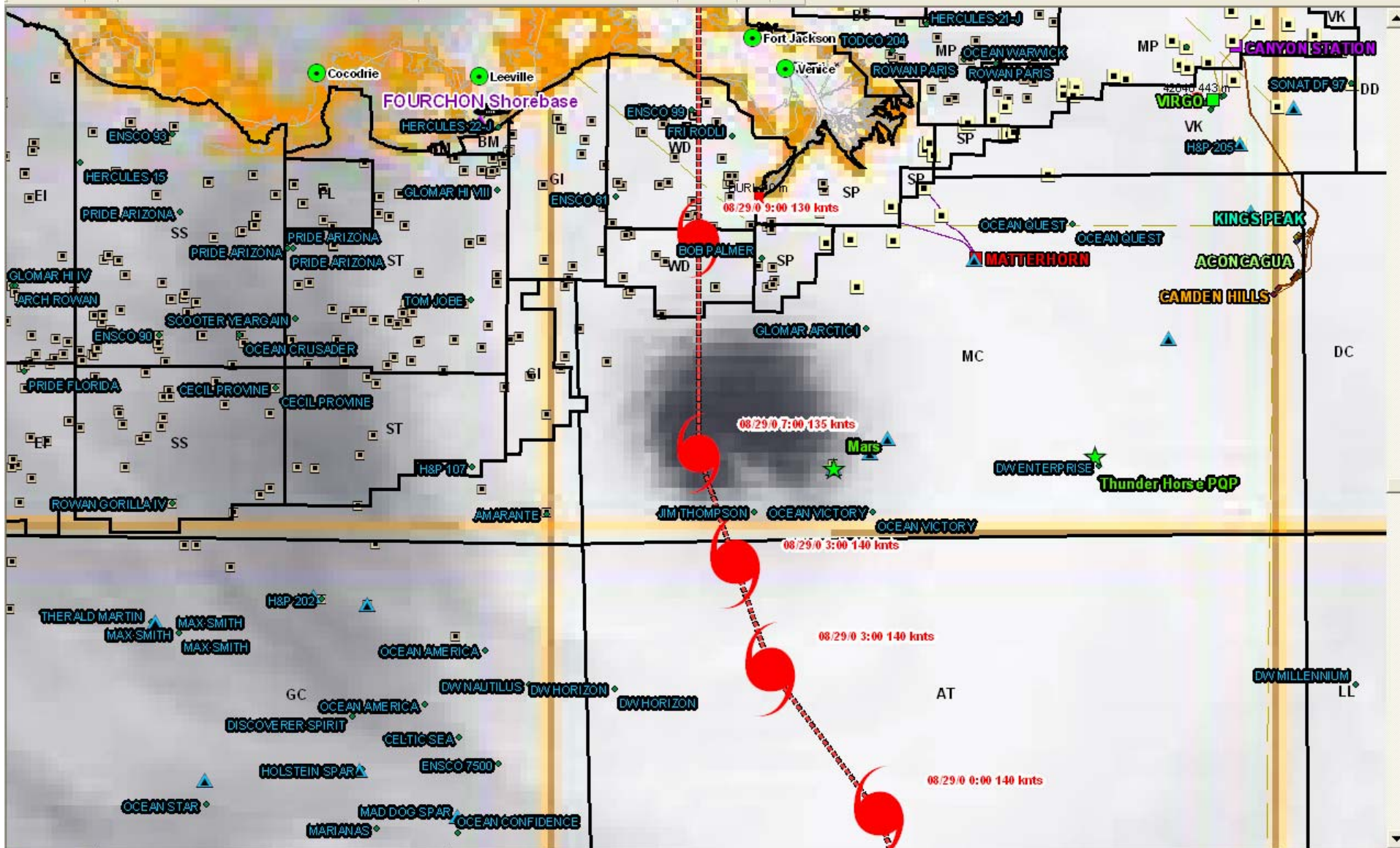




**HURRICANE
KATRINA 2005**

**HURRICANE
IVAN 2004**

**HURRICANE
DENNIS 2005**



Rigs Adrift

Rig	Initial Location	Final Location
Rowan-New Orleans	Main Pass 185	Capsized off LA coast
Diamond Offshore – Ocean Warwick	Main Pass 300	Dauphin Island, AL
Diamond Offshore - Ocean Voyager	Mississippi Canyon 711	Moved 9 miles North.
Global Santa Fe – Glomar Arctic-I	Mississippi Canyon 403	South Pass 37-39*
Noble – Jim Thomson	Mississippi Canyon 935	Moved 17 miles north- Northeast.
Transocean - Deepwater Nautilus	Green Canyon 390	Secured at 80 miles off the location.
ENSCO – 7500	Green Canyon 652	Moved 120 miles south of LA coast.

Rowan – New Orleans



- Rowan Companies
- LeTourneau 52-class slot jack-up rig (1971 built)
- Operator: MAGNUM HUNTER PROD INC
- Location: MP 185, water depth = 155 ft.

Rowan International Inc.

The Company is undertaking efforts to locate the rig and fears it may have capsized and sunk offshore Louisiana.

Ocean Warwick



- Diamond Offshore Drilling, Inc. Jack-up Rig (1971 built)
- Levingston 111 IC Design
- Operator: Chevron
- Location: MP 300, water depth = 202 ft.

Diamond Offshore Drilling, Inc.

15415 Katy Freeway, Suite 100
Houston, Texas 77094-1810 USA

Tel: 281-492-5300

Tel: 800-848-1980

Fax: 281-492-5378

Ocean Warwick



Rig rests by the shore in Dauphin Island, Ala. Tuesday Aug. 30, 2005 after hurricane Katrina passed through the area.

Ocean Warwick



Ocean Voyager



- Diamond Offshore Drilling, Inc. - Semi-submersible (1973 built)
- Mooring: (8) 3" x 5,000' chains, (8) 10 MT Bruce MK4 anchors
- Operator: ATP O&G
- Location: MC 711

Diamond Offshore Drilling, Inc.

15415 Katy Freeway, Suite 100
Houston, Texas 77094-1810 USA
Tel: 281-492-5300
Tel: 800-848-1980
Fax: 281-492-5378

Ocean Voyager broke free from its moorings in the aftermath of hurricane Katrina and has been located approximately 9 miles north of its pre-storm location on Mississippi Canyon Block 711. A limited crew from Diamond re-boarded the rig this morning (31-Aug) in order to secure the unit and to further assess its condition.

Glomar Arctic-I



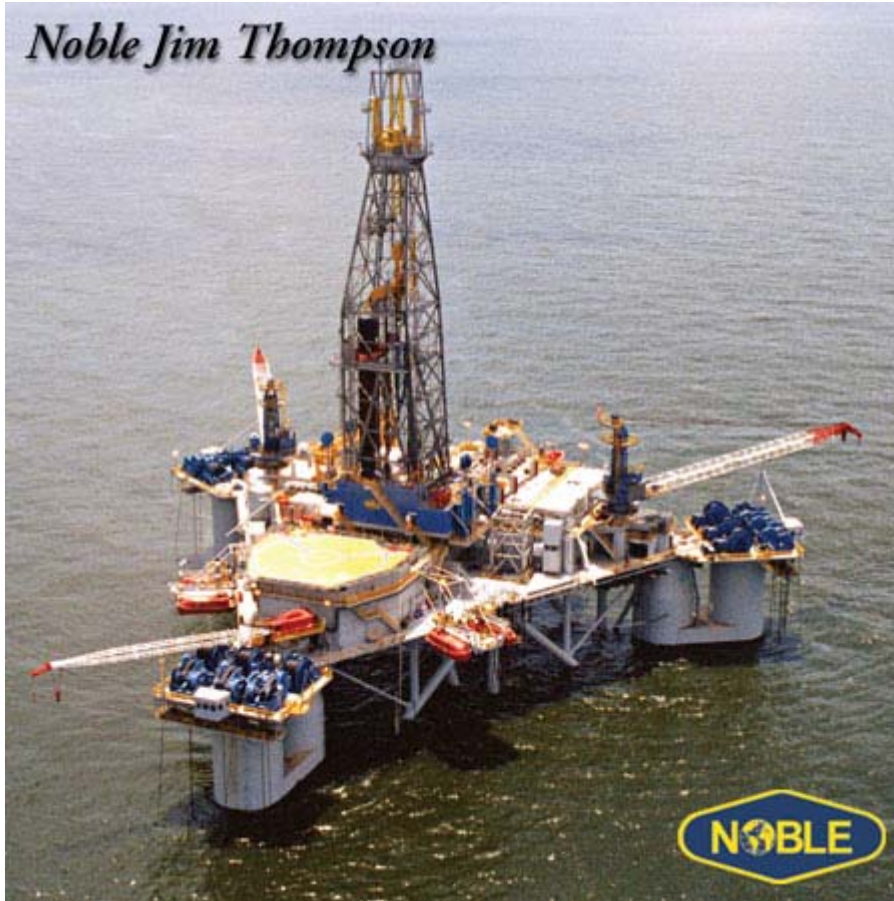
- Global Marine Drilling Co.
- Semi-submersible - Friede & Goldman L-907 Enhanced Pacesetter
- Mooring: Eight 26,500-lb anchors, each w/5,100' of 3" chain with 3 1/2" cable inserts
- Operator: Spinnaker Expl.
- Block: MC 413

Global Santa Fe

15375 Memorial Drive
Houston TX 77079-4101
Phone (281) 925-6000
Fax (281) 925-6010

The GSF Arctic I drifted off its original location and was grounded in shallow waters near the mouth of the Mississippi River.

Jim Thompson



- Rig Design Noble EVA-4000™
- Current Location Gulf of Mexico, MC 935
- Mooring typ: (9) Skagit triple drum traction winch/windlass; 4,250 ft chain and 9,000 x 3-1/8"
- Operator: Shell

NOBLE CORPORATION
Noble Drilling Services Inc.
13135 South Dairy Ashford, Suite 800
Sugar Land, TX 77478
Tel.: 281-276-6100
Fax: 281-491-2092

The unit broke away from its mooring lines and has moved approximately 17 miles north-northeast from its original location.

Deepwater Nautilus



- Rig Design: 5th Generation Deepwater RB8-8M
- Current Location Gulf of Mexico, GC 390
- Mooring type: 8 Point Mooring System
- Current Operator: Shell

Transocean

PO Box 2765

Houston, TX 77252-2765

Phone 713.232.7500



Deepwater Nautilus, was adrift after it broke free from its moorings during the storm. The rig's location is being monitored remotely by a transponder beacon onboard the unit. All personnel had previously been safely evacuated and the well was secured before the approach of the storm.

A preliminary inspection has revealed significant damage to the rig's mooring system and the loss of approximately 3,200 feet of marine riser and a portion of the unit's subsea well control system which remained suspended at the time the unit was evacuated.

The rig, which was previously reported to have drifted off location, has been secured by an offshore service vessel approximately 80 miles from its moored position prior to the storm.

ENSCO 7500



- Semisubmersible
- Mooring/DP: API RP 2SK & Deepstar II Criteria, Winches: 8 X Skagit 3 1/4" - K4 Chain - 1,000' Chain
- Location: Green Canyon 652
- Reported location close to 7/10 mile to Holstein Spar.

ENSCO International Incorporated

500 North Akard Street, Suite 4300

Dallas, TX 75201-3331

Phone: (214) 397 3000

Toll Free: (800) 423 8006

Towline parted while the rig was under tow away from the path of Hurricane Katrina early 28th morning. Due to deteriorating weather conditions, the towline could not be reconnected and the rig was evacuated prior to suspension of helicopter service in advance of the storm. ENSCO 7500 has been located approximately 120 miles south of the Louisiana coast and initial reports did not disclose any apparent rig damage.

31-Aug-05 The rig has been re-boarded, power restored and is holding position. The rig initially was listing four degrees, has now been trimmed and inspection is underway.

Rig Under Construction



- The PSS Chemul, a 13,000-ton semi-submersible accommodation/ maintenance vessel owned by PEMEX that broke loose during Hurricane Katrina is wedged under the Cochrane Bridge in Mobile, Alabama. (AFP/Stan Honda)



Photo via Noble Drilling and GlobalSantafe

Platform damage

1,148 platforms were likely exposed to hurricane force winds and an additional 1,633 platforms were likely exposed to tropical storm force winds.

Operator	Location	Status
Newfield Expl. Houston	MP 138A (4 legged fixed platform)	Lost
Shell	MC 807 Mars TLP	Suffered topside damage
Total E&P USA	VK823 Virgo fixed platform	Topside damage
Forest Oil	South Pass 24	Producing 7 MMcfe/d, suffered damage



Main Pass 138A

- Newfield Exploration Company initial findings of an aerial survey of its operations in the eastern Gulf of Mexico. **The Company's "A" production platform at Main Pass 138 appears to have been lost in the storm.**
- All other Newfield operated structures flown over appear to be intact. Prior to the shut-in for Hurricane Katrina, the facility was producing 1,500 barrels of oil per day (gross). Newfield operates the facility with a 92% working interest.
- Note that MP 138 A (4-Pile platform at 158 feet water depth) was also suffered significant damage during Hurricane IVAN 2004 (www.mms.gov/ooc/press/2005/press0202.htm).



Mars TLP



- Design to withstand 71 ft wave and 140 mph wind.
- Water depth 2940 ft.
- Block MC 807
- Current production 140000 bopd, 156 MMSCFD gas
- Installation 1996
- Operator: Shell
- Ownership: Shell 71.5% and BP 28.5%



Mars TLP (30 Aug 05)

Mars TLP (30 Aug 05)



Mars TLP (30 Aug 05)



Virgo VK823



Rig damage

Operator	Location	Status
Platform rig - ENSCO 29	Taylor Platform (GoM) – waiting on location	significant damage
GSF Celtic Sea (ENI-K2)	Green Canyon 562	Listing slightly
GSF Development Driller I	?	Listing slightly

Pipeline Damage

Operator	Location	Status
Chevron	10" oil pipeline – Main Pass area?	Leak
The Colonial Pipeline,	Transports refined products (gasoline, heating oil and jet fuel from Houston to markets as far away as the Northeast)	Shut-in
The Capline pipeline system	Transports crude oil from the Gulf to the Midwest	Shut-in
The Plantation Pipe Line	Transports fuel from refineries in Mississippi and Louisiana to consuming markets as far away as northern Virginia	Shut-in

Downstream Facilities

Operator	Location	Status
Valero Energy	St. Charles refinery in Norco, La., (capacity of 260,000 barrels a day)	might not be restarted for another two weeks,
Port Fourchon	Two of the Louisiana tanker terminals hit by the hurricane	Shutin
The Louisiana Offshore Oil Port (LOOP)	LOOP System	Shut-in due to lack of power.



- Awash: Shell's refinery in Pascagoula, Mississippi, flooded after Hurricane Katrina made landfall
- Upstream.com

An aerial photograph of the Dynergy Venice Plant. The image shows a large industrial facility with various structures, including a prominent yellow crane or conveyor system. A large body of water, likely a canal or bay, is visible in the foreground, reflecting the sky. The surrounding area includes greenery and some smaller buildings. The overall scene is captured from a high angle, providing a comprehensive view of the plant's layout and its proximity to the water.

Dynergy Venice Plant

LOOP

- The Louisiana Offshore Oil Port (LOOP) facilities in coastal Louisiana provide the United States with the country's only Superport for off-loading deep draft tankers. The facilities are located south of New Orleans in Lafourche Parish in southeast Louisiana and in adjacent offshore waters west of the Mississippi River Delta.
- LOOP is operated by LOOP LLC., a private corporation jointly owned by Shell Oil Company, Texaco Inc., Ashland Inc., Murphy Oil Company, and Marathon Pipeline Company.
- The LOOP pipeline, which connects the facilities to onshore storage and distribution systems, traverses the major wetland habitats in the Louisiana coastal area. The 159 km pipeline crosses the near-offshore Gulf of Mexico near Fourchon through beach/barrier headland, estuary, and bottom land hardwood and bald cypress/water-tupelo swamp forests within the estuary.

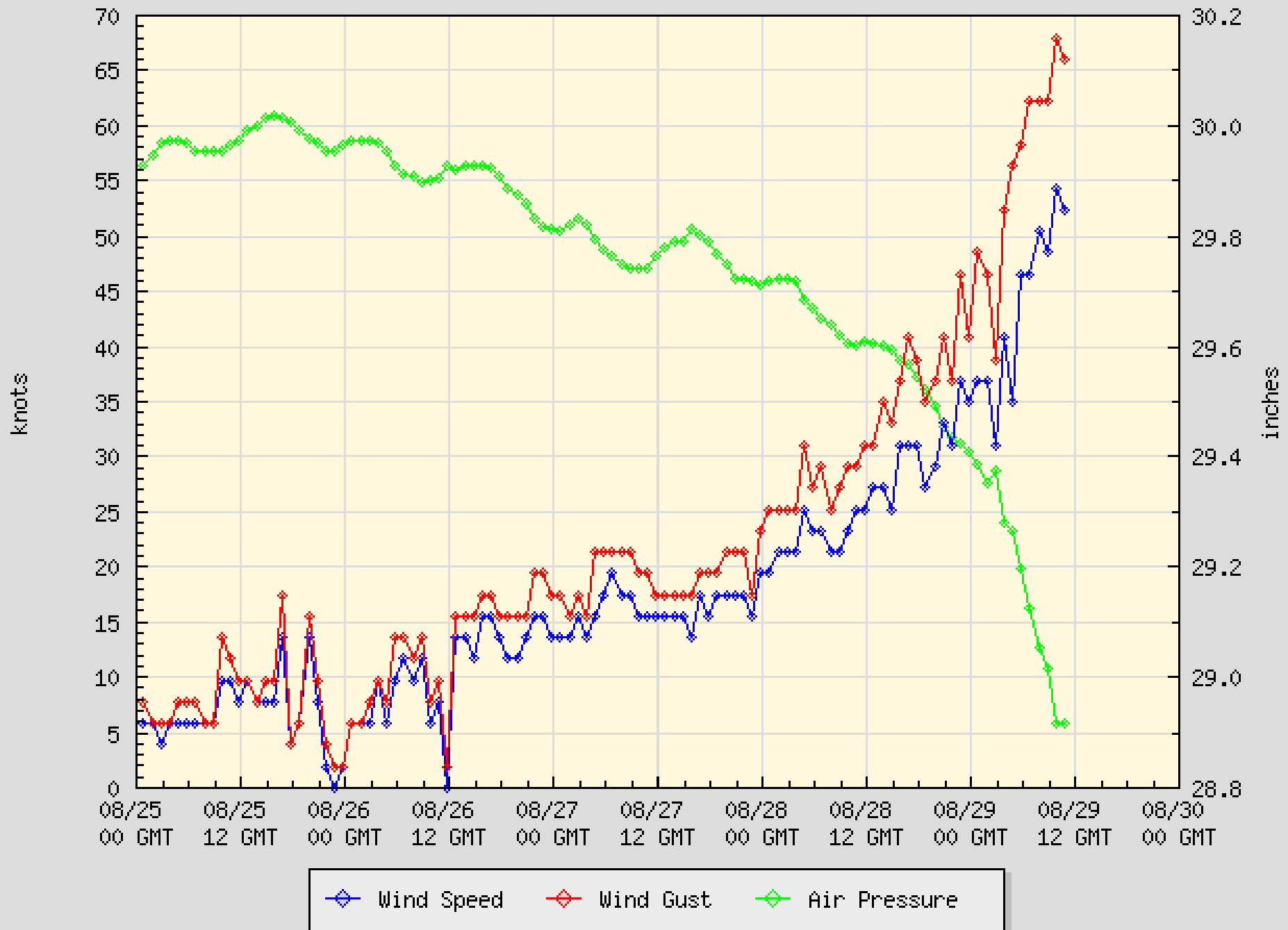
LOOP



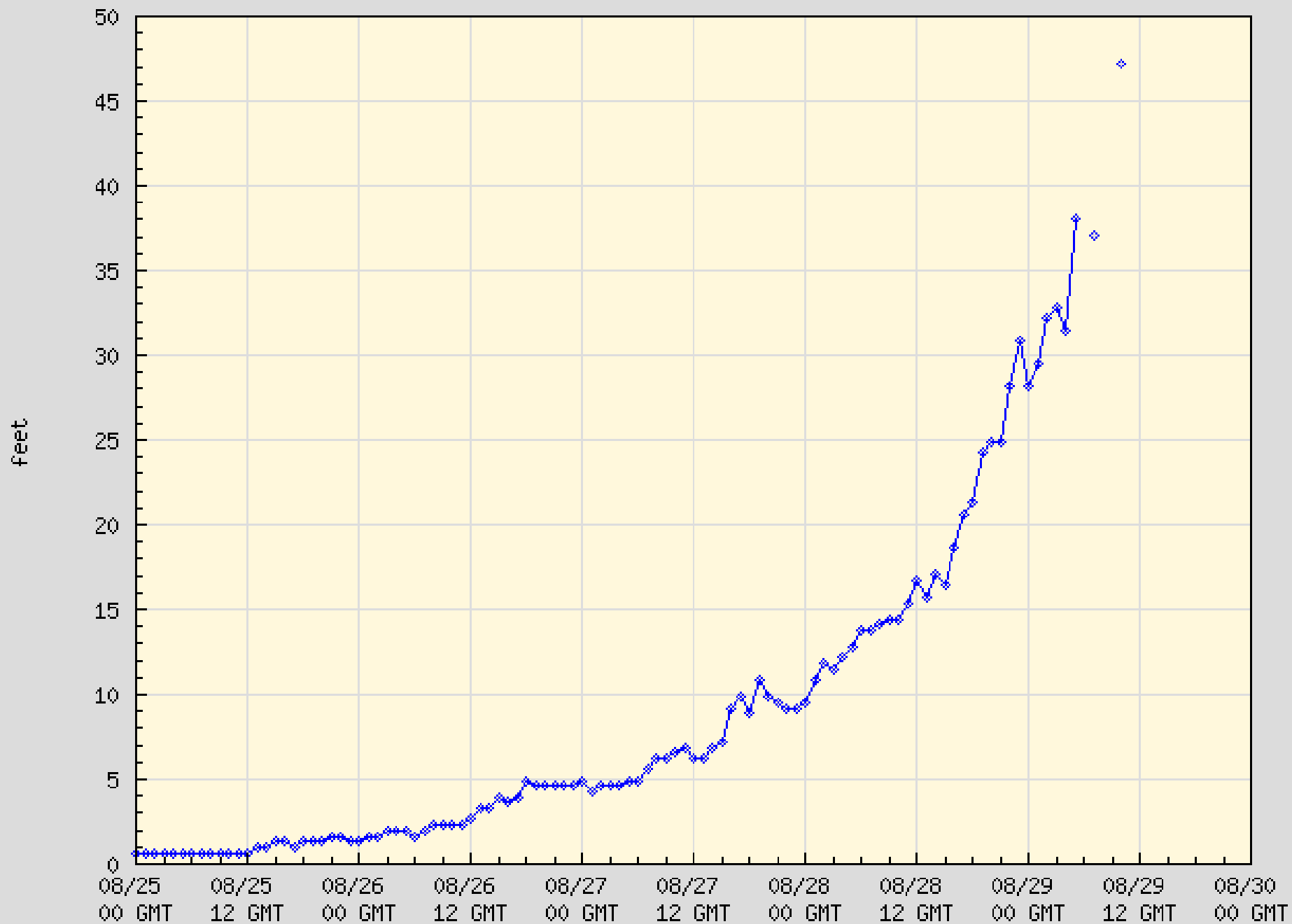
National Data Buoy Center

- Measured Wind and Wave Height (42040)

Wind Speed/Air Pressure at 42040



Significant Wave Height at 42040



MMS Production Shut-in Statistics

Shut-in Data (30 Aug)

Districts	Lake Jackson	Lake Charles	Lafayette	Houma	New Orleans	Total
Platforms Evacuated	69	134	144	121	177	645
Rigs Evacuated	4	16	20	26	24	90
Oil, BOPD Shut-in	90,072	49,050	237,048	341,194	710,605	1,427,969
Gas, MMCF/D Shut-In	845.64	1,769.86	1,204.76	2,078.64	2,899.66	8,798.54

- These evacuations are equivalent to 78.75% of 819 manned platforms and 67.16% of 137 rigs currently operating in the Gulf of Mexico (GOM).
- Today's shut-in oil production is 1,427,969 BOPD. This shut-in oil production is equivalent to 95.20% of the daily oil production in the GOM, which is currently approximately 1.5 million BOPD.
- Today's shut-in gas production is 8.798 BCFPD. This shut-in gas production is equivalent to 87.99% of the daily gas production in the GOM, which is currently approximately 10 BCFPD.
- The cumulative shut-in oil production for the period 8/26/05-8/30/05 is 4,635,751 bbls, which is equivalent to 0.847% of the yearly production of oil in the GOM (approximately 547.5 million barrels).
- The cumulative shut-in gas production for the period 8/26/05-8/30/05 is 25.441 BCF, which is equivalent to 0.697% of the yearly production of gas in the GOM (approximately 3.65 TCF).

Shut-in Data (31 Aug)

Districts	Lake Jackson	Lake Charles	Lafayette	Houma	New Orleans	Total
Platforms Evacuated	37	86	75	107	177	482
Rigs Evacuated	3	11	15	26	24	79
Oil, BOPD Shut-in	33,447	48,243	234,204	344,610	711,310	1,371,814
Gas, MMCF/D Shut-In	635.47	1,730.30	1,101.55	2,040.80	2,837.76	8,345.87

These evacuations are equivalent to 58.85% of 819 manned platforms and 58.96% of 137 rigs currently operating in the Gulf of Mexico (GOM).

Today's shut-in oil production is 1,371,814 BOPD. This shut-in oil production is equivalent to 91.45% of the daily oil production in the GOM, which is currently approximately 1.5 million BOPD.

Today's shut-in gas production is 8.345 BCFPD. This shut-in gas production is equivalent to 83.46% of the daily gas production in the GOM, which is currently approximately 10 BCFPD.

Initial Damage (30 Aug)

- Some signs of the havoc Katrina caused:
- Diamond Offshore Drilling Inc. reported one missing rig. Another broke free from its moorings, but it was found about nine miles north of its original location.
- Newfield Exploration Co. said one of its production platforms disappeared entirely.
- Rowan Cos. said it believes a rig capsized and sunk off the coast of Louisiana.
- An oil drilling platform washed up onto Dauphin Island, a weekend retreat off the Alabama coast, but it was not known where the platform came from.
- Valero Energy Corp. said its St. Charles refinery in Norco, La., which has capacity of 260,000 barrels a day, might not be restarted for another two weeks, but other big refiners in the region have yet to report the impact on their own facilities.
- "The refiners that are in proximity to both the Mississippi River and Lake Pontchartrain are the ones that probably have flood damage," said William Veno, an analyst at Cambridge Energy Research Associates.
- In addition to refineries and oil platforms, critical infrastructure that remained out of service included:
- the Louisiana Offshore Oil Port, the largest oil import terminal in the United States.
- the Colonial Pipeline, which transports refined products such as gasoline, heating oil and jet fuel from Houston to markets as far away as the Northeast.
- the Plantation Pipe Line, which transports fuel from refineries in Mississippi and Louisiana to consuming markets as far away as northern Virginia.
- the Capline pipeline system, which transports crude oil from the Gulf to the Midwest.
- Many energy companies struggled just to visit their facilities.
- Such is the case for Chevron Corp., which shut down its 325,000 barrel a day Pascagoula, Miss., refinery before Katrina's arrival. "We are hoping to get in there today, but that's the issue _ getting there," said company spokesman Michael Barrett.
- BP PLC spokesman Scott Dean said the company managed to conduct aerial overflights of several deepwater oil and gas platforms and that the damage appeared to be minimal. The company also brought a few workers back to their offshore rigs to get a closer look. "I still can't speculate on when we'll resume production," he said.
- But even if offshore platforms and rigs are ready to resume production, many may have to wait until onshore pipelines, refineries and processors are ready to take delivery of the oil and gas, industry officials said.
- At least eight Gulf Coast refineries in the path of Hurricane Katrina have shut down or reduced operations, taking out anywhere from 8 percent to 10 percent of the nation's production capacity, according to company and federal reports.

31 August 05

- **Crude oil:** Up \$2.61 to \$69.81 a barrel. Highest since trading began in 1983.
 - Gasoline:** Up 41.39 cents to \$2.4745 a gallon. Highest since trading began in 1984.
 - Heating oil:** Up 16.71 cents to \$2.0759 a gallon. A record.
 - Natural gas:** Up 52 cents to \$11.659 per million British thermal units. Highest since natural gas contracts introduced in 1990.

Source: Bloomberg News

The gulf accounts for about 23% of the USA's domestic natural gas and 30% of its oil, according to the U.S. Department of the Interior's Minerals Management Service. But the storm interrupted 95% of gulf oil production and 88% of the outer continental shelf's natural gas production, the agency said.